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TRUST IN TRANSITION: CROSS COUNTRY AND FIRM EVIDENCE

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Abstract

This paper uses data from a large survey of firms across 26 transition countries to examine the determinants of trust in the transition process. We first introduce a new measure of trust between firms: the level of prepayment demanded by suppliers from their customers in advance of delivery. Using this new measure, we confirm earlier findings that trust is higher where firms have confidence in third party enforcement through the legal system. However, the fairness and honesty of the courts are a more important determinant of interfirm trust than are the courts' efficiency or ability to enforce decisions. We then examine the role of business networks in building trust and find that networks based around personal ties – family and friends – and business associations actively promote the development of trust, while business networks based on enterprise insiders and government agencies do not. Finally, we find that country-level effects are significantly more important determinants of interfirm trust than are firm-level effects.

Keywords: Trust, Prepayment, Courts, Business Networks

JEL: D23, D92, P31, Z13,

1. *Introduction*

Much of the literature on institutions and social capital posits that trust is an important prerequisite to well-functioning markets (Arrow 1972, North 1981, Putnam 1993, Fukuyama 1995, Stiglitz 1999). Trust lowers transaction costs and facilitates co-operation among entities that might otherwise view mutually advantageous exchange as too costly or risky. Especially in places where third party enforcement – i.e., the state and its constituent legal and regulatory institutions – is weak or uncertain, a basic belief in a counterpart's honesty is an "important lubricant" in a social and economic system (Arrow 1974). In these circumstances, trust can be built through repeated interactions and the creation of a reputation for cooperating, even where incentives for reneging on agreements may be strong (Axelrod 1984).

Trust is a commodity in relatively short supply in transition countries, especially in the early stages of transition when institutions are weak and the formal and informal bonds holding the economy together are ruptured. Transition, after all, entails massive transactional upheaval, as markets replace central planning as the main mechanism for matching producers with consumers. In relations among businesses, widespread re-matching creates significant social costs, until new relationships have been formed and some degree of durability and predictability has returned (see Blanchard and Kremer 1997). Although costly and complex, the process of breaking up existing ties between firms and allowing for the entry of competitors is necessary and beneficial in the longer term. But until that point is reached, the experience of transition can be devastating for firms and consumers, a condition that breeds caution and mistrust. Indeed, as Joseph Schumpeter (1934) has written, "the process of creative destruction is the essential fact about capitalism," and transition is perhaps the most extreme case of "creative destruction" we know of in recent economic history (see also EBRD 1997). The hope at the beginning was, and remains, that once the cards have been reshuffled, surviving firms and their customers will end up with a better hand.

This process is still unfolding. This paper looks at how enterprises cope with an uncertain contractual environment, where trust is lacking. Businesses in this environment, especially where enforcement of legal contracts is uncertain, face a

Prisoner's Dilemma – they would be best off co-operating with each other in executing a contract, but they each face a powerful incentive to renege on their obligations in the absence of third party enforcement mechanisms to punish defectors. The literature on repeated games, however, holds that co-operation can be built over time between actors caught in a Prisoner's Dilemma through strategies of reciprocity – that is, in a strategic interaction, co-operative moves are met with reciprocal co-operation and defections met with defection. This has been found to be a robust strategy for building co-operation in the absence of a formal sanctioning mechanism in a variety of settings (Axelrod 1984). The analogy in business transactions is relational contracting – firms building stable business relationships with known partners and resolving disputes through informal rather than formal mechanisms. Even in developed markets, where court systems and other market-supporting institutions are more advanced, firms are more likely to rely on relationships with well-known business partners than more formal mechanisms to resolve disputes (Macauley 1963).

It is not surprising, therefore, that previous research has found a strong correlation between relational contracting and trust at the enterprise level (Johnson et al. 1999; McMillan and Woodruff 1999). While efficient for the firm, relational contracting has social costs, because new entrants are deterred and potentially profitable matches are not made. Firms also have been able to rely on reputational enforcement mechanisms, by collecting information on new trading partners from other participants in existing business networks and sharing their own information on the business conduct of their trading partners with others. In an economy with high barriers to entry for new firms and dominance by a relatively small number of key players in any specific sector, where effective networks exist to circulate information on business conduct, firms will be disciplined to behave in accordance with relevant commercial norms lest they receive a reputation for unreliability. Recent research has found that third party enforcement through networks may be a useful complement to enforcement through the court system (Woodruff 2002).

In this paper we employ data from a 2002 survey of firms in transition countries conducted by the European Bank for Reconstruction and Development together with the World Bank, which asked firms specific questions about the contracting environment and the quality of the courts. The Business Environment and Enterprise Performance Survey (BEEPS) is a rich data source for an analysis of the contracting environment for enterprises in transition, both at the firm and at the country level. In the literature cited above, much of the impact of third party enforcement on firm behaviour stems from perceptions of the credibility of such enforcement at the firm level within one or a small number of countries. However, without more variation at the country or regional level it is hard to distinguish managers' optimism or gullibility from real differences in the quality of the courts. The BEEPS offers the opportunity to test for both firm and country level effects of perceptions of the quality of the courts as well as the importance of certain types of networks on enterprise trust. We find that country level variation in these factors contributes more to the variation in trust in our sample than variation at the firm level.

