9-2012

The Impact of Corruption on Firm Tax Compliance in Transition Economies: Whom Do You Trust?

Anna Alon
Rollins College, aalon@rollins.edu

Amy M. Hageman

Published In

Alon, A., & Hageman, A. M. (2012). The impact of corruption on firm tax compliance in transition economies: Whom do you trust? Journal of Business Ethics, doi: 0.1007/s10551-012-1457-5

The Impact of Corruption on Firm Tax Compliance in Transition Economies: Whom Do You Trust?

ABSTRACT

Tax compliance is an important issue for governments and the public alike. To meet public needs and fund public mandates, firms around the world are expected to comply with tax laws. Factors that are related to organizational (firm) tax compliance have not been sufficiently examined in the literature. Due to the increasing global influence of transition economies, factors associated with firm tax compliance in transition economies are particularly of interest. Based on a sample of over 5,000 firms from 22 former Soviet Bloc transition economies, we find that higher levels of corruption and higher levels of *particularized trust* (reliance on friends and family) are associated with lower levels of tax compliance. Interestingly, we also find that the negative relationship between corruption and tax compliance is weakened in situations of higher *generalized trust* (trust in strangers). Overall, our study's results suggest that institutional factors play an important role and are related to firm tax compliance behavior in transition economies.

Cite as: Alon A. and Hageman A. 2013. Impact of Corruption on Organizational Tax Compliance in Transition Economies. *Journal of Business Ethics.* Forthcoming.

The Impact of Corruption on Firm Tax Compliance in Transition Economies: Whom Do You Trust?

INTRODUCTION

Tax compliance is an important issue for nations around the world as governments search for revenue to meet public needs (Andreoni et al., 1998). Firms around the world are expected to behave ethically and comply with tax laws. However, the ethics of tax compliance is a complex issue as noted in the essay by Kavka (1983). In his example, firms are expected to act ethically but may be justified in underreporting revenue if the taxation system is corrupt. "Under these circumstances, any company that reported its true profits would not be believed and would end up having to pay more than its fair share of taxes" (Kavka, 1983, p. 63). Robertson et al. (2002) noted that ethical responses depend on the situational context. Countries with different institutional influences may have alternative views of what is ethical as it relates to tax compliance.

With transition economies[1] playing an increasingly important role in the global economy and politics, organizational (firm) tax compliance is particularly of interest. Currently, there is a lack of theoretical explanation and empirical evidence about tax behavior in transition economies (Torgler, 2005). This lack of research is of particular concern given an increasingly important role of transition economies.

The majority of prior tax compliance studies have examined *individual* behavior (Andreoni et al. 1998). Tax compliance by *firms* is an important but understudied issue (Torgler, 2008; Bayer and Cowell, 2009). Specifically, firm behavior is not analogous to individual behavior due to both the internal structure of corporations (in which multiple parties are involved

[1] Transition economies are developing countries that are transitioning from centrally-planned to market-based economies, such as former Soviet Bloc countries (e.g., Russia, Ukraine, etc.).

in decision making) and the potential influence of other firms (particularly in industries dominated by a small number of firms; Bayer and Cowell, 2009). Anderoni et al. (1998, p. 856) wrote, "there is a need for more empirical and institutional research within jurisdictions outside of the U.S. Available evidence suggests that noncompliance is particularly acute in many developing countries, making them especially fertile areas for future research efforts." Thus, the purpose of this study is to evaluate the relationship between institutional factors and organizational tax compliance in transition economies.

Transition economies are frequently associated with high levels of corruption (Kaufmann, 2009). *Corruption* is defined as the abuse of power for private gain (e.g., Aguilera and Vadera, 2008). Numerous studies have documented the negative impact of corruption on economic development (e.g., Campos et al., 1999; Hall and Jones, 1999; Shleifer and Vishny, 1993; Mauro, 1995). Corruption is also deemed negatively associated with tax compliance (Shleifer and Vishny, 1993). However, according to Ashforth et al. (2008), there is a need to provide a deeper understanding of the construct of corruption. This study draws upon economic and institutional perspectives to investigate the relationship between corruption and tax compliance in transition economies.

The endemic corruption that is frequently observed in transition economies is conceptualized as an institutional factor (Teorell, 2007) that is expected to negatively impact firm tax compliance. The impact of corruption on economic variables differs among countries. Despite high levels of corruption, some nations still demonstrate high growth and attract significant foreign investment (Li, 2009). Closer examination revealed that the levels and type of *social trust* play a role in the degree of influence of corruption. High levels of trust among societal members reduce the negative impact of corruption on economic growth (Li and Wu,

2007; Li, 2009). However, prior studies that have examined the role of trust in transition economies have failed to differentiate between generalized trust (trust in strangers) and particularized trust (reliance on friends and family). We draw on work by Li (2009) for the distinction between particularized trust and generalized trust and examine how these factors are related to firm tax compliance. We also examine the potential interactive role of corruption and trust.

We test our proposed model based on a comprehensive dataset containing responses from executives at over 5,000 firms in 22 transition economies of the former Soviet Bloc. The findings indicate that higher levels of corruption (in the form of unofficial payments) and higher levels of particularized trust are each associated with lower levels of tax compliance. We also find that the negative relationship between tax compliance and corruption is weakened in situations of higher generalized trust. These findings suggest that the established trust patterns of firm managers within organizations have a strong relationship with tax compliance behavior.

The study contributes to the literature in several important ways. It integrates two separate, but under-researched areas in the tax compliance field: tax compliance by firms and tax compliance in transition countries. Theoretically, our study integrates both economic and institutional perspectives to allow for a deeper understanding of organizational tax compliance behavior. The economic perspective recognizes the negative impact of corruption on tax compliance. The institutional view provides insight on how established institutional factors, such as trust, are related to tax compliance, particularly in the presence of corruption. As social networks frequently drive business transactions in transition economies, the differentiation between generalized and particularized trust allows for an exploration of how established approaches to doing business relate to tax compliance behavior.

Empirically, the study provides much needed evidence about factors influencing organizational tax compliance in transition economies, and contributes to the oft-neglected field of firm tax behavior (e.g., Torgler, 2008). The results contribute to the literature by highlighting the importance of social trust in firm-level behavior. Furthermore, the findings suggest the difficulty of increasing organizational tax compliance in relation-based environments that rely on close family and friends (particularized trust). Finally, in an increasingly global world, understanding tax compliance in transition economies is also important to businesses in developed economies. The degree of institutional distance between a host and home country increases the difficulties of conducting business in a foreign country (Xu and Shenkar, 2002), and understanding the differences in institutional environments is essential to effectively working across institutional differences (Gelbuda et al. 2008).

The study proceeds as follows. The following section presents a review of the literature and develops hypotheses investigating organizational tax compliance, corruption, and social trust systems. The subsequent sections discuss the study's research method and results. The final section provides a summary and conclusions.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Tax Compliance

To date, most tax compliance studies have focused on *individual* behavior (Andreoni et al. 1998). The few studies on *organizational* (firm) income tax evasion have typically focused on economic influences of compliance behavior, such as the penalty structure and other means of enforcement (e.g., Crocker and Slemod, 2005; Chen and Chu, 2005; Bayer and Cowell, 2009). While research on tax compliance by firms has begun to develop a richer picture of the influence of economic factors, more research is needed on the role of cultural and institutional factors.

Indeed, across the world, the actual rate of tax compliance by individuals and businesses alike is vastly higher than what would be predicted under pure economic models of enforcement (e.g., Andreoni et al., 1998; Posner, 2000). At the individual level, social norms explain much of the variation in cross-country tax compliance rates (Bobek et al., 2007). This suggests that broader cultural and institutional factors may influence tax compliance at the firm level as well.

Another important and understudied area concerns tax compliance in transition economies (Anderoni et al., 1998). Martinez-Vazquez and McNab (2000, p. 287) argue that tax administration has been a significant problem in the transition from centrally-planned to a market-based system, leading to significantly high rates of tax evasion, as "compliance rates of 50 percent or lower are not uncommon" in some nations. Martinez-Vazquez and McNab blame the lack of attention placed on tax administration and enforcement for these rates, but also argue that "taxpayers' culture" plays a significant role (Martinez-Vazquez and McNab, 2000, p. 293). More recent data also suggests that the unofficial payments to tax officials in transition countries are a serious problem that reduces overall tax compliance rates (Joulfaian, 2009). Similarly, Uslaner (2010) finds that tax evasion is more likely in transition countries when the perceived quality of governmental services is low and the level of corruption is high. While Uslaner's (2010) analysis did not include a direct measure for "trust in the government," he argued that poor service quality likely translated into reduced governmental trust, which in turn reduced incentives to comply with tax laws. Thus, *cultural and institutional* factors may play an important role in tax compliance decisions. Two factors we discuss next are corruption and social trust.

