The Importance of Trust for Investment: Evidence from Venture Capital

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Abstract

The social capital literature finds a positive relationship between trust and economic growth or trade. Yet the use macro-level data makes it difficult to identify the direction of causality. In this paper we examine hand-collected micro data on the patterns of venture capital investments, where the trust between investors' and companies' countries is clearly exogenous. We find that trust among nations has a significant effect on the likelihood that a venture capitalist invests in a company. This holds even after accounting for alternative factors, such as geographic distance, information, a variety of transaction costs, and even investor and company fixed effects. We also consider the relationship between trust and contracts. We find no evidence that sophisticated contracts can be used to overcome lack of trust. We conclude that trust is a fundamental force driving investment choices.

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"There are countries in Europe [...] where the most serious impediment to conducting business concerns on a large scale, is the rarity of persons who are supposed fit to be trusted with the receipt and expenditure of large sums of money." (John Stuart Mill)

1 Introduction

The neoclassical tradition does not have a role for trust. Still, many economist (including John Stuart Mill, one of the founding fathers of neoclassical economics) intuitively recognize the importance of trust for economic transactions. The recent literature examines the importance of "social capital," including trust, for economic growth. The work of Knack and Keefer (1997), Temple and Johnson (1998), and Zak and Knack (2001) establishes a positive relationship between trust and economic growth. Yet, this macro-oriented literature typically struggles with issues of endogeneity. A micro-based approach promises a cleaner identification of the effect of trust on economic transactions.

In this paper we use micro data on venture capital investments. The data contains information on how venture capitalists across Europe invest in companies that may be located in the same or different countries. We use a measure of bilateral trust among nations to examine two central issues: Does trust affect the likelihood of making an investment? And does the contractual structure between the investor and entrepreneur compensate for any lack of trust? We find that even after controlling for a host of other factors, trust is an important determinant of venture capital investment decisions. Moreover, investors do not seem to use more sophisticated contracts to compensate lack of trust.

What do we mean by trust? The social capital literature conceptualizes trust as a subjective belief about the likelihood that a potential trading partner will act honestly. However, it is important to distinguish different types of trust. In a recent survey article, Durlauf and Fafchamps (2006) provide a useful distinction between generalized and personalized trust. The former pertains to the preconceptions that people of one identifiable group have for people from another identifiable group. The latter concerns the evolving relationship between two specific agents. In this paper we only focus on generalized trust, so that we are concerned with what might be considered cursory beliefs, generalizations about others, even prejudices. An important caveat is that our analysis does not consider personalized trust, i.e., how individuals interact over time to build better economic relationships.

Why should trust matter? To a traditional neoclassical economist, research on trust may seem futile. Agents have common priors and update them based on the available information. No systematic differences should therefore persist at the level of generalized trust (which, by construction, excludes private information). Even if systematic differences persisted, sophisticated investors could undo such biases by taking advantage of arbitrage opportunities. To other economists, a reasonable alternative hypothesis is that differences in subjective beliefs may reflect non-common priors. Such beliefs may influence economic decisions, especially when agents have little objective information, and thus need to rely on social cues for making decisions. Arbitraging trust differences may also fail when lack

of trust affects the behavior of the counter-party, and can thus become self-fulfilling.[1]

Why study trust in the context of venture capital? Venture capital investments provide an almost ideal testing ground for the economic importance of trust. Traditional neoclassical economist would argue that venture capitalists are part of any efficient market, and that they are sophisticated investors who are well adept to exploit any arbitrage opportunities. Others, however, might argue that the financing of new companies inherently involves limited information, large (Knightian) uncertainty, and considerable scope for opportunistic behavior. This makes it an appropriate testing ground, since to a traditional neoclassical economist these market characteristics ultimately should not matter, whereas to other economists they might. Second, the venture capital industry is tiny relative to the economy. According to the European Venture Capital Association, total investments in venture capital (excluding buyouts) accounted for less than 0.1% of European GDP in 2004. Venture capital activity is clearly irrelevant to the formation of trust among nations. This means that we have a setting where we need not worry about endogeneity: trust among nations can affect individual venture capital investments, but these investments do not have a reverse causality effect on trust among nations. The biggest challenge of examining trust in venture capital, is obtaining the data. We use a hand-collected dataset on European venture capital investments for the period 1998-2001. It contains investors and companies from all across Europe, providing rich variation in investment patterns. It also contains unique and useful detail, such as the precise geographic location of every single company and investor, and information about investment contracts, that cannot be obtained from any of the publicly or commercially available database.

How do we measure trust? Given its subjective nature, it is appropriate to measure trust by surveying opinions. We adopt the approach of Guiso, Sapienza and Zingales (2004) of using the Eurobarometer data on bilateral trust among nations. This measure is based on the responses of citizens in one country, about the trustworthiness of citizens from all other European countries (including their own). We use country fixed effects for both investors and companies, so that all of the analysis concerns differences in the relative trust among nations. We show that our results are robust by exploring a variety of alternative approaches of measuring trust.

How do we isolate the effects of trust? Probably the biggest challenge in this paper, as well as in the social capital literature at large, is isolating the effects of trust from alternative (sometimes closely related) factors. Our data is rich enough to control not only for country fixed effects, but also for investor and even company fixed effects. This eliminates a large number of alternative interpretations. For example, our fixed effects account for all country-specific factors, such as regulation or taxes, they account for differences in the countries opportunity sets, and they take care of any systematic differences in the quality of investors or companies across countries. In fact, with our fixed effects, the only variables that matter are those that concern the *relative* distance between the investor and the company. Trust is obviously a measures of relative distance. We are also able to calculate a very precise measure of geographic distance. This allows us to avoid some of

[1] Traditional neoclassical economist tend to view trust as an inherently irrational concept. The social capital literature, however, argues that trust need not be irrational, precisely because trust can affect others' behavior.

the measurement problems that have plagued the literature on trade and geography (Head and Mayer, 2002, Helliwell and Verdier, 2001). The main alternative factors that we thus need to worry about are other measures of relative distance, especially among country pairs. One is the availability of information. We measure the amount of information about foreign countries available through each country's business press. Other alternative explanations concern differences in transaction and enforcement costs. For this, we consider measures of language overlap, and similarity of legal systems.

What are the results? In the first part we ask whether trust affects investment decisions. We consider the sample of all potential matches between investors and companies, and ask which matches are actually realized. We find that higher trust significantly increases the probability of realizing an investment. The effect of trust is economically important, and continues to hold across a large number of alternative specifications and robustness checks. We also show that geographic distance and information affect investment decisions.

In the second part we ask whether investors use sophisticated contracts to address a lack of trust. The prior literature argues that sophisticated contracts help to overcome informational asymmetries in general, and that contingent contracts are important specifically in venture capital (Hellmann, 2006, Kaplan and Strömberg, 2003, Kaplan, Martel and Strömberg, 2003). Based on this, we hypothesize a negative relationship between trust and the use of contingent control rights. Looking at a variety of contingent control rights, however, we find that the coefficient of trust is either positive significant, or insignificant. This refutes the hypothesis that sophisticated contracting compensates for lack of trust. If anything, the evidence suggests that trust provides a foundation for writing sophisticated contracts.

Our paper builds on the seminal work of Guiso, Sapienza and Zingales (2004), which establishes the importance of trust for trade and investment flows. We build on their paper in several important respects. First, their analysis always remains at the macro level, i.e., at the level of country pairs. We are able to analyze micro data at the level of individual investor-company pairs, which allows us to control for a comprehensive set of alternative explanatory factors, and thus to better isolate the role of trust. Second, because we focus on a small segment of the economy, we can safely eliminate any concerns about the endogeneity of trust. We can thus bypass all the difficulties of having to find appropriate instruments for the determinants of trust.[2] Third, our analysis takes an important additional step, examining not only whether transactions occur, but how they are structured. This allows us to address questions about the relationship between trust and contracts that are not addressed by Guiso, Sapienza and Zingales.

