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Comparing Financial Transparency Between For-Profit and Nonprofit Suppliers of Public Goods: Evidence from Microfinance

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Keywords: Financial transparency; Nonprofits; Market versus relationship financing; Microfinance institutions

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Abstract

Previous research finds market financing is favored over relationship financing in environments of better governance, since the transaction costs to investors of vetting asymmetric information are thereby reduced. For industries supplying public goods, for-profits rely on market financing, while nonprofits rely on relationships with donors. This suggests that for-profits will be more inclined than nonprofits to improve financial transparency. We examine the impact of for-profit versus nonprofit status on the financial transparency of firms engaged with supplying public goods. There are relatively few industries that have large number of both for-profit and nonprofit firms across countries. However, the microfinance industry provides the opportunity of a large number of both for-profit and nonprofit firms in relatively equal numbers, across a wide array of countries. Consistent with our prediction, we find that financial transparency is positively associated with a for-profit status. Results will be of broad interest both to scholars interested in the roles of transparency and transaction costs on market versus relational financing; as well as to policy makers interested in the impact of for-profit on the supply of public goods, and on the microfinance industry in particular.

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Abstract

Previous research finds market financing is favored over relationship financing in environments of better governance, since the transaction costs to investors of vetting asymmetric information are thereby reduced. For industries supplying public goods, for-profits rely on market financing, while nonprofits rely on relationships with donors. This suggests that for-profits will be more inclined than nonprofits to improve financial transparency. We examine the impact of for-profit versus nonprofit status on the financial transparency of firms engaged with supplying public goods. There are relatively few industries that have large numbers of both for-profit and nonprofit firms across countries. However, the microfinance industry provides the opportunity of a large number of both for-profit and nonprofit firms in relatively equal numbers, across a wide array of countries. Consistent with our prediction, we find that financial transparency is positively associated with a for-profit status. Results will be of broad interest both to scholars interested in the roles of transparency and transaction costs on market versus relational financing; as well as to policy makers interested in the impact of for-profits on the supply of public goods, and on the microfinance industry in particular.

Keywords: Financial transparency; Nonprofits; Microfinance institutions, Corporate governance, Agency theory

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1. Introduction

Over the past several decades, there has been a widely noted trend for commercialization of nonprofit activities (Guo,2006; Hammack and Young, 1993; Weisbrod, 1998; Schiff and Weisbrod, 1991). This trend is often attributed to declining government support of nonprofits along with concomitant difficulty in increasing private donations. Foster and Bradach (2005) note that nonprofits increasingly feel compelled to both seek new revenue sources as well as to appear more disciplined and businesslike to stakeholders. These difficulties present opportunities for competition by for-profits. However, issues consequently emerge about whether the private sector facilitates the supply of respective public goods of appropriate quality (Easley and O'Hara, 1983; Glaeser and Shleifer, 2001). Within this context, transparency in all forms increases in importance. Transparency is widely seen as vital to trust building. Concomitantly, it is vital for nonprofits to establish trust with donors (Weisbrod, 1975; Kingma, 1997), while for-profits supplying public goods need to establish trust with shareholders as well as with a variety of stakeholders. Further, regarding for-profit firms, Mazboudi and Hasan (2018) evidence the importance of transparency for corporate investment efficiency.

This paper investigates how the difference between nonprofit and for-profit status impacts financial transparency of firms supplying public goods. Do levels of financial transparency differ between for-profit and nonprofit organizations? How do country-level factors condition the role of profit status in impacting financial transparency? These questions deserve more attention. However, one problem that arises in seeking to answer these questions is that there are few industries that have large numbers of both for-profit and nonprofit firms across a wide array of countries. Studies of nonprofits have typically focused on select industries in the USA, particularly hospitals, daycare, museums, universities, home health care, social services, and broadcasting (DiMaggio and Anheier, 1990). However, unlike the settings of previous studies, microfinance has a large number of both for-profit and nonprofit firms in relatively equal numbers, across a wide array of countries. This allows for additionally investigating the role of national characteristics in conditioning the influence of profit status on financial transparency.

Further, in addition to considering the importance for policy makers of the role of for-profits in traditionally public goods sectors like microfinance[1], an important impetus for our investigation is to consider this study in comparison to papers from international finance that discuss markets versus relationship financing (Aggarwal and Goodell, 2009a; Aggarwal and Goodell, 2009b; Ergungor, 2004; Kwok and Tadesse, 2006; Goodell and Goyal, 2018). These papers find that market financing is favored over relationship financing under conditions that market financing lowers the transaction costs of vetting asymmetric information. Such reduction of transaction costs can be the result of better legal and governance environments, or because of cultures that encourage greater social trust or comfort with uncertainty.

In this study, investigating an international sample of for-profit and nonprofit microfinance institutions, we consider that for-profits compared to nonprofits are inherently biased towards market finance. For-profits either use market finance or have the option to use it. Nonprofits, on the other hand, rely significantly on relationship financing via large donors. Thus, considering previous research on bank versus market financing, we expect for-profits to elect for greater levels of volitional transparency. While previous research finds that, all else equal, countries with better governance are more inclined towards market financing, an investigation on a broad international sample of for-profits and nonprofits allows for testing whether firms will adjust their levels of volitional transparency based on the typical nature of their financing. We hypothesize that for-profit MFIs will maintain higher levels of financial transparency than nonprofits. Consistent with our prediction, we evidence for a broad sample of microfinance institutions, across a wide variety of countries, that financial transparency is positively associated with a for-profit status.

Our study uses the transparency score of MIX Market (mixmarket.org) database. Using data on 977 MFIs from 41 countries (4,499 MFI-years observations) for a 13-year period (2003–2015); and controlling for relevant MFI-level and country-specific factors, we investigate the impact of for-profit status on MFI financial transparency. We evidence that transparency is positively associated with a for-profit status. Results will be of broad interest both to scholars interested in the roles of transparency and transaction costs

[1] Bibi et al. (2018) highlight the importance of governance to microfinance efficiency.

on market versus relational financing; as well as to policy makers interested in the impact of for-profits on the supply of public goods, and on the microfinance industry in particular.

2. Background and hypothesis

2.1 The financing distinction between for-profits and nonprofits

We consider that a fundamental difference between for-profit and nonprofit suppliers of public goods is not so much due to a difference in objective as a difference in financing. Nonprofits are increasingly under pressure to meet financial operating benchmarks, not just success at supplying of public goods. For-profits, by nature of operating in a public-goods supplying industries will face enhanced scrutiny regarding how the supply of the respective public good is impacted by their presence. A fundamental difference, however, between nonprofit and for-profit suppliers of public goods is the nature of their financing. While for-profits rely on market financing, nonprofits rely on relationships with donors. For-profit firms may also access relationship financing through banks. However, with regard to for-profits, there is always the potential for further market financing. The relationship of nonprofits to their financing sources are inherently more personal. One can switch banks, but important large donors are much less likely to be readily substituted.

2.1.1 The evolving role of nonprofits

For some time, there has been a widely noted trend around the globe for commercialization of nonprofit activities (Guo, 2006; Hammack and Young, 1993; Weisbrod, 1998). Commercialism in this context closely relates to the degree of reliance on sales revenues rather than donations or government grants (James, 1998). Schiff and Weisbrod (1991) attribute this trend towards a for-profit model to declining support from governments and inability to increase donations. Foster and Bradach (2005) note that nonprofits increasingly feel compelled to both seek new revenue sources as well as to appear more disciplined and businesslike to stakeholders, in part by reducing their reliance on fundraising.