Corruption in Transition Economies

According to the *Corruption and the Private Sector* report by the Transparency International, unofficial payments received by officials in developing economies are believed to total as much as $40 billion annually (Transparency International, 2009). The construct of *corruption* is commonly defined as abuse of public power for private gain (e.g., Lapalombara, 1994; Habib and Zurawicki, 2002; Aguilera and Vadera, 2008). Corruption thrives in countries where administrative apparatuses have excessive power and law enforcement lacks transparency (Braguinsky, 1996; Habib and Zurawicki, 2002). In many transition economies, corruption is endemic (Kaufmann, 1997).

Corruption is often studied from an economic perspective. From that lens, weak governments tend to have higher levels of corruption due to the lack of control over agencies (Shleifer and Vishny, 1993). Some scholars view corruption as efficiency-enhancing where it is a needed "grease" for transactions that otherwise would be less efficient (Braguinsky, 1996; Leff, 1964). On the other hand, numerous studies have demonstrated that corruption hinders investment and economic growth (e.g., Campos et al., 1999; Hall and Jones, 1999; Shleifer and Vishny, 1993; Mauro, 1995). High levels of corruption increase investment risk and the cost of doing business in a country (Robertson and Watson, 2004). Empirically, studies analyzing developing countries have found that corruption impedes economic development (Ampratwum, 2008; de la Croix and Delavallade, 2009). In a study of 54 developing countries, greater corruption was also related to lower government efficiency (Ahmad and Brookins, 2007). The expectation that developing countries can control corruption with increased industrialization has been challenged due to the differences in the level of corruption among countries with the similar

level of development (Kaufmann, 1997). These differences point to countries' institutional frameworks as a contributing factor to the level of corruption (Kaufmann, 1997).

Institutional theory focuses on the influence of established institutions and offers a powerful lens for studying corruption and its impact (Li et al., 2008). According to institutional perspective, institutions are social structures that have attained a high degree of resilience (Scott, 1987; Oliver, 1991). Money, a common language, and a unified legal system are all examples of institutions which influence behavior routinely and almost universally by providing individuals and organizations with scripts for actions in a given context (DiMaggio and Powell, 1991). According to institutional theorists, systematic practices are also institutions that create a commonly understood social framework for behavior (Barley and Tolbert, 1997). Widespread practices become institutionalized and impose constraints on social behavior (Scott, 2001). In the context of many transition economies, corruption is institutionalized and represents an established institutional factor (Sajo, 2003; Teorell, 2007). Corrupt exchanges tend to be well-established and formalized (Jain, 2001) and thus influence the business environment.[2] Corruption and tax compliance specific to organizations are discussed next.

Corruption and Organizational Tax Compliance

In an overview of the literature investigating antecedents of organizational corruption, Ashforth and Annand (2003) noted that engagement in corruption is mostly driven by various environmental (e.g., strong competition, lax legal and regulatory enforcement) and organizational factors (e.g., poor performance, structural complexity). Corruption-driven unofficial payments can be offered proactively by the firm as a bribe or extorted by the civil

[2] Institutionalization of corruption does not imply that the majority of citizens accept this behavior as ethical or appropriate; instead, institutionalized corruption is often systematic and extensive due to power differences. We thank an anonymous reviewer for highlighting this issue.

servants[3] (Transparency International, 2009). *Bribery* is defined as "a practice of buying favors from the bureaucrats responsible for formulating and administering the government's economic policies" (Leff, 1964, p. 8; Habib and Zurawicki, 2002). At the organizational level, bribes are used by firms to gain control over bureaucracy and influence decision-making (Melé, 2009; Transparency International, 2009). Studies examining factors that contribute to bribery found that firms were more likely to bribe if their competitors were using such practices (Li and Ouyang, 2007; Collins et al., 2009; Venard, 2009). The level of bribery by firms in turn has vast societal consequences, including influence on tax compliance rates (Leff, 1964).

However, extortion of unofficial payments by government officials may be a "more serious systematic corruption problem than bribery" (Nielsen and Ballas, 2000, p. 76; Nielsen, 2003). *Extortion* occurs when "someone (the extortionist) demands money, or some other gift to which he or she is not entitled, through intimidation or undue exercise of authority (Melé, 2009, p. 141). Institutionalized extortion occurs when payments are made "in order to obtain essential services from government where government is the key or sole provider of these services" (Sajo, 2003, p. 189). As it relates to taxation, Nielsen and Ballas (2000) describe a number of scenarios when businesses are asked to make unofficial payments in order to continue operating, to elude fines, and to avoid an increased tax bill. Further, extortion can be disguised as bribery when firms have to make payments to avoid bureaucratic delays (Doh et al., 2003) or comply with laws which were created with the purpose of creating bribery opportunities for the corrupt officials (Neilsen, 2003). In summary, while the degree of coercion varies, unofficial payments made for bribes and due to extortion undermine the functioning of public institutions (Shleifer and Vishny, 2003; Transparency International, 2009).

[3] We would like to thank an anonymous reviewer for highlighting this point.

Two perspectives, economic and institutional, each explain why higher levels of unofficial payments can reduce tax compliance rates. From an economic perspective, these payments have been described as a tax on economic activity (Leff, 1964). Thus, these payments occur in place of tax payments and divert funds from the treasury (Shleifer and Vishny, 1993; Robertson and Watson, 2004). From an institutional perspective, when unofficial payments become so widespread that it is an institutionalized practice, lower tax compliance rates may be more likely. While tax compliance in transition economies has not been widely examined, two recent studies of transition economies suggest that increased corruption-related unofficial payments by firms to tax officials decrease the level of organizational tax compliance (Joulfaian, 2009; Uslaner, 2010). Thus, consistent with both the economic and institutional perspectives, we expect to observe a similar relationship between extortion and/or bribery-related unofficial payments and organizational tax compliance.

> H_1: Corruption (in the form of unofficial payments) is expected to have a negative impact on organizational tax compliance in transition economies.

Social Trust and Tax Compliance

Andreoni et al. (1998) observed that *social factors* play an important role in tax compliance decisions. As noted in a review of literature by Hosmer (1995), theorists from various disciplines have recognized *trust* as a critically important social factor due to its significant impact on individual behavior, relationships, and economic exchanges (e.g., Hosmer 1995; Uslaner 1999, 2002). Lewis and Weigert (1985, p. 968) defined trust as a collective attribute that is driven by the relationships of people within a social system and is based on a cognitive process which allows differentiating persons and institutions that are trustworthy from the ones that are not. Zucker (1986, p. 56) noted that trust is "vital for the maintenance of

cooperation in society and necessary as grounds for even the most routine, everyday interactions".

Granovetter (1985) further argued that trust serves as the basis of social relationships which drive economic behavior. Specifically relevant to this study is tax compliance behavior. A number of prior studies have tested the link between trust and tax compliance. These studies mainly examined the impact of trust in strangers and authorities on individual tax compliance (e.g., Scholz and Lubell, 1998; Torgler, 2003a, 2003b; Murphy, 2004). This type of trust is typically referred to as *generalized trust*. However, the impact of *particularized trust* (reliance on friends and family) that is commonly associated with transition economies has not been examined. The different types of trust and their impact on tax compliance in transition economies are discussed next.

Generalized Trust and Tax Compliance

Generalized trust is described as a trust in strangers (Li, 2009; Dincer and Uslaner, 2010) and reflects the "belief that others will not act contrary to our interests" (Uslaner, 1999, p. 34). Trust among strangers not only lowers transaction costs but also leads to faster economic growth due to increased willingness to engage in trade (Knack and Keefer, 1997; Zak and Knack, 2001; Uslaner, 2002). According to Li (2009), societies with high levels of generalized trust tend to have rules-based governance systems which are associated with fair laws, accountability, and transparency. In such an environment, people "have confidence that others will abide by the rule of law and cooperate in maintaining it" (Li, 2009, p. 22).

Higher levels of generalized trust in a society are associated with higher individual tax compliance. Based on the data collected from a national survey of 299 taxpayers in the U.S., Scholz and Lubell (1998) showed that taxpayers' trust in government and trust in other citizens

significantly influenced their levels of tax compliance. Trust in a society's institutions also influences tax compliance. Uslaner and Badescu (2005) argued that trust in political institutions leads to greater compliance with the law, including paying taxes. Murphy (2004) used survey data collected from 2,292 Australian taxpayers and found a similar relationship. Torgler (2003a, 2003b) found that trust in legal systems and public officials positively impacted individual tax compliance and the intrinsic motivation to pay taxes in transition economies.

In summary, generalized trust has been found by previous researchers to have a positive relationship with individual tax compliance. However, the relationship between generalized trust and the tax compliance of organizations in transition economies has not been empirically tested. Prior studies noted that building quality institutions that can ensure the protection of property rights, and that the enforceability of contracts can be an important determinant for the emergence and sustainability of generalized trust (Humphrey and Schmitz, 1998; Raiser, 1999; Zak and Knack, 2001). In the last two decades, transition economies have been implementing significant reforms to ensure better functioning of legal and political institutions (Raiser, 1999). These changes are expected to contribute to higher levels of generalized trust and a positive relationship with tax compliance. Thus, we propose the following hypothesis that reflects the expected relationship between generalized trust and tax compliance.