Our results naturally contribute to the broader literature on social capital. See Dasgupta (2003), Durlauf and Fafchamps (2006) and Guiso, Sapienza and Zingales (2006) for some excellent surveys. Much of this literature has focused on the importance of trust in an environment in which there is no legal enforcement. For example, Neace (1999) documents that entrepreneurs in the former Soviet republics consider trust a key criterion

[2] Obviously our analysis cannot—and doesn't try to—explain the formation of trust itself. In addition to Guiso, Sapienza and Zingales, see also Alesina and La Ferrara (2002) and Glaeser et al. (2000) for important papers on this question.

for business success. Johnson, McMillan and Woodruff (2002) show that well-functioning courts are a prerequisite for entrepreneurs to trust and contract with external suppliers. Our study shows that trust may continue to play a role, even in the context of developed countries. Moreover, our results suggest that even with good legal enforcement, people do not rely on sophisticated contracting to overcome lack of trust.

Trust is also an important concept in the emerging behavioral finance literature. The paper most closely related to our is Guiso, Sapienza and Zingales (2005). They document that trust helps to explain the willingness to invest money in the stock market. Guiso, Sapienza and Zingales (2004) also explore how trust affects portfolio investments across countries. In a broader sense, our paper also contributes to research on the well-known home bias puzzle (French and Poterba (1991), Karolyi and Stulz (2003), Lewis (1999)).

Our paper also makes a novel contribution to the venture capital literature, introducing trust as an important factor that has not been considered so far. The analysis builds on a number of papers that explain the contractual features observed in venture capital. See in particular Dessein (2005), Gompers (1997), Hellmann (1998, 2006), Hellmann and Puri (2002), and Kaplan and Strömberg (2003, 2004).[3] Recent work by Hochberg, Ljungqvist and Lu (2006a,b) examines the importance of social networks in venture capital.

The remainder of this paper is structured as follows. Section 2 explains our data and variables. Section 3 examines the effect of investment formation. Section 4 examines the effect of trust on contracts. It is followed by a brief conclusion.

2 Data and variables

Table 1 provides descriptive statistics for all the variables used in the analysis.

2.1 Data on venture investments

Our data come from a variety of sources. Our primary source is a survey of 750 venture capital firms in the following seventeen European countries: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the UK. Venture firms were included in our sample if they satisfied three conditions: (i) they were full members of the European Venture Capital Association (EVCA) or of a national venture capital organization in 2001, (ii) they were actively engaged in venture capital and (iii) they were still in operations in 2002.[4]

[3] A recent spate of papers also examines how legal systems influence venture capital contracts. See, in particular, Bottazzi, Da Rin and Hellmann (2005), Cumming, Schmidt and Walz (2005), Kaplan, Martel and Strömberg (2003), and Lerner and Schoar (2005). The analysis of these papers is largely orthogonal to this paper, since the fixed effects in this paper absorb all cross-country differences in legal systems. Put differently, the effects of trust observed in this paper goes beyond differences in legal systems.

[4] We excluded from our survey private equity firms that *only* engage in non-venture private equity deals such as mezzanine finance, management buy-outs (MBOs) or leveraged buy-outs (LBOs), but we included private equity firms that invest in *both* venture capital and non-venture private equity deals. For these, we considered only their venture capital investments. See Fenn, Liang and Prowse (2003) for a discussion of the structure of the private equity market.

We asked each venture capital firm information about each first round of venture financing they made between January 1998 and December 2001. The questions centered on key characteristics of the venture firm and on their involvement with portfolio companies. We also asked information on some characteristics of the firm's venture partners and on its portfolio companies.[5]

We received 124 usable responses. Some of these were incomplete, in which case we contacted the venture firm and retrieved the missing information whenever possible. We then augmented the survey data with information from several sources, ranging from websites, commercially available databases (Amadeus, Worldscope, and VenturExpert), and trade publications. We use information from these sources both to obtain missing information and to cross-check the information obtained through the survey.

While there is some variation in response rates across countries, our data represent a comprehensive cross-section which provides a good coverage of all countries, with an overall response rate of nearly 16%. This response rate is larger than the typical response rate for comparable surveys of industrial firms, which is around 9% (see the discussion by Graham and Harvey (2001)). No single country dominates the sample, and no country is left out. Remarkably, the larger venture capital markets (France, Germany, and the UK) show a response rate above 13%. Finally, our data are not dominated by a few large respondents: the largest venture capital firm accounts for only 5% of the observations, and the largest 5 venture capital firms for only 16% of the observations. In Bottazzi, Da Rin and Hellmann (2004, 2005) we provide a more extensive discussion of the data, and report some additional tests that we performed to confirm the representativeness of this dataset.

2.2 Unit of observation

Before we explain the construction of our main variables, it is useful to clarify the various units of observation used in this paper.

In the first part of the analysis, we focus on the formation of deals. For this we construct the sample of all potential deals, consisting of every possible pairing between investors which have responded to our survey and their portfolio companies. The unit of observation is the individual investor-company pair (Sorensen, 2005). We construct such pairs from the 108 venture firms and the 1,216 companies in our dataset.[6] For each company we consider that it could in principle be financed by any of the respondent venture firms. We also take into account that some individual pairs are not potential deals because the venture capitalist began operations after the date that the company was seeking an investment. Our potential deals dataset includes 107,390 potential deals.

One obvious limitation of our analysis is that to be included in our sample, a company must have received funding from at least one investor. Naturally, we cannot observe all the

[5] Throughout the paper we reserve the term 'firm' for the investor (i.e., the venture capital firm) and the term 'company' to the company that receives the venture capital financing.

[6] We do not use information about 16 venture firms (and their portfolio companies) for the following reasons. Eight venture firms are from either Norway or Switzerland, countries for which there are no available data on trust. The remaining venture firms invested solely outside the European Union or provided us with insufficient information.

'marginal' companies that never received any funding from any venture capitalist.[7] What does it mean to exclude these marginal potential deals? Our analysis examines whether trust affects investment decisions among all 'infra-marginal' companies. This excludes any effect that trust may have on the marginal companies. It is therefore likely that our analysis understates the total effect of trust.

In the second part of the analysis we focus on the question of how trust affects venture capital deals. For this part of the analysis we use what we call the realized deals sample, which consists of all the actual investments that we observe in our data. Our realized deals sample contains a total of 1,277 deals, into 1,216 companies, made by 108 venture capital firms. The reason there are more deals than companies is that some companies receive financing from more than one of our venture investors.

2.3 Dependent variables

In the first part of the analysis we ask whether a particular investor finances a particular company. The dependent variable is DEAL, which is a dummy variable that takes the value 1 if the venture capital firm has invested in a particular company; 0 otherwise.

In the second part of the analysis we address the relation between trust and contracts. For this we construct five dependent variables which capture the extent to which sophisticated contracting is used in each deal. We consider four types of contingent control rights, whereby the investor is granted the rights to certain actions in case the company fails to meet specified performance targets. We look at the right to take control of the board of directors, to obtain voting majority, to liquidate the company, and to fire the founder/CEO ('termination').

