

**COMPARATIVE INSTITUTIONAL ADVANTAGES AT THE BOTTOM OF THE
PYRAMID: EXPLAINING CROSS-NATIONAL DIFFERENCES IN THE GROWTH
OF COMMERCIAL MICROFINANCE**

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ABSTRACT

We apply a comparative institutional perspective to extend research into the conditions of successful business innovation in Bottom-of-the-Pyramid (BOP) markets. To test the importance of the institutional context in these markets, we analyze cross-national differences in the growth of one BOP innovation: commercial microfinance. Our empirical analysis supports the proposition that BOP markets contain comparative institutional advantages that differ from those found in more developed market settings. Specifically, we find that the amount of microlending is strongest in those countries where institutions support a specific type of informal market exchange. Implications for both public policy and BOP research are discussed.

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Recent advances in the study of bottom of the pyramid (BOP) markets have brought new attention to the potential for innovative business models to play an important role in addressing fundamental policy goals of economic development and human welfare (Hart, 2005; Ricart, Enright, Ghemawat, Hart, & Khanna, 2004). The bottom of the economic pyramid commonly refers to the approximately 4 billion individuals who live on or below \$4 a day (Prahalad & Hart, 2002). The BOP literature posits that innovative private, profit-seeking enterprises are able to earn positive economic returns in these nascent markets as well as positively impact the communities in which they operate. Researchers in this tradition claim strong social returns for business activities, including increased educational opportunities, better healthcare, reduced corruption, and other benefits (Hart, 2005; Prahalad, 2005).

The BOP literature differs from models of economic development that call for the creation of new institutions to facilitate entrepreneurial efforts – as in efforts to invoke structural change through governance reform or privatization programs (World Bank, 1996). Instead, the primary claim of the BOP literature is that entrepreneurial creativity can thrive even in the adverse institutional conditions found in the poorest areas of the world. To succeed in such environments, London and Hart (2004: 351) call for western managers to avoid an “imperialist mindset” that examines low-income markets solely in relation to familiar, western institutional benchmarks – such as the absence of property rights protection, formal contract enforcement, stable infrastructure or government standards. They argue that a focus on the constraining elements of the institutional environment in BOP markets often leads managers to overlook and underestimate the potentially enabling properties of the institutional arrangements found in the

developing world. The institutional arrangements found in BOP markets may provide advantages for certain types of innovations and activities that may be unfamiliar and untested in more developed markets, but nonetheless prove well suited for less developed ones.

Despite the important role that local adaptation plays in defining successful business ventures in the BOP literature, numerous authors note that little research in the BOP tradition has yet to systematically explore how differences in national contexts shape firm outcomes (Jose, 2006; Landrum, 2007). From this perspective, the possibilities and limitations of BOP innovations for firms and society still requires additional research. For instance, in reviewing policy research on intervention strategies for improving the lives of the poor, Pritchett and Woolcock (2004: 193) note that a single policy is unlikely to work equally “in countries as different as Canada, Chad, China, and Costa Rica.” They argue that policymakers need to be aware of the broader institutional context of poverty in a particular country, as it is unlikely that one policy will fit all locales. A similar argument can be made in evaluating the managerial challenges in BOP markets. Careful analysis of institutional contexts needs to be made before managers can evaluate the potential success of a specific business practice or product in any particular country. Although the BOP market may comprise an estimated 4 billion potential customers globally (Prahalad, 2005), national differences may limit the scope of any particular innovation in reaching the full market.

An analysis of the fit between national conditions and a proposed BOP initiative is also likely to be important for policy evaluation. While BOP researchers note the social benefits of successful business ventures in low-income markets, the question of when such ventures are likely to survive remains an important question for continuing research (Karnani, 2007). While

a BOP innovation may prove effective in one institutional context, it may be less successful in another.

We address this call for additional research by applying the concept of comparative institutional advantage, as developed in the fields of comparative management and development, to the study of BOP markets. Comparative institutional advantage rests on the insight that “the institutional structures of a particular political economy provide firms with advantages for engaging in specific types of activities there” (Hall & Soskice, 2001: 37). From this perspective, firms are not atomistic actors who operate in isolation of the broader social and political systems, but instead leverage institutional resources and capabilities external to the firm to accomplish internal organizational functions (Aguilera & Jackson, 2003; Whitley, 1999, 2008). The distinctive repository of capabilities and resources found in any community provide advantages for some types of business practices and disadvantages for others (Biggart & Guillen, 1999).

We propose that a comparative institutional approach provides a framework to identify institutional advantages in BOP markets that may differ from those found in western market settings. An extensive body of institutional research has developed that specifically looks at the organization of social, political and economic relations in poor communities, using in-depth analysis to identify the multiple types of institutional arrangements and logics found in poor countries and regions around the world (see, for instance, Collier, 2006, 2007; Meagher, 2005; Portes, 1994; Portes & Haller, 2005; Pritchett & Woolcock, 2003; Reno, 2000; Schmitz & Nadvi, 1999). We build on this literature to identify two institutional characteristics that are likely to be part of any analysis of BOP markets: informal contracting and political instability. Due to the common presence of these factors in poor countries, the types of resources and capabilities found in these markets are therefore likely to be quite distinct from those found in

advanced industrial economies. Moreover, we propose that institutional advantages within BOP markets are also likely to vary as well, since low-income countries themselves differ strongly in the types of social organizations that structure informal economic activity within their borders.

We examine the role of comparative institutional advantage at the bottom of the pyramid in the context of one specific innovation: microfinance. Microfinance, which is one of the largest and most persistent of the BOP industries (Hart, 2005; London & Hart, 2004; Prahalad, 2005; Ricart et al., 2004), refers to a model of lending that gives small loans to the poor who lack access to formal financial institutions – typically using social mechanisms, such as group-based lending, rather than formal mechanisms to enforce repayment (Khandker, 1998). As microfinance has grown to a market of over 67.6 million clients and 2,572 financial providers worldwide by 2002 (Armendariz de Aghion & Morduch, 2005), it has developed increasingly rigorous internal reporting standards (MIX, 2007), which allow for longitudinal and comparative empirical analyses to supplement current conceptual research of BOP markets. Moreover, microfinance programs “are of great interest to policymakers because of their potential for reducing poverty” (Khandker, 1998: foreword). As such, officials have actively promoted the spread of microfinance as a method of poverty alleviation around the world (Accion, 2007) – thus making microfinance one of the best examples of the policy implications of commercial business activity at the bottom of the pyramid.

In our study, we propose that microfinance is most likely to thrive in countries that have the greatest comparative institutional advantage for this type of business innovation. In particular, we emphasize the institutional advantages that informal economic exchange may bring to microfinance, especially as a source of social, rather than formal, governance. Moreover, we propose that political stability is likely to be an important moderator of the

conditions in which informality will provide the strongest comparative advantages for commercial microfinance. We hypothesize that commercial microfinance is most likely to grow in countries that have a moderate to high degree of informality in their economic systems and a moderate degree of political stability, thus creating the type of informal social networks that provide the most advantages in support of microfinance's group-lending governance structure.