The measure of trust used in this literature to date is the share of goods sold by a supplier on credit. The rationale for using trade credit as a measure of trust is that a supplier may have an established relationship with a customer that underlies the confidence that it will be paid for delivery at an agreed later stage, or it may have information on this customer from other sources justifying this confidence, or it may trust in the ability of a third party like the courts to enforce payment. However, this metric might be problematic: in the absence of effective bankruptcy mechanisms payment default can appear as trade credit. Therefore, in this paper we introduce an alternative measure of trust, or rather distrust, namely the extent of prepayment required by a supplier. We argue that the less confidence a supplier has in its ability to collect payment once goods have been delivered, the more a supplier will ask to be paid upfront. We find that, indeed, trade credit may to some extent be involuntary in transition economies and that prepayment is a more robust measure of trust.

Thus, one of the main contributions of this paper to the existing literature on trust and contract enforcement is the introduction of an alternative measure of trust which is found to be robust at the country level. Using prepayment as a measure of trust in business relationships, the survey data in the BEEPS is then used to test which factors are most likely to build trust among firms: legal reform, the functioning and quality of the courts, generalised trust, or the expansion of business networks. We conduct tests at the country level and the firm level, allowing us to distinguish the extent to which supplier firms make prepayment demands on the basis of their particular experience in business transactions and the functioning of courts and networks versus the average country-wide assessment of the effectiveness of these institutions. Finally, we test for the specific relevance of different aspects of these institutions for building trust. For the courts, we look at whether speed and affordability matter more than fairness and honesty. For business networks, we distinguish between social networks (friends and family) and insider networks (former and current employees and managers) as sources of information on trusted business partners.

The remainder of the paper proceeds as follows. In the next section, we briefly describe the data set and how it can be used to test many of the key arguments in the literature on contracting in transition economies. The second section describes how prepayment can be an effective proxy for trust in business relationships and why it may be a better measure than trade credit. The third section examines the correlation of prepayment at the country level with factors usually associated with high levels of trust, such as income per capita and the quality of governance, as well as correlations with the level of economic reform, country-level perceptions of the quality of the courts and the importance of certain types of business networks. Section four turns to firm level evidence on the determinants of prepayment and presents our main finding that country-level effects seem to dominate firm level perceptions as determinants of trust. The final section concludes with proposed areas for further research.

2. The Survey

The 2002 BEEPS was conducted with nearly 6000 firms in 26 transition economies (all of eastern Europe and the former Soviet Union except Turkmenistan, where implementation was discontinued before the survey was completed).[1] The survey is heavily weighted towards small enterprises (67 per cent) and private firms (86 per cent). There are some state-owned firms in the sample (14 per cent), however, and some larger enterprises with up to 10,000 employees (14 per cent). The sample is stratified to match more or less the productive structure in each country, implying a heavy representation of service firms (61 per cent).

These features distinguish the sample from that used in Johnson et al. (1999), which was based on only private manufacturing firms in five transition economies. Unlike Johnson et al., our survey is not a survey of specific transactions. Our measures of prepayment, trade credit, business networks, etc., are all based on questions relating to the average experience of each firm rather than to a specific transaction. This is a weakness that makes our results far less precise than the transactions specific survey used by Johnson et al. The advantage of our survey is that it covers more countries, with vastly different contracting environments. One benefit of this larger sample is that we can examine and compare the contracting environment at the country level. It is here that variations in the quality of third party enforcement through the courts or through reputation networks should be most evident.

3. Prepayment as a measure of trust

McMillan and Woodruff (1999) and Johnson et al. (1999; 2002) construct measures of trust and relational contracting at the enterprise level, using the extent to which firms are willing to give trade credit to a customer as a measure of trust. It is assumed that an enterprise will only sell goods to another business on credit if it believes it will be repaid. This belief can be based on the knowledge the enterprise has of its business partner either through repeatedly trading with her, or through a recommendation from a third party. It can also be based on confidence in the efficacy of third party enforcement – that is, the belief that if repayment was delayed, the creditor firm can go to a court and have its credit right enforced.

The use of trade credit as a measure of trust at the firm level is not without problems, however. Most importantly, as argued by Kornai (1993), trade credit in a transition context may be partially involuntary. Where bankruptcy enforcement is weak or absent, a supplier may have no choice than accept delayed payment for

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[1] The full 2002 BEEPS sample also includes Turkey, which plays no role in our analysis. For a detailed description see Fries, Lysenko and Polanec (2003). The first round of the BEEPS was

delivery, if she does not want to lose her claim altogether. The propensity to be lenient with delinquent customers would be higher still, if the supplier expected to be bailed out by the state at a later stage. Indeed, the level of trade credit has been used in the transition literature as an indication of the soft budget constraint (Raiser, 1997). The BEEPS contains one question on whether firms had in the past experienced payment delays. Around two thirds of all firms reported experiencing payment delays. The incidence of payment delays is highly correlated with the share of trade credit in total sales at the firm level.[2] This evidence does suggest that trade credit may in part be involuntary and is not such a good measure of trust in our sample.

We suggest an alternative measure of trust in business transactions: the level of prepayment demanded by firms from their customers. A firm's willingness to forgo prepayment may be seen as an indication that its directors believe they will be paid fully and on time, either due to trust in the customer or to trust in the legal system and its ability to fairly adjudicate business disputes. High prepayment demands, conversely, can be seen as a measure of distrust in a customer and/or lack of confidence in the contract enforcement regime.

Prepayment as a measure of (dis)trust is not without problems either. It might be argued that prepayment actually reflects trust by the customer in the supplier delivering the goods after payment has been received. Conversely, trade credit might be a measure of distrust of the customer in the supplier. Implicit in the use of both prepayment and trade credit as measures of trust is the notion that it is suppliers who choose the mode of payment for delivery. This notion appears plausible to us, and the empirical evidence presented below supports this interpretation.[3]

Another potential problem with prepayment is that it may reflect credit market imperfections. Customers need to prepay suppliers to satisfy their demand for working capital. Without prepayment, no goods might be produced at all. The same

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conducted in 1999. For a description of these results see Transition Report 1999.