For contingent board rights, our survey instrument asked: *Does your firm has a right to obtain control of the board of directors contingent on the realization of certain events?* (Possible answers were: *Yes, No.*). Based on this, CONTINGENT BOARD RIGHTS is a dummy variable that takes the value 1 if the venture capital firm responded *Yes*, and 0 if it responded *No.*

For contingent voting rights, our survey instrument asked: *Does your firm has a right to obtain voting rights contingent on the realization of certain events?* (Possible answers were: *Yes, No.*). Based on this, CONTINGENT VOTING RIGHTS is a dummy variable that takes the value 1 if the venture capital firm responded *Yes*, and 0 if it responded *No.*

For contingent liquidation rights, our survey instrument asked: *Does your firm has a right to liquidate the company contingent on the realization of certain events?* (Possible answers were: *Yes, No.*). Based on this, CONTINGENT LIQUIDATION RIGHTS is a dummy variable that takes the value 1 if the venture capital firm responded *Yes*, and 0 if it responded *No.*

For contingent termination rights, our survey instrument asked: *Does your firm has a right to fire the founder/CEO contingent on the realization of certain events?* (Possible answers were: *Yes, No.*). Based on this, CONTINGENT TERMINATION RIGHTS is a dummy variable that takes the value 1 if the venture capital firm responded *Yes*, and 0 if it responded *No.*

[7] Note that even if we did, their observations would fall out of the regression by the time we consider the conditional logit model.

Finally, we built an index measure of contingent control rights by summing over the four contingent control dummies. This variable is called CONTINGENT CONTROL RIGHTS, and takes value between 0 and 4.

2.4 Independent variables

2.4.1 Country-dyad level

Some of our dependent variables vary at a level that we call a 'country dyad,' which is the unique pair of an investor's country with a company's country. Table 2 shows the correlation structure of the independent variables that vary at the country-dyad level.

Central to the analysis is our measure of trust. Our analysis is based on the Eurobarometer measures of trust, previously used by Guiso, Sapienza and Zingales (2005), who describe the Eurobarometer survey in detail. Eurobarometer is a large general purpose survey about the social and political attitudes of citizens of the European Union. The survey is executed periodically for the European Commission since 1970. Our trust measure are derived from the Eurobarometer survey waves from 1990 to 1996. Note that we deliberately chose not to collect trust data directly from our survey respondents, since such a measure would have serious endogeneity problems. The Eurobarometer measures, on the contrary, have the important advantage that they are clearly exogenous to the investments made by venture capitalists.

Our trust variable is calculated by taking the responses to the following question: *"I would like to ask you a question about how much trust you have in people from various countries. For each, please tell me whether you have a lot of trust, some trust, not very much trust or no trust at all."* The answers are coded over a scale from 1 (no trust at all) to 4 (a lot of trust). TRUST is computed as the percentage of the individuals which respond 4—i.e., that they trust a lot people from the other country.

How reliable is this measure of trust? First, note that the bilateral nature of the data distinguishes between being trusting and being trustworthy (see also Glaeser et. al. (2000)). Second, the trust measure reflects many of the patterns one would intuitively expect: People typically have the highest trust for their own country; Scandinavian countries receive a lot of trust and are also more trusting; the British trust the French less than other nations; and the French are happy to reciprocate. Moving beyond, we examine how the Eurobarometer trust measure relates to the World Values Survey (WVS) measure of trust, which has played a central role in the prior literature (Knack and Keefer (1997)).[8] A strong correlation between these two measures would suggest a reliable measurement of trust that does not depend on the details of how the surveys were implemented. Table 2 also shows the correlation of our independent country-dyadic variables with the WVS measure of trust, showing a correlation coefficient of 0.47, significant at the 1% level.[9] We

[8] The WVS survey question is *"Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?"* The main difference with the Eurobarometer is that the WVS only measures the overall level of trust held by citizen of one country, rather than bilateral country-dyadic trust.

[9] This correlation uses the Eurobarometer trust measure expressed for all countries in our sample. Alternatively, we may also limit the comparison to the Eurobarometer trust measure expressed only for citizens of the same country. In this case, the correlation coefficient is 0.41.

also report the correlation with two indices that have been widely used in the literature on legal systems: the rule of law index, and the corruption index. Table 2 shows that our trust measure is robustly correlated with these measures. All of this provides reassurance about the reliability of our trust measure.[10]

The remaining country-dyadic variables are the following:

DOMESTIC is a dummy variable that takes the value 1 if the investor and company are from the same country, 0 otherwise.

COMMON-BORDER is a dummy variable that takes the value 1 if two countries share a land border, 0 otherwise.

INFORMATION is calculated as the percentage of times a country is mentioned in the financial sections of another country's newspapers. The data is obtained from the Factiva database, which contains information about the extent of financial press coverage available in each country. For each country dyad we record the number of articles in the financial section of country i's main newspaper, that mentioned country j, or citizens of country j, in the headlines. We divide this number by the total number of articles in the financial section. Since we cannot generate a reliable count of domestic articles, we set the INFORMATION variable to zero for domestic country pairs (i.e., i=j), so that the DOMESTIC dummy includes any domestic information effect.

GDP-DIFFERENCE is the absolute difference in the levels of per capita GDP, averaged over the 1998–2001 period.

LANGUAGE–OVERLAP is the percentage of people who speak the same language in each pair of countries, summed across all primary languages spoken in those two countries. The data comes from www.ethnologue.com.

SAME-LEGAL–ORIGIN is a dummy variable that takes the value 1 if the investor and company are located in country with the same legal origin; 0 otherwise. Following La Porta et. al. (1997) we distinguish between four legal origins: common law, French-origin civil law, German-origin civil law and Scandinavian-origin civil law.

2.4.2 Other independent variables

The remaining independent variables vary at a level different from that of the country dyad.

DISTANCE is the natural logarithm of one plus the distance between the venture capital firm and the company. We identify the exact longitudinal and latitudinal coordinates for each venture capital firm and company. This data is obtained from www.multimap.com. We then use the standard geodetic formula to compute the distance in kilometers. This variable differs for each potential deal.

INDUSTRY is set of a dummy variables that characterize companies' sector of operations. We obtain the data from our survey instrument, which gave the following choices: *Biotech and pharmaceuticals; Medical products; Software and internet; Financial services; Industrial services; Electronics; Consumer services; Telecommunications; Food and con-*

[10] Finally note that Guiso, Sapienza and Zingales report some additional robustness checks on the Eurobarometer measure (based on asking people about the likelihood that a lost wallet be returned) that further confirm the validity of the measure.

sumer goods; Industrial products (including energy); Media & Entertainment; Other (specify). These variables vary at the level of the individual company.

EARLYSTAGE is a dummy variable that takes values 1 if a company's stage is reported as seed or start-up; 0 otherwise. We obtain the data from our survey instrument, which asked: *Indicate the type of your first round of financing to this company (check one).* Possible answers were: *Seed; Start-up; Expansion; and Bridge.* This variable varies at the level of the individual company.

INDUSTRY–FIT is the share of investments of a venture capital firm in the same industry in which the company operates. This variable is constructed within the dataset and is based on the above definition of INDUSTRY. This variables differs for each potential deal.

STAGE–FIT is the share of investments of a venture capital firm in the same stage at which the company is receiving financing. This variable is constructed within the dataset and is based on the above definition of STAGE. This variables differs for each potential deal.

INVESTOR–FIXED–EFFECTS. We construct a set of 108 dummy variables, one for each investor.

INVESTOR- and COMPANY-COUNTRY–FIXED–EFFECTS. We also construct a set of dummy variables for the investor's and company's countries.

