

Corruption and NGO Sustainability: A Panel Study of Post-communist States

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Abstract The development and viability of the non-governmental organization (NGO) sector varies across the post-communist world. We explore the impact of corruption on NGO sustainability—the overall enabling environment and activities of the NGO sector—in Eastern Europe and the former Soviet Union from 1998 to 2007. To test hypotheses about the relationship between corruption and NGO sustainability, we employ time-series cross-sectional analyses of 27 post-communist states, controlling for domestic factors such as economic development, government expenditure, and democracy, and international factors such as levels of trade, foreign direct investment, and foreign aid, as well as a country's status *vis-à-vis* the European Union. We conclude that corruption is consistently and strongly associated with lower levels of NGO sustainability. In particular, our analyses suggest that corruption is likely to degrade the legal environment and fiscal viability of the NGO sector greater than other aspects related to NGO activities such as advocacy or organizational capacity.

Résumé Dans les pays à l'ère post-communiste, le secteur des organisations non gouvernementales (ONG) connaît une réussite variable en termes de développement et de viabilité. Nous explorons ici les effets de la corruption sur la pérennité des ONG (environnement global favorable et activité du secteur des ONG) en Europe de

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l'Est et dans l'ex Union Soviétique entre 1998 et 2007. Pour tester les hypothèses concernant les relations entre la corruption et la pérennité des ONG, nous procédons à des analyses transversales de séries temporelles pour 27 états post-communistes, en observant des facteurs (variables ?) nationaux (domestiques ?) tels que le développement économique, les dépenses gouvernementales et la démocratie, ainsi que des facteurs internationaux tels que les quantités d'échanges, les investissements directs provenant de l'étranger, l'aide internationale et le statut (la position ?) du pays vis-à-vis de l'Union européenne. Nous concluons que la corruption est systématiquement et fortement associée à une faible pérennité des ONG. Nos analyses suggèrent plus particulièrement que la corruption est susceptible de dégrader l'environnement juridique et la viabilité fiscale du secteur des ONG davantage que les autres aspects des activités des ONG tels que la promotion d'une cause ou leur capacité organisationnelle.

Zusammenfassung Nicht-staatliche Organisationen in der post-kommunistischen Welt variieren in ihrer Entwicklung und Überlebensfähigkeit. Wir untersuchen die Auswirkungen von Korruption auf die Nachhaltigkeit nicht-staatlicher Organisationen, d. h. die günstigen Rahmenbedingungen und Aktivitäten des Sektors insgesamt, in Osteuropa und der ehemaligen Sowjetunion über den Zeitraum von 1998 bis 2007. Um die Hypothesen über das Verhältnis zwischen Korruption und der Nachhaltigkeit nicht-staatlicher Organisationen zu testen, wenden wir Zeitreihen-Querschnitt-Analysen (Time-Series-Cross-Section-Analysen) von 27 ehemals kommunistischen Ländern an und überprüfen inländische Faktoren, wie beispielsweise die wirtschaftliche Entwicklung, staatliche Ausgaben und Demokratie, und internationale Faktoren, z. B. Handelsumfang, ausländische Direktinvestitionen und Auslandshilfe, sowie den Status eines jeden Landes mit Hinblick auf die Europäische Union. Wir kommen zu dem Schluss, dass Korruption durchweg eng mit einer niedrigeren Nachhaltigkeit nicht-staatlicher Organisationen in Verbindung steht. Unsere Analysen weisen insbesondere darauf hin, dass Korruption mit aller Wahrscheinlichkeit die rechtlichen Rahmenbedingungen und die finanzielle Überlebensfähigkeit des Sektors mehr schwächt als andere Aspekte im Zusammenhang mit den Aktivitäten nicht-staatlicher Organisationen, wie beispielsweise die Interessenvertretung oder die organisationale Fähigkeit.

Resumen El desarrollo y la viabilidad del sector de las organizaciones no gubernamentales (ONG) varían en el mundo post-comunista. Exploramos el impacto de la corrupción sobre la sostenibilidad de las ONG – el entorno propicio global y las actividades del sector de las ONG - en Europa del Este y en la antigua Unión Soviética desde 1998 a 2007. Para probar la hipótesis sobre la relación entre la corrupción y la sostenibilidad de las ONG, empleamos análisis transversales de series temporales de 27 estados post-comunistas, controlando factores internos tales como el desarrollo económico, el gasto gubernamental y la democracia, y factores internacionales, tales como los niveles de comercio, la inversión directa extranjera y la ayuda externa, así como también el estatus del país frente a la Unión Europea. Concluimos que la corrupción está invariable y fuertemente asociada a menores niveles de sostenibilidad de las ONG. En particular, nuestro análisis sugieren que es

probable que la corrupción degrade el entorno legal y la viabilidad fiscal del sector de las ONG en mayor medida que otros aspectos relacionados con las actividades de las ONG, tales como la defensa o la capacidad organizativa.

Keywords NGO sustainability · Corruption · Legal environment · Financial viability · Eastern Europe and Former Soviet Union

Substantial variation exists in the robustness and sustainability of the non-governmental organization (NGO) sector in the post-communist states of Eastern Europe and the former Soviet Union. Despite shared historical legacies among many countries in the region (Ekiert and Hanson 2003), the development of the NGO sector has been inconsistent. This is true both geographically across Eastern Europe and Eurasia, and temporally, with individual countries showing both improvement and backsliding. We present an argument that levels of societal corruption, a previously ignored factor, should significantly inhibit the development of an environment supportive of NGOs, and test this argument using cross-national data on various aspects of the NGO sector in the post-communist region.

Civil society consists of a wide array of non-governmental, non-profit voluntary organizations operating independently of businesses and government, aiming to realize specific goals (Howard 2002; Lee 2010). While the credibility, corruption, wrongdoing, and scandals *within* NGOs have been studied in the literature (Gibelman and Gelman 2001, 2004), previous NGO studies have not adequately addressed the impact of systemic corruption *on* the NGO sector, neither theorizing how it affects NGOs nor empirically examining its association with the strength of the NGO sector. While this may seem surprising given the fact that corruption has significant negative impacts on the business environment (Fries et al. 2003), it is much less so once one considers that much research on NGOs envisions them as groups interacting with the state and society in a manner different than businesses (Edwards and Hulme 1996; Cooley and Ron 2002; Suarez and Hwang 2012).

We start from the premise that NGOs operate and exist in an environment similar to other organizations, and contend that to adequately explain variation in the strength of the NGO sector one must take into account the level of corruption found in the environment in which they operate. There are two main reasons for this. First, corruption impedes the development of a favorable legal environment for the NGO sector. A favorable legal environment includes those legal and regulatory conditions that support NGOs by facilitating new entrants, reducing governmental interference in NGO activities, and easing regulations on taxation and procurement (USAID 2010). Second, corruption degrades the financial viability of NGOs, reducing philanthropic donations and self-financing opportunities from local sources and increasing uncertainty around the costs of doing business.