> H_{2a}: A higher degree of generalized trust is expected to be associated with higher organizational tax compliance in transition economies.

Particularized Trust and Tax Compliance

Scholars of trust (e.g., Uslaner, 2002; Rothstein and Uslaner, 2005; Li and Wu, 2010) distinguish between generalized trust and particularized trust. Particularized trust is defined as "the belief that trust can only be applied to specific individuals or individuals associated with a certain network or group, such as family members, relatives, and friends" (Li and Wu, 2010, p.

135). Higher levels of particularized trust indicate greater reliance on the informal networks of family and friends to make economic exchanges possible (Li, 2009). Such a system is described as *relation-based governance*. This type of governance is characteristic of the environment where people and firms lack faith in the legal infrastructure and strangers, but instead rely on who they know (Li, 2009).

Countries going through the transition from a communist regime to the market economy are affected by the conventions (e.g., norms, conventions, rules of behavior) established during the Soviet era (Gerxhani, 2004). Under communism, individuals frequently utilized their strong family and friendship-based connections to access goods and services (Van Ees and Bachmann, 2006, p. 14). These informal institutions continue to influence behavior and incentives in transition (Nelson et al., 1997). For example, Russia's *blat* networks that pre-date Soviet era and relate to the use of extra-market, personal networks and contacts, in circumvention of formal procedures, to obtain goods and services (Ledeneva 1998; Michailova and Worm, 2003). Reportedly, *blat* connections in the post-Soviet era are utilized by individuals and organizations to get better jobs, to acquire financing at privileged terms, and to obtain access to high-level decision-makers who award business contracts and licenses (Ledeneva, 1998). While *blat* itself is uniquely Russian, similar networks of family and friends exist in other transition economies (Alon and Dwyer, 2012).

In transition economies, firms' business transactions and tax compliance behavior are influenced by established social conventions (Peng and Health, 1996). Countries with high levels of particularized trust tend to have networks and groups primarily concerned with their own interests (Rothstein and Uslaner, 2005, p. 45). This relation-based approach to business makes firms more focused on personal exchanges and not broader social infrastructure (Van Ees and

Bachmann, 2006). In such an environment, there is little faith that others will comply with laws and pay taxes (Rothstein and Uslaner, 2005). Thus, a higher level of particularized trust is expected to be negatively related to tax compliance.

> H_{2b}: A higher degree of particularized trust is expected to be associated with lower organizational tax compliance in transition economies.

Corruption and Trust: Impact on Tax Compliance

According to North (1990), in order to prevent a breakdown of economic transactions, social norms can fill the void associated with the failure of laws and regulations. Next we examine whether trust moderates the relationship between corruption and tax compliance. The relationship between corruption and trust is somewhat paradoxical. While corruption is recognized to be damaging for economic development (Ampratwum, 2008; de la Croix and Delavallade, 2009) and government efficiency (Ahmad and Brookins, 2007), higher levels of generalized trust moderate that relationship by allowing more firms to successfully participate in the bidding for licenses, permits, and contracts and making the process more competitive (Li and Wu, 2010). Unofficial payments have been found *less* damaging for economic development in countries with *higher* levels of public trust (i.e., generalized trust) (Li, 2009). For instance, an official accepting these payments has to evaluate whether the payee can be trusted, as unofficial payments associated with bribery and extortion are illegal in most countries. The paying firm also desires to avoid being caught or cheated in the transaction. Higher trust in members of society allows both parties of a transaction to have the comfort that payment and delivery of promised goods or services would occur [4](Li, 2009, Li and Wu, 2010). Given that prior evidence

[4] It is important to note that this relationship does not apply to circumstances when corruption becomes predatory, as "pure extortion that does not deliver value to either the briber or the society and hence, is detrimental to economic growth" (Li and Wu, 2010, p. 136).

suggests that the effect of corruption on economic development can vary based on the type of trust present in a society, higher levels of generalized trust are expected to decrease the negative impact of corruption on tax compliance.

> H_{3a}: Generalized trust moderates the relationship between corruption and tax compliance in transition economies, such that as generalized trust increases, the negative relationship between corruption (in the form of unofficial payments) and tax compliance weakens.

On the other hand, in an environment with high levels of particularized trust, unofficial payments enrich corrupt officials but impoverish the state (Li and Wu, 2010). As described by Li and Wu (2010, p. 137), particularized trust is more common in countries that have stronger social networks among family and friends and "a low level of public trust". A high dependence on family and friends in doing business (particularized trust) is expected to strengthen the negative impact of corruption on public goods in general and tax compliance in particular.

> H_{3b}: Particularized trust moderates the relationship between corruption and tax compliance in transition economies, such that as particularized trust increases, the negative relationship between corruption (in the form of unofficial payments) and tax compliance is strengthened.

RESEARCH METHOD

Data

The data for this study were collected as part of the 2005 Business Environment and Enterprise Performance Survey (BEEPS), a project conducted by the World Bank and the European Bank for Reconstruction and Development. The overall objective of the survey was to obtain information on the environment for business development and private enterprise in transition economies of the former Soviet Bloc. Earlier administrations of this survey (e.g., the BEEPS 1999 survey) have been used in prior business ethics studies to address the antecedents of corruption in transition economies (e.g., Venard, 2009).

The BEEPS 2005 survey was administered in March and April 2005 by using face-to-face, locally-trained interviewers. At many enterprises, the face-to-face interview was conducted with the "person who normally represents the company for official purposes, that is who normally deals with banks or government agencies/institutions." The survey itself contained over 70 items focusing on the business environment of the firms, which had been refined through pilot testing. While smaller firms typically used only one respondent in the interview, larger institutions typically needed several respondents in order to address all of the specific topics of the interview. Interviewees were frequently assured that their responses would be completely anonymous and confidential.

To assure accuracy of the answers, many of the questions asked participants to assess the actions of the "typical firm in your area of business" rather than assessing their own firm; this indirect questioning thus made it easier for respondents to provide information (see also Venard, 2009). Interviews were also structured to elicit valid responses to sensitive questions, such as the frequency of unofficial payments to government officials. These questions were further prefaced with reassurances that inquires about the behavior of a "typical" firm in no way implied that the respondent's company approved of or condoned such behavior, were intended only to be the respondent's opinion in their personal capacity, and that any comments given could not be attributed to the individual respondent or his or her company. Interview responses were audited and clarified through call-back phone checks; a minimum of 30% of respondents received a call-back check (100% in Russia and the Asian Republics).

The BEEPS 2005 survey was designed to be representative of the population of each country in terms of ownership, size, geographic location, and industry sub-sector. The survey was administered to 9,655 enterprises in 27 transition countries. For the purposes of this study,

responses from enterprises in five countries (Kazakhstan, Tajikistan, Turkmenistan, Uzbekistan, and Yugoslavia, with an aggregate of 2,028 responses) were eliminated because these countries were not included in the World Values Survey, which contained the data for one of the variables (described in a subsequent sub-section). Other enterprises were eliminated if they failed to respond to one of the measures used in the study (2,483 responses). The final data set for the study included the responses from 5,144 enterprises representing 22 transition countries.

Table 1 contains information regarding the number of responses from each of the 22 countries included in the sample. Table 1 also includes information about the average reported rates of tax compliance from each of these countries, including the average sales, workforce, and wage bill reported for tax purposes, and a summed total of these tax compliance measures (tax compliance scale). Overall, the average compliance rate reported was between 85.6-88.9% for these three measures. Russia (tax compliance scale of 284, or an average of 94.7%) and Poland (tax compliance scale of 283, or an average of 94.3%) had the highest levels of average tax compliance, while Bosnia/Herzegovina (tax compliance scale of 208, or an average of 69.3%) and Azerbaijan (tax compliance scale of 221, or an average of 73.7%) had the lowest average levels.

[Insert Table 1 here]

Model

We employ the following model in examining the effect of corruption and trust on tax compliance:

$$TAXCOMPLY = a + bX + dC + e \qquad (1)$$

where *TAXCOMPLY* is a measure of tax compliance by firms in transition economies; *X* is a set of test variables pertaining to corrutption and trust; *C* is a set of control variables representing

other factors that could be related to tax compliance in transition economies; and *e* represents the traditional error term. We describe each of the variables and their measures in the subsequent sub-section.

The data used to predict the influence of corruption and trust on tax compliance in transition economies originates from both firm-level and country-level (i.e., generalized trust) responses. This use of multi-level data signifies that ordinary-least squares regression is not an appropriate modeling technique because different types of error variation are present. Thus, a multi-level, mixed-effects, restricted maximum likelihood (REML) regression is used for estimating the model.[5] We treat "country" as a random effect to control for the potential differences at the country-level of analysis.

