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WHAT DRIVES INFORMAL INVESTING? AN INSTITUTIONAL PERSPECTIVE

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ABSTRACT

Drawing from institutional theory, we examine macro-level drivers of countries' incidence of informal investment activity. Informal investment should increase to the extent that countries demonstrate (1) greater availability of opportunities, (2) better regulatory protection of opportunities, and (3) higher levels of generalized trust. Furthermore, the level of generalized trust should play a moderating role, such that it amplifies the effect of the availability of opportunities and suppresses the influence of the protection of opportunities in predicting the incidence of informal investment activity. On the basis of data from different cross-national data sources—the Global Entrepreneurship Monitor, the Heritage Foundation, and the World Values Survey—we find support for these hypotheses. This study is among the first to explain cross-country differences in informal investment activities.

INTRODUCTION

The mobilization of financial resources toward the exploitation of opportunities is a key issue confronting new businesses (Jackson and Mishra 2007; Shane and Venkataraman 2000). Because of the financial constraints and limited personal wealth of many of their founders, new businesses often demand large infusions of outside investment to engage in their central activities (Caputo and Dolinsky 1998; Duxbury, Haines, and Riding 1996; Maula, Autio, and Arenius 2005; O'Gorman and Terjesen 2006; Szerb et al. 2007). Yet access to external financing is not without challenges. New businesses typically lack reliable performance data or collateral, which makes it difficult to secure financing from banks and other sources of intermediated finance (Berger and Udell 1998), at least without additional costs such as fees or high collateral requirements (Evans and Jovanovic 1989). Although many new businesses receive financing from the founders' own resources, access to informal investments from family, friends, or strangers offers an important alternative (Berger and Udell 1998; Harrison, Mason, and Girling 2004; Maula, Autio, and Arenius 2005; Szerb et al. 2007). Thus, people's willingness to invest personal funds in others' new business endeavors may be critical for stimulating a country's entrepreneurial base (Peterson and Shulman 1987). We define informal investments as those investments made by family, friends, or strangers (O'Gorman and Terjesen 2006; Robinson and Cottrell 2007); business angel money represents only a small slice of the total pie of informal investments (Mason and Harrison 2008).

Yet research also shows that people's willingness to provide personal funds to new businesses varies from country to country (Bygrave 2007; Bygrave et al. 2003). Recent evidence from the Global Entrepreneurship Monitor suggests that the incidence of informal investment activity as a percentage of gross domestic product (GDP) among a sample of 42 countries ranges between 0.1 and 13 percent (Bygrave 2007). Understanding cross-country differences in informal investment activity is important not only because of the aforementioned limits in owners' personal funds and their access to bank financing but also because a country's entrepreneurial sector relies to a far

greater extent on informal rather than formal venture capital (Bygrave 2007; Landstrom 1998; Mason and Harrison 2008; Saetre 2003; Wright et al. 1998). Although extant literature sporadically notes the importance of macro-level environmental conditions in determining such informal investment activity—including appropriate tax incentives (Mason and Harrison 2008), supportive infrastructures (O’Gorman and Terjesen 2006), and social capital (Kwon and Arenius 2009)—it mostly focuses on micro-level factors, such as individual skills, perceptions of opportunities, and attitudes (Maula, Autio, and Arenius 2005; Szerb et al. 2007), or the specific cases of business angels (e.g., Mason and Harrison 2000, 2002; Duxbury, Haines, and Riding 2007) or formal venture capital (Armour and Cumming 2006; Black and Gilson 1998; Jeng and Wells 2000).

To address this gap, we use institutional theory as a conceptual lens to explain cross-country variations in informal investment activity. A basic premise of institutional theory is that social actors confront both formal institutional arrangements (e.g., regulations or rules) and informal ones (e.g., values and norms). These arrangements in turn may shape the economic activities in which actors engage (Campbell 2004; DiMaggio and Powell 1983; Nelson 1993; North 1990). Similarly, we propose that cross-country variations in the incidence of informal investment activity may be explained by differences in countries’ formal opportunity structures and the informal relationships among their residents. We aim to answer the following research question: *How do formal and informal characteristics of a country’s institutional environment influence the incidence of informal investment activity?* To answer this question, we examine the macro-level drivers of informal investment activity using a novel data set that covers 32 countries during the 2003–2007 period and that integrates data from different cross-national data sources, namely, the Global Entrepreneurship Monitor, the Heritage Foundation, and the World Values Survey.