One consequence, as well as cause, of the financial pressure on nonprofits is increasing competition from for-profit firms. This is occurring, for instance, with regard to higher education in the US. However,

as a consequence, issues emerge about whether the private sector facilitates the supply of public goods of appropriate quality (Easley and O'Hara, 1983; Glaeser and Shleifer, 2001). With respect to universities, for instance, are educational degrees from for-profit institutions in the US of equal value to those from nonprofits (Goodell, 2016)? This paper does not address directly this latter question. However, comparing the transparency of for-profits and nonprofits has important ramifications for a wide variety of considerations as various debates with inevitably be based on available public information.

While transparency overall is a vital topic (Forssbaeck and Oxelheim, 2014), the behavior, including disclosure behavior, of sectors that stand outside markets have long been interesting to social science (Kingma, 1997). This extends to considering the need of nonprofits for transparency. As nonprofits in general are suppliers of public goods, providing information about the value of goods is itself a public good. As nonprofits exist to provide public goods (Weisbrod, 1975), quality of information is amongst other signals that indicate the quality of these goods (Kingma, 1997). As an extension, quality of information is vital to citizens, regulators and firm-specific stakeholders assessing the long-run prospects of nonprofits, and alternatively for-profits, to supply necessary public goods.

In the model of Weisbrod (1975), nonprofit organizations satisfy a demand for public goods which is left unfilled by government provision. For a particular public good, the government provides to the level demanded by the median voter. However, some citizens have a level of demand for this good that is greater than the median voter's. This unfilled demand for the public good is satisfied by nonprofit organizations. Concomitantly these nonprofit organizations are financed by the donations of those respective citizens who want an increase in the output of the public good.

DiMaggio and Anheier (1990) summarize that industries particularly suited to being nonprofits will include industries where firms cannot make informed choices. This is because 1) donors buy services for third parties which are not directly known; such as overseas charities, 2) consumers of public goods are often less able to attest to service quality (daycare centers, mental hospitals), 3) donations cannot be tracked to specific services (pooled political donations for political advocacy), or 4) services are so complex that consumers cannot evaluate their quality and are so important that low quality poses unacceptable risk

(medical care) (see also Hansman, 1980; Easley and O'Hara, 1983; Easley and O'Hara, 1988; Chau and Huysentruyt, 2006). Weisbrod (1988) suggests that nonprofits emerge in order to provide high-quality services that have special attributes that are difficult to evaluate. Alternatively, Hansman (1981) emphasizes voluntary price discrimination through donations for those few industries (e.g., theatres, universities) in which services are consumed by purchasers who are able to assess their quality. Incentives, stakeholders, agency concerns, claims on residual earnings, and relationships with the public sector are all potential differences between nonprofit organizations and for-profit firms that operate in industries that are not supplying pubic goods (Rose-Ackerman, 1996). These differences naturally extend to disclosure and transparency (Krishnan, Yetman, and Yetman, 2002).

However, in this study we are comparing nonprofits with for-profits that specifically supply public goods in the same industry. Many of the differences outlined by previous research, between for-profits and nonprofits, are based on the view that nonprofts and for-profits are operating in differing industries. However, examining a broad sample of both nonprofits and for-profits operating in the same industry, allows a clearer picture of how differences in financing impact differences in financial transparency. As noted by Speckbacher (2008), with regard to nonprofit governance versus for-profit governance, suppliers of financing to nonprofits typical do so without the protection of a comprehensive contract, as so rely on the strength of relationships.

2.2.2 For-profits or nonprofits: Which values transparency more?

Research affirms the value of disclosure to investors. (e.g., Balakrishnan et al., 2014; Barth, Levine, and Caprio, 2008; Bushee and Noe, 2000; Kothari, Li, and Short, 2009; and Leuz and Verrechia, 2000). However, there are reasons to suggest that there will be greater discretionary transparency amongst nonprofits. According to the website of the National Council of Nonprofits,[2] "charitable nonprofits embrace the values of accountability and transparency as a matter of ethical leadership, as well as legal compliance. Leaders of charitable nonprofits know that financial transparency will help preserve the very important trust

[2] See https://www.councilofnonprofits.org/tools-resources/financial-transparency, accessed July 5th, 2019.

each donor places in a nonprofit with each contribution." Nevertheless, we argue that financial transparency will be more important to for-profit firms rather than nonprofit firms because of the well-known finding that transparency is more important for market financing than for relationship financing. We consider this alongside the fact that nonprofits inherently rely on relationships with donors, while for-profits either engage in market financing will consider the option value of being able to engage with market financing.

As noted by Coase (1960), in a theoretically ideal financial system it would make no difference whether financing was privately done through relationships or publicly through markets. However, in an imperfect society other factors must also be considered. According to North (1990), the costliness of information needed for measurement and enforcement of exchanges creates "transaction costs." Transaction costs involve costs of defining property rights and costs of enforcing contracts—including costs of information. "Transformation costs" are the costs associated with using technology and the efficiency of factor and product markets and are reflected in transaction costs. Whether institutions lower or raise overall transaction costs have to do in part with the ability of participants to be informed and to understand the nature of the particular institutional environment. This includes not just understanding the nature of contracts and their enforceability, but also the temperament and motivation of other participants.

Transaction costs are an inherent part of market transactions. As noted by Williamson (1988) when the costs of market exchange are sufficiently high, firms can obtain cheaper financing through some other means. The alternative to market financing is typically through some sort of a prescribed arrangement, such as a bank loan or, more broadly, through a prescribed transfer of resources through a horizontal or vertical network. Hart (2001) and Hart (1995) note that the primary transaction costs of market exchanges stem from the uncertainties of contracts. From the point of view of the equity investor, obtaining reliable information about firms is innately costly and, to some degree, fallible. These costs will be shared with the supplier of equity, causing equity financing to be more costly for the firm.

As noted by Modigliani and Perotti (1998), and earlier by Rajan (1992), it is where contract enforcement is weak that collateral is more emphasized, leading to an advantage for bank financing. However, Rajan (1992) notes there are consequences of this: more emphasis on collateral can lead to such

an informational advantage for banks that they can charge excessively high interest rates. In other words, lowering the cost of equity financing, is important even for for-profit firms electing to finance through banks.

The cost of market finance, for for-profit firms, is determined by the lessening of asymmetry of information. The cost of market financing will shape the cost of financing for firms whether or not they are engaging at the moment with seeking market financing. There is a large body of literature that finds that societies with less transparency and less governance or less tolerance of information asymmetry will have greater costs of market financing (e.g., Aggarwal and Goodell, 2009a; Aggarwal and Goodell, 2009b; Ergungor, 2004; Kwok and Tadesse, 2006).

We hypothesize, therefore, that transparency is likely more important for for-profits.

H1: For-profits will maintain better levels of financial transparency than nonprofits

2.4 Microfinance as a platform for investigating transparency

The goal of this study is to investigate the impact of profit status on financial transparency for firms supplying public goods in general, rather uncover evidence that is only relevant to the microfinance industry. However, investigating a broader sample of all sorts of different nonprofit industries across a broad number of countries would present other challenges. Many nonprofit industries, such as hospitals and universities, would not be represented in anything close to equal numbers of for-profits and nonprofits in respective countries. This would open the potential for confounding country-level effects of culture and governance with differences due to industry.