[2] The correlation coefficient with the share of trade credit in sales is 0.22 with 5957 observations, significant at the 1 per cent level

[3] Jan Fidrmuc has suggested to us to use spot trade, i.e. the share of sales neither sold on credit nor prepaid as a measure of distrust. We have tried this and found spot trade not to be closely associated with any of the variables used in the analysis below. Results are available upon request.

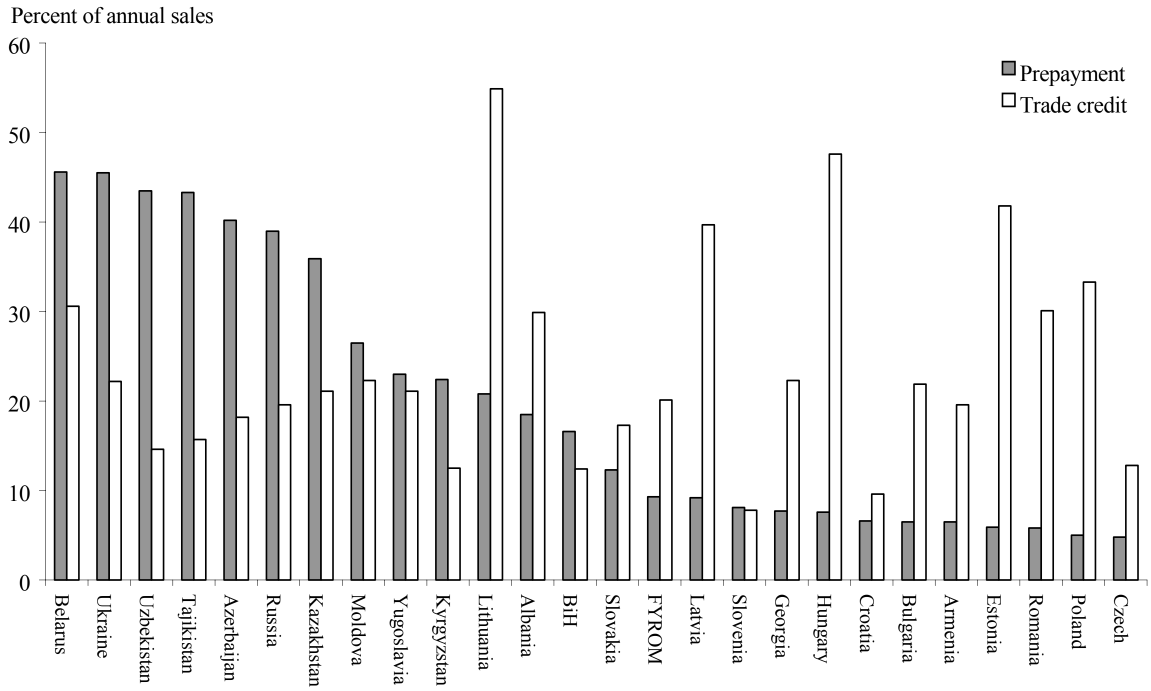
argument holds for trade credit.[4] In the firm level regressions, we control for credit market imperfections in examining the importance of other factors determining prepayment. Finally, it could be argued that pre-payment may be more a function of the type of good being sold than inter-firm trust – in other words, prepayment may be more prevalent in some industry or service sectors than others. Here again, we control for sector specific effects in the firm-level regressions, and we find that the variation in prepayment corresponds to the country-level effects, which support the conclusion that prepayment is correlated with system-wide trust.

Chart 1 reports country means for prepayment and trade credit among the firms in the BEEPS. The values for each firm were derived from the following two questions:

What per cent of your firm's sales are pre-paid?
What per cent of your firm's sales are sold on credit?

[4] We are again grateful to Jan Fidrmuc for pointing this out.

Chart 1: Trade credit and prepayment in 26 transition economies



Source: BEEPS 2002

A cursory examination of Chart 1 shows that average prepayment levels are higher in less reform oriented and poorer transition economies, such as most countries in the Commonwealth of Independent States (CIS) whereas prepayment is lower in the more advanced and richer eastern European countries. The relationship with reform and per capita income is apparently weaker for trade credit, which is high for instance in Albania, Belarus and Romania despite these countries' less advanced stage of reform and relatively low level of income. This is not unexpected given the argument made above on the problem of involuntary trade credit.[5] Trade credit is also very low in some advanced reform countries such as Croatia, Czech Republic and Slovenia. Henceforth we concentrate on prepayment as our preferred measure of (dis)trust.

[5] More formal correlation analysis bears this out. For reasons of space, we have dropped trade credit from all correlations and regressions presented below. However, as a rule, correlations with factors generally found to be associated with trust both at the country and at the firm level are less strong for trade credit than for prepayment. Results are available upon request.

4. Variations in trust at the country level

We now examine the country-level variation in prepayment more closely. Table 1 reports simple cross country correlations of prepayment with income per capita, the quality of governance and the level of economic reform.[6] There is a growing body of evidence that suggests that wealthier and better governed economies are also higher trust societies (Putnam 1993, Fukuyama 1995, Knack and Keefer 1997, Zak and Knack 2001, Rose-Ackerman 2001). We also present correlations with the average score on "generalised trust" taken from the World Values Survey 1995.[7]

Table 1 Prepayment as a measure of trust

Simple cross-country correlation coefficients

	Income per capita in US$ (PPP), 2002	Average WB score of governance, 2002	Average EBRD transition indicator score, 2002	World Value Survey measure of trust, 1995
Average Prepayment as a % of sales	-0.54	-0.69	-0.70	0.37

Note: Data for 26 transition economies, excluding Turkmenistan. Data for World Value Survey is available for only 21 countries, excluding Bosnia and Herzegovina, Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan and Uzbekistan.

