TRUST AND THE SUCCESSFUL COORDINATION OF SME CO-OPERATION – AN EMPIRICAL STUDY IN SLOVENIA

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ABSTRACT: This paper aims to investigate the role of trust and test the impact of trust on performance in the context of co-operation between small- and medium-sized enterprises (‘SMEs’) in a transition country. Based on a sample of 122 Slovenian SMEs, an analysis based on OLS regression reveals that trust does have a strong impact on performance. We thereby identify trust as a powerful co-ordinating mechanism for SME relationships involving co-operation in transition economies.

Keywords: Co-operation; Trust; Performance; Transition economy; Slovenia

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JEL classification: L25; O40

1. INTRODUCTION

In society, trust was identified as a strong co-ordinative power long ago. However, it was only less than a decade ago when Adler (2001) introduced trust as ‘a third increasingly significant coordination mechanism’ to business research. Among others, Bachmann and Zaheer (2006, 2008) have documented the current importance of trust in the socio-economic context.
We propose investigating the performance contribution of trust in co-operative relationships between SMEs in the context of a transition economy: Slovenia. This focus is chosen for the following reasons. First, SMEs are an especially fruitful empirical field for our research as SMEs have been shown to establish trust-based relationships that focus on long-term success (Fink and Kraus 2007, Fink and Roessl 2007) and cross-border co-operative relationships (Aiginger and Czerny 1998; Huber 2003) with other companies more often than bigger companies.

In addition, SMEs in transition economies have developed a remarkably strong tendency to co-operate (Fink and Kraus 2007). For Slovenian SMEs, co-operation was an attractive strategy to grow since in the years following the collapse of the Socialist Federal Republic of Yugoslavia in 1990 and the resulting foundation of an independent state the Slovenian capital market was dramatically underdeveloped (Bukvic and Bartlett 2003; Pissarides 1999). The strong inclination to co-operate might also be due to the small domestic market of approximately two million inhabitants living in an area of 20,000 square kilometres, which has driven Slovenian SMEs to develop their cross-border co-operation. Even in communist times Slovenian SMEs maintained a tight network across the national border which was successfully re-established during the transition process (Fink and Kraus 2007).

Slovenia is in a late stage of transition from a planned economy to a free-market economy, a position that is reflected by its EU membership and integration into the European Monetary Union. Concerning the legal environment in Slovenia firms still face elevated uncertainties (EBRD 2008). Pertaining to the economic and legal situation, the late stage of transition is characterised by reduced macroeconomic uncertainty, lower inflation, the development of a legal framework for private businesses, and infrastructural reform (Mandel and Tomsik 2008; Svetlicic and Sicherl 2006). This changes the structure of SMEs in a transition economy from firms mostly engaged in trade to firms active in services and such industries that require a bigger share of fixed investments. This also implies moving the profit orientation of SMEs from the short to the long term (Smallbone 1999). As regards strategy, SMEs in the advanced stages of transition are increasingly starting to export, a strategy often supported by a competitive strategy based on low prices. However, the growing competition in world markets is increasing pressure on SMEs that might be counteracted by engaging in forms of co-operation (Fink et al. 2009). In short, the relative macroeconomic and legal situation is more and more enabling SMEs to engage in long-term strategies such as co-operation. Hence, the question for SMEs in countries in a late stage of transition is how co-operative strategies should be designed so they can contribute to business performance.

In the text below we present an argument for the special relevance of trust-based coordination in interfirm co-operative relationships in transition economies. This argument is based on the observation that behavioural uncertainty is a major threat to the success of co-operative relationships, especially if these arrangements take place in a context characterised by radical legal and institutional change (Section 2). Thus, we derive the hypothesis that the ability of co-operating companies to handle this uncertainty
and co-ordinate behaviour within the co-operation is critical to the participating companies’ success (Section 3). After presenting the empirical methods applied (Section 4), we empirically show that a special form of trust can serve as a co-ordination power that advances entrepreneurial success in such co-operative relationships (Section 5). The text closes with a discussion of the findings, their implications and limitations (Section 6).