This paper proceeds as follows. First, we discuss NGO sustainability and the USAID Index, an exemplary data source on the NGO sector in Eastern Europe and the FSU. Second, we propose two mechanisms through which corruption should be associated with low levels of NGO sustainability, and address the issue of

measuring corruption. Third, to test hypotheses about the effects of corruption and other covariates on NGO sustainability, we present a number of models that demonstrate a consistent and robust relationship between corruption and NGO sustainability, and follow this with visualization of the substantive implications of our models. We conclude with a discussion of the implications these findings have for understanding the sustainability of the NGO sector in both the post-communist region and beyond.

The Development of NGOs

NGOs are civic organizations acting as intermediaries between society and the state. They are collectively organized around specific common interests held by society or some subset thereof, and their primary purpose is neither to pursue profit within the market nor to achieve power within the state (Fisher 1998; Florini 2000). A major aim of NGOs is to mediate between society and the state by either creating focal points around which citizen concerns can be articulated and contested, or by engaging in issue advocacy on behalf of members' interests (Hilhorst 2003). There are other vital roles that NGOs play, especially outside of advanced industrial democracies. For example, they can nurture civil society by building social capital and trust among citizens (Paxton 2002), or provide public services in response to the needs of communities (Fisher 1998).

Despite this widespread recognition of the vital importance NGO plays, the overwhelming majority of research focuses on domestic and international factors driving the development or penetration of international NGOs (Smith and Wiest 2005; Lee 2010). One unfortunate result of this focus on the role of international (typically well-funded, Western) NGOs has been a lack of attention to the environment in which local NGOs operate: comparative studies of the strength and viability of domestic NGOs are, with some exceptions, rare. In one example, Petrova (2007) examines a cross section of 25 countries, looking at national averages of micro-level variables (interpersonal trust, interest in politics, and activity in voluntary associations) and the aggregate of macro variables (international NGO memberships and GDP per capita).¹ Lee et al. (2011) show that popular trust in the NGO sector in Eurasia is contingent on the level of media independence, as an independent media holds NGOs accountable by providing information on their activities (see also Jakobson and Sanovich 2010). Research to date, however, has failed to examine how broader, systemic-level corruption is related to the strength of the NGO sector, despite significant research on how it inhibits the functioning of the private sector.

¹ Unfortunately, due to having an N of only 25, Petrova aggregates the macro-level variables, including the number of international NGOs. That local NGO development may drive state involvement in international NGOs is not considered. Neither is the possibility that similar factors drive domestic and NGO strength.

NGO Sustainability in the Post-Communist World

After the collapse of communism in Eastern Europe and the Soviet Union, NGOs became active in all areas of social, political, and economic life (Zinnes and Bell 2003). However, there are contrasting perspectives on the power and limits of NGO sectors in the region (Mendelson and Glenn 2002). Academic studies of NGOs in post-communist countries have focused on either the relationships between domestic NGOs and foreign donors or the weakness of civil society (Kopecky and Mudde 2003). Cooley and Ron (2002) find that the influx of foreign aid to the NGO sector in Kyrgyzstan failed to complete institutional reform, a result of principal–agent problems, competition between NGOs over resources, and uncooperative bureaucracies. In a different vein, Howard (2003) contends that post-communist countries have lower levels of organizational membership than democracies and other post-authoritarian states, with the weakness of civil society in the region stemming from the mistrust of previous communist organizations, the persistence of private networks, and widespread disappointment with reforms in the early post-communist era.

While the strength of the NGO sector in the region is in dispute (Cooley and Ron 2002; Kopecky and Mudde 2003; Howard 2003), the rapid emergence of thousands of NGOs in the region is not (Henderson 2002). This emergence, however, has not been evenly distributed across the post-communist states (Rikmann and Keedus 2013). As noted, NGO sustainability has varied not only across countries but also within states over time. According to USAID, NGO sustainability in Estonia, for instance, improved from 2000 to 2006, whereas it continued to worsen in already-problematic Uzbekistan. This time period witnessed backsliding in some countries previously successful at building comparatively strong NGO sectors, including Hungary and the Czech Republic.

USAID's NGO Sustainability Index is a rich data source detailing the viability of the NGO sector, unique in that it tracks and compares progress in all of Eastern Europe and the FSU (Moore 2006). It is a comprehensive measure consisting of seven dimensions critical for the NGO sector: legal environment, financial viability, public image, NGO infrastructure, advocacy, organizational capacity, and service provision (USAID 2008). We categorize these seven dimensions into two subsets: environment and activities. The enabling environment for NGO sectors includes the legal rights, financial conditions, public awareness of NGOs, and the prevalence of organizations and networks supportive of NGO activities. The activity dimension consists of the success of NGO advocacy, the organizational capacity skills found in the sector, and the provision of NGO services for their constituents. Table 1 briefly summarizes these dimensions.

Country ratings in the USAID NGO Sustainability Index are based on decisions made by country and regional expert groups, including grassroots NGO staff, international donors, media representatives, academic experts, government partners, legal experts, and USAID experts working in the area of civil society development (USAID 2008). Expert groups in each country discuss every index component, highlighting both existing constraints and progress made. Then the Editorial Committee collects and reviews country reports in a comparative perspective. By

Table 1 USAID NGO Sustainability Index: summary of seven dimensions and their factors

Environment	
Legal environment:	Legal rights and conditions regarding taxation. Procurement, access to information, and so forth
Financial viability:	The state of the economy to support NGO self-financing; the extent to which donation and volunteerism are being nurtured in the local culture, the extent to which government procurement and commercial revenue raising opportunities are developed
Public image	Public awareness and credibility of the role that NGO play in society
NGO infrastructure:	The availability of intermediary support organizations that provide NGOs with broad access to local NGO support services
Activity	
Advocacy	The formation of coalition and networks to communicate with policy makers as well as the broader public
Organizational capacity	The presence of constituencies that are transparently governed and publicly accountable, capably managed; exhibition of essential organizational skills
Service provision	The provision of services that consistently meet the needs, priorities, and expectations of their constituents

Source USAID (2008)

collecting data this way, the Index allows for comparisons of both setbacks and advances in NGO sector development longitudinally and cross-sectionally. The Index aims for comprehensive and consistent measurements of the strength of NGO sectors in post-communist states.