The following section outlines our theoretical framework and develops the hypotheses regarding variations in countries’ informal investment activity. We then discuss our data sources and the variables used in our analyses. After we present and discuss the results, we offer some concluding comments.

THEORY AND HYPOTHESES

Despite a growing body of research into informal investments (Maula, Autio, and Arenius 2005; O’Gorman and Terjesen 2006; Robinson and Cottrell 2007; Szerb et al. 2007), limited attention has been given to how a country’s institutional context might explain cross-country differences in these investments. The institutional context defines alternative courses of action open to economic actors (North 1990; Scott 1995) and dictates the risks and rewards for different activities (Meyer and Rowan 1977). In the context of new business creation, a country’s institutional environment defines, creates, or constrains new business opportunities and thus influences the level and nature of entrepreneurial activity within its borders (Aldrich 1990; Gnyawali and Fogel 1994; Hwang and Powell 2005; Manolova, Eunni, and Gyoshev 2008).

To compare the incidence of informal investment activity across countries, we acknowledge the role of both formal and informal institutions, following arguments that institutions pertain to the “formal and informal rules, monitoring and enforcement mechanisms, and systems of meaning that define the context within which individuals [...] operate and interact with each other” (Campbell 2004: 1). Formal institutions are more proximate and directly shape the nature of economic behavior (North 1990), as exemplified by the availability of new business opportunities (Gnyawali and Fogel, 1994) or the extent to which these opportunities are protected by regulatory arrangements (McMullen, Bagby, and Palich 2008). Informal institutions are more remote, in that

they function as “background” and influence economic behavior indirectly rather than directly (North 1990; Whitley 1999), as exemplified by the dominant conventions about how social actors should relate to one another (Fukuyama 1995; North, 1990). We draw on this literature and present a number of hypotheses to explain why countries may differ with respect to the incidence of informal investment activity. Specifically, we consider the role played by opportunities for new business creation within a country’s borders, in terms of both availability and protection, and the level of generalized trust governing the relationships among a country’s residents.

Availability of Opportunities

An important facet of a country’s institutional environment is the extent to which it provides fertile ground for entrepreneurial opportunities (Gnyawali and Fogel 1994; Hwang and Powell 2005) and how this provision in turn may fuel the demand to fund opportunities. Literature on national business systems similarly documents that countries differ in the inputs they allocate to the creation of knowledge and innovation, as well as their institutional arrangements, which can help transform those inputs into viable entrepreneurial opportunities (Almeida and Kogut 1999; Whitley 1999).

We hypothesize that countries marked by a greater availability of opportunities exhibit a higher incidence of informal investment activity. The abundance of opportunities within a country’s borders can signal a positive economic climate to potential informal investors and increase the confidence that funding such new opportunities will lead to favorable outcomes or a more enjoyable investment process (Maula, Autio, and Arenius 2005). Furthermore, to the extent that opportunities for new business creation are abundantly present in a country, the challenge associated with matching the demand for and supply of entrepreneurial finance should decrease (O’Gorman and Terjesen 2006; Szerb et al. 2007). In contrast, a lack of investment opportunities may pose a challenge to informal investment activity, as exemplified by claims from informal investors that they would invest more if they had access to a wider range of high-quality opportunities (Mason and Harrison, 2002). Therefore, we hypothesize:

Hypothesis 1: There is a positive relationship between the availability of a country’s opportunities and its incidence of informal investment activity.