A focus on microfinance in particular affords a number of opportunities. First, there is considerable data available at the MFI level internationally which extends over a large number of countries. Second, for some developing countries, MFI-level data may include many more institutions than there are publicly traded firms in these markets. Third, MFIs are present in a wide variety of developing countries, which have differing institutional structures and voids (Khanna and Yafeh, 2007). Fourth, MFIs in respective

countries are typically both for-profit and nonprofit. Therefore, a focus on microfinance affords an opportunity to investigate how transparency is impacted by the distinction between for-profit and nonprofit institutions and whether this distinction has an interactive impact along with aspects of the institutional environment. Fifth, the role of institutions in shaping governance mechanism has recently been studied with a focus on corporate social responsibility. The mission and outreach elements of microfinance are similar in nature to those of corporate social responsibility and this study therefore offers an extension into this area of investigation (Brammer, Jackson, and Matten, 2012).

Augustine (2012) notes that past research on the governance of MFIs (e.g., Mersland and Strøm, 2007; Mersland and Strøm, 2009) focus on agency issues. Beisland and Mersland (2014) examine the determinants of differences in earnings quality between for-profit and nonprofit MFIs. However, they find insignificant differences. Mori and Mersland (2014) show that differences amongst stakeholders who sit on boards, such as donors, customers, employees and creditors significantly influence microfinance organizations. They also find that nonprofit MFIs have more donors on board than for-profit organizations, while customers and employees have a greater stakeholder presence for for-profit organizations. Roberts (2013) finds that a for-profit status is associated with higher interest rates for MFI clients, but also higher MFI costs. Cull, Demirgüç-Kunt, and Morduch (2011) find that for-profits differ from nonprofits in the manner of absorbing costs of regulation: for-profits cut back on outreach to maintain profitability, while nonprofits allow themselves to be less profitable. Duqi and Torluccio (2015); Servin, Lensink, and van den Berg (2012) and others examine how different ownership identities, such as shareholders, banks, social investors, government entities, and institutional investors, impact the risk and performance of MFIs. Mori and Mersland (2014) find that differences in stakeholders leads to differences in the nature and focus of governing boards and also levels of financial and social performance. While both nonprofits and for-profits arguably have many stakeholders, the distinction between donor financing and market financing is a stark dividing line between these two types of entities.

We control for firm-level MFI characteristics including profitability, portfolio quality and efficiency as well as level of outreach.[3] As noted by Bhojraj, Blacconiere, and Souza (2004), volitional transparency is a function of conflicting incentives among various stakeholders. Literature certainly affirms this is the case for microfinance as well. Studying the disclosure of for-profit versus nonprofit MFIs affords a particular opportunity to investigate the distinction of for-profit versus nonprofit status as a determinant of disclosure.

3. Methodology and data description

3.1 Dependent variable

We use data from MIX Market's assessment of MFI transparency (*TRANSPARENCY*). The MIX Market transparency score (labeled diamonds in their dataset) is assigned an integer 0–5, with 5 being most transparent. Currently, each profile on the site receives an overall diamond profile score, and an annual score for each full year of data that are published on the site.[4] A diamond score of "1" is assigned if the MFI is considered to have a visible profile. A diamond score of "2" is assigned if the MFI reports some data on products and clients for the year. A diamond score of "3" is assigned if there is additionally some reporting of financial data by the MFI. A diamond score of "4" is assigned if, in addition to the items listed above, MFI also publishes audited financial statements for the year. A diamond score of "5" is assigned if the MFI also publishes a due diligence report for the financial year.

Since, MFIs self-report to MIX Market, out of concern for sample bias, we drop MFI years with a diamond score of "0." In our remaining sample, we have 1066 MFI-years with a diamond score of 1; 193 MFI-years with a diamond score of 2; 725 MFI-years with a diamond score of 3; 1915 MFI-years with a diamond score of 4; and 600 MFI-years with a diamond score of 5.

Table 1 shows the country averages in our sample, ranked according to transparency. Also shown in this table, are the number of MFIs and the MFI years per country, as well as the relative numbers of for-

[3] We do consider that such firm-level estimates may be less than fully accurate for firms with concomitantly less transparency. However, results regarding the associating of levels of transparency with firm-level performance are not the crux of this study.

[4] http://www.themix.org/mixmarket

profit versus nonprofit transparency and MFI years used in this study. Examining Table 1, we find that transparency varies widely across our broad sample of MFIs of 41 countries. The country with the best transparency, perhaps surprisingly, is Panama (4.29). Ecuador (4.03), followed by India (3.82) and Honduras (3.79) also rank relatively high in terms of transparency score. India has the most MFIs per country (132 out of 977), representing 13.5% of our total sample. In general, the transparency of MFIs from Caribbean and Latin American countries seems to be relatively high (more than 3.5), while MFIs in Eastern Europe and African countries seem to exhibit relatively lower transparency (less than 2.4).

(Please insert Table 1 about here)

3.2 Summary statistics

Our sample consists of 977 MFIs. The data is an unbalanced panel data consisting of 4,499 MFI–years from 41 emerging countries, over a sample period of thirteen years from 2003–2015. Table 2 provides a summary of the dependent and independent variables used in this study. Together, these independent variables reflect the influences that could affect MFI predilection for transparency. Overall, the independent variables used in this study reflect fund financial characteristics, fund mission characteristics, national institutions, macroeconomic factors and national culture. The summary statistics in Table 2 reflect a reasonably even distribution of for-profit and nonprofit MFIs in our sample. Since 45% (55%) of our sample consists of for-profit (nonprofit) MFIs, our dataset is not biased towards a specific type of MFIs. Also, in our sample 50% of MFIs accept deposits, have an average age between 5–8 years, and on average extend credit to circa 10,000 borrowers. The correlation matrix (Appendix) indicates there is little collinearity among the explanatory variables.

(Please insert Table 2 about here)

3.3 Statistical specification and estimation

Our baseline empirical models and their estimates are based on the following equation:

$$TRANSPARENCY_i = \alpha + \beta_1 FOR_PROFIT_i + \beta_2 NATIONAL_GOVERNANCE_i + \beta_3 FOR_PROFIT_i * NATIONAL_GOVERNANCE_i + \sum \beta\ MFI_CONTROLS_i + \sum \beta\ OTHER_MACRO_CONTROLS_i + e_i \quad (1)$$

where *TRANSPARENCY* is the MFI-level year-specific transparency score. *FOR_PROFIT* is a dummy variable that is assigned the value one when the MFI is for-profit and zero otherwise. *MFI_CONTROLS* is a vector of MFI-level variables that include the important dimensions of MFIs: efficiency, portfolio quality, and profitability as well as an array of other MFI-level factors. *NATIONAL_GOVERNANCE* is a collection of six national governance parameters from the World Bank. *BANK_REGULATION* aggregates variables specific to banking regulation from Barth, Levine, and Caprio (2008) and then further is aggregated with a dummy variable that is assigned 1 if MFI is subject to banking regulation and 0 otherwise.