The World Bank score for governance is the average of scores for i) voice and accountability, ii) political stability and violence, iii) government effectiveness, iv) regulatory burden, v) rule of law, vi) graft (corruption). See www.worldbank.org/governance.

The EBRD index is the average score for the following nine dimensions: 1) price liberalisation, 2) trade and forex liberalisation, 3) small scale privatisation, 4) large scale privatisation, 5) enterprise restructuring and governance, 6) competition policy, 7) banking reform, 8) non-bank financial institutions, 9) infrastructure. See EBRD (2002) for details.

We use GDP per capita to measure income, the World Bank's governance indicators to measure good governance, and the EBRD transition indicators to measure market reform. The World Bank governance indicators give scores for voice and accountability, political stability and violence, government effectiveness,

[6] Although the BEEPS has been conducted on representative samples of firms in each country, the samples are nonetheless not large enough to exclude the possibility of bias resulting from different sample compositions in these cross-country correlations. We are able to correct for enterprise characteristics in the firm-level regressions in the next section. The results presented here are robust to such corrections.

[7] The World Value Survey indicator of trust is the share of the surveyed population in each country, who say that most people can be trusted. See Raiser (2003) for details.

regulatory burden, rule of law, and graft. We take the unweighted average across these dimensions as our indicator of governance. The EBRD transition indicators give scores which range from 1 (little reform) to 4+ (high level of reform) for small and large scale privatisation, price liberalisation, trade and foreign exchange controls, governance and enterprise restructuring, competition policy, infrastructure (telecommunications, railways, electricity, roads, water), banking reform and interest rate liberalisation, and securities markets and non-bank financial institutions. For a "+", we add 0.33 and subtract the same for a "-" from the given score. Again, we use the unweighted average of these dimensions as our indicator of reform.

Overall, the correlations between prepayment and these three measures of trust are quite strong: prepayments are significantly lower in countries that are richer, better governed, and more advanced in economic reform.[9] The correlations with generalised trust have the wrong sign and are only weakly significant, confirming other findings casting doubt on the usefulness of the WVS data on generalised trust for the transition economies (Raiser, 2003).

Table 2 presents further correlations of prepayment with two sets of variables. The first measures the quality of the rule of law and the courts, using both measures taken from the BEEPS and measures external to the survey. In the BEEPS, enterprise managers were asked to rate the quality of the courts along several dimensions, which we have summarised in three categories: i) fairness and honesty, ii) speed and affordability and iii) ability to enforce decisions.[10] We would expect all three dimensions to be negatively correlated with prepayment. In addition to these three variables, we also use the EBRD indicators on the extensiveness of reforms of commercial law (covering pledge law, insolvency, and civil and commercial codes) the World Bank indicator on the rule of law (the sub-component of the governance scores used above most likely to affect payment transactions), and a dummy variable

[9] The correlations with each of the sub-indicators of the World Bank governance indicator are also positive but not presented here for reasons of space.

[10] This was done through simple averaging of replies to separate questions on fairness/impartiality and honesty/uncorruptability and speed and affordability. The reason for averaging was that responses were highly correlated across these respective dimensions and hence aggregation reduces the number of factors to be interpreted. All results carry through when the single indicators are used. Ability to enforce is measured with one question only.

reflecting the extent to which the existing body of commercial law was “transplanted” into a receptive environment or not. Most transition economies follow German civil law or French civil law, but in most CIS countries this legal tradition was imposed under Soviet rule (and in Southeastern Europe under the Ottomans) with little opportunity to be adapted to local legal traditions (see Pistor et al, 2000). We expect prepayment to be higher in countries less advanced in legal reform and in countries that are “unreceptive legal transplants”.

Table 2 Determinants of Prepayment:
Legal system and networks

Simple cross-country correlation coefficient

Panel A: Legal System

Average Prepayment as % of sales	EBRD legal reform index	Transplant effect	Courts fair/honest	Courts quick/ affordable	Courts able to enforce	WB rule of law score
	-0.55	-0.72	-0.46	0.36	0.11	-0.76

Pane B: Networks

(Importance of following as sources of information on new customers/suppliers)

Average Prepayment as % of sales	Family or friends	Former employees or managers	Existing suppliers/ customers	Govt agencies	Business assoc.	Public sources/ trade firms	Membership in business assoc.
	-0.32	0.38	-0.32	0.67	-0.19	-0.30	-0.49

Notes:
EBRD's legal reform index is the score for the effectiveness of commercial law (including pledge, insolvency, civil and commercial codes).

Transplant effect is a dummy scored "1" for all countries, which are "receptive" transplants for the reform of commercial law – see Pistor et al. (2000) for details.

The scores for courts are the average scores (from 1-6) per country in a question in the BEEPS asking firms to rate the quality of the court system in resolving disputes. The categories "fair and impartial" and "honest and uncorrupted" are closely related and averaged for the purpose of this paper. The same is the case for the categories "guides" and "affordable".

The WB rule of law indicator comes from the World Bank governance indicators (see Table 1).

The scores on networks are all average country replies to a question in the BEEPS asking firms about the importance (1-6) of different sources of information on new customers/suppliers. The categories friends and family and employees and managers were aggregated and averaged as the answers to these questions were closely correlated. The last column is the correlation with the average rate of membership per in a business association in each country.