To test our hypotheses, we develop a longitudinal model that measures the amount of commercial microfinance in 178 countries over nine years (1998-2006). Our findings support our hypotheses that the degree and type of informality within a national system are strong predictors of commercial microfinance. Our findings suggest that informality has the greatest impact on microfinance within a limited range on the continuum between high stability and low stability. In other words, we find that very specific institutional logics tend to support microfinance, whereas other institutional logics do not. Thus, we provide evidence of the importance of comparative institutional advantages in explaining business ventures in BOP markets.

COMPARATIVE INSTITUTIONAL ADVANTAGES AT THE BOTTOM OF THE PYRAMID

A comparative institutional perspective on business systems and organization is often contrasted to neo-classical economic models that "*search for a unified theory of development applicable to all countries*" (Biggart & Guillen, 1999: 725, original italics). Comparative researchers argue that a universal model of development is inherently problematic because it does not consider the unique institutional logics found in each economy. Neo-classical models

typically view indigenous logics as friction or obstacles to a “perfect” economic model that must be overcome – regardless of how successful these alternative logics are in stimulating economic growth. In contrast, comparative institutionalists argue that, rather than being imperfections, diverse institutional logics provide repositories of resources and capabilities that enable actors to pursue certain activities in the global economy more successfully than others (Biggart & Guillen, 1999; Guillen, 2001). Biggart and Guillen (1999: 726) state: “the comparative and historical literature on organization and management shows clearly that industrial ‘best practices’ can be emulated only if they are consistent with the institutional logic of the firm or country.” Instead of looking for single best practice or policy, comparative institutional researchers advise entrepreneurs and policy makers to pursue innovations and strategies that possess the strongest advantages in their own institutional environment.

Institutional advantages arise from the formal arrangements that connect firms to human and financial capital in the broader economy as well as from informal logics that facilitate interaction and coordination among community members. For instance, firms rely upon national labor markets to seek talent, financial systems to seek capital, and legal and governance systems to safeguard contracts and investments (Aguilera & Jackson, 2003; Hall & Soskice, 2001; Whitley, 1999, 2008). Therefore, the structure of a nation’s labor, financial, legal and governance systems provides advantages for certain types of activities and disadvantages for others.

Moreover, firms build upon commonly understood logics of action to coordinate activities among community members. Institutional logics inform action by providing common expectations of what is appropriate and routine behavior within a community, allowing for knowledgeable actors to both interpret the meaning of others’ behavior and distinguish between

formal rules of behavior and actual operable standards (Biggart, 1997; Biggart & Guillen, 1999). For instance, the collective capabilities that derive from the rule of law rest on the shared expectations that members to an exchange understand the content of the appropriate legal code, are prepared to work within the system of contractual enforcement and adjudication implied in legal contractual relations, and expect that others will accept these basic rules of the game themselves (Fuller, 1964). Institutional systems are difficult to change through explicit design or imitation because the collective beliefs and understandings that constitute collective logics are the product of historical experience and local knowledge that cannot be easily replicated in other locales (Spicer, McDermott, & Kogut, 2000; Stark, 1996).

Comparative researchers identify differences in institutional advantages in multiple ways. Some focus on the historical, cultural and political factors that explain the novel configuration of institutional logics and arrangements across individual countries (Biggart & Hamilton, 1997; Biggart & Guillen, 2001; Guillen, 2001). Others move beyond individual countries and focus instead on differences between related groups of countries. For instance, Hall and Soskice (2001) compare the different types of institutional advantages found in “coordinated” and “liberal market” economies, suggesting that the long-term relationships in coordinated economies are better suited for incremental innovation, while the arms-length relationships in “liberal market” economies possess advantages for more radical innovations. They do not focus on differences between individual countries, but instead compare institutional advantages between different “ideal” types of institutional arrangements. An ideal-typical approach to comparative institutional analysis identifies similarities among countries along important institutional dimensions, while acknowledging that no single country fully represents the idealized model presented (Whitley, 2008: 13).

In many ways, the central claim of the bottom of the pyramid literature – that low-income markets require separate analysis and study – is highly consistent with a comparative institutional perspective. Like research in the comparative institutional tradition, the BOP literature emphasizes that there is no universal model of economic development or firm strategy. Although yet to be fully empirically examined, BOP research stresses the political, social, and economic differences between the bottom of the pyramid and higher-income markets and emphasizes the need for firms to adapt business models to meet local conditions (e.g. Hart & Christensen, 2002; London & Hart, 2004; Prahalad, 2005; Ricart et al., 2004).

Moreover, the BOP literature's discussion of local adaptation resonates with the comparative institutional literature's claim that local institutions contain logics that enable, rather than constrain, entrepreneurial activity (Prahalad, 2005). BOP researchers recommend strategies such as living and working as a local resident or teaming with local companies, governments, and non-profits to identify and leverage the resources of these diverse business environments (Landrum, 2007; London & Hart, 2004; Ricart et al., 2004; Simanis, Hart, Enk, Duke, Gordon, & Lippert, 2005). Comparative institutional researchers similarly call for managers and policy makers to learn from local sources in examining market differences, looking at institutional variety as more than imperfections from a western economic model but also as potential sources of unique resources and capabilities (Biggart, 1997; Biggart & Guillen, 1999; Guillen, 2001).

While the comparative institutional literature supports the existing research on BOP markets in many ways, it also presents a theoretical framework to extend it. First, the "ideal-type" approach to comparative analysis has the potential to contribute to identifying what types of institutions matter when firms face choices of adapting business practices to BOP contexts. Comparative institutional research has the potential to identify the general institutional

conditions that are likely to influence the success of business ventures across different societies, providing a lens to examine issues of adaptation beyond idiosyncratic analysis of single countries or regions. A comparative institutional perspective also highlights the importance of distinguishing between different types of BOP countries. While the existing BOP literature has identified important differences *between* levels of the economic pyramid, less research has examined differences *within* the BOP market level itself (Landrum, 2007). Differences across low-income countries are likely to influence the types of comparative institutional advantages available in various BOP markets.

While a comprehensive model that looks at the entire set of issues that are likely to influence comparative institutional advantages for businesses in BOP markets has yet to be developed, the existing BOP and comparative institutional literatures identify two important institutional conditions that are likely to influence these outcomes: informal contracting and political instability. The existing BOP literature suggests that informal social relations and ties may provide advantages for particular types of business innovations in BOP contexts (London & Hart, 2004; Prahalad, 2005). As we explain below, we propose that the types of institutional advantages that informal networks bring for firms are likely to depend on the political stability of the broader society in which they are embedded.

BOP researchers often emphasize the need to understand informal systems of production and exchange as a critical institutional feature of BOP markets. In these markets, it is often too costly for many entrepreneurs to enter the formal economy, forcing them to bypass this sector (London & Hart, 2004). As a result, 40-70% of transactions in developing countries currently take place in the informal sector (De Soto, 1989; Hart, 2005). Additionally, this form of exchange is the fastest growing segment of most developing economies – making extralegal

activity the “primary face of the private sector” in these countries both today and in the future (Prahalad, 2005: 79).