In our initial tables, we estimate standard errors clustered at the MFI level. Due to the nature of our dependent variable, which can take on values from 1–5 (MFI-years with diamonds of 0 dropped), we report the results of ordered logit regressions with errors clustered at the MFI level. Because of the nature of these tests, year dummies are included in models using ordered logit but not in models using generalized ordered logit. Variance inflation factors for all the regression coefficients across all the models is less than 10.

In other tables we investigate whether our models satisfy the parallel lines assumption (Brant, 1990). We also control for endogeneity with the procedure of Kripfganz and Schwarz (2019). This procedure is a sequential approach to estimating a dynamic Hausman–Taylor model, which first estimates the coefficients of the time-varying regressors and subsequently regresses the first-stage residuals on the time-invariant regressors.

3.4 Independent variables

3.4.1 Primary independent variables

Our primary independent variable of interest is a dummy variable that is assigned "1" if an MFI is for-profit and "0" otherwise (*FOR_PROFIT*). The source for this variable is MIX Market.

Additionally, in this study, we investigate the role of profit status on conditioning the impact of national-level variables on financial transparency. We include two national variables of particular interest.

We include a country-level governance parameter to explain MFI-level voluntary self-disclosure. *NATIONAL_GOVERNANCE* is the first principal component score of the six Worldwide Governance Indicators, namely, Voice and Accountability, Political Stability and Absence of Violence, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption. We also include as an independent variable the interaction of national governance and profit status (*FOR_PROFIT*NATIONAL_GOVERNANCE*). We include this interaction variable to assess whether a for-profit status influences the impact of governance on transparency.[5]

As noted by Aguilera et al. (2008), agency conflict takes on very different forms across countries, not only due to different patterns of shareholder concentration but based on differing constructs of complex social networks that can be significantly impacted by a wide variety of aspects. Evidence shows that transparency, as with governance mechanisms in general, varies across countries. For instance, Berglöf and Pajuste (2005) show that disclosure levels vary substantially across firms and there is a strong country effect in the deviation between actual and required disclosure. As with governance in general, disclosure levels are expected to reflect complex sets of incentives (Berglöf and Pajuste (2005); Bushman, Piotroski, and Smith (2004)).

Bushman, Piotroski, and Smith (2004), Jacoby et al. (2019) and others evidence association of country-level factors with corporate transparency, however this evidence is mixed. For instance, Bushman, Piotroski, and Smith (2004) find a positive association of firm-level financial transparency with national governance, while Jacoby et al. (2019) find a negative association, or substitution of firm-level transparency for governance voids, across a sample of emerging markets.

We control whether the financial transparency of MFIs varies as well with national governance and other country-level factors, with a focus on whether national governance impact the role of for-profit versus nonprofit status on transparency. The role of nonprofit organizations in society is also impacted by the role of the private sector and the state and consequently by national governance (Boris and Steuerle, 2006).

[5] Recently, Bibi et al. (2018) highlight the importance of governance for MFI efficiency.

Civil-law countries are seen at times as having great state involvement in the nonprofit sector, with nonprofits in common-law countries having more market-oriented characteristics (Esping-Andersen, 1990).Therefore, in this study we control for national governance and legal origin. We also examine whether national governance influences the impact of for-profit versus nonprofit status on transparency.

3.4.2 MFI controls

Following von Stauffenberg et al. (2003) regarding MFI financial characteristics, we include MFI controls based on four fundamental MFI qualities 1) portfolio quality or portfolio risk, 2) efficiency and productivity, 3) financial management, and 4) profitability. For portfolio quality (*PORTFOLIO_QLTY*), we use the first principal component of portfolio at risk for 90 days, the write-off ratio, negative of provision expense ratio, and negative of the risk coverage from MIX Market. The provision expense ratio is the provision for loan impairment divided by gross loan portfolio. Risk coverage is impairment loss allowance divided by 30-day portfolio at risk. For efficiency and productivity (*EFFICIENCY*), we use the first principal component of the operating expense ratio, cost per borrower, personnel productivity, and loan officer productivity. We use the debt-to-equity ratio and label it as *LEVERAGE*. For profitability (*PROFITABILITY*), we use the first principal component of return on equity, return on assets, and portfolio yield.

In terms of additional control variables, we account for MFI age (*AGE*). *AGE* is a categorical variable that is assigned "1" if the MFI is 1–4 years old, "2" if the MFI is 5–8 years old, and "3", if MFI is older than 8-years-old.[6] We include an independent variable as a measure of the degree of outreach (*OUTREACH_SIZE*), from MIX Market. This variable is assigned an integer 0–2, with "2" being the highest level of outreach. Outreach is proxied by the number of borrowers, with "2" being assigned if the number of borrowers is greater than 30,000, "1" if it is between 10,000–30,000, and "0" if less than 10,000.[7]

[6] *AGE* is reported as a categorical variable by MIX Market dataset.
[7] *OUTREACH_SIZE* is correlated about 0.60 with the natural log of the size of assets for the MFI. Therefore, we do not include the size of assets in our regressions. However, we also run all the regressions controlling for the size of MFI assets (natural logarithm) and the results are qualitatively and quantitatively similar. They are available from the authors upon request.

The dummy variable *DEPOSITS* is assigned "1" if the MFI accepts deposits and "0" otherwise. The dummy variable *TARGET* is assigned "1" if the borrowers of the MFI are high-end or broad businesses and "0" if low-end or small businesses. The source for all these variables is MIX Market database.

We also include a banking-regulation variable that is somewhat of a hybrid of MFI-level and national level. The variable *BANK_REGULATION* is the first principal component of two factors. The first factor is the principal component of six dummy variables that represents the country-level banking disclosure requirement by the regulators. These variables are: 1) Are banks required to prepare consolidated accounts for accounting purposes? 2) Are applicable accounting standards for banks in the country of operation prepared in accordance with U.S. GAAP at the individual bank level? 3) Are applicable accounting standards for banks in the country of operation prepared in accordance with International Financial Reporting Standards (IFRS) at the individual bank level? 4) Are all banks operating in the country (including foreign bank branches) required to make available to the public their annual financial statements at the individual bank level? 5) Do banks disclose to supervisors fully audited financial statements? 6) Are bank directors legally liable if the information disclosed is erroneous or misleading? These variables are from the World Bank's Bank Regulation and Supervision database of 2012. The second factor used in constructing *BANK_REGULATION* is whether the MFI is regulated by the local regulators within the country. It is a dummy variable that is assigned a value of "1" if the regulated field is marked yes and "0" if the field is marked no in the Mix Market database. This field is marked as yes if the MFI submits to some regulatory authority, whether a formal banking regulator or some other financial services regulator in the country of operation.

3.4.3 Other country-level controls

We include in our models a dummy variable that is assigned "1" if the country has a common-law legal origin and "0" otherwise (*COMMON_LAW*). In some testing (not reported in the tables), we also control for the national macroeconomic environment by including the natural logarithm of the gross national income per capita and population density, which is the number of people per square kilometer of

the country where the MFI is based. This data is from the World Development Indicators. Additionally, following Gray (1988), we test our findings controlling for national culture.[8] While not reported in the tables, we find little evidence that national culture, population density and wealth have little impact on the financial transparency of MFIs or on the role of profit status in determining transparency.

4. Results

4.1 Determinants of MFI transparency

Table 3, reports on the regression models that focus on the determinants of transparency. Due to the nature of our dependent variable, which can take on values from 1–5 (MFI-years with diamond value of 0 dropped), we report the results of ordered logit regressions with errors clustered at the MFI level.