Table 2 (Panel A) confirms that third party enforcement is associated with trust at the country level. The World Bank rule of law indicator, the EBRD's rating on progress in legal transition, as well as the legal transplant dummy have highly negative correlations with prepayment. Moreover, it appears that enterprises' perceptions of the quality of the courts have a strong association with trust at the country level, although different dimensions of the quality of the courts have opposite effects. Average firm perceptions on the fairness and honesty of courts are negatively correlated with prepayment – in other words, interfirm trust is higher where courts are perceived to be more honest – while perceptions of the court as quick and affordable are positive associated with more prepayment. Perceptions regarding the courts' ability to enforce are not significantly correlated with prepayment. On this evidence, it is the corruptibility of the courts that seems to be a major constraint for the development of trust between businesses, rather than the cost of using the courts or the courts' ability to enforce decisions. We shall test this proposition more rigorously in the regressions below.

The second set of variables we examine at the country level is the use of different social and business networks to obtain information on new customers and suppliers. Firms may be more or less inclined to trust their business partners depending on the source of information about them. The measure of business networks follows Johnson et al. (1999). Enterprises are asked to rank the following sources of information from 1 (not important) to 5 (extremely important): family; friends; former employees who now work for a potential supplier/customer; senior manager in firm previously employed by potential supplier/customer; existing suppliers/customers; government agencies; business associations and chambers of commerce; and trade fairs and other public sources of information. Because replies were highly correlated across the first and second, and third and fourth categories, we have averaged them into friends and family (or social networks), workers and managers (or insider networks). In addition, the BEEPS asked firms whether they are themselves members of a business association.

Panel B of Table 2 shows that trust at the country level is positively associated with reliance on social networks, and networks of existing business contacts for information on new customers and suppliers, but negatively associated with reliance on insider networks or government agencies. Prepayment is significantly lower in countries with a high incidence of membership in business associations. These findings suggest that it may be important to distinguish between different types of networks, when examining their effects on trust and contracting arrangements between firms. In particular, networks based on the personal contacts of enterprise insiders or on contacts with government seem of little help in building trust, whereas business and social networks would appear to be more effective.

5. Determinants of trust: firm level vs. country level effects

We now turn from the country-level correlations to an analysis at the firm level. Using the country-level variations together with firm responses on variables such as the quality of the courts or the reliance on different networks, we are able to distinguish country from firm level effects. In other words, we can test whether a firm's confidence in the courts over and above the average level of confidence in the legal system in a particular country explains the demand for prepayment. Similarly, we can test whether firms are more likely to trust business partners if the average reliance on social and business networks in a country is high, or whether trust at the firm level is more closely associated with the firm's own reliance on such networks.

In addition, the firm level analysis allows us to control for a number of other important factors. We control for the role of relational contracting by including a dummy variable measuring whether the firm has changed its main customer over the past three years. The less churning in the customer base, the more likely trust will develop. We also control for the share of the three largest customers in total sales. Firms whose sales are more concentrated may be less inclined to ask for prepayment, for fear of losing an important customer. We also include controls for the types of customers a firm sells to (parent or subsidiary, multinational corporation (MNC), state owned, large domestic private – with small domestic private the control group). We further characterise the contracting environment at the firm level by including dummy variables measuring whether a firm has experienced payment delays in the past, and whether it has used protection or security payments to a private organisation to protect its property rights. Experience of payment delays and use of alternative third party enforcement may signal low levels trust and we would expect a positive association with prepayment. We also include the extent to which a firm relies on internal sources for working capital finance as a measure of capital market constraints. Other controls include the firm's ownership, sector of operation, and size.

Our estimated model takes the form of:

$$Y_{ijk} = a_{ijk} + b_i \sum(X_i) + b_j \sum (X_j) + c_k \sum (X_k) + e_{ijk},$$

where Y is the share of prepayment in total sales, i, j, k are firm, country and sector subscripts and X_i, X_j, X_k stand for exogenous variables that vary across firms, countries or sectors respectively. The model abstracts from any interaction effects between firm-level and country or sector-level variables. The error term, e_{ijk}, is assumed to be well behaved with standard properties.

Table 3 reports the results of a multivariate regression of prepayment against all the firm, country and sector variables. It is organised in three panels. The first panel reports results for variables measuring the quality of third party enforcement (legal system). The second panel reports results for the importance of different networks. The third panel reports the coefficients on the most important controls. Sectoral, size and ownership controls are not reported. Firm-level results are reported in bold against a white background, while country-level results are reported in italics against a grey background.