Measures

Dependent Variable

The dependent variable in the study is the level of tax compliance, or *TAXCOMPLY*. This variable is measured as the summed response to three questions in the BEEPS study: (1) "Recognizing the difficulties that many firms face in fully complying with taxes and regulations, what percentage of annual sales would you estimate the typical firm in your area of business reports for tax purposes?", (2) "Recognizing the difficulties that many firms face in fully complying with labor regulations, what percentage of total workforce would you estimate the typical firm in your area of business reports for tax purposes?", and (3) "Recognizing the difficulties that many firms face in fully complying with labor regulation, what percentage of the actual wage bill would you estimate the typical firm in your area of business reports for tax purposes?" Respondents answered each question indicating a percentage. Factor analysis of the

[5] Unlike maximum likelihood estimators, REML takes the number of parameters into account. Since the number of countries in the analysis (22) is fairly low, we use REML regression.

three questions indicated that the constructs all loaded on to one factor, indicating uni-dimensionality; furthermore, the Cronbach's alpha of the three items (0.891) indicated sufficient reliability. Thus, the three measures are summed to form an overall "tax compliance scale" measure for our primary analysis. In supplemental analyses, we conduct separate analyses for the three types of tax compliance decisions to further investigate the influence of our hypothesized variables on these different types of tax compliance.

Independent Variables

The 2005 BEEPS survey contains multiple questions that measure the extent to which firms made "unofficial" payments and gifts during the year (Venard, 2009). Specifically, respondents answered the question, "Thinking now of unofficial payments/gifts that a firm like yours would make in a given year, could you please tell me how often they make payments/gifts?" for a variety of purposes. Due to our study's focus on tax compliance, our measure of *CORRUPTION* reflects unofficial payments that would be made in "dealing with taxes and tax collection." This question was answered on a 6-point Likert-type scale, ranging from never ("1") to always ("6"). While this measure does not distinguish between payments given as bribes to control and influence decision making or due to extortion by government officials, both types of unofficial payments are forms of corruption that undermine the functioning of public institutions.

The measure for *generalized trust*, or trust in strangers, was not captured in the BEEPS survey. Instead, a country-level measure from the World Values Survey was utilized. The World Values Survey contains data from thousands of randomly selected individuals in 57 societies on a range of attitudes and values (La Porta et al. 1997). This study's analysis uses the 2005 version of the questionnaire. One of the questions was: "Generally speaking, would you say that most

people can be trusted or that you can't be too careful in dealing with people?" Following Knack and Keefer (1996) and La Porta et al. (1997), the proportion of individuals answering "most people can be trusted" (as opposed to whether people "need to be very careful") is our measure of generalized trust, or *GEN-TRUST*. According to Knack and Keefer (1996, p. 1256), while the term 'people' in the question is fairly ambiguous, it is "general enough that responses should not merely reflect expectations about the behavior of friends and family." This measure is also consistent with other conceptualizations of generalized trust as the extent to which people "believe that most people share common values and are willing to trust strangers who may outwardly seem quite different from themselves" (Uslander and Conley, 2003, p. 335). Thus, higher degrees of generalized trust are associated with higher levels of trust in the broader community and willingness "to trust strangers who may outwardly seem quite different from themselves" (Uslander and Conley, 2003, p. 335).

The measure of *particularized trust*, or the degree of reliance on family or friends, originates from the BEEPS survey. According to Li (2009), particularized trust manifests itself through trust in a relationship and is apparent in trusting family members and friends to safeguard and conduct business. Thus, our measure of particularized trust is the response to the question, "How important are [family and friends] as potential sources of information about new customers for your firm?" Responses for the variable *PART-TRUST* ranged on a 1-5 Likert-type scale, with 1 = "slightly important" and 5 = "extremely important." This measure is consistent with the Uslaner and Conley's (2003, p. 335) conceptualization of particularized trust as the degree to which people "do have faith in other people but only in other people from their own group" and who base their relationships on "family, close friends, and member of their own

groups," with the measure capturing the degree to which respondents rely on friends and family members.

Control Variables

We include additional variables from the BEEPS survey that have been shown in prior research to influence tax compliance. Uslaner (2010) identifies the quality of governmental services as an important influence on tax compliance. Following Uslaner (2010), the proxy for the quality of infrastructure services is the number of days of power outages or disruptions in the past 12 months, or *SERVICE*.[6] We also follow Uslaner (2010) and include a control for the fairness of the legal system, *LEGAL*. While Uslaner (2010) used a one-item measure for this measure, we develop a multi-item scale that measures whether the court system is perceived as fair and impartial, honest, quick, affordable, and able to enforce its decisions. Each of these five measures is measured on a 6-point Likert-type scale; factor analysis identifies one dimension, and the Cronbach's alpha is 0.849.

Another important control used by Uslaner (2010) is the size of the firm, as larger firms tend to have higher levels of tax compliance. Our measure of size, *SIZE*, originates from the BEEPS survey and is divided into three categories: small firms (less than 50 full-time employees), medium-size firms (more than 50 but less than 250 full-time employees) and large-size firms (more than 250 but less than 10,000 full-time employees)[7]. Again following Uslaner (2010), we also consider the ownership structure of the firm, and include a control for the percentage of ownership by private, domestic individuals or organizations, *OWNER*.

Finally, we include two additional variables to control for their potential influence on tax compliance. First, given that the tax management behavior of firms may be influenced by

[6] We considered a multi-item measure that contains other measures of the infrastructure services, but as the measure does not demonstrate sufficient reliability, we follow Uslaner (2010) and use the one-item measure.
[7] The BEEPS Questionnaire did not include firms with more than 10,000 full-time employees.

corporate governance attributes (e.g., Minnick and Noga, 2010), we include a measure for whether the firms' financial statements are checked or certified by an external auditor, *AUDIT*. Second, we also control for the effectiveness of unofficial payments or "private gifts." Uslaner (2010) demonstrated that the degree of influence the firm had on the government negatively affected the level of tax compliance; thus, we include *EFFECT*, a five-point Likert-type scale assessing the perceived effectiveness of the firm's unofficial payments to affect the votes of legislators.

RESULTS

Descriptive Statistics

Table 2, Panel A presents descriptive statistics for all variables included in the study's analysis, including the mean, standard deviation, minimum, and maximum. Examination of summary information indicates that generalized trust is fairly low in transition economies (with only 23.3% perceiving that "most people" could be trusted); particularized trust is also fairly low (mean of 2.55 on a 5-point Likert-type scale assessing reliance on family and friends). Frequency of corruption as it relates to unofficial payments for tax purposes averaged at 1.95, based on a 6-point scale.

Table 2, Panel B presents information about the average level of the study's independent variables by country: the tax-related corruption scale, generalized trust, and particularized trust. Azerbaijan (3.01), the Slovak Republic (2.82), and Ukraine (2.82) had the highest average frequency of unofficial payments for tax purposes, whereas Croatia (1.26) had the lowest average levels. Ukraine (generalized trust of 0.3029) and Hungary (generalized trust of 0.3018) demonstrated the highest average levels of trust in strangers while FYR Macedonia had the

lowest average levels (generalized trust of 0.1111). Finally, trust in family and friends is highest in Latvia (particularized trust of 3.29) and lowest in Poland (particularized trust of 2.08).

[Insert Table 2 here]

Correlation Analysis

Table 3 presents a correlation matrix with all of the study's variables. As shown in Table 3, the highest correlation between any of the test variables and control variables is between *CORRUPTION* and *EFFECT* (correlation coefficient of 0.293); not surprisingly, higher levels of unofficial payments for tax purposes are associated with greater perceived effectiveness of the payments. The largest correlation in the matrix among any of the control variables is between *SIZE* and *OWNER* (correlation coefficient of -0.365), indicating that smaller firms tended to have higher levels of private domestic ownership. Overall, none of the correlations between any of the model variables indicate the potential presence of multicollinearity.

The correlations show that *CORRUPTION* is positively associated with *PART-TRUST*, *SERVICE*, and *OWNER*; the variable is negatively associated with *LEGAL*. Thus, firms with higher frequency of unofficial payments have higher levels of particularized trust (reliance on family and friends), suffer more power outages, have a higher level of private domestic ownership, and perceive the legal system as less fair. These factors indicate that tax-related unofficial payments are more common among firms with greater dependence on close friends and family members.

The dependent variable *TAXCOMPLY* is negatively associated with *CORRUPTION* and *PART-TRUST*, but is positively associated with *GEN-TRUST*. Tax compliance is therefore lower among firms with a higher frequency of tax-related unofficial payments and those that rely on family and friends, but is higher when trust in strangers is higher.

[Insert Table 3 here]

Mixed Effect Regression Results

To investigate the role of tax-related unofficial payments and social trust on tax compliance in transition economies, two models are estimated. The first model (Model 1) is estimated by regressing firm tax compliance directly on *CORRUPTION*, *GEN-TRUST*, *PART-TRUST*, and the set of control variables (i.e., only main effects and the control variables are estimated). The second model (Model 2) is estimated by adding the interaction terms between *CORRUPTION* and *GEN-TRUST*, and between *CORRUPTION* and *PART-TRUST*.[8] Table 4 reports the regression results for both models, including the parameter estimates and standard errors for each independent variable. All reported p-values are two-tailed, with the exception of directional hypothesized variables, which are one-tailed. Both models include random effects for the country grouping, and both models are statistically significant (both $p < .0001$).