Regulatory Protection of Opportunities

The mere existence of opportunities, however, does not guarantee that people can profitably exploit them; the regulatory environment in which such opportunities arise is equally important (McMullen, Bagby, and Palich 2008). The regulatory protection of opportunities should enhance the incidence of informal investment activity, because it increases the odds that funds provided by informal investments will not be misallocated (Knack and Keefer 1997; Shleifer and Vishny 1997) and prevents infringements on the benefits of opportunity exploitation (Knack and Keefer 1997; Shleifer and Vishny 1997; Trevino 1996). When property rights are well respected, the illegal use of new businesses’ intellectual capital by others is unlikely, and thus, the potential returns to informal investors’ financial commitments are higher. The positive relationship between the regulatory protection of opportunities and the incidence of informal investment activity also receives support from empirical research that shows economic actors invest lower proportions of their profits in countries with weaker property rights (Johnson, McMillan, and Woodruff 2002). Further, Baumol’s (1990) seminal work on the role of the institutional context in explaining entrepreneurship indicates that investments in new businesses are constrained where there is a lack of property rights or strong enforceability of contracts is absent. In short, informal investment

activity should be higher in countries that provide better regulatory protection for the exploitation of opportunities.

Hypothesis 2: There is a positive relationship between a country's regulatory protection of opportunities and its incidence of informal investment activity.

Generalized Trust

Macro-level studies of trust emphasize that countries differ with respect to how much their actors trust one another (Kluckhohn and Strodtbeck 1961; Knack and Keefer 1997). High-trust countries have a positive view of human nature, in that economic actors are more likely to believe in others' benevolent behavior, whereas in low-trust countries, business relationships are managed with formal contracts and other deterrence tools (Dakhli and De Clercq 2005; Knack and Keefer 1997; Kwon and Arenius 2009). We argue that a country's level of generalized trust should relate positively to its incidence of informal investment activity. Generalized trust reduces the uncertainty surrounding an investment target and hence the transaction costs involved in screening potential investments and monitoring investments ex-post (Chiles and McMackin 1996). Furthermore, in high-trust countries, people interact and participate more frequently in joint activities (Coleman 1990; Putnam 2000), which facilitates the diffusion of information about new business opportunities and thus the likelihood of informal investing (Kwon and Arenius 2009). Also, informal investors typically make investments through personal networks (Bygrave 2007; Maula, Autio, and Arenius 2005), which arguably are marked by higher levels of trust (Dakhli and De Clercq 2004). Finally, through trust-based relationships, potential investors get the chance to know the entrepreneur personally and may thus feel more comfortable in sharing personal resources with them (Kwon and Arenius 2009; Maula, Autio, and Arenius 2005; Szerb et al. 2007). In contrast, a lack of generalized trust may act as a barrier to informal investing. Hence:

Hypothesis 3: There is positive relationship between a country's level of generalized trust and its incidence of informal investment activity.

We further hypothesize that high levels of generalized trust should amplify the relationship between the availability of opportunities and the incidence of informal investment activity. High generalized trust increases the expectation among informal investors that they can derive economic benefits from exploiting opportunities and that the recipients of informal funding will not allocate that funding in inappropriate ways (Knack and Keefer 1997). Bygrave (2007) indicates that informal investors are often drawn to investment opportunities offered by people with whom they are somehow familiar and thus in whom they have at least a minimum level of trust. Furthermore, opportunities vary in the extent to which they are embedded in trust-based relationships (Companys and McMullen 2006), and the extent to which opportunities are financially supported by informal investors is higher when the recipients are unlikely to misuse the funds for personal reasons (Fukuyama 1995). Finally, the positive effect of the availability of opportunities on the incidence of informal investment activity should be enhanced to the extent that information can flow freely within social structures, which is greater with higher levels of trust (Dakhli and De Clercq 2005). Because generalized trust facilitates the free flow of information across potential investors and new businesses (Kwon and Arenius 2009), it is more likely that investors gain insights into the merits of entrepreneurial opportunities in countries marked by higher levels of trust, which increases their willingness to fund such opportunities. Hence:

Hypothesis 4: The positive relationship between the availability of a country's opportunities and its incidence of informal investment activity is moderated by the level of generalized trust, such that the relationship is stronger for higher levels of generalized trust.