Table 3 Regression results

Dependent variable: prepayment as a % of sales

Independent variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
			Legal system			
Court fair and honest	**-0.38** -0.75	**0.25** 0.36	**-0.67** -0.93	**-0.08** -0.22	-	-
Court fair and honest	**-18.4***** -6.67	**-20.15***** -4.63	**-18.34***** -4.97	**-23.52***** -12.16	-	-
Court quick & affordable	**-0.09** -0.16	**-0.57** -0.75	**0.26** 0.33	**-0.06** -0.14	-	-
Court quick & affordable	**12.45***** 2.98	**14.09**** 2.17	**13.27**** 2.35	**18.71***** 8.89	-	-
Court can enforce	**0.69** 1.64	**2.10***** 3.49	**-0.16** -0.27	**0.32** 0.94	-	-
Court can enforce	**9.31***** 3.50	**3.47** 0.90	**9.65**** 2.46	**10.50***** 6.99	-	-
Transplant Effect	**-7.79***** -3.13	**-11.32***** -3.22	**-5.19** -1.36	**-8.30***** -6.10	-	-
EBRD legal extensiveness	**-7.62***** -4.54	**-4.75** -1.60	**-8.27***** -3.98	**-8.58***** -6.40	-	-
			Networks			
Friends & family	**-1.02**** -1.99	**-0.46** -0.61	**-1.25*** -1.84	-	**-1.03**** -2.59	-
Friends & family	**-25.09***** -8.25	**-28.73***** -6.34	**-22.03***** -5.17	-	**-16.83***** -9.34	-
Employees/ managers	**0.29** 0.54	**1.23** 1.61	**-0.39** 0.53	-	**0.49** 1.14	-
Employees/ Managers	**0.09** 0.02	**6.95** 0.91	**-1.09** -0.16	-	**26.11***** 7.37	-
Customers/ suppliers	**0.20** 0.45	**-0.15** 0.24	**0.50** 0.83	-	**0.17** 0.49	-
Customers/ suppliers	**-15.02***** -3.12	**-8.19** -1.03	**-18.68***** -2.95	-	**-19.62***** -6.50	-
Government agencies	**-0.24** -0.48	**-0.07** -0.10	**-0.58** -0.82	-	**-0.75*** -1.85	-
Government agencies	**18.83***** 4.36	**11.02*** 1.80	**24.14***** 3.87	-	**34.78***** 12.33	-
Business associations	**-0.19** -0.39	**-0.15** -0.21	**0.03** 0.04	-	**0.23** 0.58	-
Business associations	**2.34** 0.39	**22.31***** 2.92	**-10.96** -1.18	-	**18.07***** -5.24	-
Trade fairs/ others	**0.28** 0.66	**-0.41** -0.67	**0.71** 1.21	-	**-0.003** -0.01	-
Trade fairs/ others	**18.42***** 4.32	**1.31** 0.21	**28.74***** 4.75	-	**5.35**** 2.29	-
Membership in Business ass.	**-18.01***** -3.09	**2.31** 0.24	**-29.85***** -4.02	-	**-13.88***** -4.70	-

			Controls			
Experienced payment delay	**-1.47**	**0.61**	**-1.91**	**-**	**-**	**-3.04*****
	-1.21	0.25	-1.31			-2.81
Security payments	**0.04**	**0.87**	**-0.37**	**-**	**-**	**2.36****
	0.04	0.55	-0.26			2.42
Protection payments	**-0.73**	**-0.41**	**-1.24**	**-**	**-**	**-2.44****
	-0.58	-0.23	-0.70			-2.13
Share of sales to 3 largest customers	**-0.98**	**0.72**	**-1.56**	**-**	**-**	**-4.65*****
	-0.92	0.45	-1.11			-4.65
Change of major cust., last 3 years	**2.15***	**2.12**	**2.16**	**-**	**-**	**4.31*****
	1.89	1.36	1.32			3.93
Sales to government	**-0.05****	**-0.05**	**-0.05**	**-**	**-**	**0.10*****
	-2.19	-1.46	-1.49			5.05
Sales to MNC's	**-0.03**	**-0.002**	**-0.08***	**-**	**-**	**-0.02**
	-1.10	-0.06	-1.71			-0.69
Sales to parent/ Subsidiary	**-0.001**	**0.01**	**-0.001**	**-**	**-**	**-0.05****
	-0.06	0.30	-0.05			-2.35
Sales to large domestic com.	**0.03**	**0.02**	**0.04**	**-**	**-**	**0.01**
	1.52	0.71	1.51)			0.62
Working cap. internal funds	**0.02**	**-0.004**	**0.04**	**-**	**-**	**0.02**
	1.22	-0.18	1.61			1.55
Working cap. internal funds	**0.66*****	**0.18**	**1.08*****	**-**	**-**	**1.05*****
	4.28	0.92	4.38			11.83
R-squared	0.28	0.28	0.30	0.20	0.20	0.07
No. obs.	3297	1356	1941	4825	5226	4722
Sector, ownership, size dummies	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Coefficients are in bold, t-statistics underneath in normal font. *=10%, **=5%, ***=1% significance levels.
All estimations reported using White's heteroscedasticity-corrected standard errors.
Variable names in italics on a grey background refer to country average values. For details on the construction of independent variables, see text.
See Annex 1 for a detailed description of the dependent and independent variables.

Column 1 carries our preferred specification. In panel one, we include the EBRD's legal transition indicator and the transplant dummy as external survey measures of the quality of the legal system. These two variables are highly correlated with other external variables, such as the average EBRD transition indicators, and the World Bank average governance indicators, or the specific World Bank rule of law indicator. Results are unaffected by the choice of other external measures of the quality of the legal system. We add country-level averages of firm perceptions of the fairness/honesty, speed/affordability, and enforcement capacity of courts, as well as the firm-level perceptions themselves. In the second panel, we include country-level and firm-level scores for the different network variables. In the third panel, we include the following controls: experience of payment delays, use of security and protection payments, share of sales to the three largest customers, changes in the firm's main customer, share of sales to different types of customers, and use of internal funds for working capital finance. The latter variable is included both as a firm-level and country-level effect. Even when a firm is not currently credit constrained, the fact that most other firms in a country are may induce demands for prepayment, as it might reflect uncertainty over whether credit markets might be successfully tapped in future.