A challenge in studying informality in BOP markets is that informal relations are often only examined in terms of the benefits that they bring in developed societies. For instance, a large literature has developed that has looked at the benefits of informal relationships and ties to facilitate the flow of information and the creation of trust among business partners (Granovetter, 1985; Macaulay, 1992; Uzzi, 1996). Macaulay (1992: 269), for instance, identifies practices such as “‘a man’s word’ in a brief letter, a handshake, or ‘common honesty and decency’” as a normal part of negotiating and enforcing business agreements in the United States. Additionally, researchers have noted the positive benefits of informality in industrial districts to promote flexibility and responsiveness to a rapidly changing market place (Orru, 1991; Piorre & Sable, 1984). In some communities, individuals turn to the informal sector to provide services to – and compete with – the formal economy.

However, the comparative literature proposes that informality may be more multifaceted than is found in developed-country studies. The type of informality described in the BOP literature relates to what Portes (1994) defines as “survival” informality rather than the types of “growth” informality discussed in the context of more affluent market setting. In informal economies of “survival,” the state provides minimal support, either for entrepreneurial activity or for the basic needs of individuals and families. As a result, individuals turn to the informal economy to avoid destitution – often working long hours just to maintain a subsistence level of income. Informality is not a means to pursue growth in new markets, but instead the only option available to survive in existing ones. Actors in “survival” informality may prefer work in the formal sector, but this option is simply unavailable (Portes, Castells, & Benton, 1989).

Moreover, Portes' (1994) distinction between "growth" and "survival" forms of informality still does not capture the full divergence of the social organization found in BOP economies. For instance, Collier's (2006, 2007) description of the importance of informal power relationships – war lords, gangs and corrupt military leaders – in some of the poorest countries of the world provides additional evidence of multiple types of informality. Collier (2006, 2007) estimates that approximately 730 million of the world's poorest people live in countries that frequently experience severe civil strife. In these societies, informal relations do not automatically lead to value adding social relationships or networks, but instead are often associated with wealth and value redistribution. Political conflicts tend to, among other things, weaken institutions, bankrupt companies, decrease entrepreneurship, and lower inward FDI. Reno (2000) describes this type of logic as a "Kalashnikov lifestyle" – a logic in which preying on weaker actors and showing one's willingness to use violence to get the upper hand often becomes a routine way of conducting business.

The research of these authors suggests that political stability is likely to be important in explaining differences in the type of informal economic relations that develop in advanced industrial societies and those that operate at the bottom of the pyramid. Portes and Sassen-Koob (1987: 56), for instance, point out that differences in political stability are likely to impact the form that informal economic relations take across societies: "The mutually reinforcing fit between [informal] workers' needs and firms' strategies could not very well occur in a politically hostile environment." Since the positive relationship between workers and firms in the informal production networks of "growth" informality is based on trust that firms will honor long-term commitments, such a strategy is unlikely to fit societies with highly unstable political systems. In volatile societies where officials are unable to exert any form of control over the informal

sector, the less desirable attributes of informality such as extortion and bribery are more likely to become manifest.

Furthermore, careful distinctions need to be made about levels of political stability across BOP countries themselves. Collier (2007) observes that instability is not homogeneous across all poor countries. Some, such as Botswana, have very rare episodes of civil violence, some, such as Columbia, Bosnia, and Lebanon, have gotten derailed for a while, and some, such as the Democratic Republic of the Congo remain constantly mired in civil wars, coups, and political unrest (Collier, 2007; INSCR, 2008). This suggests the need for more than a dichotomous categorization of countries as “stable” or “unstable”. The category of “middle-level” stability is also likely to be meaningful in the analysis of BOP countries. The governments in some countries, such as Bangladesh or Bosnia, may not possess the same degree of political stability found in advanced industrial economies, but nonetheless provide a very basic level of stability to enforce the background rules of the game, such that the high violence that is characteristic of instable economies like Congo will be unlikely to materialize.

The different degrees of informality and stability across societies illustrate the need for a fine-grained analysis of various institutional logics and arrangements when exploring the effectiveness of a specific business practice in BOP markets – rather than a unified theory applicable across all contexts. In the next section, we apply such an analysis to explain the occurrence of a specific innovation in BOP markets: commercial microfinance.

COMMERCIAL MICROFINANCE

The emergence of microfinance lending since the early 1970s provides an example of a business model designed specifically to match the institutional conditions found at the bottom of the pyramid. After carefully studying the indigenous environment to determine the needs of the local population, founders of early, non-profit microfinance organizations developed a solution to fill a gap that formal banking systems could not satisfy (Bruck, 2006). They found that providing loans to the poor is very expensive for traditional banks – especially in relation to the size of the transaction, which is typically less than a few hundred dollars. Because many costs in lending are fixed, a formal bank must pay nearly the same amount to originate a \$100 loan as one many times as large. For example, costs of evaluating credit worthiness through interviews and references, documenting and registering the loan, appraising collateral, and enforcing repayment are generally the same regardless of loan size. These costs translate into an excessive burden – in the form of interest rates or fees – for poor borrowers using traditional banking systems. Therefore, reaching the poor required a model that could reduce these costs to a more manageable level (Microfinance Gateway, 2006).

To accomplish this goal, microfinance founders incorporated the enabling aspects of local environments into the design of microfinance lending. The traditional “group lending” model builds on existing social arrangements within the community to ensure repayment without incurring the prohibitive cost of oversight. In this model, individuals form groups of family members and close friends. While the lender will make loans to the individual, the entire group suffers the consequences of individual default (Armendariz de Aghion & Morduch, 2005). In short, social pressure from the external community significantly reduces the cost of originating and enforcing the loan. Without the presence of these pre-existing environmental factors, microfinance would likely be undermined by free riders and borrowers colluding to avoid

repayment (Armendariz de Aghion & Morduch, 2005). The early non-profit organizations discovered through experimentation that an effective policy of economic development requires a strong fit with the conditions of the existing institutional environment.

The transition of microfinance from strictly a policy instrument to a commercial enterprise makes it a frequently-cited illustration of a successful business model in the bottom of the pyramid literature – supporting the argument that for-profit firms can have a positive impact on development (London & Hart, 2004; Ricart et al., 2004; Prahalad, 2005). Microfinance founders discovered that these social structures created an effective and inexpensive form of governance – leading to repayment rates of up to 98%, despite a lack of collateral or credit histories (Hart, 2005). High repayment rates, coupled with a need to attract investment capital to increase their reach, have encouraged many of these organizations to restructure into commercial, for-profit businesses. Many practitioners have found that microfinance is more sustainable if firms develop commercial sources of funding (Robinson, 2001).

Hypotheses

In this section, we integrate the comparative and microfinance literatures to develop testable hypotheses about the conditions under which we are likely to find a comparative institutional advantage for this type of organizational innovation. Our hypotheses are derived from the assertion that microfinance has developed unique governance mechanisms that rely on social groups to overcome the high costs of selecting borrowers and enforcing the repayment of very small loans. We propose that countries that have the institutional conditions that support this type of governance model are likely to demonstrate greater development of commercial microfinance than countries that do not share these institutional conditions.