[Insert Table 4 here]

Hypothesis 1 anticipated that corruption would be negatively related to organizational tax compliance in transition economies. As shown in Table 4, the coefficient for *CORRUPTION* is significant and negative in both model specifications (both $p < .01$). Thus, consistent with prior research (e.g., Joulfaian, 2009; Uslaner, 2010), Hypothesis 1 is supported.

Hypothesis 2 predicted a complex relationship with the role of social trust on firm tax compliance. Specifically, Hypothesis 2a predicted that higher levels of *generalized* trust would be associated with *higher* levels of tax compliance, whereas Hypothesis 2b predicted that higher levels of particularized trust would be associated with lower degrees of tax compliance (Li, 2009). The coefficient on *GEN-TRUST* is positive and statistically significant at $p < .05$ in the

[8] Interaction terms were not mean-centered, since research suggests that mean-centering of variables does not reduce multicollinearity (Echambadi and Hess, 2007).

first model specification (without the interaction term), showing that higher levels of generalized trust are associated with higher tax compliance levels. However, the coefficient is no longer statistically significant when the interaction terms between the trust variables and corruption are added in the second (full) model. Hypothesis 2a is therefore not supported in the full model. The coefficient on *PART-TRUST* is negative and is statistically significant ($p < .01$) across both model specifications. Firms with a higher reliance on friends and family members (particularized trust) have a lower level of tax compliance, in line with the prediction of Li (2009) that rules of law are weaker in relation-based governance systems. Thus, Hypothesis 2b is supported.

Next we investigated an interaction effect between the corruption and social trust. Hypothesis 3a examined whether generalized trust would moderate the relationship between corruption and tax compliance, whereas Hypothesis 3b examined whether particularized trust moderates that relationship. Inspection of Model 2 in Table 4 shows that there is a statistically significant *positive* interaction between corruption and generalized trust ($p <.01$); however, the interaction between corruption and particularized trust fails to reach statistical significance. Thus, Hypothesis 3a is supported (the interaction between corruption and generalized trust), whereas Hypothesis 3b is not supported (the interaction between corruption and particularized trust).

To further explore the implication of the positive coefficients on the interaction term between generalized trust and corruption in Table 4, we dichomized both variables at the scale median and graphed the interaction; see Figure 1. Figure 1 demonstrates that when corruption levels are low, then differences in generalized trust are not related to tax compliance levels – indeed, tax compliance levels are nearly identical in conditions of both high and low generalized trust. However, when corruption levels are high, then tax compliance is higher with higher levels

of generalized trust and is lower with lower levels of generalized trust. This interaction effect explains why a main effect for generalized trust on tax compliance was not found in the full model (Hypothesis 2a), and that the negative relationship between corruption and tax compliance is weakened in situations of higher generalized trust, therefore supporting Hypothesis 3a. Thus, it appears that whereas particularized trust is directly related to tax compliance (higher levels of particularized trust are associated with lower levels of tax compliance), generalized trust has an indirect relationship (generalized trust is not related to tax compliance when corruption levels are low, but higher generalized trust is linked to higher levels of tax compliance when corruption rates are high).

[Insert Figure 1 here]

Several of the model control variables had a statistically significant relationship with tax compliance; see Table 4. The coefficients on *LEGAL* and *SIZE* are both positive and statistically significant (both $p < .01$ across both model specifications). Thus, larger firms are more likely to comply with tax laws, as are firms that perceive the legal system as fairer (Uslaner, 2010). The coefficient on *OWNER* is negative and statistically significant ($p < .01$ in both model specifications), indicating that firms with a higher percentage of private, domestic ownership have lower levels of tax compliance. The coefficient on *EFFECT* is also negative and statistically significant ($p < .01$) in both model specifications, showing that firms whose unofficial payments were more effective had lower levels of tax compliance. However, the coefficients on *SERVICE* and *AUDIT* were not statistically significant in either specification, demonstrating that the quality of the service infrastructure and the presence of an external audit were not related to the levels of tax compliance.

Supplemental Analyses

Our primary analysis investigated the effects of bribery and trust on a measure of overall tax compliance. However, our measure of *TAXCOMPLY* was an aggregate of three different measures of tax compliance behavior: reported sales, workforce, and wages. Supplemental analyses conducts separate regressions on these three types of tax compliance to determine if any of the hypothesized variables or other factors have differential influences.

Table 5 presents separate regressions for each of the three separate tax compliance measures. Each of the findings for the primary analysis (with the overall tax compliance measure) continues to be statistically significant in these supplemental analyses. Specifically, corruption and particularized trust are associated with lower tax compliance levels, while the interaction between corruption and generalized trust continues. The only exception is that generalized trust has a positive, statistically significant relationship ($p < .10$) with tax compliance for the percentage of annual sales reported; thus, Hypothesis 2a appears to be supported for sales reporting behavior (but not for overall tax compliance). Overall, the study's findings appear to be robust across different measures of tax compliance behavior.[9]

[Insert Table 5 here]

[9] Several sensitivity tests further assessed the robustness of the study's findings. First, it is possible that a reduction in the level of tax compliance could cause more corruption activities, such that the study's model could suffer from reverse causality (endogeneity). We conduct a Hausman test to test for the possibility of endogeneity between corruption and tax compliance. The Hausman test does not demonstrate that endogeneity is present in the study's model, indicating that the causal inference presented in the model between corruption (as an independent variable) and tax compliance (as a dependent variable) is reasonable. Second, our study's dependent variables are implicitly treated as continuous variables in the regression models; we conduct a sensitivity test to determine if this assumption biases the results. As an alternative analysis, we use a Tobit model to account for the fact that some possible models are censored (e.g., those below 0 or above 300 with the aggregated dependent variable measure or above 100 with the separate tax compliance measures). Results are virtually identical; thus, the presented mixed-effect regression models do not appear to be biased. Third, additional analyses considered the effect of gross domestic product (GDP) or gross national income (GNI) on tax compliance; results are unchanged, and neither variable approaches statistical significance.

DISCUSSION AND CONCLUSION

This study examined the association between institutional factors and tax compliance in transition economies. Specifically, the study is the first to examine the impact of social trust on this behavior, and to distinguish between *generalized trust* (trust in strangers) and *particularized trust* (trust in family and friends) (Li, 2009). Based on a sample of executives from over 5,000 firms in transition economies of the Soviet Bloc, the results confirm that tax compliance is lower among firms with higher levels of tax-related unofficial payments and higher levels of particularized trust. Interestingly, we also find that the negative relationship between corruption and tax compliance is weakened in situations of higher generalized trust. Thus, results suggest that dependence on family and friends is directly associated with significantly lower tax compliance. Conversely, trust in strangers (i.e., society at large) does not generally appear to be directly associated with firm tax compliance behavior, but has a significant indirect relationship through weakening the detrimental effects of corruption. These findings are robust for separate measures of tax compliance behavior: the total annual sales, workforce, and wages reported.

The results of this study should also be interpreted in light of its limitations. First, the dataset is based on self-reported measures, which have been questioned by some researchers due to potential response and common method biases (Donaldson and Grant-Vallone, 2002; Podsakoff et al., 2003). Data from survey respondents also might be more valid in environments where there is high generalized trust among strangers, as such individuals from such cultures could be more likely to disclose sensitive information to an unknown interviewer. On the other hand, individuals in environments with a low degree of generalized trust may be less likely to disclose sensitive information to survey interviewers. Thus, the results should be interpreted with

this caveat. However, the use of the survey methodology is considered valuable for measuring perceptions and outcome variables in changing conditions (Griffin, 1991; Spector, 1994).

Second, the dataset resulted from in-person interviews with firm executives; smaller firms were typically represented by only one executive. While using data from only one respondent per firm could result in a biased impression of the firm, the use of such a technique is similar to other international corruption research (e.g., Venard, 2009). Third, while the model included an array of control variables that have been shown in past research as related to firm tax compliance of transition economies (e.g., the legal environment, service infrastructure, firm size, etc.), other control variables might also be related to tax compliance and could potentially alter the association between corruption and trust. However, we followed prior research in including the control variables that have shown to be influential in prior tax compliance studies on transition economies (e.g., Uslaner, 2010). Fourth, in this study we focused on the tax-related unofficial payments made by the firms, but could not differentiate whether these were given as bribes to gain control and influence decision making or extorted by the government officials. Both undermine the functioning of public institutions, however, and are both forms of corruption. Finally, most of the variables in the study were at the firm level, but the measure for generalized trust originated at the country level. This concern is assuaged by the fact that our model used a mixed-effects regression analysis that controlled for group (country) random effects. Future extensions could address these limitations.