3 The role of trust for deal formation

3.1 Methodology

We begin by asking what factors affect a venture capitalist's decision to invest in a company. This requires estimating the probability that a specific venture capitalist invests in a specific firm. Formally, our econometric specification is given by

$$DEAL_p = \alpha + X_n'\beta_n + X_p'\beta_p + X_i'\beta_i + X_c'\beta_c + \varepsilon_p \tag{1}$$

Let i index investors and c index companies, and let $p = (i, c)$ index the investor-company pairs. The dependent variable is DEAL, which is a dummy variable for whether, in a given pair p, the investor i makes a deal with company c. The intercept term is denoted by α. The vector X_n' represents variables that vary at the country dyadic level, namely TRUST, DOMESTIC, COMMON-BORDER, INFORMATION, GDP-DIFFERENCE, LANGUAGE-OVERLAP, and SAME-LEGAL-ORIGIN. The vector X_p' represents variables that vary at the investor-company pairs level, namely DISTANCE, INDUSTRY-FIT and STAGE-FIT. The vectors X_i' and X_c' represent variables that vary across investors and companies respectively. We discuss them below. Since the key independent variables vary at the level of the country dyad (n), we cluster the standard errors of ε_p at the level of the country dyad. Clustering also implies the use of robust standard errors.

To estimate the probability that a deal occurs, our base model uses a logit model (we obtain the same result using a Probit). To control for investor characteristics we can afford to use a complete set of investor fixed effects (i.e., 108 dummies). This is clearly the most powerful way of controlling for any effects that are investor-specific, including, of

course, the investor's nationality. To control for company characteristics, we use STAGE and INDUSTRY. In addition, we use a complete set of country fixed effects. This means that we control for the overall level of trustworthiness (e.g., on average Swedes are trusted more than Spaniards). As a consequence our trust variables always reflect *relative trust* (e.g., relative to the average level of trust, the Spanish are more trusted by the French than by the British). Moreover, the country fixed effects control for all country-specific effects, such as the legal and institutional environment. For example, in addition to having language overlap (see discussion below), one may think that the level of a country's English language proficiency may matter. However, there is no need to control English language proficiency, since any such variation is already captured by the country fixed effects.

To provide a comprehensive picture of the effect of trust, we report the results of four regressions. In column (i) we report the results without any of the country-dyadic control (except those related to geography, namely domestic and common border); in column (ii) we add those controls that are mainly associated with search costs, namely INFORMATION and GDP-DIFFERENCE; in column (iii) we add those controls that are mainly associated with transaction costs, namely LANGUAGE OVERLAP and SAME-LEGAL-ORIGIN; finally, in column (iv) we add all country-dyadic controls.

Let us be very clear about our reasons for including these additional country-dyadic factors. Guiso, Sapienza and Zingales (2004) argue that factors such as having more information, or overlapping languages are fundamental determinants of trust. They use them as determinants of trust, to solve the endogeneity problem between trust and trade. In this paper we do not have their endogeneity problem, so there is no need to build a model of the determinants of trust. Instead, we can use trust as exogenously given, and analyze its effects on venture investments. Consequently, the reason for including the additional country-dyadic factors is that they could affect venture investments directly, i.e., for reasons *other* than their role in explaining trust. The information variable may affect the probability of a deal because it may affect the search process by which investor and entrepreneur find each other. Differences in GDP may have a similar effect, since investors may be more inclined to look for companies located in countries with comparable economies. Overlap of language and commonality of legal systems are likely to affect not only the search costs, but also the transactions costs of closing a deal.

In addition to the basic logit model, reported in Table 3, we consider two main model extensions. The first extension, reported in Table 4, considers further refining the company controls. With over one thousand companies in our sample we cannot add a fixed effect for every company. However, we can use a conditional logit specification (Chamberlain, 1980). This provides a semi-parametric estimation of the logit model, without need to estimate the individual company fixed effects. Our conditional logit specification effectively includes both investor and company fixed effects, thus providing the richest possible set of controls.

The second extension, reported in Table 5, focusses on foreign deals. Our base model already controls for whether an investor and company are from the same country. This extension asks whether the results continue to hold if we actually exclude all domestic deals. To define the sample of potential foreign deals, we first eliminate all investors that invest only domestically (these observations would be dropped in any case from the regression because of the investor fixed effects). A question remains whether we should

retain all companies, or only consider those companies that actually attracted a foreign investor. We adopt the latter approach, which is arguably more conservative and leaves us with the smallest sample of potential foreign deals: 236 deals in 223 companies, made by 49 venture capital companies, generating 8,734 potential deals. In unreported regressions we also used the more inclusive approach of retaining all companies, and found very similar results.[11]

3.2 Results

The estimates from the logit model are reported in Table 3. The most important result concerns the effect of trust. We find that the coefficient on trust is positive and significant at the 1% level across all specifications. This clearly supports the hypothesis that trust affects the likelihood of making an investment. Tables 4 and 5 provide further confirmation for this main result, showing that the coefficient on trust retains a 1% significance level in all specifications.

In addition to being statistically significant, the estimated coefficient measures an economically important effect. We focus on column *(iv)* in Table 3, which may be considered the main specification, although the results are very similar for the other specifications, given the stability of the trust coefficient. The logit regression estimates the odds ratio $(p/(1-p))$, which for low values of p is a close approximation of the probability p itself. Consider a 1% increase in the percentage of people that express high trust. An example (drawn near the median of the trust distribution) is that 15.3% of Spaniards have high trust for Germans, and 16.3% of Dutch have high trust for Germans. From Table 3, we see that such a 1% increase generates an 8.5% increase in the odds ratio. Another example would be to consider moving from the 25th to the 75th percentile of the trust distribution. For example, 10.5% of British people highly trust Germans, which is at the 25th percentile, while 24.8% of Norwegians highly trust Germans, which is at the 75th percentile. Moving from the 25th to the 75th percentile of the trust distribution thus corresponds to a 122% increase in the odds ratio—in other words, the odds more than double.

Tables 3, 4 and 5 also contain numerous other interesting findings. Geographic distance is very important. The coefficient for distance has a negative sign and is statistically highly significant in all specifications. This confirms the notion that venture capital is a highly localized activity, and that investing at a distance is something that venture capitalists tend to avoid. In terms of the other geographic controls, we find that the coefficient for domestic deals is positive and significant, as expected. The coefficient for having a common border, however, remains insignificant. The information proxy is positive and statistically highly significant. Even though our information measure is only a rough proxy for differences in the amount of information available, it has significant explanatory power. Absolute differences in per capita GDP levels also discourage investment, although the effect becomes insignificant in Table 5. Language overlap and same legal origin remain insignificant in all specifications.[12] Throughout all regressions we find that the industry

[11] We also performed conditional logit analysis in the foreign deals sample, finding that our results are barely affected.

[12] The only exception is for SAME LEGAL SYSTEM in column *(iii)* of Table 4. In the main specification in column *(iv)*, however, the coefficient is again insignificant.

and stage fit are highly significant, with the expected sign. This shows that specialization is an important aspect of the venture capital market: to attract investments companies need to fit in with investors strategic preferences.

3.3 Extensions and robustness

Our main analysis focuses on one measure of trust, namely the percentage of people reporting a high level of trust. A natural concern is how robust these findings are to using alternative measures of trust. From the Eurobarometer survey we can extract the average level of trust expressed. This means imposing a cardinal interpretation over an ordinal measure, which is why we prefer not to use it in our main analysis. Still we reran the regressions of Tables 3 to 5 using this measure of average trust. For the basic logit model of Table 3, we find that trust is significant, typically around 5% (except for column *(iv)*, where the coefficient is marginally insignificant at 13%). The results for Table 4 and 5 are even stronger, with Table 4 generating 5% and Table 5 generating 1% significance levels.