In Model 1 we include only the variable *FOR_PROFIT*. This results in for-profit status being a significantly positive determinant of MFI transparency. In Model 2 we add MFI control variables. This results in *OUTREACH_SIZE* being significantly positive at 1%. This is consistent with Behn, DeVries, and Lin (2010) who find that transparency for nonprofits is positively associated with being a larger organization; although our sample is not just nonprofits but a sample of roughly half nonprofits and half for-profits. *BANK_REGULATION* is negatively significant at 1%. *AGE* is negatively significant at 10%; *PORTFOLIO_QLTY* is positively significant at 1%.[9] The result for *BANK_REGULATION* suggests that MFI financial transparency is undertaken not as a result of required regulation but as a substitute for its lack.

Model 3 adds independent variables for national governance and for English common law. This results in national governance being negatively significant at 1%. This is consistent with MFIs adopting transparency as a substitute for national governance. This result, that transparency is negatively related to national governance is further explored in the next section. Model 4 includes a term for the interaction of

[8] In our tables, for the sake of clarity, we do not report some results of tests using a wider set of national variables. The results of these tests are available upon request.

[9] Not reported in the table, we also test the same set of independent variables as Model 2 but matching for-profit and nonprofit MFIs across the other independent variables using propensity score matching technique. This results in a small sample reduction but not substantive changes in the signs or coefficients of the significant variables.

profit status and national governance. This results in *FOR_PROFIT*NATIONAL_ GOVERNANCE* being positively significant at 1%. This result is consistent with improved national governance increasing the impact of profit status on transparency.

While not reported in the tables, we also investigate the impact of other national-level variables, including GNI per capita, population density and national culture. The testing of national culture is motivated by Gray (1988), who suggest that the transparency of private firms is influenced by national culture. However, these additional national variables are not significant and inclusion of them in the set of independent variables makes little difference to the signs and significances of the coefficients of the other independent variables.

(Please insert Table 3 about here)

4.2 Dividing sample into for-profit and nonprofit MFIs

In this section we present results of dividing the sample in for-profit and nonprofit MFIs in order to investigate the role of national governance on transparency. Table 4 reports the results of regressions that use the same set of independent variables as Table 3 Model 3. However, in Table 4 Models 1 and 2, the sample is divided according to profit status. This results in national governance being negatively significant only for nonprofit MFIs. In one sense our result of a negative association of national governance with financial transparency is consistent with Jacoby et al. (2019), while not consistent with Bushman, Piotroski, and Smith (2004). However, examining the results of dividing the sample between for-profits and nonprofits, as reported in Table 4, the negative association of governance and firm-level transparency is only significant for the sample of nonprofits. As Jacoby et al. (2019), Bushman, Piotroski, and Smith (2004) and others only investigate the association of firm-level transparency with national governance for a sample of for-profit firms, our results are not necessarily consistent or inconsistent with earlier research. Additionally, deposit taking is negatively significant only for nonprofits. On the other hand, bank regulation is negatively significant for both samples.

(Please insert Table 4 about here)

4.2 The conditioning role of national governance and the parallel lines assumption

We also investigate whether our models satisfy the parallel lines assumption (Brant, 1990). The parallel regression assumption (proportional regression assumption) in ordinal logistic regression says that the coefficients that describe the odds of being in the lowest category versus all higher categories of the response variable are the same as those that describe the odds between the second lowest category and all higher categories. In other words, if the coefficient on *FOR_PROFIT* in Model 4 of Table 3 is 0.58, can we infer that this coefficient is the consistently correct estimate for the increased odds of transitioning to each respective level? The results of Brant tests (not reported here) suggest it is not. The results of Brant tests suggest the parallel lines assumption is violated. Therefore, in subsequent models we present the same set of independent variables but with increasing restrictions on the level of our dependent variable.

Model 1 is restricted to *TRANSPARENCY* not being 0 or 1; Model 2 is restricted to *TRANSPARENCY* not being 0, 1, or 2; and Model 3 is restricted to *TRANSPARENCY* not being 0, 1, 2 or 3. Examining these results, it is clear that there are similarities across the models. Most particularly, *FOR_PROFIT* is positively significant. The coefficient on *FOR_PROFIT* increases across the models. This is consistent with the impact of for profit status on transparency being stronger for MFIs with higher levels of disclosure. A for-profit status is clearly more economically impacting on transparency for higher levels of transparency. National governance is negatively significant in Models 1 and 2 and not significant for Model 3. The interaction of profit status and national governance is positively significant in each of the models. Banking regulation is negatively significant across the models.

(Please insert Table 5 about here)

4.3 Robustness testing: Two-stage procedure controlling for endogeneity

In order to control for endogeneity we include robustness tests using the procedure of Kripfganz and Schwarz (2019). This procedure is a sequential approach to estimating a dynamic Hausman–Taylor

model, which first estimates the coefficients of the time-varying regressors and subsequently regresses the first-stage residuals on the time-invariant regressors.[10] Kripfganz and Schwarz (2019) posit that this approach has advantages for avoiding model misspecification over estimating all coefficients simultaneously. The correct adjustment of the second-stage standard errors facilitates valid inference. These results are reported in Table 6. The results are substantially in agreement with the results of earlier tables, with the coefficient on *FOR_PROFIT* positively significant at 1%. One difference is that the coefficient on *FOR_PROFIT* (0.36) is a little smaller compared to earlier results. This suggests that when coefficients are adjusted for possible endogeneity, the economic significance of profit status is a little less than other testing suggests.

(Please insert Table 6 about here)

4.4 Discussion

Overall, our results show that transparency is positively and significantly associated with for-profit status. *FOR_PROFIT* is positively significant at 1% or 5% level in every model. The coefficient, representing the increased likelihood of transitioning for a current level of transparency to the average of the remaining levels of transparency ranges across models, and for different base levels of transparency from 0.35 to 1.37. In summary, our results, over a variety of models and estimations, strongly suggest that for-profit firms in public goods supplying industry will be meaningfully more financially transparent. These results are interesting to consider alongside earlier research which finds that in environment of better transparency, for-profit firms will be more inclined toward market financing. In this paper, on the other hand, we determine that firms that use market financing, or have the option of using market financing, will elect for greater transparency.

We also find that national governance is negatively significant, however this negative significance is not the case with regard to for-profit MFIs and for MFIs in general which maintain high levels of financial

[10] STATA does not report the first-stage results of this procedure.

transparency. We also evidence that improvement in national governance increases the impact of for-profit on financial transparency.

Our results are consistent with managers of for-profits maintaining disclosure levels in order to satisfy shareholders. In contrast, results also suggest that pressure from donors of nonprofits is not always sufficient to engender comparable levels of disclosure. Certainly, there are reasons, common to nonprofits in general, not just nonprofit MFIs, that suggest that nonprofits under some circumstances may value a lack of transparency. As noted by Rose-Ackerman (1996), agency costs, particularly in the form of managerial shirking, may potentially be greater for nonprofits than for-profits as there is no market for corporate control with regard to nonprofits. Evidence suggests both for-profit and nonprofit MFIs do at times opt for particularly low levels of disclosure.