The results of this study have important implications for the literature on international tax compliance. Understanding the antecedents of compliance in transition economies is particularly important due to the low compliance levels in these countries (Andreoni et al. 1998). This study answers the call of Andreoni et al. (1998) to investigate the relationship of cultural factors and

tax compliance, focusing on social trust. The study also contributes to the neglected field of study of corporate tax compliance (Torgler, 2008; Bayer and Cowell, 2009), showing that institutional factors such as corruption and trust are particularly important in explaining organizational behavior. The study also establishes the difficulty in increasing organizational tax compliance in relation-based environments that rely on close friends and family, suggesting that increasing generalized trust is important for improving tax compliance in transition economies. The different effects of generalized and particularized trust also imply that future researchers should be careful in distinguishing between these types of trust (Li, 2009). Finally, understanding the differences in institutional environments is essential to effectively working across institutional differences (Gelbuda et al. 2008), and the results of this study are useful in explaining the different vantage points of developed and developing nations.

Future researchers can build off this study and further investigate some of the significant findings. For example, the study showed that the effectiveness of unofficial payments is related to the level of firm tax compliance, as tax compliance was lower for firms who perceived their payments as more effective in affecting the votes of elected officials. Future research could examine other factors associated with this relationship. Differentiating between unofficial payments associated with bribes as compared to the extorted payments would shed light on whether different types of corruption have a unique impact on tax compliance. Similarly, the importance of generalized and particularized trust could be examined in non-transition economies. Furthermore, researchers could examine the effectiveness of potential preventive or educational measures being considered to address problems with tax compliance and corruption in transition economies. Another useful avenue would be the comparison of tax compliance in transition economies with developed countries to determine if similar relationships are present.

In all, this study demonstrates that decreasing tax-related corruption, increasing trust in strangers, and, interestingly, decreasing reliance on family and friends are all ways to increase tax compliance of firms in transition economies. Future research can build upon this work.

REFERENCES

Aguilera, R. and A. Vadera: 2008, 'The Dark Side of Authority: Antecedents, Mechanisms, and Outcomes of Organizational Corruption', *Journal of Business Ethics*, **77**(4), 431-449.

Ahmad, N. and O. Brookins: 2007, 'The Impact of Corruption on Efficiency in Developing Economies', *International Journal of Economic Perspectives*, **1**(2), 64-73.

Alon A. and P. Dwyer: 2012, 'Globalization and Multinational Auditing: The Case of Gazprom and PwC in Russia', *Behavior Research in Accounting,* **24**(1),135-160.

Ampratwum, E. F.: 2008, 'The Fight Against Corruption and its Implications for Development in Developing and Transition Economies', *Journal of Money Laundering Control*, **11**(1), 76-87.

Andreoni, J., B. Erard and J. Feinstein: 1998, 'Tax Compliance', *Journal of Economic Literature, **36***, 818-860.

Ashforth, B. E. and V. Anand: 2003. 'The Normalization of Corruption in Organizations', *Research in Organizational Behavior*, **25**, 1-52.

Ashforth, B. E., D. A, Gioia, S. L. Robinson and L. K. Trevino: 2008, 'Re-Viewing Organizational Corruption', *The Academy of Management Review*, **33**(3), 670-684.

Barley, S. R. and P. S. Tolbert: 1997. 'Institutionalization and Structuration: Studying the Links between Action and Institution', *Organization Studies*, **18**(1), 93-117.

Bayer, R. and F. Cowell: 2009, 'Tax Compliance and Firms' Strategic Interdependence', *Journal of Public Economics, **93***, 1131-1143.

Braguinsky, S.: 1996, 'Corruption and Schumpeterian Growth in Different Economic Environments', *Contemporary Economic Policy*, **14**(3), 14-25.

Bobek, D. B., R. W. Roberts and J. T. Sweeney: 2007, 'The Social Norms of Tax Compliance: Evidence from Australia, Singapore, and the United States', *Journal of Business Ethics* **74**, 49-64.

Campos, J. E., D. Lien and S. Pradhan: 1999, 'The Impact of Corruption on Investment: Predictability Matters', *World Development*, **27**(6), 1059-1067.

Chen, K. and C. Chu: 2005, 'Internal Control versus External Manipulation: A Model of Corporate Income Tax Evasion', *RAND Journal of Economics*, **36**, 151-164.

Collins, J., K. Uhlenbruck and P. Rodriguez: 2009, 'Why Firms Engage in Corruption: A Top Management Perspective', *Journal of Business Ethics*, **87**(1), 89-108.

Cowell, F: 2004, 'Sticks and Carrots,' in A. H. and J. Slemrod (eds.), *The Crisis in Tax Administration* (Brookings Institution Press, Washington, DC), 230-258.

Crocker, K. J. and J. Slemrod: 2005, 'Corporate Tax Evasion with Agency Costs', *Journal of Public Economics, **89***, 1593-1610.

de la Croix, D. and C. Delavallade: 2009, 'Growth, Public Investment and Corruption with Failing Institutions', *Economics of Governance*, **10**(3), 187-219.

DiMaggio, P. J. and W. W. Powell: 1991, 'Introduction', in W. W. Powell and P. J. DiMaggio, (eds.), *The New Institutionalism in Organizational Analysis.* (Chicago, IL: University of Chicago Press), 1-40.

Dincer, O. and E. Uslaner: 2010, 'Trust and Growth', *Public Choice*, **142**(1-2), 59-67.

Doh, J., Rodriguez, P., Uhlenbruck, K., Collins, J. and Eden, L.: 2003, 'Coping with corruption in foreign markets', *Academy of Management Executive,* **17**(3), 114-127.

Donaldson, S.I. and E. J. Grant-Vallone: 2002, 'Understanding Self-report Bias in Organizational Behavior Research', *Journal of Business and Psychology*, **17**(2), 245-260.

Echambadi, R. and H. D. Hess: 2007, 'Mean-Centering Does Not Alleviate Collinearity Problems in Moderated Multiple Regression Models', *Marketing Science,* **26**(3), 438-445.

Gelbuda, M., K. E. Meyer, and A. Delios. 2008, 'International Business and Institutional Development in Central and Eastern Europe,' *Journal of International Management*, **14**, 1-11.

Gerxhani, K.: 2004, 'Tax Evasion in Transition: Outcome of an Institutional Clash? Testing Feige's Conjecture in Albania', *European Economic Review*, 48, 729 – 745.

Granovetter, M.: 1985, 'Economic Action and Social Structure: The Problem of Embeddedness', *American Journal of Sociology*, **91**, 481-510.

Griffin, R. W.: 1991, 'Effects of Work Redesign on Employee Perceptions, Attitudes, and Behaviors: A Long-term Investigation', *Academy of Management Journal*, **34**(2), 425-435.

Habib, M. and L. Zurawicki: 2002, 'Corruption and Foreign Direct Investment', *Journal of International Business Studies*, **33**(2), 291-307.

Hall, R. E. and C. I. Jones: 1999, 'Why Do Some Countries Produce so Much More Output per Worker than Others?', *The Quarterly Journal of Economics*, **114**(1), 83-116.

Hosmer, L.: 1995, 'Trust: The Connecting Link between Organizational Theory and Philosophical Ethics', *The Academy of Management Review,* ***20***(2), 379-403.

Humphrey, J. and H. Schmitz: 1998, 'Trust and Inter-firm Relations in Developing and Transition Economies. *Journal of Development Studies,* **34**(4), 32-61.

Jain, A.: 2001, 'Corruption: A Review', *Journal of Economic Surveys,* **15**(1), 71–121.

Joulfaian, D.: 2009, 'Bribes and Business Tax Evasion', *The European Journal of Comparative Economics,* **6**(2), 227-244.

Kaufmann, D.: 1997, 'Corruption: The Facts', *Foreign Policy*, **107**, 114-131.

Kaufmann, D.: 2009, 'Governance Matters 2009: Learning From Over a Decade of the Worldwide Governance Indicators', http://blogs.worldbank.org/governance/node/752.

Kavka, G. S.: 1983. 'When Two 'Wrongs' Make a Right: An Essay on Business Ethics', *Journal of Business Ethics*, **2**(1), 61-66.

Knack, S. and P. Keefer: 1997, 'Does Social Capital have an Economic Payoff? A Cross-country Investigation', *The Quarterly Journal of Economics*, **112**(4), 1251-1288.

La Porta, R., F. Lopez-de-Silanes, A. Shleifer and R. Vishny: 1997, 'Trust in Large Organizations', *American Economic Review Papers and Proceedings* LXXXVII, 333-338.

Lapalombara, J.: 1994, 'Structural and Institutional Aspects of Corruption', *Social Research*, **61**(2), 325-350.

Ledeneva, A. V.: 1998. *Russia's Economy of Favours: Blat, Networking and Informal Exchanges* (Cambridge: Cambridge University Press).

Leff, N.: 1964, 'Economic Development through Bureaucratic Corruption', *The American Behavioral Scientist*, **8**(3), 8-14.

Lewis, J. D. and A. Weigert.: 1985, 'Trust as Social Reality', *Social Forces*, **63**, 967-985.

Li, J., J. Moy, K. Lam and W. L. C. Chu: 2008, 'Institutional Pillars and Corruption at the Societal Level', *Journal of Business Ethics*, **83**(2), 327-339.