One potential criticism is that our trust variable measures the trust of an average citizen, which may not accurately reflect the beliefs of venture capitalists. That is, the average trust of a citizen may not apply to the socioeconomic sub-group that our investors belong to.[13] We therefore calculate our measure of trust for a subset of the population that is more likely to correspond to the average venture capitalist. Since the Eurobarometer includes some information on the socioeconomic characteristics of respondents, we restrict our attention to respondents whose profile broadly corresponds to that of professionals. More precisely, we consider respondents who are in the upper half of the income distribution, have finished their studies when at least 20 years old (meaning they have at least a bachelor degree), and are between 34 and 50 years old—which correspond to one standard deviation away from the sample mean age for the venture partners from our survey. We find that our socioeconomic refinement of the trust variable is highly correlated with the main measure of trust, suggesting that differences in the socioeconomic group hardly matter for trust. When we rerun our regressions using the socioeconomic refinement, we find that all our results remain unaffected.

Our analysis so far focuses on the investor's trust in the company's country. This reflects the notion that investors are the main decision maker. However, entrepreneurs also have to accept their investors, so that we also measure trust from the company's perspective. Trust contains a strong element of reciprocity, so that the measures of investor and company trust are highly correlated. Including both measures in the same regression would then be incorrect. Instead, we reran all of our regressions substituting 'investor' trust with 'company' trust.[14] Even with trust measured from this different perspective, all of our results are confirmed. Finally, we also consider that since both parties have to agree to the deal, it may be that what matters is the lower level of trust (or possibly the higher). Therefore we reran all of our regressions using the lower (and also the higher) of investor and company trust, finding again all our results confirmed— our findings do not

[13] For example, while it may be true that the French are hardly enjoying a high level of trust in the pubs of East London, what we care about is what trust they enjoy in the wine bars of the City of London.

[14] In a similar vein, we also build the information variable from the company's perspective—and again find that none of our results changes.

depend on whether one focuses on the investor's or company's perspective.

Our base model includes all the control that we deem appropriate. One may be tempted to add further controls, but some caution is warranted. One temptation is to add additional controls that can explain the formation of trust. Guiso, Sapienza and Zingales, for example, argue that genetic similarity is an important determinant of trust. However, we caution that this is not a reason for including genetic similarity into our regression, because there is no reasonable economic justification for suspecting that genetic similarity directly affects venture capital investments. Genetic similarity should only matter indirectly through trust, and adding it as a direct effect constitutes a model misspecification that introduces spurious multi-collinearity. In fact, when we reran our regressions adding the determinants of trust identified by Guiso, Sapienza and Zingales (2004)—namely genetic similarity, religious similarity and history of wars after 1815—we find the typical multi-collinearity scenario, where the coefficient of trust shrinks towards zero. It retains its statistical significance in the full sample, but not in the foreign subsample. However, we maintain that this specification is not economically meaningful.[15]

In defining the sample of potential deals, we deliberately refrain from imposing restrictions on the set of admissible potential deals, other than requiring that the venture capital firm was in existence at the time that the company was seeking funding. This means that we entrust the econometric model with determining what matches are more or less likely. An alternative is to impose additional restrictions on the set of admissible potential deals, making assumptions about which pairs have a zero probability of creating a deal. While we prefer not to make such assumptions for the main model, as a robustness check we consider imposing the following restrictions. If, based on the deals observed in our dataset, a venture firm never invests in a particular sector, then we exclude all potential deals between that investor and all companies in that sectors. We also repeat this process for those stages than an investor never participates in. We then reran all of our results, and found that none of the results were affected by imposing these restrictions on the set of potential deals.

Our data contains investors from 15 countries but companies from 18 countries. To make sure that this imbalance does not affect any of the results, we reran all of our results eliminating the companies from the additional (non-EU) countries, but found that this did not affect any of our results.

The construction of our sample involves multiple observations for the same company. One concern may be that the standard independence assumption of the logit model may be violated in this context. This can be addressed in several ways. We reran the logit regressions of Table 3, clustering standard errors by company instead of country-dyads, but found that this did not reduce statistical significance levels. The model of Table 4 also

[15] Similarly, one could think of adding trade flows or foreign direct investments across countries as an explanatory variable. This would only make sense only if they represented a direct effect, separate from trust. Otherwise it is problematic to add these variables, since we know from prior literature that they are closely related to trust, and may thus proxy as alternative measures of trust. We reran our regressions from Table 3 to 5, and found that adding either trade flows or foreign direct investments did not change any of the main results. However, since we cannot identify a convincing economic rationale as to why trade flows or foreign direct investments should have a direct causal effect on venture capital investments, we attribute no further significance to these results.

addresses this, since the conditional logit model directly recognizes the interdependence of observations within groups. Yet another approach is to re-aggregate the data to the level of the country-dyads. This involves a considerable loss of information, since we discard a lot of micro data. Still, we consider a Poisson model where the dependent variable is the number of deals in any one country dyad, and the independent variables are just the country-dyad controls—using a negative binomial model doesn't change any of these results. We find that the coefficient on trust continues to be significant at the 1% level. This suggests that our results are robust to alternative ways of defining the potential deals sample.

Finally, one may be worried that there are some unobserved peculiarities in the sample that drive the results. To address any such remaining scepticism, we construct a false experiment. Instead of giving each investor and company its true country identity, we randomly drew country identities for each investor and company. Based on these false identities, we recalculated all the country-dyadic variables. We then reran the regressions from Table 3-5 and found that the trust variable was utterly insignificant. This provides further reassurance that the main result is not an artifact of the sample, but a real and robust economic phenomenon.

4 The role of trust for contracts

4.1 Motivation

In this section we examine the relationship between trust and contracts. The results from the previous section prompt the question of whether contracts might mitigate any lack of trust. A large economics literature suggests that sophisticated contracts can alleviate asymmetric information problems.[16] A natural hypothesis is thus that parties have an incentive to write more sophisticated contracts if there is an underlying lack of trust. This hypothesis is also closely related to a literature that suggests that trust and contracts are substitutes, in the sense that trust becomes more important when the legal system makes contracting difficult.[17] In the context of venture capital, we can further draw on a prior literature that shows how sophisticated contractual arrangements, relying on contingent control structures, can improve investment outcomes.[18] We therefore examine the hypothesis that lack of trust between investor and company increases the likelihood of sophisticated contracts, as measured by the use of contingent control clauses.

4.2 Methodology

A unique feature of our data is that it allows us not only to observe who invests in whom, but also some detail about how the investment is structured. We focus on four contingent control rights, pertaining to board, voting, liquidation and termination rights (see Section

[16] See Stiglitz (2000). The work of Chen (2000) and Casadesus-Masanell (2004) focuses more specifically on trust.

[17] See McMillan and Woodruff (2002) and Greif (1993).

[18] See Dessein (2005) and Hellmann (2006) for the theory, and Kaplan and Strömberg (2003), Kaplan, Martel and Strömberg (2003) for empirical evidence.

2.3). To analyze contracts, our unit of analysis is no longer the sample of all potential deals, but the sample of realized deals.