We also conjecture that the positive relationship between the regulatory protection of opportunities and the incidence of informal investment activity improves in environments marked by lower levels of generalized trust. That is, we expect a substitution effect between the regulatory protection of opportunities and generalized trust, in contrast to the complementary effect implied in Hypothesis 4. Extant literature suggests that regulatory protection through contracts and the level of trust can substitute for each other to explain the formation of exchange relationships (Ring and Van de Ven 1994; Zucker 1986). Similarly, the role of environmental stability in promoting economic exchanges is more important when actors cannot rely on trust-based ties when they enter such exchanges (Pfeffer and Salancik 1978; Powell 1990). Thus, in countries marked by low generalized trust, the importance of strong regulatory protection of opportunities—that is, the presence and enforceability of laws that protect private property rights—should be more instrumental for informal investment activity. Conversely, when there is a general belief that people can be trusted, the presence of an appropriate regulatory framework for opportunity protection may be less necessary to facilitate entrepreneurship-related activities (Batjargal 2003; Peng 2003). In countries that rely more on trust-based relationships, better regulatory protections of opportunities should play a less important role in shaping people's willingness to invest personal funds in new businesses. Hence:

Hypothesis 5: The positive relationship between a country's regulatory protection of entrepreneurial opportunities and its incidence of informal investment activity is moderated by the level of generalized trust, such that the relationship is stronger for lower levels of generalized trust.

RESEARCH METHOD

Data Collection

Our sample consists of 32 countries, for which we created a database with data available from (1) the 2003–2007 Adult Population Survey and Expert Questionnaire of the Global Entrepreneurship Monitor (GEM) developed by Babson College and London Business School, (2) a component of the 2005 Index of Economic Freedom developed by the Heritage Foundation, and (3) the 2005 Fifth Wave of the World Values Survey (WVS) developed by the University of Michigan and the Inter-university Consortium for Political and Social Research. The countries included in the sample are Argentina, Australia, Brazil, Chile, China, Columbia, Finland, France, Germany, India, Indonesia, Italy, Japan, Jordan, Malaysia, Mexico, the Netherlands, New Zealand, Peru, Poland, Romania, Russia, Serbia-Montenegro, Slovenia, South Africa, Spain, Sweden, Switzerland, Thailand, Turkey, the United Kingdom, and the United States.

Dependent Variable

Data regarding the incidence of informal investing come from GEM's *Adult Population Survey*. In each country, private market survey firms conduct this survey with a representative weighted sample of at least 2,000 adults annually (aged 18 to 64 years). The telephone (or occasionally face-to-face) interviews rely on a standardized questionnaire, translated from English into a country's native language(s). The GEM's *Adult Population Survey* assesses national levels

of informal investing activity by asking respondents whether they have provided funds for new businesses in the past three years, excluding stocks and funds. This index therefore measures, in a given year, the percentage of a country's population that has engaged in informal investing. We test the reliability of the measure by calculating the correlation between countries' prevalence rates of informal investing across the different years under study (2003–2007). The correlation coefficients vary between .644 and .902 and are all significant at $p < .001$.

Independent Variables

Availability of Opportunities. Data about a country's availability of opportunities come from a different GEM data source, the *Expert Questionnaire*, which measures macro-level factors deemed relevant to entrepreneurship, using standardized questions and validated measurement scales (Reynolds et al. 2005). The country experts responding to the survey represent a substantial range of backgrounds and knowledge with regard to entrepreneurship-related issues, and the multi-item constructs in the survey exhibit acceptable reliability characteristics (Reynolds et al. 2005). We calculate the annual average of the scores (for each year during 2003–2007) of five questions, measured on a five-point Likert scale, that assess the presence of good opportunities for new businesses ($\alpha = .95$). To validate this measure, we calculate its correlation with a question from GEM's *Adult Population Survey* that assesses the percentage of a country's adult population who "believes there are good start-up opportunities available in the next six months," and we obtain a positive correlation of .324 ($p < .01$).

Regulatory Protection of Opportunities. Because property rights are a critical source of regulatory protection for entrepreneurial opportunities (Bowen and De Clercq 2008; McMullen, Bagby, and Palich 2008), we measure this aspect of a country's institutional environment using one of the dimensions of the 2005 Index of Economic Freedom, as reported by Heritage Foundation, "Property Rights." The dimension measures the degree to which a country's laws protect private property rights and its government enforces those laws (Beach and O'Driscoll 2003). Countries earn scores ranging between 0 and 100; the more certain the legal protection of property, the higher is the country's score. To validate this measure, we calculate its correlation with a question included in GEM's *Expert Questionnaire* that assesses "the efficient enforcement of intellectual property legislation." We find a strong positive correlation of .765 ($p < .001$).