The main result of the paper comes through very clearly from the results in column 1. Country-level effects generally dominate firm level effects in explaining variation in the level of prepayment. Starting with panel 1, the EBRD's legal reform indicator and the transplant dummy are both negative and highly significant, as expected. A one notch increase in the legal reform index (out of 4), for instance, reduces the share of prepayments in sales by around 7-8 per cent according to these estimates. The effect of being a "receptive" legal transplant is of the same magnitude. The country-level measures of fairness/honesty and speed/affordability of the courts are also highly significant, and retain their opposing signs already found in the country-level correlations. The size of the country effects are very large – for example, a one notch increase in the perceived average fairness of the courts reduces average prepayment in a country by 20 percentage points of sales. The difference between the highest and lowest country average in our sample is around 0.7, accounting for a 15 point difference in the prepayment ratio. Higher scores on the enforcement capacity of courts at the country level are now also significantly positively associated with prepayment, in contradiction to what one might have expected. The firm-level scores on any of the three dimensions do not enter significantly into the regressions. It seems therefore that firms' propensity to demand prepayment is more a function of the general country-wide perception of how well the courts function rather than of individual firm perceptions. Another way of interpreting our results is to say that within-country variation of firm perceptions of the quality of the courts is noisy and may reflect other factors, such as managers' optimism, that may not be related to prepayment demands.

Another important result to retain from this regression is the fact that the fairness and honesty of the courts comes out consistently as the dimension of the courts' quality that is systematically associated with higher trust at the firm level. The efficiency of the legal system has the opposite effect to what one would have expected. It is possible that this result is driven by the fact that firms in less advanced transition economies tend to use the courts less than firms in advanced transition economies.[11] Firms that use the courts are more likely to experience frustration with the time it takes to go the full legal route (indeed this is true for developed market economies as well). Nonetheless, they are willing to use the courts as a last resort and thus demand less prepayment. In columns 2 and 3, we re-estimate the same model splitting the sample into firms that have used the courts (column 2) and those that have not (column 3). However, the positive impact of the efficiency (speed/affordability and enforcement) of courts on prepayment demands remains. This does not suggest that reforms aimed at improving the efficiency of the court system are not important in their own right, but rather that what discourages firms from using the courts and adjusting their behaviour accordingly is the fairness and uncorruptability of courts.

The results in panel 2 of column 1 also confirm the prominence of country level over firm level effects. Reliance on networks based around family and friends reduces prepayment (increases trust) both at the firm and at the country level. The same is true at the country level for business networks (information from existing clients and suppliers). The impact of insider networks (workers and managers) is not significant among firms that have used the courts, while reliance on government networks retains its strong positive association with prepayment at the country level, already found in Table 2. At the country level, reliance on public sources of information such as trade fairs also seems to be associated with higher prepayment. All these effects are quantitatively large. For instance, the difference between the

[11] A simple probit analysis of use of the courts as a plaintiff against the average EBRD transition indicator returns a highly significant positive coefficient on reform (coefficient of 0.17, with a z-stat of 10.37, significant at 1 per cent level).

highest (Yugoslavia at 2.5) and the lowest (Azerbaijan at 1.6) average reliance on family and friends networks would account for a full 22 point difference in prepayment. Uzbekistan's average score for reliance on government networks is 2.7, that of Slovenia is 1.6 – accounting for a roughly 20 point difference in the share of prepayments in sales.

Our results provide an interesting qualification to the results of Johnson et al. (1999). These authors found that an enterprise's willingness to extend trade credit to a customer increased if the firm had received information on this customer from any of the different sources listed above, with no major difference across categories of networks. The results of our regressions suggest that the type of network matters. However, we do not have data on specific business relationships between a firm and one particular customer. All we can say is that firms which tend to rely more on social and business networks as sources of information are more likely to trust their customers than firms which tend to rely more on government and insider based networks.

Finally, our estimations provide somewhat contradictory results with respect to the role of business associations. Reliance on business associations as a main source of information on potential new customers/suppliers is not generally associated strongly with prepayment at either the firm or the country level (except for the subsample of court users, where the association is positive – see Model 2). However, membership in a business association tends to increase prepayments at the firm level and decrease prepayment at the country level. The firm-level result is in contradiction with Frye (2003), who found a strong positive association among Russian firms between membership in business associations, a propensity to provide trade credit, and investment in fixed capital. The country-level effect is much larger, however, and suggests that when a sufficiently large proportion of firms are members in business associations, this has positive externalities on all other firms and reduces the average level of prepayment in this country.

The coefficients on the control variables reported in the third panel largely conform with prior expectations. Prepayment is higher in firms that have had a change in major customer over the past three years, and lower in firms that have highly concentrated sales. Both variables are only marginally significant however. In contrast to Johnson et al. (1999) and Woodruff (2002) our sample is not too well suited for investigating the importance of relational contracting or controlling for technological effects on contracts, such as asset specificity. The experience of payment delays and the use of security and protection payments show no significant association with prepayment, nor does the type of customer a firm mainly sells to matter much. Finally, as expected credit market constraints, measured as a function of use of internal funds for working capital finance, are associated with higher prepayment demands, and again it is the country–level effect that seems to dominate. The difference between an economy with no credit constraints and one with no credit market would account for around 66 points difference in prepayment.

A look at the R-square of the regressions shows that overall we are able to explain a bit more than one quarter of the variation in prepayment. This may seem disappointing, given the battery of controls, but for a large firm-level cross-section analysis low R-square values are not unusual. The number of observations reveals that we capture less than 60 per cent of the total sample. We therefore caution the reader that sample selection bias may be a problem in our regressions. As one test for robustness, we include the three blocks of variables in panels 1, 2 and 3 one at a time, always including all sector, size and ownership controls. For panel one, this increases the numbers of observations to 4825. As shown in Model 4 the results for the legal variables are unaffected. For panel two, the sample increases to 5226 observations (Model 5). We now find a significant positive association between reliance on insider networks and the level of prepayment at the country level. All other results hold. The variables in panel 3 generally achieve higher significance when included on their own and the sample increases to 4722 observations (column 7). The main results on the importance of relational contracting and on the role of credit market constraints come through unaffected. Note that sales to government are now positively associated with higher prepayment, confirming the finding that business relations based around or on government agencies tend to be characterised by lower trust.