Each of our four contingent control rights variables is a dummy variable, so that we use a logit model. We also create a simple index of contingent control rights, which counts the number of control rights used, for which we use a Poisson model. Formally, our econometric specification is given by

$$Contract_p = \alpha + X_n'\beta_n + X_p'\beta_p + X_i'\beta_i + X_c'\beta_c + \varepsilon_p \tag{2}$$

where $p = (i, c)$ now index the *realized* investor-company pairs. The X vectors represents the same variables as in section 3, with two exceptions. First, because the sample of realized deals is much smaller, adding investor fixed effect would clearly over-specify the model. The X_i' vector now represents investor country fixed effects. Second, we noted above that the information and GDP difference variables capture search costs that affect deal formation. In this section we are focusing on the next stage of the investment process, where the two parties have already found each other, so we omit these two variables from the X_c vector.[19]

4.3 Results

Table 6 consists of five Panels that summarize our findings. The single most important result is that none of our regressions support the hypothesis that contracts compensate for lack of trust. We expected a negative sign, yet our data consistently shows a positive and statistically significant sign. This suggests that investors do not use more sophisticated contracts when there is a lack of trust. If anything, the evidence suggests that sophisticated contracting is associated with higher trust. This is a new, important and surprising result.

It is useful to distinguish two aspects of this result. First, our findings reject the main hypothesis of sophisticated contracts substituting for lack of trust. Second, Table 6 suggests an alternative hypothesis, namely that trust is a complement to sophisticated contracting. Under this alternative hypothesis, lack of trust actually undermines the use of sophisticated contracts. This does not negate the beneficial aspects of contingent contracting, and suggests that trust may be an important factor to facilitate sophisticated contracting.

Tables 6 refutes the main hypothesis and support a complements hypothesis. The main insight from a host of robustness checks, discussed in section 4.4, is that the coefficient for trust is mostly positive and significant, sometimes insignificant, but never negative and significant. Overall, the data clearly rejects the substitutes hypothesis.

Table 6 also shows the results for all the control variables. The majority of control variables are typically insignificant. The main variables of interest are the geographic controls, especially domestic and common border. Both typically have a negative and statistically significant effect. This is an important and intuitive result. Investments in foreign companies are likely to involve considerable asymmetries of information (and pos-

[19] Note also because the realized deal sample is made up of deals that were formed partly for their country-dyadic characteristics, the correlation of the country-dyadic variables is typically larger than those reported in Table 2. This means that the problem of multi-colinearity might be even stronger in here.

sibly other asymmetries, such as conflicts of interest). The negative coefficient on domestic investments shows that sophisticated contracts can thus be used to address greater asymmetries. This finding is consistent with the large contracting literature that suggests that sophisticated contracts help to aligning asymmetries. Moreover, this result further clarifies that the trust problem is not just another standard problem of asymmetries, that can simply be addressed with sophisticated contracts.

4.4 Extensions and robustness

We performed numerous robustness checks on the results of Table 6. In the interest of space, we discuss them without reporting tables. We reran all of the regressions in the subsample of foreign deals, and found that the coefficient of trust was statistically insignificant.[20] Again, we reject the hypothesis that sophisticated contracts compensate for a lack of trust. However, we do not find conclusive evidence remains that trust and contracts are complements. One reason for the lack of significance in the foreign subsample suffers is the lack of degrees of freedom. We only have 236 foreign deals, yet our model requires a total of 50 explanatory variables.

We repeat all of the robustness checks discussed in Section 3.3. We find that the coefficient on trust is positive and significant in most specifications, insignificant in a few specifications, and never negative significant. This further confirms our above conclusions. We also perform some additional robustness checks that are unique to the realized deals sample. Because we only use investor country fixed effects, it is possible to add further investor characteristics. Building on our companion papers (Bottazzi, Da Rin and Hellmann, 2004, 2005), we introduce additional controls for the size, age and type of venture capital firms, but find that this does not affect any of the results. We also add controls for whether deals were syndicated, and whether the venture capital firm was the lead investor, but again find that this does not affect any of the results.

Our analysis already contains an unusually large number of controls to isolate the effect of trust. Still, in addition to controlling for observable characteristics, one may attempt to also control for unobservable selection effects. For this we use a Heckman selection model, where the selection equation is given by (1) and the outcome equation by (2). The econometric identification of the system is obtained by those variables that are unique to the selection equation. We already noted that the information and GDP difference variables capture to search costs, and are therefore omitted from the outcome regression. In addition, we note that the investor fixed effects help identification, since they also occur only in the outcome regression. Because of the large number of observations and control variables, it is impossible to achieve convergence unless one uses two simplifications: the outcome equation has to be estimated with a linear regression model, and the system of equations has to be estimated using the traditional two-step estimation procedure. We first confirm that the linear probability model yields the same results as the logit (and Poisson) regressions. We then estimate the full system, and find that the effect of trust remains positive and statistically significant. Our results therefore do not appear to be driven by selection on unobservables.

[20] The only exception was for column *(i)* of Panel A, where trust was still positive and significant.

5 Conclusion

Economists often distrust explanations that rely on subjective beliefs. Trust is a subjective belief, but so is economists' distrust of trust-based explanations. Hence the importance of empirically demonstrating the effect of trust.

This paper examines trust in a micro-environment where endogeneity is not an issue. It finds that trust has a significant effect on the investment decisions of venture capital firms. These effects continue to hold even after controlling for a large number of alternative factors. Moreover, investors do not seem to use more sophisticated contracts to counteract any lack of trust. If anything, sophisticated contracting tends to be associated with situation of higher trust.

This line of research has implications for the literature on social capital. The role of contracts remains largely unaddressed in this literature. This papers provides some evidence on the difficulties of writing sophisticated contracts in the absence of trust. Future research is likely to further investigate the relationship between trust and contracts. The paper also contributes to the venture capital literature. It hopes to fill a current gap in the literature about what factors determine investment decisions. Demonstrating the importance of generalized trust is an important step, one that takes us beyond the more limited set of traditional neoclassical investment criteria. The venture capital literature has also emphasized the benefits of sophisticated contracting. This paper shows that lack of trust may constitute an impediment to reaping the benefits of such sophisticated contracts.

The analysis suggests some tentative policy conclusion. Governments across the globe are seeking to attract venture capitalists to invest in their countries. Our analysis suggests that investments ought to be expected most along established lines of trust among nations. This provides some guidance as to what countries might be the most promising targets for government that want to attract foreign venture capital investments.

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Table 1: Descriptive statistics

This table provides the mean, minimum and maximum values of our dependent and independent variables; we do not report these values for investor and company country dummies, and for industry dummies. For dummy variables we report the frequency of observations. Variables are defined in Section 2.

	POTENTIAL DEALS SAMPLE			REALIZED DEALS SAMPLE		
VARIABLE	Mean	Minimum	Maximum	Mean	Minimum	Maximum
Deal	0.011	0	1	–	–	–
Trust	20.402	3.680	71.600	43.447	7.120	71.600
Information	0.037	0	0.449	–	–	–
GDP Difference	4.617	0	34.352	–	–	–
Language Overlap	0.152	0	1	0.836	0	1
Same Legal Origin	0.285	0	1	0.872	0	1
Distance	6.720	0	9.322	3.829	0	9.176
Common Border	0.318	0	1	0.866	0	1
Domestic deal	0.106	0	1	0.820	0	1
Industry Fit	0.144	0	1	0.364	0.017	1
Stage Fit	0.509	0	1	0.708	0.048	1
Contingent Board Rights	–	–	–	0.386	0	1
Contingent Voting Rights	–	–	–	0.342	0	1
Contingent Liquidation Rights	–	–	–	0.317	0.001	1
Contingent Termination Rights	–	–	–	0.323	0	1
Contingent Control Rights	–	–	–	1.296	0	4
Number of observations	*107,390*			*1,277*		
Number of companies	*1,216*			*1,216*		
Number of venture firms	*108*			*108*		

Table 2: Correlations

This table provides pairwise correlations (and significance leveles, in brackets) among variables defined in Section 2.