2. THE CO-ORDINATIVE POWER OF TRUST

According to Ring and Van de Ven (1992), as well as Osterloh and Weibel (2000), trust is defined as the reaction of an actor (meaning an individual, not an organisation) to subjective uncertainty regarding the behaviour of the interaction partner. The promised behaviour is expected and other alternatives for action by the co-operating partner are disregarded. In order to comprehend the co-ordinating power of trust, the distinction between instrumental and maxim-based trust must be established. Instrumental trust relates to the exogenous behavioural compliance of co-operation partners with the explicit and implicit regulations existing within the co-operation. Actors who are instrumentally trusted are accountable to those trusting them. In contrast, maxim-based trust draws its co-ordinating power from the behaviour-restricting effect of the actors’ self-commitment to the co-operation. Actors who are trusted based on a maxim are accountable to themselves.

It makes a substantial difference whether one can rely on a transaction partner to show certain behaviour due to a reduction in his behavioural portfolio by control and sanction (instrumental trust) or because this behaviour has been morally predefined by the establishment of maxim-based trust between the transaction partners (Fink, 2005; Osterloh and Weibel 2000; Roessl 1996). First, as complexity in the transaction relationship increases, the ability to translate expectations into well-defined and easily monitored agreements declines (Roessl 1996). Accordingly, the importance of maxim-based trust as a co-ordinating mechanism rises (Eberl 2004). Second, the evolution processes of instrumental and maxim-based trust have completely different points of departure: In the former, an actor tries to limit his transaction partner’s behavioural portfolio in order to control his actions, while the latter rests on the co-operation partner’s self-commitment to the co-operation, which leaves the partners full flexibility. As maxim-based trust cannot be instrumentalised but generates a general trust relationship which exists independently of the specific situation, it exhibits greater stability over time (Noorderhaven 1996; Fink 2005).

The emergence of maxim-based trust begins with the actors seeing themselves as self-committed to a co-operative behaviour when dealing with each other. This way of looking at things is primarily based on the co-operation partners’ reputation and can allow the actor to give the co-operation partner a kind of ‘advance’ on trust (Pidduck 2006). This can be experienced as risky by the co-operation partner, such as in the case of a specific investment in shared transnational co-operation. Accepting this kind of risk signals to partner B that partner A views him as self-committed, and partner A is committing
to partner B without the protection of control and sanction opportunities (McLain and Hackman 1999). With this, self-committing actors align their behaviour to the shared goals of the co-operation without external pressure. The co-operative behaviour experienced by the other party justifies and strengthens the maxim-based trust in him and, with this, his own self-attachment to the co-operative behaviour (Rusbult et al. 1998). A maxim-based relationship of trust emerges within a self-strengthening process.

The process leads to a situation in which the co-operation partners mutually submit to each other and, in so doing, they reduce their counterpart’s inclination to behave opportunistically. Value in a maxim-based trust relationship is thus created and neither of the participants wishes to put this value in jeopardy (Bohnet and Zeckhauser 2004). Even though some latitude for opportunistic behaviour still exists, restricting the participants’ inclination to behave opportunistically reduces behavioural uncertainty, thereby partly absorbing the complexity of the transaction relationship (Fink 2005; Osterloh and Weibel 2000; Roessl 1994).

3. THE SUCCESS CONTRIBUTION OF MAXIM-BASED TRUST – DEVELOPMENT OF THE HYPOTHESIS

By establishing maxim-based trust, the complexity of the transaction relationship and the risk of betrayal can be partly absorbed. This provides a key to double contingency and from the very outset prevents the development of social dilemmas such as the prisoner’s dilemma. In this way, maxim-based trust enables transaction relationships which would otherwise not take place due to high behavioural uncertainty.

The prototypical transaction relationship, which can only be realised by interaction partners who place maxim-based trust in each another, is heterarchic co-operation. On a structural level, heterarchic co-operative relationships can be defined as voluntary and organised relationships between autonomous and equal partners who mutually adjust their behaviour to each other, thus bringing about the possibility of a one-sided defection. At the interpersonal level, such relationships are characterised by high communication quality, stability and resilience, transparency and honesty as well as relationship intensity (Roessl 1994; De Búrca, Fynes and Roche 2004).

At the individual level, maxim-based trust reveals itself as self-commitment. At the level of the transaction relationship, maxim-based trust becomes manifest in a heterarchic co-operative relationship. Thus, if two actors who are ready to commit themselves to each other meet and enter into a heterarchic co-operative relationship we can assume that a maxim-based trust relationship has been established between them (Fink 2005).