The NGO Sustainability Index is the most thoroughly developed conceptually and extensively measured empirically indicator of the NGO sector. Unlike many existing governance indicators, its focus is explicitly regional and sectoral, and it is not a “mash-up” index aggregating disparate and tangentially related indicators (Ravallion 2010) but rather one with explicit conceptual bases and measurement practices. As such, the index does not suffer from the problems found in broader indices such as the World Bank Governance Indicators, which aggregate so much seemingly unrelated information that it is unclear what precisely they are or are not measuring (Kurtz and Schrank 2007).² We further address the concern of over-aggregation found in related literatures by disaggregating the Index into its components, expressly hypothesizing which should be relevant for our discussion of corruption.

Corruption and NGO Sustainability

How corruption—the abuse of public office for private gain—affects the functioning of the state and market is the overwhelming focus of research examining the

² While the NGO Sustainability Index is carefully constructed and robust to critiques commonly aimed at broader global indices of vague, multifaceted phenomenon like the rule of law, it is still arguably an indicator of “global governance,” and subject to critical analyses of these measures as being forms of continued dominance (see, for example, the contributions to Davis et al. 2012). Unfortunately, such normative debates are beyond the scope of this paper.

consequences of the phenomenon. Many, for example, predict that pervasive corruption is associated with lower levels of economic growth (La Porta et al. 1999). Specifically, it reduces economic growth by lowering the incentives to invest among both domestic and foreign entrepreneurs (Mauro 1998). When corruption is widespread among bureaucrats the costs of doing business not only increase, but also substantial uncertainty about these costs is added to the mix. Similarly, when the efficacy of the legal system as a means of securing property rights is called into question, the result is both less growth and a greater reliance on private rather than public goods as a means of contract enforcement and protection (Mo 2001; Volkov 2002).

Corruption also negatively affects growth because it lowers the quality of public infrastructure and services by decreasing tax revenues, distorting government expenditures, and leading talented people to get involved in rent-seeking rather than productive activities (La Porta et al. 1999; Treisman 2000). Distortions in governmental expenditures, in particular, cause more fundamental long-term problems. Countries with high levels of corruption under-invest in human capital, allocating fewer resources to education and health. This happens because sectors such as these provide less corruption opportunities than other types of more capital-intensive spending (Mauro 1998; Gupta et al. 2002). Thus, corrupt officials may be more inclined to spend public resources in sectors favorable to fudged budgets and bribery (energy, construction, etc.), sacrificing investment in sectors vital for sustained economic development (Tanzi and Davoodi 1998). Widespread accusations of corruption surrounding Russian preparations for the 2014 Winter Olympics in Sochi are perhaps the most current and on-going example of such.

The deleterious effects of corruption on states and markets are well known. How corruption should affect the sustainability of civic organizations is inadequately analyzed. In this section of the paper, we attempt to fill the gap in the existing literature on the consequences of corruption by suggesting how it should affect the working of NGOs and impact the various aspects of NGOs captured in the different dimensions of the USAID Sustainability Index. We focus on the relationship between corruption and the NGO sustainability for two reasons: first, compared to other factors such as the democracy and economic development, the nexus between corruption and the strength of NGO sectors has not been systemically examined. This oversight is important because to the extent that corruption is related to both democracy and development, studies not addressing corruption (provided it is in fact a salient factor) fail to adequately estimate the effects of either variables. Second, despite existing studies of the link between corruption and the market or governments, studies of how societal corruption is associated with the third sector are non-existent, despite widespread attention to NGO actors in the post-communist region and elsewhere.

While we hypothesize that higher corruption should be associated with lower levels of NGO sustainability, we also expect that the relationship should differ across the dimensions of sustainability identified by USAID. Broadly speaking, we expect increased levels of corruption to be associated with lower levels of those dimensions of sustainability dealing with the environment in which the NGO sector finds itself, and no consistent relationship between corruption and those dimensions dealing with the activity of NGOs in the post-communist region. In other words, the aggregate

level of NGO sustainability identified by USAID should be negatively associated with the level of corruption in a given system. This relationship should be stronger for components measuring the NGO environment, and weaker or inconsistent in those components measuring performance. This presents the following:

Hypothesis 1 Higher levels of corruption should be associated with a less sustainable NGO environment.

Legal Environment

According to USAID, “For an NGO sector to be sustainable, the legal and regulatory environment should support the needs of NGOs.” (USAID 2008, p. 12) To do this, a legal environment needs to ease barriers and costs to entry, and secure the legal basis to fundraise and engage in other revenue-producing activities. In addition, USAID includes the “degree to which laws and regulations regarding taxation, procurement, access to information and other issues benefit or deter NGOs’ effectiveness and viability.” When measuring the legal environment, USAID excludes broader legal issues like the rule of law, security of property rights, and judicial independence, focusing solely on legal matters explicitly affecting NGOs.³

Higher levels of corruption should result specifically in a more precarious legal environment for NGOs primarily because corruption typically increases both the scope of activities of regulatory agencies and the latitude with which these agencies can operate. Critically, systemic corruption should affect agencies such as the tax police, the procuracy, and regulatory agencies to a high degree, given the already-high levels of discretion involved in these fields (Holmes 1999). Russia is perhaps the most emblematic case of this in the post-communist world (Burger and Holland 2008). Corruption in the above institutions and others allows for greater administrative discretion in policies like registering new organizations, inspecting their premises, and monitoring their activities, and should create a situation where state agents are more likely and better able to extract rents from existing or new NGOs (Green 2002). In addition, the benefits that accrue to these officials as a result of corruption should also incentivize them to work against any change or clarification of the legal environment, meaning not only more opportunities to prey on the NGO sector, but also a lack of clarity and a complex legal environment in which what is permissible and what it is forbidden is unclear. This leads us to the following hypothesis:

Hypothesis 2 Corruption should be associated with a poorer legal environments for NGOs.

Financial Viability

Corruption impedes financial viability for NGOs by significantly increasing costs. As noted above, high levels of corruption raise the overall costs of doing business in

³ Georgia is illustrative of this. Despite scoring well on the legal environment dimension, the level of judicial independence in the country is remarkably low, below either Russia or Ukraine (Linzer and Staton 2011).

an economy and impede economic performance. Therefore, we should expect higher corruption to be negatively associated with the financial viability of NGOs.

Second, corruption should not only raise the absolute costs of doing business for NGOs and thus their viability, but it should also affect them through its increase in the uncertainty of those costs (for a discussion focusing on Russia, see Ledeneva 2001). Much work has been conducted showing that labor income uncertainty negatively affects economic outcomes (Aiyagari 1994), and Campos (2001) demonstrates that corruption is especially pernicious when firms are unable to calculate *ex ante* the amount of revenue that will need to be dedicated to greasing the wheels. This should be even more problematic for NGOs in transitioning societies, whose revenue streams are typically uncertain to begin with (Sundstrom 2006). Since NGOs face significant budget constraints and are unable to pass along the costs of corruption to their consumers, corruption may not just raise the costs of doing business, but may make it prohibitive (Uslander 2008). Additionally, international donors—a critical source of revenue—are typically not supportive of substantial percentages of their funds going to bribe government officials, meaning high levels of corruption should also attenuate financial viability by discouraging international donors (Bergling 2006).