Generalized Trust. Data about generalized trust are drawn from the *World Values Survey* (WVS), a worldwide investigation of countries' socio-cultural and political landscapes (Inglehardt and Welzel 2005). Our study uses data from the Fifth Wave, administered in 2005. The data collection is based on national probability samples, obtained through stratified multistage random probability sampling, to ensure representative national samples (Inglehardt and Welzel 2005). We measure a country's level of generalized trust according to six questions that ask respondents, on four-point Likert scales, to what extent they trust several categories of people, such as family, neighbors, people they know personally, or people they meet for the first time ($\alpha = .90$).

Control Variables

To account for alternative explanations of cross-country differences in informal investment activity, we include several control variables (averaged over 2003–2007) drawn from the World Bank's World Development Indicators database. First, we control for *income per capita*, measured as a country's GDP per capita, expressed in U.S. dollars at purchasing power parity exchange rates. Second, we control for a country's *GDP growth*, which reflects growth in domestic output. These two control variables are often included in country-level studies of entrepreneurship (e.g.,

Carree 2002; Wong, Ho, and Autio, 2005). Third, we control for a country's *domestic credit provided by banking sector* (as a percentage of GDP), because such credit arguably decreases the demand for informal investing. Fourth, we control for a country's *gross domestic savings* (as a percentage of GDP); aggregate saving rates may reflect people's willingness or capability to invest personal funds in new businesses.

Data Analysis

To test our hypotheses, we collapse our panel data set into a single cross-section of 32 countries and average the GEM-based data over the 2003–2007 period. We pooled the GEM data as this increases the stability of the associated measures (see Kwon and Arenius 2009). Further, because data from the GEM *Expert Questionnaire* are not available for all countries in all years, averaging them over the five-year period enables us to maximize the number of countries included in the sample. In addition, the WVS data on generalized trust (i.e., during the period captured by the GEM data) are available only for one year in the period, 2005.

The GEM *Adult Population Survey* captures the number of respondents within a country that have provided funds for new businesses in comparison with the total number of respondents, so we use grouped data Logit modeling, a technique common to economics literature (e.g., Garbacz and Thompson 2002; O'Brien 1999) and recently adopted in international entrepreneurship research (Bowen and De Clercq 2008). This method replicates individual-level observations within a country on the basis of the country's total number of respondents (Greene 2004). For each country, the method determines the proportion of positive responses (i.e., the undertaking of informal investing) and total number of respondents to create a data set of 0–1 responses. As a hypothetical example, for a country with 100 respondents and a .20 proportion of positive responses, the procedure would use 20 observations that take a value of 1 for the dependent variable and 80 observations with a value of 0 for the dependent variable, and the values of the independent and control variables replicate across the constructed observations (Greene 2004). The technique rests on the critical insight that the creation of replicated observations for estimation purposes does not bias subsequent statistical inferences; thus, the test for coefficient significance in grouped data Logit modeling is based on a z-statistic, not a t-statistic, and does not depend on the degrees of freedom or number of observations (Bowen and De Clercq 2008; Greene 2004).

To test the hypotheses, we create several models: Model 1 includes only the control variables, Model 2 includes the three predictor variables (to test Hypotheses 1–3), and Models 3–4 each include one of the interaction terms (to test Hypotheses 4–5). To assess the interaction effects, we follow the procedure suggested by Aiken and West (1991); we form interaction terms by multiplying the mean-centered values of the interacting variables, then enter these terms in separate regression equations. This approach minimizes the possibility of multicollinearity.

RESULTS

In Table 1, we provide the summary statistics and bivariate correlations for all variables. Similar to prior studies using grouped data Logit modeling (e.g., Bowen and De Clercq 2008), these correlations are solely illustrative; the actual hypotheses tests are based on the replication of data points for each of the countries (Greene 2004). In Table 2, we offer the results of the estimation for each of the four Logit models. We find overall support for the thesis that the hypothesized macro-level variables, with respect to opportunities and generalized trust, influence the incidence of informal investment activity, because the joint addition of the three predictor variables in Model 2 provides a chi-square statistic that is significantly higher than the one in

Model 1, in which we include only the control variables. Similarly, our addition of individual interaction terms in Models 3–4 leads to significantly higher chi-square statistics than those achieved with Model 2.