We also find a positive association of transparency and outreach size. It is interesting to examine this result with regard to the model of Speckbacher (2008). Comparatively less transparency would be expected if the donors have already gained control rights. Mori and Mersland (2014) associate greater control rights of donors with smaller boards, which is typically concomitant with less outreach size (Hartarska (2005)). From this perspective, results are consistent with the nonprofit governance model of Speckbacher (2008), that nonprofits have greater transparency when they have larger outreach size with donors having less residual control rights.

It is important to consider what the results say about for-profit business model providing transparency to microfinance and to nonprofits more generally. Do the results offer implications for the controversies outlined by Cull, Demirgüç-Kunt, and Morduch (2009)? Cull, Demirgüç-Kunt, and Morduch (2009) note that in particular for-profit MFIs are likely to charge higher interest rates than nonprofit MFIs. Cull, Demirgüç-Kunt, and Morduch (2009) also note the objections of important notable figures in the microfinance community, such as Muhammad Yunus[11], who are sharply opposed to MFIs charging higher interest rates, viewing this as an economic exploitation of individuals at the bottom of the pyramid

[11] See op ed of January 14, 2011 in *New York Times* by Muhammad Yunus, "Sacrificing Microcredit for Megaprofits"

(Prahalad, 2006). However, if higher rates provide a more sustainable business model, as many advocates of for-profit microfinance contend, then the providing by for-profit MFIs of greater financial transparency provides a valuable window to assess whether this is true. Our results suggest for-profit MFIs are more comfortable providing financial transparency compared with similar nonprofit firms.

However, with regard to for-profit MFIs on the lower end of transparency, unlike MFIs at the higher end of transparency, our results do not support that for-profit MFIs provide greater transparency. Overall, whether results confirm that if the advent of more MFIs using a for-profit business model encourages disclosure, transparency and openness in the microfinance industry depends on what type of MFIs we are looking at. For MFIs with relatively higher levels of disclosure the answer is "yes." For MFIs with lower levels of transparency the answer is "no." Across countries, policy makers may wish to consider that for-profit MFIs improve the governance environment for already well functioning microfinance industries, but do not improve microfinance industries that are as yet lacking in basic transparency and governance.

As noted by Speckbacher (2008), Weisbrod (1975), Young (2011) and many others, there are commonalities with regard to public-good supplying industries compared to commercial enterprises in general. These include the need to prevent diversion of funds, the transaction costs of donors who seek control rights in the absence of reliable contracts, shareholder discipline and many other factors. In sum there is a commonality of environments across all industries that have both for-profit and nonprofit participants. Our results with regard to a broad sample of microfinance institutions across many countries should be of considerable interest with regard to nonprofits in general.

5. Conclusions

This paper investigates how the difference between nonprofit and for-profit status impacts financial transparency of firms supplying public goods. Do levels of financial transparency differ between for-profit and nonprofit organizations? How do country-level factors condition the role of profit status in impacting financial transparency? These questions deserve attention. However, there are particularly few industries that have large numbers of both for-profit and nonprofit firms across a wide array of countries. An exception

is the microfinance industry, which has a large number of both for-profit and nonprofit firms in relatively equal numbers, across a number of countries. This allows for additionally investigating the role of national characteristics in conditioning the influence of profit status on financial transparency.

A primary motive for our investigation is to consider this study in comparison to important papers from international finance that discuss markets versus relationship financing (Aggarwal and Goodell, 2009a; Aggarwal and Goodell, 2009b; Ergungor, 2004; Kwok and Tadesse, 2006; Goodell and Goyal, 2018). While previous papers find that transparency at a national level leads to market financing being favored over relationship financing, this paper evidences that firms more likely to engage in market financing volitionally choose better levels of financial transparency.

We evidence for a broad sample of microfinance institutions across many countries that financial transparency is positively associated with for-profit status. Similarly, improved levels of national governance enhance the role of for-profit status in promoting transparency. Results are robust to controlling for firm-level aspects of microfinance institutions and are consistent with financial transparency serving to safeguard against the greater likelihood amongst for-profit firms of diverting funds. Results will be of broad interest both to scholars interested in the roles of transparency and transaction costs on market versus relational financing; as well as to policy makers interested in the impact of for-profits on the supply of public goods, and on the microfinance industry in particular.

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Table 1: MFI transparency by country

This table reports the country-level average transparency of MFIs, MFI-years, and total numbers of MFIs for the 41 countries used in this study. MFI -level transparency, sourced from MIX Market, is assigned a discrete scalar value from 0–5, with 5 being the most transparent. However, MFI-years with transparency scores of 0 are dropped. We report the statistics for the full sample and for the for-profit and nonprofit MFIs used in this study. * indicates that there is no nonprofit MFI for Thailand in the sample.

	All MFIs			For-Profit MFIs		Nonprofit MFIs	
Country	**Transparency**	**MFI-years**	**MFIs**	**Transparency**	**MFI-years**	**Transparency**	**MFI-years**
Panama	4.29	34	4	4.67	15	4.00	19
Ecuador	4.03	413	58	4.53	86	3.90	327
India	3.82	536	132	4.20	360	3.03	176
Honduras	3.79	162	25	3.81	67	3.78	95
Serbia	3.72	32	4	3.61	23	4.00	9
El Salvador	3.64	121	15	3.74	61	3.55	60
Guatemala	3.54	154	22	4.00	1	3.54	153
Colombia	3.51	193	36	4.29	49	3.25	144
Nepal	3.51	125	30	3.38	78	3.72	47
Argentina	3.51	61	16	4.14	35	2.65	26
South Africa	3.50	10	5	3.63	8	3.00	2
Ukraine	3.50	12	2	1.00	2	4.00	10
Kenya	3.46	65	16	3.47	45	3.45	20
Nigeria	3.45	40	15	3.44	32	3.50	8
Chile	3.39	28	7	4.07	15	2.62	13
Mexico	3.37	315	69	3.51	269	2.57	46
Pakistan	3.35	159	28	3.40	87	3.28	72
China	3.26	27	6	3.00	12	3.47	15
Bangladesh	3.25	182	35	4.88	24	3.01	158
Dominican Rep.	3.23	56	10	2.54	24	3.75	32
Brazil	3.05	128	35	2.89	27	3.09	101
Peru	2.99	351	63	3.41	144	2.70	207
Romania	2.97	37	7	2.75	28	3.67	9
Jordan	2.96	55	8	3.00	6	2.96	49
Lebanon	2.95	21	4	2.89	9	3.00	12
Senegal	2.86	43	11	4.56	9	2.41	34
Sri Lanka	2.65	62	20	3.00	42	1.90	20
Malawi	2.61	23	5	3.00	5	2.50	18
Indonesia	2.42	139	45	2.97	73	1.82	66
Mozambique	2.40	42	8	2.40	15	2.41	27
Zambia	2.35	17	6	1.73	11	3.50	6
Bulgaria	2.28	88	22	2.64	11	2.23	77
Ethiopia	2.25	76	16	2.22	59	2.35	17
Tanzania	2.25	44	11	2.00	13	2.35	31
Philippines	2.11	340	76	1.73	162	2.46	178
Russia	2.05	165	56	2.45	29	1.96	136
Burkina Faso	2.04	25	6	3.00	11	1.29	14
Poland	1.92	13	3	2.33	9	1.00	4
Sierra Leone	1.91	11	6	2.20	5	1.67	6
Ghana	1.84	89	33	1.42	57	2.59	32
Thailand	1.00	5	1	1.00	5	*	*
Total / Average	3.18	4499	977	3.36	2023	3.02	2476

Table 2: Descriptive statistics and summary of data sources

This table lists the number of observations, mean, standard deviation, minimum and maximum, followed by definition and source of variables used in the regression analysis reported in Tables 3–5. We have an unbalanced panel data from 2003–2015 for 977 MFIs from 41countries for 4,499 MFI–year observations.