6. Conclusions

Using data from a large survey of firms across 26 transition economies, this paper has looked at the extent of trust in business relationships by measuring the level of prepayment demanded by suppliers in very different contracting environments. Prepayment is a robust measure of trust that is closely correlated at the country level with characteristics such as higher income per capita, good governance and reform, which we tend to associate with higher levels of trust.

We have investigated a range of potential determinants of trust. We have found that, in line with the results of earlier studies, trust among businesses is higher where confidence in third party enforcement through the legal system is higher. However, we also found that the fairness and honesty of the courts was a more important determinant of trust than their efficiency or ability to enforce decisions. In addition, we investigated the role of different types of business networks and found that these have a varying impact on the degree of trust between enterprises. It appears that networks based around family and friends as well as membership in business associations may help to build trust, whereas the opposite result was obtained for networks based around enterprise insiders and government agencies.

Our results suggest that, far from destroying social capital, reforms may help to build it. The state can lead by example if its officials act in honest ways. Just why the courts' fairness and honesty is a more important determinant of trust than the courts' speed and affordability or their ability to enforce decisions remains somewhat unclear. As Glaeser, Scheinkman and Shleifer (2002) point out, when justice is subverted by powerful economic interest groups, other businesses tend to turn away from the justice system, with negative consequences for the whole economy. Hellman and Kaufman (2002) provide a preliminary investigation of the determinants of enterprise perceptions of the quality of the courts in the BEEPS, taking into account the role of interest groups and capture. The results in this paper suggest that this is a fruitful avenue for further work.

Our analysis also reveals an interesting dichotomy between measures of trust obtained from business surveys and more conventional measures of trust, such as contained in the World Values Survey. As shown by Raiser (2003), the transition economies stand out among other economies around the world for the lack of correlation between measures of income and the level of generalised trust. There is further evidence in this paper that the WVS data on generalised trust may not be a good representation of the existing moral resources in the business sector of transition economies.

Finally, the paper shows that enterprises use different types of networks to obtain information on business partners. These networks have strikingly different effects on trust, and their importance varies significantly across countries. We have not so far investigated further the precise properties of these different networks, in terms of the characteristics of firms that they represent, or the association with other aspects of the business environment. As shown in the collection of papers in Grabher and Stark (1998), transition has led to the emergence of different types of business networks, some open and competitive, others closed and protective. Drawing the link between these findings and those in our paper on the different impact of different types of networks on trust among firms remains a task for future research.

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Annex 1: Variables Definition

DEPENDENT VARIABLES	
Prepayment	Percent of firms' sales that is pre-paid (percentage of total sales for which firms are paid in advance of delivery)
Trade credit	Percent of firms' sales that is sold on credit (percentage of total sales which firms deliver on promise of payment at later date)
INDEPENDENT VARIABLES	
Legal system variables	
Court fair and honest	How often do firms associate this description with the court system in resolving disputes? (1=Never, 6=Always)
Court quick & affordable	How often do firms associate this description with the court system in resolving disputes? (1=Never, 6=Always)
Court can enforce [its decisions]	How often do firms associate this description with the court system in resolving disputes? (1=Never, 6=Always)
Transplant Effect	Dummy variable reflecting the extent to which the existing body of commercial law was "transplanted" into a receptive environment.
EBRD legal extensiveness	Survey-based assessment of the extensiveness of laws on the books. For commercial law, includes impact of pledge, bankruptcy and company law on commercial transactions. For financial markets law, assess whether banking and capital market legal rules approach minimal international standards.
Networks variables	
Friends & family	How important is this group as a potential source of information about new suppliers? (1=Not important, 6=Extremely important)
Employees/managers	How important is this group as a potential source of information about new suppliers? (1=Not important, 6=Extremely important)
Customers/suppliers	How important is this group as a potential source of information about new suppliers? (1=Not important, 6=Extremely important)

Government agencies	How important is this group as a potential source of information about new suppliers? (1=Not important, 6=Extremely important)
Business associations	How important is this group as a potential source of information about new suppliers? (1=Not important, 6=Extremely important)
Trade fairs/others	How important is this group as a potential source of information about new suppliers? (1=Not important, 6=Extremely important)
Membership in Business association	Dummy variable for firm membership in a business association or chamber of commerce
Control variables	
Experienced payment delay	Dummy variable for whether firms have ever had to resolve an overdue payment
Security payments	Dummy variable for whether firm makes security payments
Protection payments	Dummy variable for whether firm makes protection payments
Share of sales to 3 largest customers	Percentage of sales in last 12 months to 3 largest customers
Change of major cust., last 3 years	Dummy variable for whether firm has changed its major customer in last 3 years
Sales to government	Percentage of domestic sales to government
Sales to MNC's	Percentage of domestic sales to multinational companies located in host country
Sales to parent/Subsidiary	Percentage of domestic sales to parent company or affiliated subsidiaries
Sales to large domestic com.	Percentage of domestic sales to large (250+ employees) domestic firms
Working cap. internal funds	Percentage of firm's working capital and new fixed investment financed from internal funds or retained earnings; a proxy for capital market constraints

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