Model 2 reveals that both the availability of opportunities ($p < .001$) and the regulatory protection of opportunities ($p < .05$) relate positively to the incidence of informal investment activity. Thus, we find support for Hypotheses 1 and 2. Furthermore, the level of generalized trust is positively related to the incidence of informal investment activity ($p < .001$), in strong support of Hypothesis 3. In turn, the sign of the interaction between the availability of opportunities and generalized trust is positive and significant ($p < .05$), in support of Hypothesis 4. Finally, we find strong support for Hypothesis 5: The relationship between the regulatory protection of opportunities and the prevalence rate of informal investment activity is weaker ($p < .01$) at higher levels of generalized trust.

DISCUSSION AND CONCLUSION

Increasing attention is being devoted to cross-country differences in entrepreneurs' ability to obtain funding for their businesses. Although such research typically focuses on formal venture capital (Armour and Cumming 2006; Black and Gilson 1998; Jeng and Wells 2000; Wright, Pruthi, and Lockett, 2005), it is becoming clear that in many countries, formal venture capital is a highly restricted source of funding for new businesses (Bygrave 2003; Bygrave et al. 2007). It is also debatable whether the findings from formal venture capital studies transfer directly to the context of informal investments. Accordingly, policy attention is shifting toward an emphasis on the development of informal investment markets (O'Gorman and Terjesen 2006; Szerb et al. 2007). Somewhat surprisingly though, research into the macro-drivers of informal investment markets remains virtually absent, and this gap represents the main motivation for this study.

Using a novel dataset of 32 countries drawn from different cross-national data sources, we apply institutional theory and consider both formal aspects of countries' institutional environment (i.e., level and regulatory protection of new business opportunities) and an important informal dimension (i.e., extent to which a country's residents trust one another) to predict informal investment activity. Our findings indicate that informal investment activity increases in countries with a higher availability of opportunities, better regulatory protection of opportunities, and higher levels of generalized trust. The level of generalized trust also plays a moderating role, in which it amplifies the effect of the availability of opportunities but suppresses the effect of the protection of opportunities in predicting the incidence of informal investment activity.

These findings contribute to existing literature in several ways. First, though prior research acknowledges that availability of opportunities is important for understanding informal investments (Maula, Autio, and Arenius 2005; Szerb et al. 2007), cross-country research examining how countries' opportunity structures might shape the market of informal investment is nonexistent. This study finds empirical support for the thesis that the level of new business opportunities at the macro-level is an important driver of the demand for informal investing. In addition, we provide empirical evidence for the beneficial role of the protection of such opportunities for stimulating informal investment activity and thus add to prior research examining the importance of legal drivers of formal venture capital markets (Armour and Cumming 2006). Countries where regulatory protection is higher are more likely to see their new business activities funded by informal investors, possibly because of the lesser fear that third parties will expropriate their investment opportunities (McMullen, Bagby, and Palich 2008).

Second, our finding with respect to the positive effect of generalized trust on the incidence of informal investment activity responds to the call for more attention to the role of social factors in explaining cross-country studies of entrepreneurial finance (Wright, Pruthi, and Lockett 2005). Although our data do not permit us to explore the specific means by which generalized trust influences countries' incidence of informal investment activity, we speculate that such trust provides aspiring investors with preferential access to information about new business opportunities that is not readily available otherwise (Kwon and Arenius 2009). Further, generalized trust can diminish the uncertainty surrounding new business undertakings and reduce the ex-ante costs of screening and ex-post costs of monitoring (Chiles and McMackin 1996).

Third, the beneficial effects of the level and regulatory protection of opportunities on the incidence of informal investing activity is moderated by generalized trust in *opposite* ways, such that there is a complementary effect between the level of opportunities and generalized trust but a substitution effect between their regulatory protection and generalized trust. Generalized trust thus plays an instrumental role in leveraging new business opportunities into informal investment activity. An abundance of good opportunities within a country's borders is particularly useful for promoting informal investment activity when trust-based relationships allow for high-quality information exchange between potential investors and investment targets (Coleman 1990; Kwon and Arenius 2009; Putnam 2000), which gives those investors a better understanding of and confidence in how new business opportunities might be exploited (De Clercq and Arenius 2006). In contrast, the relationship between regulatory protection of opportunities and the incidence of informal investing is weaker at higher levels of generalized trust. That is, in countries with weaker intellectual property regimes, people appear to rely more heavily on trust-based relationships with others when they make informal investments. This finding aligns with parallel arguments developed at the micro-level, whereby high levels of trust substitute for the poor regulatory protection of contracts (Ring and Van de Ven 1994; Zucker 1986).