Since we are unable to directly observe the presence of such stable social groups in any particular society, we develop an “ideal-type” approach to comparative institutional analysis to identify the institutional conditions that are likely to provide this type of social enforcement mechanism. In particular, we propose that countries that share medium to high levels of informal economic activity, as well as medium levels of political stability, are likely to provide the institutional conditions most favorable to microfinance.

Informal Contracting. We first propose that the degree to which firms can rely on formal contracts will influence the conditions that favor the successful introduction of microfinance. Group-lending microfinance builds upon the institutional advantage of informality by depending on local networks to act as an important source of oversight and enforcement in lending activity. As already noted, the task of governance is passed in part from the bank to already-established social groups. Based on strong local knowledge and ties, these groups are able to ascertain who is a good credit risk and who is likely to collude, free ride, or simply default. Moreover, groups act as a powerful enforcement mechanism in the monitoring of repayment, as the group as a whole loses its ability to capture additional loans if individual members do not repay. An actor that does not pay back the loan loses not only the opportunity for future loans, but, just as importantly, also risks ostracization from primary social groups that are an important component of individual’s social life (Armendariz & Morduch, 2005). The presence of such social mechanisms of governance and control relieve a fundamental burden that is traditionally imposed on the bank, thus allowing for small-scale loans to be offered with considerably less transaction cost and risk than would otherwise be possible.

Informal ties and relationships are more likely to play a strong role in shaping patterns of economic production and exchange in countries where formal contracting mechanisms are not considered to be reliable or effective. Portes (1994: 431), for example, argues that, in the absence of formal hierarchical systems or legal means to sanction market irregularities, the ability of a community to either confer status on individuals or ostracize them becomes the “key force guaranteeing individual compliance.” This ability successfully replaces hierarchical oversight and discourages opportunism in many informal systems because one’s standing in the business arena is difficult to separate from one’s standing in the social arena. Furthermore, individuals value continued participation in their communities. The presence of preexisting social pressure in economic relationships, which are often found in informal systems, is therefore likely to act as an important source of institutional advantage for the group-lending governance mechanism of microfinance. Additionally, the smaller investments necessary for starting and running a business in the informal economy are likely to correspond to the limited amounts available through microfinance (Schreiner and Morduch, 2002). Based on this logic, our first hypothesis is:

Hypothesis 1a. The greater the degree of national-level informality, the greater the amount of national-level commercial microfinance lending.

However, microfinance researchers suggest that, although microfinance is designed specifically to serve the needs of those operating in the informal sector, this innovation still requires some degree of a formal contracting system to exist. Schreiner (2001) and Robinson (2001) state that microfinance is not an informal scheme that operates without reference to a country’s legal system – such as loan-sharking, which may operate outside the law to meet the

demand for lending services. Instead, microfinance is a formal scheme that is designed to serve the needs of households and enterprises operating in the informal sector through legal organizations and top down supply. In other words, microfinance is a formal system that is infused with the virtues of informal contracting to allow it to operate according to the logics of the informal sector that it serves. To do this, microfinance organizations still require a level of licensing and oversight on the part of the state so that both the suppliers of capital and those that use it can distinguish between fly-by-night – and possibly illegal – solutions, and those that operate within the boundaries of some regulation and control.

This attribute leads us to our next hypothesis. On the one hand, as economies become increasingly formal, microfinance loses its ability to leverage the virtues of informal contracting into a competitive advantage. On the other hand, as economies become increasingly informal, microfinance becomes less able to leverage formal logics and create a bridge between formal capital and informal enterprises. Therefore, we hypothesize that the comparative institutional advantage for microfinance – as a formal mechanism of financing the informal sector – is the presence of at least some degree of formality. The amount of microfinance is likely to be less in societies with little to no ability to enforce formal contracts and licensing within a society. This leads to the following hypothesis:

Hypothesis 1b: National-level microfinance lending will be less if there is either too much or too little national-level informality. That is, the relationship between informality and the level of microfinance will be curvilinear.

Political Stability. In this section, we propose that the institutional advantages of informal networks for microfinance organizations are likely to be highest if members perceive them as a long-term, tight-knit, and stable resource (Armendaris & Morduch, 2005). If informal relationships are expected to last only for the short-term, there may be little incentive to incur the high costs to invest in and maintain the strong community ties central to the group-lending microfinance model (Narayan, 2000). Moreover, the lack of long-term horizons can directly impact the relationship between the lender and the entrepreneurs that microfinance organizations aim to serve. These loans are typically progressive, which means that entrepreneurs borrow a very small amount at first and the size of the loan will get progressively larger each time the members of the group repay the previous loan (Armendaris & Morduch, 2005). Therefore, microfinance is designed as a long-term investment in the relationships between the firm and the borrowers in the group. The presence of some stability, therefore not only encourages the strength of local community ties – thus making group lending possible – but also enables the investments made in the informal economy.

However, this does not mean that maximum levels of stability will lead to the type of informality that supports microfinance. The comparative institutional literature demonstrates that neither “growth” nor “Kalashnikov” ideal types of informal economic relations, which are found at opposing ends of political stability, are likely to support the group-based governance mechanisms found in microfinance. At one extreme, countries with high levels of political instability are unlikely to support informal groups with long-term investment horizons. In these institutional contexts, which are marked by civil war and high uncertainty in the state of the future, informal networks are likely to be short-term – rapidly shifting and being reconstituted to match changing political winds – instead of acting as stable background capabilities that enable

enhanced economic coordination and production (Collier, 2006, 2007). Under these conditions, it is unlikely that a high degree of informal economic relations within a society is likely to lead to a large microfinance sector.

At the other extreme, countries with a high degree of stability are more likely to develop informal systems that reflect “growth” informal logics. One of the primary characteristics of these countries is that the state is highly involved in shaping the nature of informal networks both at the national and local level. In these economies, policymakers often recognize the value of informality in providing employment flexibility or reviving moribund economic sectors and engage this sector. This implicit acceptance allows the informal sector to move aboveground to some extent and organize through middlemen into large networks to gain access to resources from the state and the formal sector (Fernandez-Kelly & Garcia, 1989; Meagher, 2005; Piore & Sabel, 1986; Portes, Castells, & Benton, 1989; Portes & Sassen-Koob, 1989). Stable relations within the informal sector and with the government and formal sector are likely, therefore, to facilitate alternative funding sources and larger, more complex organizational structures than are amenable to microfinance group lending.

Overall, we suggest that the greatest comparative institutional advantages for microfinance are likely to be found in countries that have high degrees of informality and a medium level of stability – conditions that are most likely to lead the type of “survival” informality” for which microfinance was originally designed. In this case, the state is able to provide a very basic level of stability to enforce the background rules of the game, such that the high violence that is characteristic of volatile economies will be unlikely to materialize. At the same time, in these types of intermediate conditions, it is unlikely that the public and formal sectors will play much of a development role in supporting entrepreneurship, which means that

microfinance in “survival” informality is more likely compete against loan sharks rather than state- or industry-based financial services.