Third, favorable tax regulations help the NGO sector overcome economic hardships to organization (Green 2002). In situations where officials can manipulate tax enforcement, such as the regulation of income tax exemptions and deduction of charitable contributions, the financial viability of the NGO sector should be negatively affected.

Finally, corruption should impede both private philanthropy and the ability of the NGO sector to secure government support. In contexts where small, medium, and large businesses are routinely expected to “volunteer” payments to obtain access and services that should be freely available, both the ability and the predilection toward actual philanthropy should be lessened. In instances of widespread corruption, government funding is often directed to political patrons and clients, rather than the NGO sector. In addition, when government contracts are captured through corrupt practices, NGO access to this critical aspect of financial viability should be minimal. This suggests the following:

Hypothesis 3 Corruption should be associated with worse financial viability for NGOs.

The Other Components of the NGO Sustainability Index

There are few reasons to expect any strong first-order relationships between corruption and the other five indicators of NGO sustainability. That is, the manner in which corruption impedes the efficacy of the NGO sector in post-communist countries should work primarily through the legal environment and the financial viability of NGOs. An example of this would be through the lack of any direct effect on the level of NGO infrastructure, as this measures the extensiveness of things such as management training programs and technological support centers, as well as the cohesiveness with which different parts of the NGO sector communicate and work

together to achieve common objectives. While all of these should certainly be negatively affected by a poor legal environment and a lack of resources, it is through these channels that corruption should inhibit the level of infrastructure. Similarly, the public image dimension measures media support and coverage of NGOs, “as well as the public’s knowledge and perception of the sector as a whole,” which should be minimally affected by corruption (USAID 2008).

The second group of component measures of NGO sustainability focus on NGO sector activities, rather than its environment. While we certainly expect NGOs to be less successful in more corrupt countries, the effectiveness of their operations should be a result of the dimensions discussed above, i.e., mediated through their financial viability and the environment in which they operate. As such, there is little reason to expect corruption to strongly or directly affect the effectiveness of NGOs with regards to advocacy, organizational capacity, and service provision, and, therefore, the statistical relationship between corruption and these components of the index should be weak or inconclusive. For example, the questions the organizational capacity component answers revolve around the efficiency and effectiveness of the internal organization of NGOs, typified by whether “most NGOs incorporate strategic planning techniques in their decision-making process?” and to what degree there exists “a clearly defined management structure within NGOs, including a recognized division of responsibilities between the board of directors and staff members?” Similarly, the advocacy component addresses issues such as whether “NGOs formed issue-based coalitions and conducted broad-based advocacy campaigns? Have these campaigns been effective at the local and/or national level in increasing awareness or support for various causes?” Finally, the service provision component captures the degree to which the NGO sector provides a wide variety of services, asking if that when “NGOs provide goods and services, do they recover any of their costs by charging fees? Do NGOs have knowledge of the market demand—and the ability of distinct constituencies to pay—for those products?” (USAID 2008) Unlike the legal and financial measures, these activity measures address dimensions of sustainability that should have a marginal relationship with corruption. This suggests the following:

Hypothesis 4 Corruption should not be associated with components of public image, infrastructure, advocacy, organizational capacity, or service provision of NGOs.

Data and Methods

Due to the nature of missingness in our data, employing listwise deletion (where each observation that has a missing value on one or more covariates is not included) results in removing 40 % of the post-communist country-years between 1997 and 2007. In cases where data are missing at random, there would be no bias introduced by doing so. This is because when there are no systematic patterns to the missingness, listwise deletion is in effect sampling from a larger population. If instead data show systematic patterns of missingness on variables correlated with

dependent or independent variables, listwise deletion introduces bias (King et al. 2001). Using listwise deletion here would be highly problematic, as patterns of missingness exist. One such example in our data involves missingness for those post-communist states that in 2004 joined the European Union.⁴ Given that these are generally the wealthiest and most democratic states in the region, our estimates would be biased. Furthermore, as we test to see if a state's status *vis-à-vis* the EU has any relationship with NGO sustainability, deleting two dozen observations with the same EU status would be highly problematic.

As such, we employ multiple imputation, which has been shown to produce substantially less bias than listwise deletion (King et al. 2001). Multiple imputation creates m datasets, and uses known information to predict the values of missing information. The difference between any one imputed cell across the m datasets is a result of how well the model predicts the given cell; the purpose of multiple datasets is to integrate uncertainty in the predicted quantities into the modeling process. Here, we employ the approach advocated by Honaker and King (2010), which explicitly deals with the issues surrounding multiple imputation in time-series cross-sectional data. All model results presented are the average results over twenty imputed datasets.

Dependent Variables

The dependent variables are drawn from the USAID NGO Sustainability Index. Each dimension is measured yearly in each country and assigned a score on a scale ranging from 1 to 7 (measured to tenths of a point, producing an effectively continuous, sixty-point scale). As produced by the USAID, the scale codes lower values as more sustainable. Per standard practice, we invert the scale to produce more intuitive estimates of the relationship between NGO sustainability and our independent variables. Therefore, after inversion, a value of seven on the index means that an “NGO sector's sustainability is enhanced significantly by practices/policies in this area.” On the other end of the scale, one indicates that an “NGO sector's sustainability is significantly impeded by practices/policies in this area.” (USAID 2008) To better understand empirically what these different scores mean, Fig. 1 illustrates the variation on scores for each state in the region, also noting its average score on the index. As can be clearly seen, there is substantial variation both between and within countries; even states as consistently problematic as Uzbekistan and consistently positive such as a Hungary evidence fluctuations across 20 % of the index.

We estimate a number of different models, employing in different instances the overall index score or each individual dimension in separate models.⁵ We do this to test the overall relationship between corruption and NGO sustainability, the idea that the legal and financial environment should be more heavily effected by corruption than activities, and finally to test each of the five other dimensions noted above.

⁴ The World Bank stopped measuring aid received by these states post-accession. Another example is the lack of measures provided by the EBRD with regard to the Central Asian cases.

⁵ In all models independent variables are lagged one year to prevent simultaneity bias.