Once they possess the competence to build up and maintain such complex co-operative relationships and are able to handle behavioural uncertainty, firms may capitalise on additional opportunities which their competitors have to forego. Profits rise when only a few firms are capable of performing a transaction due to their control over rare, in-
imitable resources (e.g. Barney 1986, 1991). In fact, firms will then be able to apply this highly sophisticated and efficient co-ordination power to realise profitable transaction relationships in risky contexts. In their seminal paper, Mayer, Davis and Schoorman (1995) argued for the decisive role of perceived trustworthiness for the successful development of trust-based co-operative relationships. Perceived trustworthiness is one of the keys to the development of maxim-based trust. The competitive advantage of being able to evolve and manage relationships of co-operation co-ordinated by maxim-based trust has a positive effect on the focal firm’s business performance. We formulate the following hypothesis:

**H1:** The more behavioural co-ordination relies on maxim-based trust in a co-operative relationship in a transition context, the better the performance of the focal participating company will be.

4. METHODS

4.1 Sampling frame and response rates

The quantitative part of this paper is based on a survey carried out in Slovenia in July 2006. A total of 4,000 SMEs (i.e. with up to 249 employees) were selected from the IPIS database as a stratified random sample. The questionnaire was addressed to the owner/manager of each SME since – in light of the topic of the survey – knowledgeable informants were not available below that hierarchical level.

The survey yielded a total of 199 SMEs, with 150 indicating that they participate in co-operative activities, which serve as the basis for our analyses in this article. This represents a response rate of 5.0%. A check based on telephone interviews with a random sample of 45 non-respondents showed no systematic bias. The dataset was also tested for non-response biases employing wave (Armstrong & Overton, 1977) and archival analyses (Rogelberg and Stanton, 2007). In addition, the data were examined for potential common method bias (Podsakoff et al. 2003) by employing Harman’s (1967) *post hoc* one-factor test. None of the tests produced results that imply limitations in this dataset.

4.2 Variables and measures

We used four-point scales (‘completely agree’, ‘inclined to agree’, ‘inclined to disagree’, and ‘completely disagree’) to measure all items. Table 1 shows the measurement of maxim-based trust and its components. Our measurement of entrepreneurial performance is based on an adaption of the formal structure of the balanced scorecard (Kaplan and Norton 1996; Roessl et al. 2008). In this way, we can ensure integrated coverage of the latent variable ‘performance’ within the framework of our empirical investigation. As the individual performance items were considered to be independent of each another, we calculated a formative index.
### TABLE 1: Measurement Model

<table>
<thead>
<tr>
<th>Variables</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>reputation</td>
<td>Before establishing the co-operative relationship, I had heard good things about my co-operation partner.</td>
</tr>
<tr>
<td>familiarity</td>
<td>I have co-operated with my present co-operation partner in the past.</td>
</tr>
<tr>
<td>perceived behavioural history</td>
<td>Before establishing the co-operative relationship, I gathered information about my co-operation partner.</td>
</tr>
<tr>
<td>personal relationship</td>
<td>I also meet my co-operation partner in my private life.</td>
</tr>
<tr>
<td>no short-term perspective</td>
<td>With the co-operative relationship, I aim to realise noticeable success as fast as possible.</td>
</tr>
<tr>
<td>self-restriction</td>
<td>I attune my behaviour to the aims of the co-operative relationship.</td>
</tr>
<tr>
<td>willingness to take a risk</td>
<td>I am willing to take a risk.</td>
</tr>
<tr>
<td>frustration tolerance</td>
<td>I am convinced that I am able to cope with setbacks.</td>
</tr>
<tr>
<td>self-exposure</td>
<td>The co-operation has a strong influence on the success of my company.</td>
</tr>
<tr>
<td>leap of faith</td>
<td>In order to make co-operation work, one has to make a leap of faith with one’s co-operation partner, even though this involves risk.</td>
</tr>
<tr>
<td>organised relationship</td>
<td>My co-operation partners and I talk about the co-operation.</td>
</tr>
<tr>
<td>mutually adjusted behaviour</td>
<td>My co-operation partner and I take joint action in the area of co-operation.</td>
</tr>
<tr>
<td>autonomy</td>
<td>I have remained legally independent within the co-operation arrangement.</td>
</tr>
<tr>
<td>equality</td>
<td>In decisions regarding the co-operative relationship, the opinion of each co-operation partner is equally important.</td>
</tr>
<tr>
<td>possibility of one-sided defection</td>
<td>By behaving opportunistically, I could damage the co-operative relationship.</td>
</tr>
<tr>
<td>voluntariness</td>
<td>I can terminate the co-operative relationship unilaterally at any time.</td>
</tr>
<tr>
<td>communication quality</td>
<td>I can get right to the point when speaking with my co-operation partner.</td>
</tr>
<tr>
<td>resilience</td>
<td>Discussions with my co-operation partner always result in a solution.</td>
</tr>
<tr>
<td>transparency</td>
<td>I know the internal processes in my co-operation partner’s company.</td>
</tr>
<tr>
<td>relationship intensity</td>
<td>Since its establishment, the co-operative relationship has gained intensity.</td>
</tr>
</tbody>
</table>
Since the establishment of the co-operative relationship, the qualifications of my employees have improved.