	Trust	Information	GDP Difference	Language Overlap	Same Legal Origin	Common Border
Trust	1.000					
Information	0.006 *(0.92)*	1.000				
GDP Difference	–0.328 *(0.00)*	–0.049 (*0.35)*	1.000			
Language Overlap	0.498 *(0.00)*	-0.040 *(0.47)*	–0.314 *(0.00)*	1.000		
Same Legal Origin	0.195 *(0.00)*	–0.093 *(0.08)*	0.075 *(0.00)*	*0.196* *(0.00)*	1.000	
Common Border	0.432 *(0.00)*	0.098 *(0.06)*	–0.228 *(0.00)*	0.510 *(0.00)*	0.319 *(0.00)*	1.000
WVS Trust	0.466 *(0.00)*	0.099 *(0.06)*	–0.154 *(0.00)*	–0.034 *(0.54)*	0.107 *(0.04)*	–0.008 *(0.89)*
Rule of Law	0.342 *(0.00)*	0.130 *(0.01)*	–0.091 *(0.08)*	0.027 *(0.62)*	0.013 *(0.80)*	0.055 *(0.30)*
Corruption Index	0.412 *(0.42)*	0.156 *(0.42)*	–0.062 *(0.23)*	–0.001 *(0.99)*	–0.008 *(0.88)*	–0.010 *(0.85)*

Table 3
Potential deals sample
Dependent variable: DEAL
Logit regressions with investor fixed effects

This table reports results of logit regressions with investor fixed effects for the potential deals sample. The dependent variable is DEAL. Variables are defined in Section 2. Company controls are complete sets of dummies for each company's country, industry and stage. Columns (i) through (iv) report results from different specification discussed in Section 3. For each independent variable, we report the estimated coefficient and the z-score (in parenthesis) computed using (Huber-White) heteroskedasticity-robust standard errors, clustered by country-dyad. Values significant at the 1%, 5% and 10% level are identified by ***, **, *.

	(i)	*(ii)*	*(iii)*	*(iv)*
Trust	0.072***	0.082***	0.076***	0.085***
	(4.69)	*(5.96)*	*(4.86)*	*(5.53)*
Information		6.264***		6.693***
		(3.96)		*(4.03)*
GDP Difference		–0.150**		–0.141**
		(–2.33)		*(–2.20)*
Language Overlap			0.406	0.567
			(0.60)	*(1.12)*
Same Legal Origin			–0.142	–0.142
			(0.97)	*(–0.50)*
Distance	–0.224***	–0.220**	–0.225***	–0.220**
	(–2.63)	*(–2.58)*	*(–2.63)*	*(–2.57)*
Domestic Deal	*2.005***	*1.712***	1.684***	–1.294**
	(4.24)	*(3.75)*	*(2.17)*	*(–2.22)*
Common Border	0.136	–0.124	0.179	–0.173
	(0.49)	*(–0.51)*	*(0.64)*	*(–0.72)*
Industry Fit	7.002***	6.932***	6.942***	6.693***
	(24.04)	*(28.91)*	*(28.48)*	*(28.94)*
Stage Fit	2.927***	3.001***	2.946***	3.003***
	(11.08)	*(12.96)*	*(12.50)*	*(12.97)*
Investor Fixed Effects	Included	Included	Included	Included
Company Controls	Included	Included	Included	Included
Observations	*107,390*	*107,390*	*107,390*	*107,390*
Pseudo R^2	*0.4995*	*0.5049*	*0.4997*	*0.5050*
Number of venture firms	*108*	*108*	*108*	*108*
Number of companies	*1,216*	*1,216*	*1,216*	*1,216*

Table 4
Potential deals sample
Dependent variable: DEAL
Conditional logit regressions

This table reports results of conditional logit regressions for the potential deals sample. The dependent variable is DEAL. Variables are defined in Section 2. Company controls are complete sets of dummies for each company's country, industry and stage. Columns (i) through (iv) report results from different specification discussed in Section 3. For each independent variable, we report the estimated coefficient and the z-score (in parenthesis) computed using (Huber-White) heteroskedasticity-robust standard errors, clustered by country-dyad. Values significant at the 1%, 5% and 10% level are identified by ***, **, *.

	(i)	*(ii)*	*(iii)*	*(iv)*
Trust	0.070***	0.081***	0.070***	0.079***
	(7.33)	*(8.72)*	*(7.13)*	*(7.80)*
Information		6.526***		6.789***
		(6.68)		*(6.59)*
GDP Difference		–0.135***		–0.132***
		(–3.10)		*(–3.11)*
Language Overlap			0.091	0.283
			(0.21)	*(0.65)*
Same Legal Origin			0.005	0.128
			(0.02)	*(0.60)*
Distance	–0.394***	–0.385***	–0.394***	–0.385***
	(–13.82)	*(–13.41)*	*(–13.81)*	*(–13.39)*
Domestic Deal	*1.580***	1.*325***	1.684***	–1.121**
	(5.82)	*(4.84)*	*(2.17)*	*(–2.66)*
Common Border	–0.067	–0.314*	–0.078	–0.391**
	(–0.35)	*(–1.66)*	*(–0.40)*	*(–2.02)*
Industry Fit	6.679***	6.706***	6.681***	6.717***
	(27.38)	*(27.21)*	*(27.35)*	*(27.16)*
Stage Fit	2.859***	2.924***	2.859***	2.927***
	(18.17)	*(18.23)*	*(18.17)*	*(18.26)*
Investor Fixed Effects	Included	Included	Included	Included
Company Controls	Included	Included	Included	Included
Observations	*107,390*	*107,390*	*107,390*	*107,390*
Pseudo R^2	*0.5987*	*0.6049*	*0.5987*	*0.6050*
Number of venture firms	*108*	*108*	*108*	*108*
Number of companies	*1,216*	*1,216*	*1,216*	*1,216*

Table 5
Foreign subsample
Dependent variable: DEAL
Logit regressions with investor fixed effects

This table reports results of logit regressions with investor fixed effects for the subsample of foreign potential deals. The dependent variable is DEAL. Variables are defined in Section 2. Company controls are complete sets of dummies for each company's country, industry and stage. Columns (i) through (iv) report results from different specification discussed in Section 4. For each independent variable, we report the estimated coefficient and the z-score (in parenthesis) computed using (Huber-White) heteroskedasticity-robust standard errors, clustered by country-dyad. Values significant at the 1%, 5% and 10% level are identified by ***, **, *.

	(i)	*(ii)*	*(iii)*	*(iv)*
Trust	0.084***	0.108***	0.073**	0.096***
	(2.94)	*(4.70)*	*(2.37)*	*(3.97)*
Information		7.911***		7.408***
		(4.80)		*(4.50)*
GDP Difference		–0.029		–0.035
		(–0.62)		*(–0.78)*
Language Overlap			–1.805	–1.376
			(–1.55)	*(–1.39)*
Same Legal Origin			1.007*	0.814
			(1.81)	*(1.53)*
Distance	–0.307***	–0.180**	–0.265***	–0.157**
	(–3.34)	*(–2.26)*	*(–3.13)*	*(–2.03)*
Common Border	–0.117	–0.014	–0.029	0.040
	(–0.28)	*(–0.04)*	*(–0.07)*	*(0.11)*
Industry Fit	6.814***	6.712***	6.815***	6.732***
	(14.09)	*(14.52)*	*(14.18)*	*(14.70)*
Stage Fit	2.643***	2.737***	2.662***	2.751***
	(7.41)	*(7.58)*	*(7.45)*	*(7.58)*
Investor Fixed Effects	Included	Included	Included	Included
Company Controls	Included	Included	Included	Included
Observations	*8,734*	*8,734*	*8,734*	*8,734*
Pseudo R^2	*0.3108*	*0.3285*	*0.3137*	*0.3320*
Number of venture firms	*108*	*108*	*108*	*108*
Number of companies	*1,216*	*1,216*	*1,216*	*1,216*

Table 6, Panel A
Realized deals sample
Dependent variable: CONTINGENT CONTROL RIGHTS
Poisson regressions

This table reports results of logit regressions for the sample of realized deals. The dependent variable is CONTINGENT CONTROL RIGHTS. Variables are defined in Section 2. Company controls are complete sets of dummies for each company's country, industry and stage. We also control for investor nationality. Columns (i) and (ii) report results from different specifications discussed in Section 4. For each independent variable, we report the estimated coefficient and the z-score (in parenthesis) computed using (Huber-White) heteroskedasticity-robust standard errors, clustered by country-dyad. Values significant at the 1%, 5% and 10% level are identified by ***, **, *.