Country scores on the USAID NGO Sustainability Index

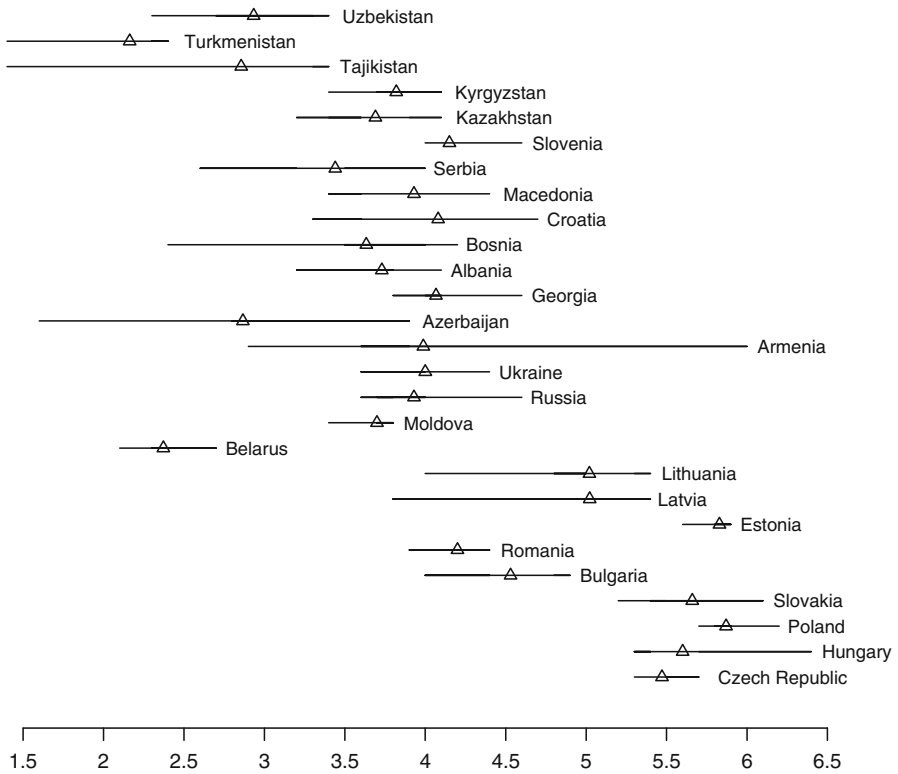


Fig. 1 A plot showing average scores on the USAID NGO Sustainability Index by country. Each triangle represents the mean index score for the country over the decade, and the lines demonstrate the variance in each country, extending to the minimum and maximum values observed in each country. Countries are listed by sub-region

Independent Variables

The principal explanatory variable is the level of corruption. We employ the corruption rating from Freedom House’s Nations in Transit (2010) series, which evaluates the degree of corruption according to the evaluations of both international and domestic country experts from a variety of independent institutions, and is specifically focused on the post-communist states.⁶ Combining and standardizing these inputs, Freedom House produces a measure of corruption that falls between 0 and 10.

⁶ Since we acknowledge the limitations of corruption index (i.e., subjective measurement from expert groups and slow changes over time), we seek to conduct a robustness check with a different measure of corruption. All models presented in the paper were also estimated using the Transparency International Corruption Perception Index, with negligible differences. No critical covariates lost significance, and coefficients changed minimally. Also, prior to multiple imputation there were more missing values for the TI CPI, bolstering the decision to primarily use the Freedom House rating.

A number of scholars have raised concerns about the use of perception-based measures of corruption, arguing that expert assessments may not have any consistent relationship to facts on the ground and actual experiences with corruption. Empirical evidence supporting this argument, however, is minimal. In a study of eight African countries, Razafindrakoto and Roubaud (2005) find little relationship between expert assessments and household responses to a survey asking about their practical experiences with corruption. In each country experts predicted higher levels of corruption than reported. It is unclear, however, to what degree this study is generalizable. Indeed, the World Bank and Transparency International perception-based measures are highly correlated (between 0.6 and 0.8) with Global Corruption Barometer survey of 64 countries, as well as the UN's Interregional Crime and Justice Research Institute's survey (Treisman 2006).

More importantly for our purposes, there is a consistent and strong correlation between the Freedom House measure and the Business Enterprise and Environment Performance Survey (BEEPS) produced by the European Bank for Reconstruction and Development and the World Bank, which is the most extensive experience-based study of corruption in the post-communist world (for a further discussion see the [Appendix](#)). Furthermore, the fact that there is such high correlation between the different perception-based measures is an argument in favor of the contention that they do in fact capture reality to an acceptable degree. An additional argument is that foreign and domestic-based measures are highly related, with experts both within and outside of countries agreeing. As Treisman (2006, p. 8) notes, "the evaluations of the Economist Intelligence Units experts in 2005 correlated at $r = 0.87$ with those of domestic and international business executives surveyed by the World Economic Forum."

A number of other relevant covariates are included in each of the models, beginning with measures of the level of democracy. We operationalize democracy by employing a combination of the Freedom House and Polity indices, which has been shown to outperform either individual measure in terms of both validity and reliability (Hadenius and Teorell 2005). This averages the values of each and scores them on a 0–10 scale. Controlling for the level of democracy is necessary because the strength and viability of the NGO sector is contingent on domestic political institutions; democratic institutions and room for open participation increases both the viability of NGOs and their effectiveness in achieving their policy goals (Fox 1996; Florini 2000).

We also control for external and economic influences on NGO sustainability. As less economically developed countries are less able to fund NGOs domestically, post-communist NGOs rely heavily on international support. We include measures of economic development (GNI per capita) and foreign aid (as a percentage of GNI) to control for those cases in which foreign aid may be augmenting the viability of the NGO sector (Edwards and Hulme 1996; Carothers and Ottaway 2001). Foreign direct investment (FDI) inflows may indirectly affect the development of NGO sectors, because while FDI typically aims for the private and to some degree the governmental sector, the influx of foreign investment may increase resources for NGOs as well. Additionally, we should expect NGOs to be more active in countries attracting higher level of FDI as NGOs tend to advocate for labor rights,

environmental protection, and codes of conduct for multinational corporations (Newell 2001; Wood 2005). Another measure of level of economic globalization is the total amount of trade (as a percent of GDP). Compared to FDI which might have higher standard on political system for long-term and direct investment, trade that political economists have considered as a *sine qua non* of economic globalization (Garret 2000) is normally short-term relations. Despite the differences among these factors, the more a country is integrated into the global economy, the greater the chance for NGOs to interact with other NGOs across national borders, which scholars have suggested should be a source of strength.⁷

Government expenditures capture the size and role of government in a given country (Adsera and Boix 2002). The influence of the government in social and economic life may adversely affect NGO sustainability. When the state's role in providing social services is minimized, there may be a greater need for NGOs to provide public goods, and more funding for them to do so. We measure government expenditure as a percent of GDP, drawn from the European Bank for Reconstruction and Development (EBRD 2010).