Since the establishment of the co-operative relationship, fewer employees have left my company.

My customers are always satisfied with my products and services.

Most of my customers are regular customers.

Since the establishment of the co-operative relationship, I have enlarged my market share.

Most of my suppliers are regular suppliers.

Since the establishment of the co-operative relationship, I have boosted my cash flow.

Since the establishment of the co-operative relationship, I have boosted my sales.

Since the establishment of the co-operative relationship, I have boosted my investments.

4.3 Analysis

We employed a linear regression analysis to test our hypothesis. Due to missing data, the sample was reduced to 122 SMEs in the course of the regression analysis. Apart from maxim-based trust, firm size (number of employees) and firm age (years of existence) were inserted as control variables into the regression model as these characteristics can also have an impact on performance. Business performance was used as a dependent variable.

In order to check for multicollinearity in the regression analysis, the variance inflation factor (VIF) was calculated for the individual predictors. All of the values are just over 1 and thus far below critical levels.

5. RESULTS

The means, standard deviations, and correlations of the variables are displayed in Table 2. As regards the correlations between the independent variables, the positive correlation between firm age and firm size meets our expectations, as firms normally grow over time. With regard to the correlations between the independent variables and the dependent variable, maxim-based trust shows by far the highest positive correlation with performance. The negative correlation between firm age and performance may result from the fact that our performance measure, which is based on dynamic indicators, tends to favour younger, more flexible businesses in dynamic markets in comparison to more established, experienced businesses in stable environments.
TABLE 2: Means, standard deviations, and correlations

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>(1) (2) (3) (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) performance</td>
<td>34.02</td>
<td>4.18</td>
<td>1</td>
</tr>
<tr>
<td>(2) firm size</td>
<td>2.26</td>
<td>.92</td>
<td>.032</td>
</tr>
<tr>
<td>(3) firm age</td>
<td>2.48</td>
<td>.77</td>
<td>-.141*</td>
</tr>
<tr>
<td>(4) maxim-based trust</td>
<td>61.09</td>
<td>6.50</td>
<td>.560***</td>
</tr>
</tbody>
</table>

*p>0.1; ** p<0.05; *** p<0.01

TABLE 3: Performance: Control variables and maxim-based trust (n=122)

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firm size</td>
<td>.030</td>
<td>.441</td>
</tr>
<tr>
<td>Firm age</td>
<td>-.100</td>
<td>.523</td>
</tr>
<tr>
<td>Maxim-based trust</td>
<td>.550***</td>
<td>.061</td>
</tr>
<tr>
<td>R²</td>
<td>.323</td>
<td></td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>.306</td>
<td></td>
</tr>
</tbody>
</table>

Standardised regression coefficients are displayed in the table.

The regression model is highly significant (F=18.808; p=0.000) and explains more than 30% of the variance in performance. None of the control variables shows a significant impact on performance (firm size: p=0.702; firm age: p=0.205), while maxim-based trust shows a highly significant positive influence on business performance (p=0.000). This means that our hypothesis (H1) is supported.

6. DISCUSSION, IMPLICATIONS AND LIMITATIONS

In this article, we analysed the impact of a specific quality of trust, namely maxim-based trust, on the business performance of co-operating Slovenian SMEs. Looking at the specific context of transition economies and based on cooperation theory, we argued that maxim-based trust may contribute to the performance of the participating firms (H1). The results of our analyses support this hypothesis.