Variable	Obs.	Mean	Std. Dev.	Min	Max	Definition and source of variables
TRANSPARENCY	4,499	3.18	1.39	1.00	5.00	Level of self-disclosure by a MFI annually. Transparency is assigned a discrete value of 0, 1, 2, 3, 4, or 5, with 5 being most transparent. MFIs with $T = 0$ are dropped. Source: MIX Market.
FOR_PROFIT	4,499	0.45	0.50	0.00	1.00	A dummy variable that is "1" if MFI is for-profit and "0" otherwise. Source: MIX Market.
PROFITABILITY	4,499	–0.03	1.10	–38.28	3.96	The first principal component score of the three annual MFI-level factors, that is, 1) return on equity, 2) return on assets, and 3) yield on the nominal gross portfolio. Source: MIX Market.
PORTFOLIO_QLTY	4,499	0.00	0.99	–51.23	6.04	The negative of the first principal component score of the four annual MFI-level factors: 1) loan portfolio at risk for 90 days or more, 2) the write-off ratio, 3) the negative of loan impairment provision divided by the gross loan portfolio, and 4) the negative of risk coverage, which is impairment loss allowance divided by the 30-day portfolio at risk. Source: MIX Market.
EFFICIENCY	4,499	–0.09	1.29	–45.53	19.04	The negative of the first principal component score of the four annual MFI-level factors, that is, 1) operating expense to loan portfolio, 2) cost per borrower, 3) number of borrowers per staff member, and 4) number of borrowers per loan officer. Source: MIX Market.
LEVERAGE	4,499	6.56	32.81	0.000	1436.60	The annual MFI-level ratio of debt to equity. Source: MIX Market.
AGE	4,499	1.67	0.61	0.000	2.00	Categorical variable that is assigned 1 if the MFI is 1 to 4 years old, 2 if the MFI is 5 to 8 years old, and 3, if MFI is mature. Source: MIX Market (Note: this is how this variable is reported in MIX Market)
OUTREACH_SIZE	4,499	0.92	0.87	0.00	2.00	The degree of outreach. Outreach is assigned a discrete scalar value of 0, 1, or 2, with 2 the highest outreach among borrowers. Source: MIX Market.
DEPOSITS	4,499	0.51	0.50	0.00	1.00	A dummy variable that is assigned 1 if MFI accept deposits and 0 otherwise. Source: MIX Market.
TARGET	4,499	0.45	0.50	0.000	1.00	A dummy variable equal to "1" if the borrowers of the MFI are a high-end or broad business and "0" if a low-end or small business. Source: MIX Market.
BANK_REGULATION	4,499	–0.21	0.95	–2.17	1.76	This is a variable created for this paper as the principal component of two different measures. The first measure is principal component score of six dummy variables that represent country-level banking regulation: 1) Are banks required to prepare consolidated accounts for accounting purposes? 2) Are applicable accounting standards for banks in country of operation prepared in accordance with U.S. GAAP at the individual bank level? 3) Are applicable accounting standards for banks in country of operation prepared in accordance with IFRS at the individual bank level? 4) Are all banks operating in the country (including foreign bank branches) required to make available to the public their annual financial statements at the individual bank level? 5) Do banks disclose to supervisors fully audited financial statements? 6) Are bank directors legally liable if the information disclosed is erroneous or misleading? Source: Bank Regulation and Supervision, 2012, World Bank. The second measure is a dummy variable that is assigned a value of "1" if the Regulated field is marked yes and "0" if the field is marked no in the mixmarket.org database. This field is marked as yes if the MFI submits to some regulatory authority, whether a formal banking regulator or some other financial services regulator. Source: MIX Market.
COMMON_LAW	4,499	0.32	0.47	0	1	Dummy variable that is assigned "1" if country has an English legal origin and "0" otherwise
NATIONAL_ GOVERNANCE	4,499	0.44	1.78	–3.31	9.53	The first principal component score of the six Worldwide Governance Indicators of the World Bank - Voice and Accountability, Political Stability and Absence of Violence, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption. Source: World Bank.

Table 3: Association of profit status and MFI transparency: Controlling for country-level factors

This table shows the results of ordered logit regressions with standard errors clustered by MFI, for an unbalanced panel data of 977 MFIs for a period from 2003–2015. The dependent variable, *TRANSPARENCY*, can take on a discrete value from 1–5. *P*-values are in parentheses below the coefficient values. For explanation of the variables used in the regressions models, see Table 2. We control for year fixed effects in all the regression models. ***, **, * indicates significance at 1%, 5% and 10% levels, respectively.

	TRANSPARENCY			
	1	**2**	**3**	**4**
FOR_PROFIT	0.49*** (0.000)	0.49*** (0.000)	0.59*** (0.000)	0.58*** (0.000)
PROFITABILITY		0.11 (0.204)	0.04 (0.640)	0.06 (0.533)
PORTFOLIO_QLTY		0.23*** (0.006)	0.24*** (0.005)	0.24*** (0.005)
EFFICIENCY		–0.01 (0.795)	–0.03 (0.595)	–0.02 (0.688)
LEVERAGE		–0.00 (0.339)	–0.00 (0.391)	–0.00 (0.310)
AGE		–0.16* (0.094)	–0.20** (0.047)	–0.15 (0.139)
OUTREACH_SIZE		0.59*** (0.000)	0.60*** (0.000)	0.61*** (0.000)
DEPOSITS		–0.21 (0.115)	–0.33** (0.021)	–0.33** (0.019)
TARGET		0.11 (0.435)	0.09 (0.524)	0.11 (0.398)
BANK_REGULATION		–0.49*** (0.000)	–0.51*** (0.000)	–0.55*** (0.000)
COMMON_LAW			–0.19 (0.323)	–0.07 (0.674)
NATIONAL_GOVERNANCE			–0.14*** (0.003)	–0.25*** (0.003)
*FOR_PROFIT * NATIONAL_ GOVERNANCE*				0.23*** (0.008)
YEAR DUMMIES	Yes	Yes	Yes	Yes
Observations	4,499	4,499	4,499	4,499
Wald Statistics	411.56*** (0.000)	537.53*** (0.000)	546.47*** (0.000)	540.71*** (0.000)

Table 4: Examining country-level factors with separate samples of for-profit and nonprofit MFIs

This table shows the results of ordered logit regressions with standard errors clustered by MFI, for an unbalanced panel data of 977 MFIs for a period from 2003–2015. The dependent variable, *TRANSPARENCY*, can take on a discrete value from 1–5. *P*-values are in parentheses below the coefficient values. For explanation of the variables used in the regressions models, see Table 2. We control for year fixed effects in all the regression models. ***, **, * indicates significance at 1%, 5% and 10% levels, respectively.