This logic suggests a curvilinear moderating effect of stability on the degree of informality. It is not just the degree of informal relations in a society that is likely to lead to the greatest comparative advantages for commercial microfinance, but the interaction between informality and a medium level of political stability. This distinction allows for differentiation among BOP countries themselves – if there is either too much or too little stability, then informal economic relations are unlikely to develop into the social enforcement groups needed for microfinance. We first develop this moderating hypothesis for the direct effect of informality on microfinance:

Hypothesis 2a: National-level stability will moderate the linear relationship between informality and microfinance lending such that the positive effect of informality will be greatest at medium levels of stability. That is, the moderating effect of stability on the relationship in Hypothesis 1a will be curvilinear.

We then develop a hypothesis in relation to the curvilinear effects of informality found in Hypothesis 1b. In this case, we expect the comparative institutional advantages that support microfinance to be greatest in a narrow range of mid levels of stability and mid to fairly high levels of informality:

Hypothesis 2b: National-level stability will moderate the curvilinear relationship between informality and microfinance lending such that the curvilinear effect of

informality will be greatest at medium levels of stability. That is, the moderating effect of stability on the relationship in Hypothesis 1b will be curvilinear

DATA AND METHOD

Measures

Microfinance borrowers per capita. We developed a cross-national and longitudinal analysis of the number of registered borrowers per capita in 178 countries for each year between 1998 and 2006 – the first and last years for which audited data were available at the time of our study. We measured the number of borrowers because it avoids many of the problems associated with volatility in foreign exchange rates and purchasing power that might affect a monetary measure in a cross-national study. The number of borrowers can be compared directly from one country to another without having to make adjustments to the data.

Our data came from a large database of microfinance organizations maintained by *The Microfinance Information Exchange (MIX)* (MIX, 2007). MIX is a global not-for-profit organization that receives operating support from groups such as the US Agency for International Development (USAID), the United Nations Capital Fund, the United Nations Development Programme (UNDP), and the World Bank. To ensure quality, microfinance organizations must verify the information they provide, which MIX reviews for coherence and consistency. Microfinance organizations are required to regularly update their data as per market standards or their profiles become inactive. Because our study examined the viability of gain-seeking businesses in poor markets, our sample did not include organizations that MIX classifies

as “Non-profit (NGO) Institutions.” At the time of our study¹, MIX reported the number of borrowers for 397 commercial microlenders.

To create our dependent variable, we summarized the number of borrowers for each reporting microfinance organization in each country and divided this number by the population to determine the total number of registered borrowers in each country per capita. Due to the small number of borrowers compared to the overall population in most countries, we report this as the number of borrowers per thousand citizens.

Informality. We used the national rankings for “Enforcing Contracts” from the World Bank’s “Doing Business Survey” (2007) to measure national-level informality. This measure assesses the efficiency of the judicial system in resolving a commercial dispute. Data were created by systematically following the evolution of a payment dispute in the local court systems. The measure evaluates the codes of civil procedure and other court regulations as well as surveys completed by local litigation attorneys and judges. In essence, these data indicate the degree to which parties can turn to court systems to resolve disputes rather than depending on informal alternatives. The database ranks countries from 1 to 178 where a ranking closer to 1 indicates the presence of strong formal contract enforcement mechanisms and a ranking closer to 178 indicates the absence of these formal systems (World Bank, 2007).

Because rankings for contract enforcement were only available beginning in 2007, we had to assume that this variable remained stable over the timeframe of our study. We were able to test this assumption because the World Bank makes the three underlying measures used in the rankings available beginning in 2004 for most of the countries in the sample. For these years, the median variance in these measures was zero with only 14 countries seeing *any* change in an average year. Furthermore, for those countries that did see a change, it was typically minimal –

¹ Data downloaded June 22, 2007

plus or minus one procedure for example. This finding indicates that, in fact, a country's contract enforcement capability tended to change very little over time.

Stability. We measured national-level stability using the index for "Political Stability and Absence of Violence," a comprehensive indicator compiled by Kaufmann, Kraay, and Mastruzzi (2006). These authors define political stability as: "perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including political violence and terrorism." Therefore, countries that 1) have highly unstable political processes, 2) have a high likelihood of politically motivated terrorist attacks, or 3) are marred by domestic violence will score poorly on this index. This database includes 212 countries, which is the widest measure available. The authors of this study assign a mean-centered measure to each country ranging from -3.1 to 1.69 with a mean of 0 and a standard deviation of 1, where a higher number indicates greater stability. The measures came from surveys conducted by 31 organizations including USAID, PriceWaterhouseCoopers, Gallup International, the Heritage Foundation, Reporters Without Borders, Amnesty International, and others (Kaufmann et al., 2006).

Controls. We included five control variables in our study. First, given that microfinance was designed to provide services to the poorest members of society, poorer countries might be expected to show greater demand for microfinance than richer ones. We used GDP per capita in constant 2000 US dollars (World Bank, 2007) to control for a country's level of economic development and purchasing power (Guillen & Suarez, 2005). Second, as the education level of a country's populace might be an important factor in facilitating the type of micro entrepreneurship supported through microfinance (UNDP, 2008), we included the literacy rate of

each country in our analysis. We took the natural log of each of these measures to deal with distributional issues.

Third, we included a measure for regime type from the Polity IV database, which measures the extent to which a country's citizenry is able to participate in political processes (Marshall & Jaggers 2002). We included this variable because nations with stronger state/society synergies may be more likely to adopt effective innovations than authoritarian regimes (Evans, 1997). This variable measures the type of regime in a country on a scale from -10 to 10 where a lower number indicates an authoritarian state and a higher number indicates a democratic regime.

The fourth control was openness to trade as measured by the "Doing Business Project" (World Bank, 2007). We used this variable because nations with open economies may be more likely than closed nations to adopt innovations from other countries. Finally, we controlled for population size because larger countries may be more likely than smaller countries to attract technical assistance, knowledge-management services, financial support, and other services from NGOs and global capital markets to assist in developing a microfinance industry. As with per-capita GDP and literacy, we used the natural log of this variable. All time-varying independent variables are measured with a one year lag.

Analysis

We developed a combined longitudinal and cross sectional study to test our hypotheses by using linear panel-data models as recommended by Beck (2001) and Long and Ervin (2000). Because autocorrelation is common in longitudinal models, we first tested our sample using Wooldridge's test for serial correlation in the idiosyncratic errors (Drukker, 2003; Wooldridge, 2002). This test was significant ($F = 67.48$; $p = 0.00$) indicating that a model that controls for

first-order autocorrelation would provide the best fit of the data. To deal with this and two additional estimation problems commonly associated with pooled time-series cross-sectional data – panel heteroscedasticity and contemporaneous (or cross-sectional) error correlation – we used a panel-corrected standard error (PCSE) model with an AR(1) disturbance.