	(i)	*(ii)*
Trust	0.059***	0.056***
	(5.26)	*(4.77)*
Language Overlap		0.485
		(1.09)
Same Legal Origin		–0.038
		(–0.12)
Distance	–0.006	–0.006
	(–0.42)	*(–0.43)*
Domestic Deal	–0.807***	–1.091***
	(–2.92)	*(–2.62)*
Common Border	–0.881***	–0.961***
	(–3.03)	*(–3.16)*
Industry Fit	–0.069	–0.062
	(–0.18)	*(–0.16)*
Stage Fit	–0.064	–0.048
	(–0.19)	*(0.17)*
Investor Nationality	Included	Included
Company Controls	Included	Included
Observations	*1,066*	*1,066*
Pseudo R^2	–	–

Table 6, Panel B
Realized deals sample
Dependent variable: CONTINGENT BOARD RIGHTS
Logit regressions

This table reports results of logit regressions for the sample of realized deals. The dependent variable is CONTINGENT BOARD RIGHTS. Variables are defined in Section 2. Company controls are complete sets of dummies for each company's country, industry and stage. We also control for investor nationality. Columns (i) and (ii) report results from different specifications discussed in Section 4. For each independent variable, we report the estimated coefficient and the z-score (in parenthesis) computed using (Huber-White) heteroskedasticity-robust standard errors, clustered by country-dyad. Values significant at the 1%, 5% and 10% level are identified by ***, **, *.

	(i)	*(ii)*
Trust	0.158***	0.150***
	(3.30)	*(3.01)*
Language Overlap		–2.990**
		(–2.23)
Same Legal Origin		1.584*
		(1.70)
Distance	0.032	0.032
	(0.88)	*(0.87)*
Domestic Deal	–2.018*	0.117
	(–1.86)	*(0.08)*
Common Border	–2.017***	–2.226***
	(–3.06)	*(–2.94)*
Industry Fit	0.632	0.599
	(0.57)	*(0.54)*
Stage Fit	1.244***	1.237***
	(3.02)	*(2.97)*
Investor Nationality	Included	Included
Company Controls	Included	Included
Observations	*1,122*	*1,122*
Pseudo R^2	*0.2170*	*0.2198*

Table 6, Panel C
Realized deals sample
Dependent variable: CONTINGENT VOTING RIGHTS
Logit regressions

This table reports results of logit regressions for the sample of realized deals. The dependent variable is CONTINGENT VOTING RIGHTS. Variables are defined in Section 2. Company controls are complete sets of dummies for each company's country, industry and stage. We also control for investor nationality. Columns (i) and (ii) report results from different specifications discussed in Section 4. For each independent variable, we report the estimated coefficient and the z-score (in parenthesis) computed using (Huber-White) heteroskedasticity-robust standard errors, clustered by country-dyad. Values significant at the 1%, 5% and 10% level are identified by ***, **, *.

	(i)	*(ii)*
Trust	0.202***	0.240***
	(5.09)	*(4.82)*
Language Overlap		3.360**
		(2.82)
Same Legal Origin		–1.651**
		(–1.84)
Distance	–0.111***	–0.110
	(2.70)	*(–2.73)*
Domestic Deal	–4.491***	–7.284
	(–5.05)	*(–4.97)*
Common Border	–1.104*	–1.148
	(–1.69)	*(–1.56)*
Industry Fit	–0.386	–0.374
	(–0.74)	*(–0.72)*
Stage Fit	0.086	0.112
	(0.11)	*(0.14)*
Investor Nationality	Included	Included
Company Controls	Included	Included
Observations	*1,046*	*1,046*
Pseudo R^2	*0.2817*	*0.2856*

Table 6, Panel D
Realized deals sample
Dependent variable: CONTINGENT LIQUIDATION RIGHTS
Logit regressions

This table reports results of regressions for the sample of realized deals. The dependent variable is CONTINGENT LIQUIDATION RIGHTS. Variables are defined in Section 2. Company controls are complete sets of dummies for each company's country, industry and stage. We also control for investor nationality. Columns (i) and (ii) report results from different specifications discussed in Section 4. For each independent variable, we report the estimated coefficient and the t-score (in parenthesis) computed using (Huber-White) heteroskedasticity-robust standard errors, clustered by country-dyad. Values significant at the 1%, 5% and 10% level are identified by ***, **, *.

	(i)	*(ii)*
Trust	0.079*	0.115**
	(1.79)	*(2.09)*
Language Overlap		2.069
		(1.55)
Same Legal Origin		–1.373
		(–1.28)
Distance	0.038	0.039
	(1.19)	*(1.19)*
Domestic Deal	–1.353	–3.153*
	(–1.22)	*(–1.91)*
Common Border	–1.794***	–1.878***
	(–3.01)	*(–2.99)*
Industry Fit	–0.214	–0.192
	(–0.19)	*(–0.17)*
Stage Fit	–0.991*	–0.987*
	(–1.95)	*(–1.94)*
Investor Nationality	Included	Included
Company Controls	Included	Included
Observations	*1,048*	*1,048*
Pseudo R^2	*0.1738*	*0.1754*

Table 6 Panel E
Realized deals sample
Dependent variable: CONTINGENT TERMINATION RIGHTS
Logit regressions

This table reports results of logit regressions for the sample of realized deals. The dependent variable is CONTINGENT TERMINATION RIGHTS. Variables are defined in Section 2. Company controls are complete sets of dummies for each company's country, industry and stage. We also control for investor nationality. Columns (i) and (ii) report results from different specification discussed in Section 4. For each independent variable, we report the estimated coefficient and the z-score (in parenthesis) computed using (Huber-White) heteroskedasticity-robust standard errors, clustered by country-dyad. Values significant at the 1%, 5% and 10% level are identified by ***, **, *.

	(i)	*(ii)*
Trust	0.181***	0.188**
	(3.31)	*(2.24)*
Language Overlap		2.069
		(1.55)
Same Legal Origin		–1.373
		(–1.28)
Distance	–0.018	–0.017
	(–0.56)	*(0.56)*
Domestic Deal	–3.783***	–4.283*
	(–2.59)	*(–1.86)*
Common Border	–2.391***	–2.381***
	(–3.06)	*(–3.16)*
Industry Fit	0.119	0.127
	(0.19)	*(0.20)*
Stage Fit	–0.215	–0.210
	(–0.27)	*(–0.27)*
Investor Nationality	Included	Included
Company Controls	Included	Included
Observations	*1,047*	*1,047*
Pseudo R^2	*0.1827*	*0.1828*