From that we learn that SME co-operative relationships that can rely on self-committed bridgeheads in each participating firm may develop a special competence in handling behavioural uncertainty. Such relationships may serve as a strong vessel for manoeuvring across the rough waters of transition economies. The dynamic contexts of economies in transition imply particularly high uncertainties, which result in unpredictable payoff matrices and thus the unpredictable behaviour of interaction partners. While neither market forces nor hierarchical governance may reduce this high level of behavioural uncertainties in such economies, maxim-based trust, which rests on the self-commitment of those co-operating, may absorb these uncertainties. In this way it opens the door to
highly complex, challenging and thus potentially profitable relationships, which firms would otherwise have to forgo due to market and organisational failure.

However, such relationships are not easy to establish. First, a firm needs to find a like-minded partner willing to commit to the relationship. Second, relationships that revert to maxim-based trust only grow over time. The development process of maxim-based trust cannot be accelerated with force. Yet our results show there are interventions which could be used to accelerate the development of maxim-based trust – albeit without guaranteed effects – which of course is true of any interventions in the socio-economic world. The development process rests on a long-term strategy aimed at building up a good reputation and ensuring a positively perceived history. In addition, it requires a long-lasting personal relationship with the partner to the co-operation in the course of which one has credibly communicated a willingness to take risks, a sufficient level of frustration tolerance and readiness for self-restriction and self-exposure. Third, a maxim-based trust relationship can only be developed if all co-operation partners make a leap of faith. Such an advance performance (e.g. specific investment) forces an SME to take on a risk that cannot be legitimated before the others have moved. Since in the pre-cooperation period all actors move simultaneously, this dilemma serves as a safeguard mechanism because it avoids instrumentalising maxim-based trust.

Our results show that maxim-based trust is a possible key to enhance firm performance. However, it is not a suitable management tool for short-term intervention but a constant socio-psychological predisposition underlying the entrepreneurs’ decisions and actions. This moves partner assessment into the centre of the discourse on co-operative relationships and relationship management. It is not so much a question of making a partner behave as expected, but finding a partner who shows the expected behaviour because they are committed to it. Self-commitment and trustworthiness thus become high-priority criteria when drawing up a shopping list of potential co-operative partners. Consequently, for those willing to co-operate trust-based communication must be understood as a core resource for being attractive to potential partners.

On a more general level, our results support holistic concepts of inter-firm transactions as proposed by Roessl (1994), Osterloh and Weibel (2000), Adler (2001) and Carson, Madhok and Wu (2006), to name just a few. We show that maxim-based trust is not a hybrid of markets and hierarchies as advocated by Williamson (1991), but a third and especially effective and efficient force for co-ordinative behaviour in situations of high uncertainty. Thus, trust cannot be seen as only reducing transaction costs in a market transaction or within hierarchical organisations. It is the key to the evolution of heterarchic co-operative relationships which are an alternative to, and not a hybrid of, markets and hierarchies. Taking backward induction (von Neumann and Morgenstern 2007) into account, the explanation of co-operative behaviour based on rational choice theory as put forward by Axelrod (1984) fails as long as maxim-based trust and its power to limit the inclination to defect is not integrated into the concept. In light of our empirical results, further research in this field is certainly worthwhile from both a scientific and a practical point of view.
As always, our results must be interpreted in light of the limitations of this study. First, although the survey instrument was tested in a 2004 survey of over 600 Austrian SMEs and the consistency of results with those of the present study indicates reliability, further application in other contexts would be required in order to legitimize the claim of reliability. Second, the low response rate has to be qualified in light of the fact that surveys on SMEs (especially in transition economies) typically produce low response rates. This difficulty is exacerbated when surveys address sensitive issues such as trust in co-operation partners. However, our check for non-response bias as well as a comparison of early, middle and late respondents showed no systematic bias. Third, the one-sided measurement of maxim-based trust is justified by theoretical arguments and therefore does not compromise the empirical results. However, the measure should be subjected to further validation in qualitative as well as quantitative studies using pairs of co-operation partners. Pairing would further increase the reliability of the data, but at the same time it represents a major challenge with regard to the anonymity of the respondents and, consequently, the resulting response rate.

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