	TRANSPARENCY	
	1 **For-profit MFIs**	**2** **Nonprofit MFIs**
PROFITABILITY	0.07 (0.520)	0.03 (0.819)
PORTFOLIO_QLTY	0.10 (0.128)	0.41*** (0.000)
EFFICIENCY	0.06 (0.292)	–0.06 (0.532)
LEVERAGE	0.00 (0.654)	–0.00 (0.192)
AGE	–0.19 (0.110)	–0.14 (0.373)
OUTREACH_SIZE	1.03*** (0.000)	0.23** (0.027)
DEPOSITS	–0.29 (0.122)	–0.35* (0.089)
TARGET	0.12 (0.594)	0.09 (0.614)
BANK_REGULATION	–0.57*** (0.000)	–0.48*** (0.000)
COMMON_LAW	–0.02 (0.933)	–0.08 (0.700)
NATIONAL_GOVERNANCE	–0.00 (0.956)	–0.27*** (0.000)
YEAR DUMMIES	Yes	Yes
Observations	2,023	2,476
Wald Statistics	276.86*** (0.000)	346.93*** (0.000)

Table 5: Excluding levels of transparency

This table shows the results of ordered logit regressions with standard errors clustered by MFI, for an unbalanced panel data of 977 MFIs for a period from 2003–2015. The dependent variable, *TRANSPARENCY*, can take on a discrete value from 1–5. *P*-values are in parentheses below the coefficient values. For explanation of the variables used in the regressions models, see Table 2. We control for year fixed effects in all the regression models. ***, **, * indicates significance at 1%, 5% and 10% levels, respectively.

	TRANSPARENCY		
	1 **Excluding** ***TRANSPARENCY*** *==0, 1*	**2** **Excluding** ***TRANSPARENCY*** *==0,1,2*	**3** **Excluding** ***TRANSPARENCY*** *==0,1,2,3*
FOR_PROFIT	0.67*** (0.002)	0.75*** (0.001)	1.37*** (0.000)
PROFITABILITY	0.16 (0.303)	0.22 (0.177)	0.79*** (0.006)
PORTFOLIO_QLTY	0.22** (0.029)	–0.18* (0.060)	0.07 (0.641)
EFFICIENCY	–0.02 (0.772)	0.01 (0.867)	0.05 (0.590)
LEVERAGE	0.00 (0.753)	–0.00 (0.698)	–0.00 (0.340)
AGE	–0.11 (0.412)	–0.08 (0.562)	–0.39** (0.034)
OUTREACH_SIZE	0.48*** (0.000)	0.47*** (0.000)	0.84*** (0.000)
DEPOSITS	0.00 (0.979)	0.09 (0.668)	0.63** (0.029)
TARGET	0.49 (0.009)	0.38* (0.064)	0.25 (0.439)
BANK_REGULATION	–0.75*** (0.000)	–0.65*** (0.000)	–0.91*** (0.000)
COMMON_LAW	0.12 (0.577)	0.34 (0.155)	0.36 (0.305)
NATIONAL_GOVERNANCE	–0.25*** (0.002)	–0.25*** (0.001)	–0.19 (0.128)
*FOR_PROFIT * NATIONAL_ GOVERNANCE*	0.38*** (0.001)	0.35*** (0.007)	0.37** (0.028)
YEAR DUMMIES	Yes	Yes	Yes
Observations	3,433	3,240	2,515
Wald Statistics	170.98*** (0.000)	140.28*** (0.000)	278.23*** (0.000)

Table 6: Association of profit status and MFI transparency: Controlling for endogeneity

This table shows the results of tests with the 2-stage procedure of Kripfganz and Schwarz (2019), for an unbalanced panel data of 977 MFIs for a period from 2003–2015. The dependent variable, *TRANSPARENCY*, can take on a discrete value from 1–5. *P*-values are in parentheses below the coefficient values. For explanation of the variables used in the regression models, see Table 2. ***, **, * indicates significance at 1%, 5% and 10% levels, respectively.

	TRANSPARENCY
	1
FOR_PROFIT	0.36***
	(0.000)
PROFITABILITY	0.01
	(0.621)
PORTFOLIO_QLTY	0.09***
	(0.000)
EFFICIENCY	–0.01
	(0.742)
LEVERAGE	–0.00
	(0.148)
AGE	–0.05
	(0.162)
OUTREACH_SIZE	0.41***
	(0.000)
DEPOSITS	–0.36***
	(0.000)
TARGET	0.04
	(0.423)
BANK_REGULATION	–0.32***
	(0.000)
COMMON_LAW	–0.06
	(0.226)
NATIONAL_GOVERNANCE	–0.10***
	(0.000)
Observations	4,499
intercept	2.90***
	(0.000)

Appendix: Pearson correlation coefficients

		1	2	3	4	5	6	7	8	9	10	11	12	13
1	*TRANSPARENCY*	1.00												
2	*FOR_PROFIT*	0.12*** (0.000)	1.00											
3	*PORTFOLIO_QLTY*	0.07*** (0.000)	–0.04 (0.015)	1.00										
4	*PROFITABILITY*	0.05*** (0.003)	–0.03 (0.056)	0.13 (0.000)	1.00									
5	*EFFICIENCY*	–0.08*** (0.000)	–0.04 (0.011)	–0.00 (0.916)	–0.24 (0.000)	1.00								
6	*LEVERAGE*	–0.03** (0.050)	0.00 (0.835)	0.02 (0.156)	–0.13 (0.000)	–0.01 (0.955)	1.00							
7	*AGE*	–0.01 (0.318)	–0.23 (0.000)	0.01 (0.442)	0.18 (0.000)	–0.04 (0.004)	–0.06*** (0.000)	1.00						
8	*DEPOSITS*	–0.16*** (0.000)	0.04 (0.018)	0.00 (0.768)	0.06 (0.000)	0.02 (0.238)	0.04 (0.012)	0.06*** (0.000)	1.00					
9	*OUTREACH_SIZE*	0.22*** (0.000)	0.26*** (0.000)	0.05*** (0.001)	0.12*** (0.000)	–0.26*** (0.000)	0.01 (0.483)	0.09*** (0.000)	0.13*** (0.000)	1.00				
10	*TARGET*	–0.08*** (0.000)	–0.00 (0.750)	–0.01 (0.640)	0.22 (0.000)	0.08 (0.000)	0.03 (0.080)	0.13*** (0.000)	0.25*** (0.000)	–0.20*** (0.000)	1.00			
11	*BANK_REGULATION*	–0.19*** (0.000)	0.21 (0.000)	–0.00 (0.918)	0.07 (0.000)	0.00 (0.768)	0.04 (0.007)	–0.02 (0.218)	0.43*** (0.000)	0.22*** (0.000)	0.10*** (0.000)	1.00		
12	*NATIONAL_GOVERNANCE*	–0.05*** (0.001)	0.13 (0.000)	–0.02 (0.168)	–0.18 (0.000)	0.00 (0.799)	–0.01 (0.490)	–0.05 (0.001)	–0.27*** (0.000)	–0.01 (0.406)	–0.13*** (0.000)	–0.16*** (0.000)	1.00	
13	*COMMON_LAW*	0.05*** (0.001)	0.17*** (0.000)	0.03** (0.043)	0.07*** (0.000)	–0.19*** (0.000)	0.05*** (0.000)	–0.13*** (0.000)	0.08*** (0.000)	0.37*** (0.000)	–0.24*** (0.000)	0.28*** (0.000)	–0.19*** (0.000)	1.00