Li, S.: 2009, *Managing International Business in Relation-based versus Rule-based Countries* (Business Expert Press, New York).

Li, S. and M. Ouyang: 2007, 'A Dynamic Model to Explain the Bribery Behavior of Firms', *International Journal of Management*, **24**(3), 605-618.

Li, S., S. H. Park and S. Li: 2004, 'The Great Leap Forward: The Transition From Relation-Based Governance To Rule-Based Governance', *Organizational Dynamics*, **33**(1), 63-78.

Li, S.,and J. J. Wu: 2007, 'Why China Thrives Despite Corruption', *Far Eastern Economic Review*, **170**(3), 24-28.

Li, S.,and J. J. Wu: 2010, 'Why Some Countries Thrive Despite Corruption: The Role of Trust in the Corruption-Efficiency Relationship', *Review of International Political Economy*, **17**(1), 129-154.

Martinez-Vazquez, J. and R. M. McNab: 2000, 'The Tax Reform Experiment in Transitional Countries'. *National Tax Journal*, **53**(2), 273-298.

Mauro, P.: 1995, 'Corruption and Growth', *The Quarterly Journal of Economics*, **110**(3), 681-712.

Melé, D.: 2009, *Business Ethics in Action. Seeking Human Excellence in Organizations* (Palgrave-MacMillan, New York).

McGee, R. W.: 2006, 'Three Views on the Ethics of Tax Evasion', *Journal of Business Ethics*, **67**(1), 15-35.

Michailova, S., and V. Worm: 2003, 'Personal Networking in Russia and China: *Blat* and *Guanxi', European Management Journal,* **21**(4), 509-519.

Minnick, K. and T. Noga: 2010, 'Do Corporate Governance Characteristics Influence Tax Management?', *Journal of Corporate Finance*, **16**(5), 703-718.

Murphy, K.: 2004, 'The Role of Trust in Nurturing Compliance: A Study of Accused Tax Avoiders', *Law and Human Behavior*, **28**(2), 187-209.

Nelson, J. M., C. Tilly, and L. Walker: 1997, *Transforming Post-Communist Political Economies*. (National Academy Press, Washington, DC).

Nielsen, R. P.: 2003, 'Corruption networks and implications for ethical corruption reform'. *Journal of Business Ethics*, **42**(2), 125–149.

Nielsen, R.P. and A. Ballas, A.: 2000, 'The Politics of Resisting and Reforming Systematic Extortion By Tax Auditors-Inspectors', *Business Ethics: A European Review*, **9**(2), 76-86.

North, D., 1990. *Institutions, Institutional Change and Economic Performance.* (Cambridge University Press: Cambridge).

O'Higgins, E. R. E.: 2006, 'Corruption, Underdevelopment, and Extractive Resource Industries: Addressing the Vicious Cycle', *Business Ethics Quarterly*, **16**(2), 235-254.

Oliver, C.: 1991. 'Strategic Responses to Institutional Processes', *Academy of Management Review*, **16**(1), 145-179.

Peng, M. W. and P. Heath: 1996, 'The Growth of the Firm in Planned Economies in Transition: Institutions, Organizations, and Strategic Choice', *Academy of Management Review*. **21**, 492-528.

Podsakoff, P. M., S. B. MacKenzie, J. Lee, and N. P. Podsakoff: 2003, 'Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies.' *Journal of Applied Psychology*, **88**(5), 879-903.

Posner, E. A.: 2000, 'Law and Social Norms: The Case of Tax Compliance', *Virginia Law Review*, **86**(8), 1781-1819.

Raiser, M.: 1999, 'Trust in Transition', *EBRD Working Paper*, No. 39, London.

Robertson, C. J., W. F. Crittenden, M. K. Brady, and J. J. Hoffman: 2002, 'Situational Ethics across Borders: A Multicultural Examination', *Journal of Business Ethics*, **38**(4), 327-338.

Robertson, C. J. and A. Watson: 2004, 'Corruption and Change: The Impact of Foreign Direct Investment', *Strategic Management Journal*, **25**(4), 385-396.

Rothstein, B. and E. Uslaner: 2005, 'All for All: Equality, Corruption, and Social Trust', *World Politics*, **58**(1), 41-72.

Sajo, A.: 2003. 'From corruption to extortion: Conceptualization of Post-Communist corruption'. *Crime, Law & Social Change*, **40**, 171–194.

Scholz, J. T. and M. Lubell: 1998, 'Trust and Taxpaying: Testing the Heuristic Approach to Collective Action', *American Journal of Political Science*, **42**(2), 398-417.

Scott, W. R.: 1987, 'The Adolescence of Institutional Theory', *Administrative Science Quarterly*, **32**(4), 493-512.

Scott, W. R.: 2001, *Institutions and Organizations*, 2nd edition, (Sage, Thousand Oaks, CA).

Shleifer, A. and R. Vishny: 1993, 'Corruption', *The Quarterly Journal of Economics*, **108**(3), 599-617.

Spector, P. E.: 1994, 'Using Self-report Questionnaires in OB Research: A Comment on the Use of a Controversial Method.' *Journal of Organizational Behavior*, **15**(5), 385-392.

Teorell, J.: 2007, 'Corruption as an Institution: Rethinking the Nature and Origins of the Grabbing Hand', *Gothenburg: The Quality of Government Institute, University of Gothenburg* (www.qog.pol.gu.se).

Torgler, B.: 2003a, 'Tax Morale, Rule-Governed Behavior and Trust', *Constitutional Political Economy*, **14**(2), 119-140.

Torgler, B.: 2003b, 'Tax Morale in Transition Countries', *Post-Communist Economies*, **15**(3), 357-381.

Torgler, B.: 2005, 'Tax Morale in Latin America', *Public Choice,* **122**, 133-157.

Torgler, B.: 2008, 'What Do We Know about Tax Fraud?, *Social Research*, **75**(4), 1239-1270.

Transparency International: 2009, *Global Corruption Report* (Cambridge University Press).

Uslaner, E. 1999, 'Trust But Verify: Social Capital and Moral Behavior', *Social Science Information*, **38**, 29-56.

Uslaner, E.: 2002, *The Moral Foundations of Trust*, (Cambridge University Press, New York).

Uslaner, E. M. and R. S. Conley: 2003, 'Civic Engagement and Particularized Trust: The Ties that Bind People to Their Ethnic Communities', *American Politics Research*, **31**(4), 331-360.

Uslaner, E.: 2010, 'Tax Evasion, Corruption, and the Social Contract in Transition', in J. Alm, J. Martinez-Vazquez, and B. Torgler (eds.), *Developing Alternative Frameworks for Explaining Tax Compliance* (London: Routledge), 206-225.

Uslaner, M. and G. Badescu: 2005, 'Making the Grade in Transition: Equality, Transparency, Trust, and Fairness', Manuscript, University of Maryland–College Park.

Van Ees, H. and R. Bachmann: 2006, 'Transition economies and trust building: a network perspective on EU enlargement', *Cambridge Journal of Economics*, **30**, 923–939.

Venard, B.: 2009, 'Organizational Isomorphism and Corruption: An Empirical Research in Russia', *Journal of Business Ethics,* **89**(1), 59-76.

Xu, D. and O. Shenkar. 2002, 'Institutional Distance and the Multinational Enterprise', *Academy of Management Review*, **27**(4), 608-618.

Zak, P. J and S. Knack: 2001, 'Trust and Growth', *The Economic Journal*, **111**(470), 295-321.

Zucker, L. G.: 1986. 'Production of Trust: Institutional Sources of Economic Structure, 1840-1920', in B. M. Staw and L. L. Cummings (eds.), *Research in Organizational Behavior* (Greenwich, CT: JAI Press), 53-111.

Table 1
Description of the Sample

Country	Number of Respondents in Final Sample	Tax Compliance Scale: Mean (S.D.)	Average Sales Reported for Tax Purposes	Average Workforce Reported for Tax Purposes	Average Wage Bill Reported for Tax Purposes
Albania	144	228 (80)	76.3%	77.7%	74.2%
Armenia	171	254 (66)	86.6%	84.5%	83.6%
Azerbaijan	152	221 (61)	74.9%	72.8%	72.9%
Belarus	186	272 (44)	92.3%	91.9%	68.6%
Bosnia/ Herzegovina	74	208 (63)	66.8%	72.1%	68.6%
Bulgaria	134	266 (61)	88.7%	89.7%	87.3%
Croatia	191	276 (37)	92.5%	92.0%	91.5%
Czech Republic	902	267 (46)	89.8%	89.5%	87.3%
Estonia	392	266 (57)	89.3%	90.6%	85.5%
FYR Macedonia	360	268 (45)	88.3%	91.2%	87.7%
Georgia	295	264 (54)	86.9%	88.6%	88.3%
Hungary	93	283 (40)	94.7%	93.8%	94.5%
Kyrgyz Republic	231	269 (49)	87.1%	94.1%	87.4%
Latvia	218	268 (49)	87.9%	91.0%	89.4%
Lithuania	124	276 (41)	93.5%	94.0%	88.6%
Moldova	112	272 (48)	89.9%	93.2%	88.6%
Poland	95	276 (45)	95.5%	90.8%	89.4%
Romania	91	265 (59)	89.1%	89.4%	86.3%
Russia	297	284 (31)	94.9%	95.1%	94.4%
Serbia	382	280 (41)	92.5%	95.1%	92.7%
Slovak Republic	309	255 (61)	85.8%	85.2%	83.7%
Ukraine	191	277 (43)	91.0%	94.3%	92.3%
Average by Country	**22 countries**	**254**	**87.9%**	**88.9%**	**85.6%**

Note: "Tax Compliance Scale" is measured as the sum of the average sales reported for tax purposes, the average workforce reported for tax purposes, and the average wage bill reported for tax purposes.