We acknowledge that our findings are subject to some limitations that suggest avenues for additional research. First, measures of countries' institutional aspects are open to debate. We have attempted to address this issue by validating our measures with data from various sources. Second, generalized trust captures only one aspect of a country's social capital, and additional research should explore which of various possible dimensions of social capital (e.g., access to unknown information, brokerage of information across structural holes, trust building and reciprocity) most prominently influences informal investment activity.

The findings of this study have significant practical implications. For new businesses, this study suggests that entrepreneurs may be able to convince informal investors to support their ventures more easily if they can present them with good opportunities and appear trustworthy. Thus, new businesses should enhance their images or reputations among potential investors by building strong interpersonal relationships with them. For policymakers, our findings point to different levers that might be used to promote informal investments within country borders. Extant research indicates that countries with a short history of regulatory protection mechanisms may exhibit higher barriers to regulatory transitions (i.e., political and cultural) and a higher resistance to change (Baumol 1990; Bowen and De Clercq 2008). These traits suggest conditions that are less than favorable for investments in new business activity. Our study helps address this challenge by pointing to the need for a targeted approach to stimulate and sustain informal investment activity, which may differ from the case of formal venture capital.

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Table 1: Variable Means, Standard Deviations, and Correlations ^a

	1	2	3	4	5	6	7	8
1. Prevalence rate of informal investing								
2. Availability of opportunities	.504**							
3. Regulatory protection of opportunities	-.325	.022						
4. Generalized trust	.156	.055	.278					
5. GDP per capita (constant 2000 US\$)	-.441*	-.135	.790**	.089				
6. GDP growth (annual %)	.600**	.279	-.750**	.037	-.742**			
7. Domestic credit provided by banking sector (% of GDP)	-.291	.028	.453*	-.229	.673**	-.419*		
8. Gross domestic savings (% of GDP)	-.079	-.062	-.222	-.375*	-.173	.267	-.051	
Mean	5.084	3.317	60.97	2.749	13,206	4.470	113.740	23.764
Standard deviation	4.775	.321	23.573	.305	12,014	2.507	83.150	8.750

^a n = 32 (i.e., number of countries).

* $p < 0.05$; ** $p < 0.01$.

Table 2: Grouped Logit Results Predicting Informal Investment Prevalence Rate ^{a,b}
(N = 32 countries)

	Model 1	Model 2	Model 3	Model 4
GDP per capita (constant 2000 US\$)	-.681 ^{***}	-.595 ^{***}	-.579 ^{***}	-.497 ^{***}
GDP growth (annual %)	.357 ^{***}	.168	.161 ^{***}	.151 ^{***}
Domestic credit provided by banking sector (% of GDP)	-.221 ^{***}	-.314 ^{***}	-.342 ^{***}	-.333 ^{***}
Gross domestic savings (% of GDP)	-.082 ^{***}	.105 ^{**}	.120 ^{***}	.100 ^{***}
H1: Availability of opportunities		.401^{***}	.371 ^{***}	.413 ^{***}
H2: Regulatory protection of opportunities		.106[*]	.113 ^{**}	.069
H3: Generalized trust		.314^{***}	.299 ^{***}	.287 ^{***}
H4: Availability of opportunities × Generalized trust			.068[*]	
H5: Regulatory protection of opportunities × Generalized trust				-.085^{**}
Log-Likelihood	-16,938	-14,806	-14,802	-14,801
Model Chi-Square statistic (df)	1,032.16 (4)	1,305.64 (7)	1,346.75 (8)	1,363.38 (8)
Chi-Square difference (df)		273.48 ^{***} (3)	41.11 ^{***} (1)	57.74 ^{**} (1)

^a Probability that an individual has made an informal investment.

^b Coefficient significance based on value of a z-statistic.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.