The role of the European Union in the adoption and development of effective institutions in Eastern Europe has received substantial attention (Schimmelfennig and Sedelmeier 2005; Vachudova 2005). With specific reference to NGO sustainability, if "Europeanization" arguments are correct, we should expect to see a relationship between having a formalized relationship as either an EU applicant or member and a country's score on the USAID Index. There are two reasons for this. First, the EU selected countries for accession that were already closer institutionally and legally to EU standards, and thus we should expect that even before the accession process these countries were performing better (Gryzmala-Busse 2007). Second, the accession process itself should affect the viability of the NGO sector, because of conditionality involving the regulation of NGOs, and because substantial EU resources were devoted to development in candidate countries, including the NGO sector (Carmin and Vandever 2004). We use dummy variables capturing the status of a given country in a given year, allowing us to discern the relationship between NGO sustainability and a country's status *vis-à-vis* the EU.

Statistical Models

To estimate the relationships hypothesized above, we employ two modeling procedures, each capturing a theorized feature of the data-generating process as well as the complexity of the data at hand. Theoretically, the value of NGO sustainability at any time t should be related to the observed values at prior occasions, such as $t-1$. The assumption that observations are identically and independently distributed is tenuous in the case of time-series cross-sectional data, and examinations of the data suggest a high degree of autocorrelation for NGO sustainability. Graphs of the autocorrelation and partial autocorrelation functions for NGO sustainability in each cross-sectional unit suggest a stationary time-series with $\varphi < 1$, and panel unit root

⁷ These three variables are taken from the World Bank's World Development Indicators.

tests support these impressions.⁸ To account for this, we first present a time-series cross-sectional model with a first-order autoregressive component.

Similarly, as observations in each given country are repeated measurements of the same unit over time, there is reason to suspect observations within units are not independent (Demidenko 2004). To account for this, we present results of hierarchical linear models with a first-order autoregressive process in the errors. These hierarchical models allows for the intercept to be modeled as a random variable with unit-specific (in this case country-specific) variation.⁹

Analysis

The models in Table 2 show support for Hypothesis 1, the relationship between corruption and NGO sustainability. There is a strong and significant association between corruption and the viability of the NGO sector in the post-communist world. The results of Model 1, which accounts for autocorrelation among the errors, are very close to those of Model 2, which also includes random effects by country. While the value of the coefficients change slightly between models, the only statistically significant differences are the coefficient for economic development and FDI inflows, which are not statistically significant in the hierarchical model: economic development slips just under the $p < 0.05$ level of statistical significance due to a larger standard error, and FDI moves from being statistically significant but substantively irrelevant¹⁰ to being irrelevant in both regards. In both models there is a strong negative association between levels of corruption and NGO sustainability, as well as a strong positive association between levels of democracy and the outcome. Less corrupt, more democratic states in the region are far more likely to possess sustainable NGO sectors.

It is also instructive to look at what fails to reach standard levels of significance in the first two models. The idea—common in the literature on NGOs—that there might exist a trade-off between NGO sustainability and government expenditures finds no support.¹¹ Similarly, there is no discernible relationship between trade and NGO sustainability, providing no confirmation for the idea that openness to trade and the resulting international connections might support the viability of the NGO sector. An interesting finding is the lack of support for the relevance of international factors. Neither foreign aid nor a country's status as an EU candidate or member

⁸ Panel unit root tests (Im-Pearsan-Shin and Fisher tests) were conducted in Stata version 11, all results rejecting the null of unit root at $p < 0.01$.

⁹ This contrasts with a fixed effects approach. Fixed effects are inappropriate with time-invariant covariates, and remove the cross-sectional components from the model. As this variation is important, and as the t is small relative to the number of units, mixed effects models are preferred.

¹⁰ The coefficient estimate for FDI in Model 1 is -0.008 , and a change from the first to third quartile of the observed values for FDI inflows is associated with a less than 0.04 decrease in NGO sustainability.

¹¹ Another possibility is that this is dependent on the level of democracy: if government expenditures are a proxy for state intrusion into the economy, then more intrusive, less democratic governments might have worse environments for NGOs. An interaction term between government expenditures and democracy is, however, highly insignificant and in such a model the individual coefficients barely change.

Table 2 Coefficients (those reaching at least the 0.05 level of statistical significance are marked with an*) with standard errors in parentheses

	Model 1	Model 2	Model 3	Model 4	Model 5
Corruption	-0.22* (0.05)	-0.19* (0.05)	-0.20* (0.05)	-0.25* (0.07)	-0.30* (0.06)
Democracy	0.16* (0.02)	0.16* (0.03)	0.16* (0.03)	0.26* (0.04)	0.13* (0.03)
log(GNI/capita)	0.22* (0.08)	0.20 (0.11)	0.24* (0.10)	0.05 (0.15)	0.23* (0.11)
Govt expenditure	0.00 (0.00)	0.00 (0.00)			
Aid/GNI	0.00 (0.01)	-0.01 (0.01)			
FDI inflows	-0.01*(0.00)	0.00 (0.00)			
Trade	0.00 (0.00)	0.00 (0.00)			
EU	0.14 (0.13)	0.08 (0.16)			
Intercept	1.99 (1.16)	2.17 (1.2)	1.90 (1.17)	3.25 (1.93)	2.08 (1.44)
ϕ	0.81	0.86	0.86	0.86	0.61
$\sigma_{\text{random effects}}$	–	0.17	0.27	0.16	0.53
AIC	189.26	150.96	112.24	366.24	299.86

Model 1 is an AR(1) model, and Models 2–5 are linear mixed effects models with an AR(1) correlation structure. Model 3 is a restricted version of Model 2. The dependent variables of Models 4 and 5 are the legal environment and financial viability components of the index, respectively. Each model has an N of 297

shows a statistically significant relationship with NGO sustainability. The latter result is important, as it questions the claims of the “Europeanization” literature that the EU accession process has had significant positive effects on a variety of domestic phenomena in Eastern Europe. Results of both the models conclude that once other important variables are controlled for, a country’s relationship with the EU has no noticeable effect on the viability of its NGO sector, suggesting a closer look at the efforts of the EU to foster civil society in the accession countries.

Looking at the AIC—which penalizes additional parameters—of Models 1 and 2 strongly recommends the inclusion of the additional parameter of a random intercept in Model 2. Model 3 is a restricted version of the preferred Model 2, omitting the control variables that demonstrated no consistent relationship with NGO sustainability. The AIC of the model has greatly decreased (lower values are preferred), far beyond the 9.49 difference for four degrees of freedom minimal for a preferred fit under the 0.05 level of statistical significance of the χ^2 distribution.¹² Looking at the results of Model 3 as compared to Model 2, we see that the estimate for economic development has regained statistical significance (excluding it produces a far worse fitting model), and that the estimates and errors for democracy and corruption remain effectively unchanged, as does the AR parameter, ϕ . In other words, excluding the additional parameters that were included to control for hypothesized relationships but which showed no consistent relationships with NGO sustainability significantly improves fit as compared to the full model, suggesting the restricted Model 3 with only three covariates is the preferred model.