We tested the robustness of the PCSE model using a heteroscedasticity-consistent standard errors (HCSE) model.² This method addresses the concern that the time series for our study is relatively short (nine years). For samples smaller than 250, Long and Ervin (2000) recommend using the heteroscedasticity-consistent covariance matrix (HCCM) known as HC3. To account for serial correlation in this model, we added a lagged dependent variable to the right-hand side of the equation (Beck, 2001). We also added the year as a covariate to control for a possible time trend (Guillen & Suarez, 2005).

Results

Table 1 presents the descriptive statistics and correlation matrix for the predictor variables and the outcome variable using a sample of 145 countries with complete data (1,243 country-year observations).

 Insert Table 1 About Here

Table 2 shows the regression results of the PCSE model as well as the robustness test conducted using the HCSE model. Model A for each method shows the results when only the control

² We also tested the robustness of the PCSE model using the first-difference model recommended by Beck (1991). None of the independent variables were significant.

variables are included. Model B for each method shows the full model with both the control and hypothesized variables included.

Insert Table 2 About Here

We found support for hypothesis 1a – that national-level informality would predict the number of Microfinance borrowers ($z = 2.72$; $p = 0.00$). The coefficient for *informality* was positive, meaning that countries in which individuals could rely, to some degree, on court systems to enforce contracts had, on average, fewer microfinance borrowers than those that did not have access to recourse in the judicial system. Hypothesis 1b, which tests the nature of this relationship (linear or curvilinear), was also supported ($z = -2.40$, $p = 0.01$) indicating that microfinance is greatest near mid-levels of informality, as shown in Figure 1.

Insert Figure 1 About Here

Hypothesis 2a argues that stability will moderate the relationship between informality and the number of borrowers. As predicted, the linear interaction was not significant ($z = -0.43$, $p = 0.34$) but the curvilinear interaction was ($z = -2.51$, $p = 0.00$). This means that at mid levels of stability, the relationship between informality and the number of borrowers is more positive than at either high or low levels of stability. Figure 2 shows how stability moderates the *linear* relationship between informality and the number of borrowers per thousand.

Insert Figure 2 About Here

Hypothesis 2b argues that stability will also moderate the curvilinear effect of informality. That is, the number of microfinance borrowers will be greatest near mid levels of both stability *and* informality. This hypothesis is supported by the model. The coefficient for the interaction between informality squared and stability squared was significant ($z = 2.46, p = 0.01$) and it indicated that the curvilinear effect of informality is greatest at mid levels of stability. In contrast, at high and low levels of stability, the relationship between informality and the number of borrowers tends to be not only weaker, but also more linear. Figure 3 illustrates the effect of the interaction between stability and informality on the number of microfinance borrowers. In this chart, we plotted each country in our sample by its degree of stability (vertical axis) and informality (horizontal axis) for each year of the study. We then identified those countries with the greatest number of microfinance borrowers (i.e. more than 25 borrowers per thousand population). This plot of countries demonstrates a strong clustering of borrowers in somewhat informal countries that possess medium levels of political stability, further illustrating the curvilinear effect of stability as a moderator of the relationship between informality and microfinance.

Insert Figure 3 About Here

The test of the robustness of the PCSE model using HCSE produced generally similar results. Informality, informality squared, stability squared, and informality X stability squared were all significant at $\alpha = 0.05$ while informality squared X stability squared was significant at $\alpha = 0.10$. These results indicated that the PCSE model is robust.

None of the control variables were significant with the possible exception of population. This variable was significant in the PCSE model ($z = 2.06, p = 0.02$) and marginally significant in Model A of the robustness test ($t = 1.30, p = 0.10$). However, this effect disappeared when the hypothesized variables were added in Model B of the robustness test. Literacy was not significant and GDP per capita was marginally significant only in model A in the HCSE model ($z = -1.37, t = 0.09$) and that effect disappeared when the hypothesized variables were introduced. Regime type and openness to trade were not significant in any of the models.

DISCUSSION

We have argued that a comparative institutional perspective on business systems and managerial practice supplements and extends recent research on bottom of the pyramid markets. In particular, we have found significant national effects in the spread of one bottom-of-the-pyramid innovation, commercial microfinance lending. Our analysis illustrates that the market for microfinance lending is neither one monolithic entity nor completely fractured. Instead our finding of a curvilinear effect suggests a middle ground, which implies that BOP innovations can cross national boundaries in some instances, thus providing a degree of scalability and scope. However, the transferability of a business model may be limited by institutional differences. As innovations move beyond the institutional structure in which they have a strong fit, their

effectiveness is likely to decrease unless the model is tailored and adapted to local institutional conditions.

Difficulties faced in transferring the commercial microfinance model to the United States, a country with both high stability and high formality, illustrates our statistical findings. Carr and Tong (2002) show that despite attempts to introduce hundreds of microfinance programs in the U.S., these ventures have failed to gain a foothold – much less transition into the sustainable commercial enterprises envisaged by many policymakers. Instead, repayment rates have hovered closer to 48% than the 98% often needed to maintain commercial viability and demand in the U.S. remains stagnant. These factors keep microfinance programs in the U.S. small and dependent primarily on external charitable donations.

In a systematic exploration of this failure, Schreiner and Morduch (2002) describe several characteristics of the U. S. market that create distinct institutional disadvantages for this innovation. Among other issues, they note that the poor in the U.S., who are not tied to a specific location for survival, are more likely to be transient, less likely to cluster, and less connected to their community and family than the poor in many developing countries. Lacking already-established social ties upon which to build, U.S. microlenders are forced to put strangers in the same lending groups – thus eliminating the advantages of peer pressure to enforce repayment. The United States simply does not have the same institutional advantages to implement group-lending microfinance as other societies that have strong informal social organization. In this case, countries like Bangladesh and Peru have comparative institutional advantages over the United States in the development of microfinance organizations.

An example from the Ivory Coast illustrates our additional findings that comparative institutional advantages differ not only between wealthy and poor countries, but also across the

bottom of the pyramid itself. Government officials in the Ivory Coast initiated a program in the late 1990s to make microfinance the spotlight of the financial sector – believing that the development prospects for this industry were significant. By 2000, for instance, the Ivorian microfinance sector had 16 microfinance organizations with 154 bank branches and 287 points of service to meet the needs of about 331,000 customers across the country. However, when the country degenerated into a deep political crisis beginning in September 2002, its small and medium enterprises became particularly vulnerable to gang attacks and lootings. For example, in November 2004, 150 SMEs were either destroyed or closed as a direct result of the hostilities (OECD, 2006). Although microfinance banks tried to continue to operate, at least during the early stages of the conflict (the number of registered borrowers did not peak until 2003), the sector collapsed shortly thereafter and has had no registered commercial microfinance borrowers since 2003 (MIX, 2007). In this case, the relatively high levels of informality found in the Ivory Coast were not sufficient to sustain commercial microfinance lending once the accompanying basic political stability deteriorated.