All data is taken from the 2005 Business Environment and Enterprise Performance Survey (2005 BEEPS).

Table 2, Panel A
Overall Descriptive Statistics

Variable	Mean	Standard Deviation	Minimum	Maximum
TAXCOMPLY	265.891	52.284	40	300
CORRUPTION	1.952	1.327	1	6
GEN-TRUST	0.233	0.054	.111	.303
PART-TRUST	2.549	1.368	1	5
SERVICE	10.963	45.696	0	365
LEGAL	13.952	5.579	1	30
SIZE	1.389	0.655	1	3
OWNER	81.983	36.459	0	100
AUDIT	0.460	0.498	0	1
EFFECT	0.369	0.797	0	4

Variable Definitions:

TAXCOMPLY is the sum of responses to three questions (each up to 100) measuring tax compliance; higher numbers indicate greater compliance.

CORRUPTION assesses unofficial gifts or payments to deal with taxes and tax collection (on a 6-point Likert-type scale); higher numbers indicate greater levels of corruption.

GEN-TRUST is a country-level of the percentage of people who believe that most people can be trusted; higher proportions indicate greater generalized trust and trust in strangers.

PART-TRUST is a 5-point Likert-type scale assessing the degree of reliance on family and friends in business; higher levels indicate greater reliance on family and friends.

SERVICE is the number of days of power outages or disruptions in the past 12 months.

LEGAL is the sum of five statements (each on a 6-point Likert-type scale) assessing the perceived fairness of the legal system, with higher values indicating higher perceived fairness of the legal system.

SIZE assesses whether the firms are small (coded as 1, with less than 50 employees), medium sized (coded as 2, with 50-249 employees), or large (250-9,999 employees).

OWNER is the percentage of ownership by private, domestic individuals or organizations.

AUDIT is a measure of corporate governance, taking a value of "1" if the firms' financial statements have been certified by an external auditor and "0" if they have not.

EFFECT is a five-point Likert-type scale assessing the perceived effectiveness of the firm's unofficial payments to affect the votes of legislators; higher values indicated greater perceived effectiveness.

Descriptive statistics are based on 5,144 observations.

Table 2, Panel B
Descriptive Statistics by Country of Independent Variables

Country	Average Level of tax-related *CORRUPTION*	Average Level of *GEN-TRUST*	Average Level of *PART-TRUST*
Albania	1.79	0.2565	3.06
Armenia	2.18	0.2468	2.95
Azerbaijan	3.01	0.2053	3.12
Belarus	1.38	0.2454	2.20
Bosnia/ Herzegovina	2.51	0.2193	2.62
Bulgaria	2.37	0.2530	3.14
Croatia	1.26	0.2509	2.27
Czech Republic	1.55	0.2930	2.52
Estonia	2.02	0.2152	2.29
FYR Macedonia	1.51	0.1111	2.29
Georgia	1.76	0.1847	2.62
Hungary	1.62	0.3018	2.32
Kyrgyz Republic	1.78	0.1667	2.45
Latvia	1.90	0.2474	3.29
Lithuania	1.46	0.2192	2.23
Moldova	1.55	0.1823	2.21
Poland	1.25	0.2331	2.08
Romania	1.51	0.1964	2.73
Russia	2.73	0.2918	2.95
Serbia	2.24	0.2580	2.41
Slovak Republic	2.82	0.1683	2.49
Ukraine	2.82	0.3029	2.26
Average by Country	**1.95**	**0.230**	**2.57**

Table 3
Correlation Matrix

Variable	*TAXCOMPLY*	*CORRUPTION*	*GEN-TRUST*	*PART-TRUST*	*SERVICE*	*LEGAL*	*SIZE*	*OWNER*	*AUDIT*	*EFFECT*
TAXCOMPLY	1.0									
CORRUPTION	-.236***	1.0								
GEN-TRUST	.081***	.025	1.0							
PART-TRUST	-.116***	.112***	.045***	1.0						
SERVICE	-.120***	.154***	-.056***	.056***	1.0					
LEGAL	.104***	-.053***	-.005	-.028**	-.017	1.0				
SIZE	.129***	-.047***	-.004	-.226***	-.030**	.126***	1.0			
OWNER	-.125***	.058***	.046***	.213***	.034**	-.077***	-.365***	1.0		
AUDIT	.028**	.037**	-.196***	-.170***	.089***	.104***	.320***	-.212***	1.0	
EFFECT	-.178***	.293***	.059***	.108***	.079***	-.058***	.006	.024	-.019	1.0

*, $p < .10$; **, $p < .05$; ***, $p < .01$ (all presented p-values are two-tailed)

See Table 2 for variable definitions.

Correlation matrix is based on 5,144 observations.

Table 4
Mixed Effect Regression Results

Dependent Variable: Tax Compliance

Variable	Model 1 (Main Effects) Parameter Estimates	Model 2 (with Interaction Effects) Parameter Estimates
Test Variables		
CORRUPTION (H1)	-8.182 (0.62)***	-16.437 (2.84)***
GEN-TRUST (H2a)	126.259 (72.99)**	60.182 (74.05)
PART-TRUST (H2b)	-1.582 (0.57)***	-1.877 (0.98)**
GEN-TRUST x CORRUPTION (H3a)		34.138 (11.29)***
PART-TRUST x CORRUPTION (H3b)		0.126 (0.42)
Control Variables		
SERVICE	-0.020 (0.02)	-0.019 (0.02)
LEGAL	0.562 (0.13)***	0.578 (0.13)***
SIZE	5.280 (1.25)***	5.326 (1.25)***
OWNER	-0.111 (0.02)***	-0.112 (0.02)***
AUDIT	-0.511 (1.65)	-0.404 (1.65)
EFFECT	-5.929 (0.98)***	-6.266 (0.99)***
Constant	251.798 (17.59)***	267.542 (17.88)***
Model		
Country (Group) Random Effects	Included	Included
Wald χ^2	447.28	457.96
Prob. > χ^2	< .0001	<.0001

Note: Values in parentheses denote the standard errors of the estimates; mixed-effect regression results use restricted maximum likelihood (REML). The mixed-effect regression model is based on 5,144 observations.

*p < .10; ** p< .05; *** p<.01 (directional hypothesized variables are one-tailed p-values; remaining variables are two-tailed p-values)

See Table 2 for variable definitions.

Table 5
Supplemental Analyses

Variable	Tax Compliance: Sales Parameter Estimates	Tax Compliance: Workforce Parameter Estimates	Tax Compliance: Wages Parameter Estimates
Test Variables			
CORRUPTION (H1)	-3.765 (1.05)***	-5.254 (1.02)***	-7.512 (1.11)***
GEN-TRUST (H2a)	36.744 (26.03)*	8.411 (25.44)	13.984 (25.02)
PART-TRUST (H2b)	-0.867 (0.36)***	-0.446 (0.35)*	-0.576 (0.38)*
GEN-TRUST x CORRUPTION (H3a)	5.520 (4.18)*	12.02 (4.03)***	16.979 (4.42)***
PART-TRUST x CORRUPTION (H3b)	0.074 (0.15)	-0.026 (0.15)	0.082 (0.16)
Control Variables			
SERVICE	-0.05 (0.01)	-0.009 (0.01)	-0.006 (0.01)
LEGAL	0.207 (0.05)***	0.172 (0.05)***	0.199 (0.05)***
SIZE	1.382 (0.46)***	1.614 (0.45)***	2.332 (0.49)***
OWNER	-0.036 (0.01)***	-0.034 (0.01)***	-0.042 (0.02)***
AUDIT	-0.363 (0.61)	-0.151 (0.59)	0.136 (0.65)
EFFECT	-1.765 (0.37)***	-2.22 (0.35)***	-2.311 (0.39)***
Constant	85.666 (6.30)***	92.59 (6.15)***	89.579 (6.099)***
Model			
Country (Group) Random Effects	Included	Included	Included
Wald χ^2	299.97	357.53	456.92
Prob. > χ^2	< .0001	<.0001	<.0001

*p < .10; ** p< .05; ***p< .01 (directional hypothesized variables are one-tailed p-values; remaining variables are two-tailed p-values)
See Table 2 for variable definitions and Table 4 for model specifications.

Figure 1: Interaction of Corruption and Generalized Trust

(for Overall Tax Compliance)