¹² This decision is also supported by Bayesian model averaging, which suggests the inclusion of corruption and democracy in 100% of models, and whose averaged posterior means are almost indistinguishable from those in Model 3.

Hypotheses 2 and 3 address the relationship between the legal environment and financial viability components of the index and our variables of interest. Models 4 and 5 in Table 2 present restricted specifications for each of the two components suggested by Hypotheses 2 and 3 to be strongly affected by corruption. Model results support the corresponding hypotheses, namely that corruption has strong effects on the legal environment for NGOs and their financial viability, and in fact the estimated effects of corruption are significantly larger in Models 4 and 6—25 % and 50 %, respectively—than in Model 3.

An interesting feature of Model 4 is the lack of significance of the coefficient for the level of economic development. This suggests that while the level of economic development may be critical for overall NGO sustainability and—for the obvious reasons suggested earlier—the level of financial viability, it is unimportant in determining the legal environment in which NGOs operate. In other words, it may very well be the case that though poor countries find it more difficult to maintain viable NGO sectors, they are nonetheless as capable as wealthier countries in establishing legal rules more friendly to NGOs, a plausible and heartening finding.

To save space we refrain from reporting the results of models employing the other five components of the index as dependent variables (output is included in the Supplementary Information). Results largely support Hypothesis 4: the effects of corruption on these aspects of NGO sustainability are either less important than the other components or unimportant in four of the other five components. For organizational capacity and advocacy the only statistically significant covariate is democracy. When infrastructure is analyzed, democracy and corruption are both significant. The estimated effects of corruption, however, are substantially less than that for financial viability or legal environment, and the standard errors around this estimate are much larger. When service provision is analyzed, both foreign aid and EU status are weakly ($p < 0.05$) significant and have a small degree of substantive importance. Corruption and democracy are also both significant, but much like with organizational capacity and advocacy the estimate for the former is smaller than that for legal environment and financial viability.

In the fifth instance—the analysis of the public image of NGOs—our hypothesis that the relationship should be weaker or non-existent is unsupported: the estimated effect of corruption on public is as large as its estimated effect on the legal environment (democracy is once again the only other covariate that is statistically significant). A potential explanation for this finding is that the effects of corruption on public trust in institutions would “travel” to NGOs and they may be tarred with the same lack of trust. In other words, widespread public distrust of state institutions in the post-communist region might likely be heavily affected by the level of corruption, and this distrust might be easily transferred to the third sector. Further study is called for to better understand this finding.

Substantive Implications

DeBoef and Keele (2008) note that a common problem in the interpretation of time-series models in political science is the failure to report anything more than short-

term effects of independent variables, effectively ignoring the important implications of the chosen modeling process. In the case of models with AR components, this translates into not accounting for the cumulative effects of a change in an independent variable at t_1 over subsequent periods. In other words, interpreting the parameters in the “a one unit change in covariate Z is associated with an x unit change in Y ” format substantially under-reports the importance of the covariate in question, since as long as the one unit change is not reversed, the effects of that change play out over every subsequent time period. As such, we refrain from interpreting the coefficients of corruption, democracy, and economic development across each model, and instead present visualizations of the effects of these covariates in Models 3–5.

The solid line in each of the plots in Fig. 2 maps the point estimates of the cumulative effect over time of an one unit change in the labeled covariate on the dependent variable at t_1 (the black line) as well as the 95 % confidence interval around this change (the shaded gray area).¹³ Each column of plots shows changes in one covariate across Models 3–5, and the rows of plots show changes for each covariate within that model: plots a–c shows the expected change in the three covariates in Model 3, plots d–f show changes for Model 4 (legal environment as the dependent variable), and plots g–i show changes for Model 5 (financial viability). Plots do not show what an one unit change at each time period predicts, but rather how the effect of an one-time change at t_1 accumulates over time due to the AR(1) coefficient ϕ reported in each model. This addresses DeBouf and Keele’s concerns, explicitly modeling the temporal dependence that exists in the data.

It is important to stress that this models a situation in which the only time change in a covariate’s value occurs at t_1 . In plot (a), corruption *decreases* by one unit over the mean (of 4.85) at t_1 and remains at this level for the next half decade, as do all other covariates (which remain at their means). This means that Fig. 2 isolates the cumulated effects predicted by the temporal nature of the data and model. As we can see, the nature of the data-generating process means that the changes continue to be felt over time, and thus accumulate: plot (a) illustrates that, after a half decade, a unit decrease in corruption expects an approximately 2.5 higher score on the USAID NGO Sustainability Index. Concretely, this would be similar to corruption decreasing from the level of Croatia in the late 2000s to Lithuania during the same time period. The effect of corruption on the legal environment, shown in plot (d), is even more pronounced: here an one unit drop in corruption on the 1–7 point scale at t_1 is associated with, after 5 years, a three point increase in NGO sustainability. Plot (g) shows the importance of the AR parameter in predicting cumulative change over time. Despite corruption having a significantly larger coefficient in Model 5, the much smaller value of ϕ (0.61 vs. 0.86) means that the effect of a change is not nearly as persistent over time.

The second and third columns of plots in Fig. 2 illustrate how Models 3–5 predict changes in the outcome variable as democracy and development (the log of per

¹³ Plots in Fig. 2 were created using the *tile* package in *R* (Adolph 2010). Model parameters and the variance–covariance matrix are averaged results across 20 imputed datasets. As the visualizations require the mean values for each covariate, the average cell value imputed in the twenty datasets was used. Visualizations conducted on pre-imputation data produce similar results.