Jointly, these two examples demonstrate failed efforts to bring microfinance from institutional environments that are highly supportive of this type of innovation – such as Indonesia and Bolivia – to institutional environments that do not provide such advantages. Thus, while our findings support the central claim of the BOP literature – that the successful application of commercial business models are possible in BOP settings – the application of the comparative institutional literature perspective allows us to identify important boundary conditions of when such innovations are most likely to succeed. While we have not proposed a comprehensive model that looks at the full set of institutional contingencies likely to influence

bottom of the pyramid markets, we have suggested that informal contracting and political stability are likely to be important factors in an innovation's cross-national growth.

Our emphasis on middle-level ranges and interactions between informality and stability only begins to touch the surface of the complex configurations of institutional domains and economic practices that produce unique logics across societies (Biggart and Guillen, 1999). In their analysis of different forms of informal economies, for instance, Portes and Haller (2005) identify the important role of the state in explaining variation in the social organization of informality. They also note the influence of cultural traditions, in the form of civil society, on actors' relationship with the state and on their ability to organize informally. Additionally, they identify the powerful role of history in the development of path-dependent processes that lead to the acceptance of underground activity in some societies and the denouncement of such activity in others. Continuing analysis of the types of novel configurations of institutional arrangements in BOP markets, and the types of advantages that such variation might bring for firms, remains an important area for future research.

The comparative institutional approach does not provide a universal model applicable to all conditions. The application of the model to another innovation would require specific analysis of the resources and capabilities necessary for that particular innovation. While microfinance is an especially attractive industry to test a comparative institutional perspective on BOP markets, it does possess certain characteristics that may make it unique among industries that would target this market. For example, microfinance is a service, not a product. As such, it builds on long-term relationships rather than immediate exchange. Thus, while political stability and informality are likely to matter in the analysis of any innovation in BOP markets, the way in which they matter is likely to depend on characteristics of the particular product or innovation. Our study

provides one of the first comprehensive, quantitative analyses of commercial innovation in the BOP, but future research is required to explore the conditions of economic success of other innovations in the bottom of the pyramid.

A clear limitation to the study of BOP innovations arises from the difficulties in gathering reliable and comprehensive data. BOP analysis requires research in the poorest countries of the world, but it is specifically these countries that are often excluded from established measures. When these countries are included in certain datasets, the measures are typically based on less than rigorous reporting standards. One such limitation in our study arises from the World Bank data we used to measure informality. Because these data are relatively new and cover only recent years, we had to make an assumption that these measures were stable over the timeframe of our study. Another limitation arises from our use of the Kaufmann, Kraay, and Mastruzzi (2006) stability measures, which have been criticized for, among other things, being atheoretical and having poorly defined constructs (Thomas, 2006). Yet, despite these limitations in the data, they still allow for valuable insights for testing important new areas of research. Subsequent studies in the BOP field will need to find novel sources of data to further extend this literature. This may require observational, descriptive, and theoretical research as well as the type of quantitative studies presented in this paper.

Despite the difficulties in conducting research at the BOP, this agenda remains an important part of the continuing inquiry into the relationship between management and policy. Policymakers are increasingly exploring the use of commercial enterprises as a means of global poverty alleviation. While it is critical from a policy standpoint to evaluate the social impact these ventures have on the environments they target, we argue that it is equally important for officials to explore the conditions under which a business model is most likely to succeed.

Understanding the commercial side will increase the likelihood that efforts to use this method to invoke social change will be deployed only to those locations that are attractive from a financial – as well as social – perspective.

TABLE 1
Descriptive Statistics and Correlations^a

Variable	Mean	Std Dev	1	2	3	4	5	6	7	8
1. Microfinance borrowers ^b	1.87	6.00								
2. GDP per capita ^c	7.50	1.54	-0.19							
3. Literacy ^c	-0.24	0.31	-0.07	0.61						
4. Polity	3.60	6.43	0.04	0.43	0.37					
5. Openness to trade	89.81	50.99	0.11	-0.75	-0.45	-0.46				
6. Population ^c	15.64	2.00	0.11	0.02	0.02	0.06	-0.06			
7. Informality	88.92	50.90	0.13	-0.43	-0.53	-0.24	0.35	-0.02		
8. Stability	-0.12	0.96	-0.15	0.65	0.33	0.43	-0.61	-0.23	-0.45	
9. Time trend (year)	2002	2.58	0.23	0.03	0.00	0.05	-0.01	0.01	0.00	-0.01

^a $n = 1,575$ (178 countries). $p < 0.05$ at $|r| = 0.05$. $p < 0.01$ at $|r| = 0.07$.

^b per 1,000 population

^c Natural log used to correct for non-normal distribution

TABLE 2
Predictors of the Number of Registered Microfinance Borrowers

Independent Variables	Panel-corrected Standard Errors with AR(1) Disturbance				Heteroscedasticity-consistent Standard Errors			
	Model A		Model B		Model A		Model B	
Lagged dependent variable					1.15	(55.53) ***	1.15	(55.06) ***
GDP per capita	-0.26	(-0.24)	-0.58	(-0.69)	-0.14	(-1.45) †	-0.16	(-1.02)
Literacy	1.20	(0.37)	2.64	(1.02)	0.44	(1.23)	0.50	(1.16)
Polity	0.04	(0.80)	0.06	(1.13)	0.00	(0.14)	0.00	(-0.10)
Openness to trade	0.01	(0.64)	0.00	(0.13)	0.00	(-0.23)	0.00	(-0.01)
Population	0.84	(1.87) *	0.81	(2.06) *	0.05	(1.30) †	0.08	(1.22)
Informality			0.11	(2.72) **			0.01	(1.68) *
Informality Squared			-0.51	(-2.40) **			-0.06	(-1.62) *
Stability			0.30	(0.36)			0.08	(0.29)
Stability Squared			0.91	(2.33) **			0.19	(1.78) *
Informality X Stability			-0.01	(-0.43)			0.00	(0.49)
Informality X Stability Squared			-0.04	(-2.51) **			-0.01	(-1.90) *
Informality Squared X Stability			0.04	(0.28)			-0.03	(-0.82)
Informality Squared X Stability Squared			0.20	(2.46) **			0.03	(1.31) †
Year							-0.02	(-1.00)
Constant	-10.18	(-1.25)	-10.16	(-1.72) *	0.57	(0.72)	44.30	(1.00)
Fit Statistic ^a	5.40		27.08		0.912		0.913	
Significance	0.37		0.01					

^a Wald X^2 for PCSE, R^2 for HCSE

All coefficients that include Informality² are reported in thousands

For PCSE, z scores are shown in parentheses, for HCSE, t scores are shown.

One-tailed tests

† $p < 0.10$

* $p < 0.05$

** $p < 0.01$

*** $p < 0.001$

FIGURE 1
Borrowers per Thousand by Informality Score

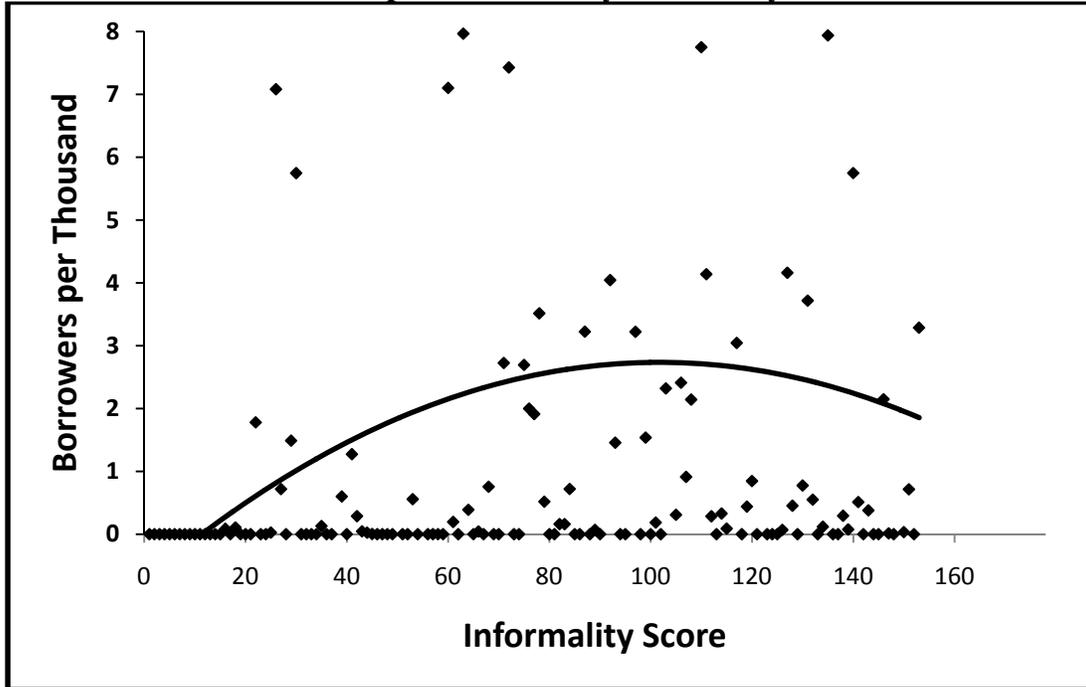


FIGURE 2
Predicted Linear Relationship Between Informality and Number of Borrowers at Various Levels of Stability

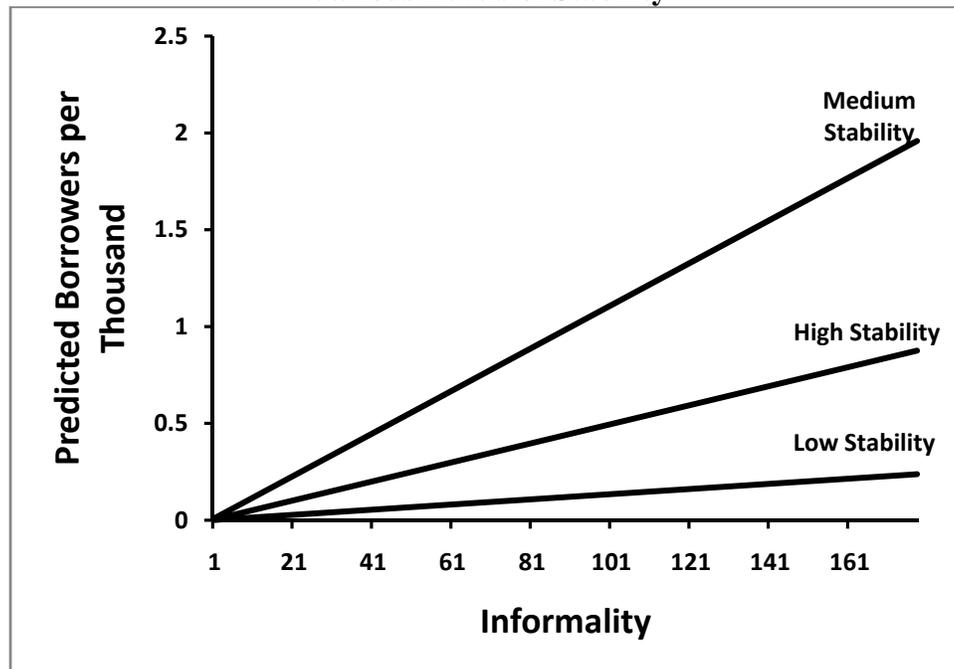
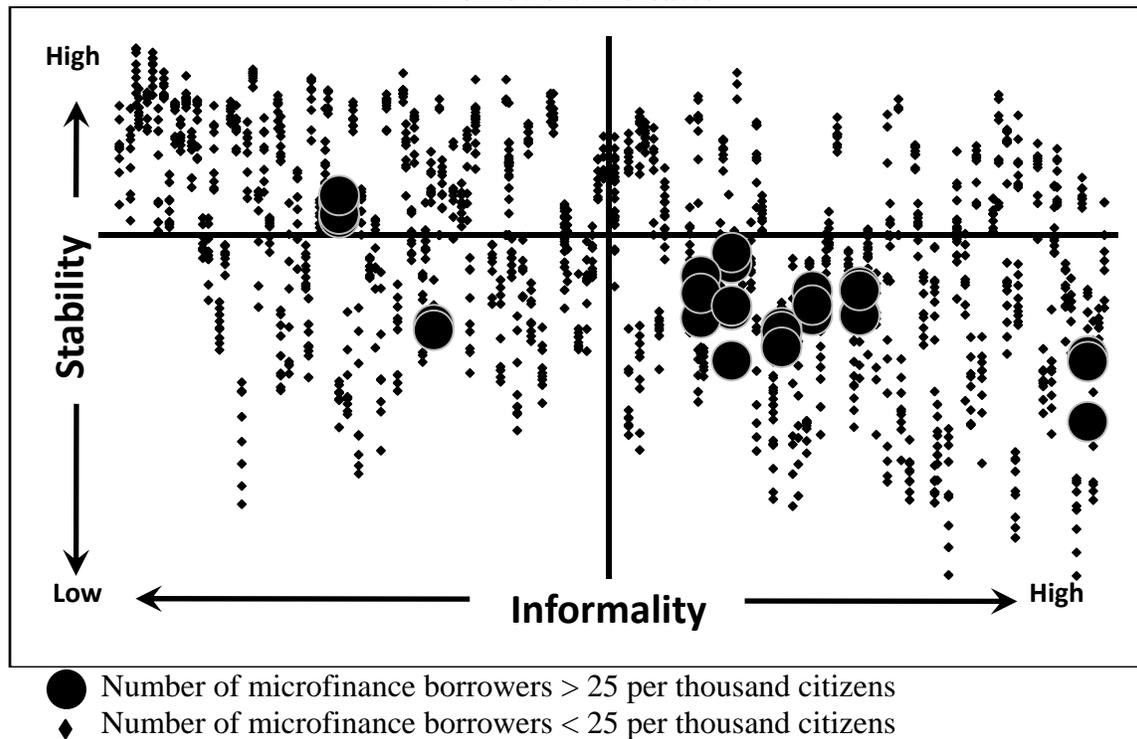


FIGURE 3
Countries Plotted by Informality and Stability with Number of Microfinance Borrowers Indicated



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