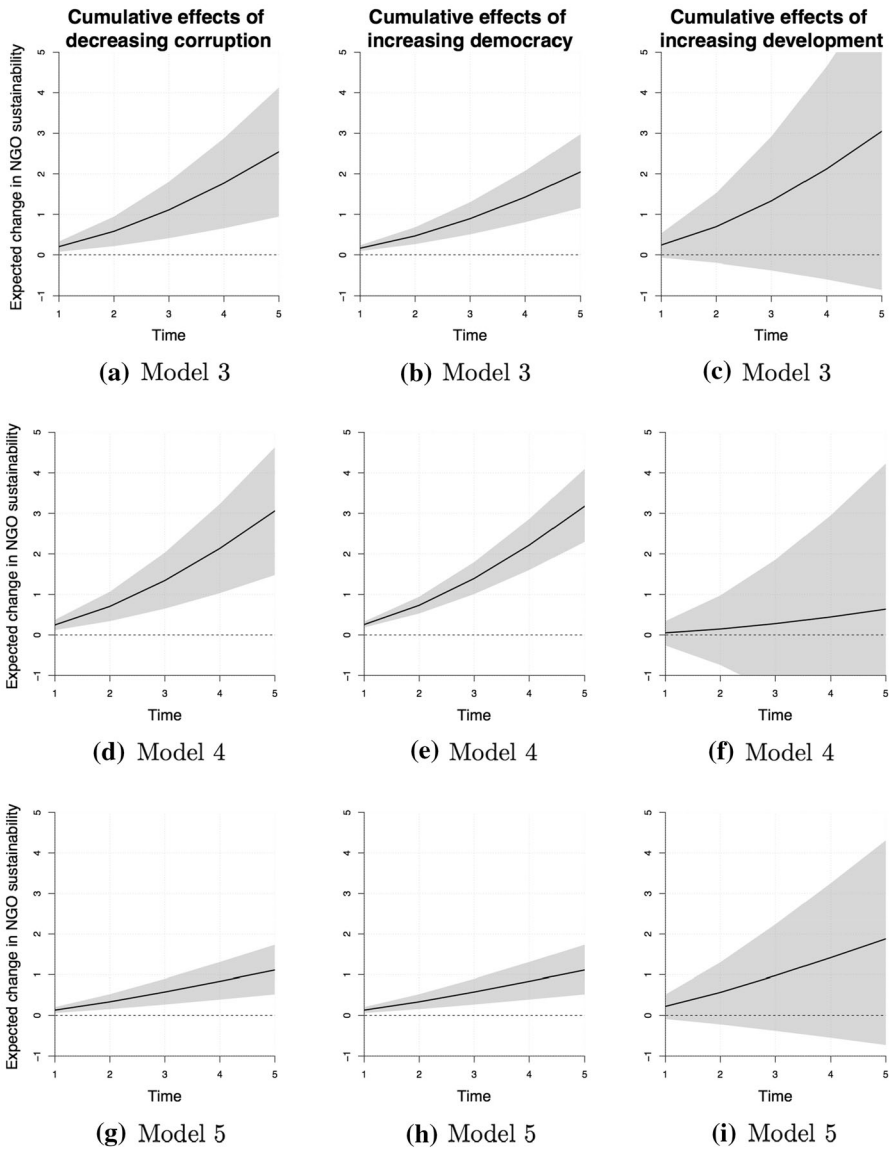


Fig. 2 Plots showing the estimated cumulative effect over time of an one unit increase in the specified covariate from each model. The *solid line* shows the point estimates and the *shaded area* shows the 95 % confidence interval around these estimates

capita GNI) change. As we can see from plots (b), (e), and (h), the effect of an one unit change in democracy is similar to that of corruption (save for smaller confidence intervals due to smaller standard errors) in each of the models. Plots (c), (f), and (i) show the expected effects of an one unit change in development across Models 3–5. As the coefficient for development is both small and highly

insignificant in Model 4, in plot (f) the expected value of the legal environment component of the Index changes very little, and the confidence interval goes well under zero. Indeed, the 95 % confidence intervals around the expected value of the outcome in plots (c) and (i) also slightly cross zero, despite the coefficients being statistically significant at the $p < 0.05$ level. This is because of the nature of the simulation procedure, which samples thousands of parameter estimates from a multivariate normal distribution defined by the coefficients of a model and its variance–covariance matrix, and is thus more conservative than the standard delta method of estimating confidence intervals. By and large, for both the overall measure of NGO sustainability and the financial viability component, increases in economic development are associated with increases with the outcome, although the accuracy of the estimated effect is very large.

Of course, it is often the case that when a country decreases state corruption or increases the robustness of its democracy or economy it does so continually over multiple years. Continued increases over multiple years should, according to the models presented here, result in increased NGO sustainability not only in the following year, but also over time. In other words, the relationships reported in Fig. 2 may underestimate the relationship between the independent variables and dependent variables: as long as states are able to continually improve their prevention of corruption, democratic practices, and economic performance they should see positive effects not only of recent changes but also of prior changes whose effects last over time. Of course, the reverse is unfortunately also true, as continued backsliding should have cumulative negative effects as well.

Conclusion

NGOs play a vital role as bridges between civil society and government. Citizens participate in NGOs both to influence public policy as well as—and this especially holds true in developing and transitioning societies—to provide the collective and all-too-often public goods that go unprovided by the state. In this context, the NGO Sustainability Index measures the favorable conditions for and activities of NGOs in the post-communist world. When they began their transitions after the collapse of communism, the countries in the post-communist region shared common characteristics, such as the lack of NGO development and legacies of state socialism. However, as with many other aspects of state and society (Gryzmala-Busse 2007; Frye 2010), much divergence has occurred in the level of NGO sustainability in two decades since the collapse. To date, little research has been conducted on the potential explanations for this, and our paper has four important implications for the literature.

First, we provide the first comprehensive quantitative examination of the determinants of NGO sustainability over time in the former communist states of Eastern Europe and Eurasia. Doing so we employ an underused index developed by the United States Agency for International Development, and more importantly we disaggregate the index. On a theoretical level we offer hypotheses that address the differing effects corruption should have on the different aspects of NGO

sustainability. Empirically, we demonstrate that the relationships we hypothesize obtain, showing both statistical and substantive significance.

The second implication regards what matters. Corruption, democracy, and the level of economic development are all consistently related to the level of NGO sustainability broadly, and specifically to the legal environment and financial viability of the NGO sector. We provide further evidence supporting the extant finding that levels of democracy and economic development are related to the robustness of the NGO sector, both globally and more precisely with reference to the post-communist context. More importantly, we introduce a new explanatory factor of the strength of the NGO sector, and show that it is both substantively and statistically significant. As Fig. 2 illustrates, corruption's estimated effect on NGO sustainability is an important component of any explanation for the variation in NGO sustainability cross-sectionally or temporally in Eastern Europe and the FSU.

Third, we offer another site of commonality for the literatures on business and NGOs. While much existing research shows that the business environment is significantly impeded by corruption, no work has sought to examine how corruption might affect the non-profit sector. We find that, similar to the business sector, NGO strength is impeded when corruption is pervasive. This finding speaks to the current debates, supporting recent research arguing that NGOs are best viewed as business-like organizations operating in a competitive policy market (Prakash and Gugerty 2010). Here, NGOs and firms share similarities including their emergence, competition, and maintenance as actors motivated and influenced not only by principled beliefs but also by instrumental responses to incentive structures. One implication of this perspective on NGOs is that they should likely be affected by corruption similarly as businesses, which this study shows.

Our final contribution relates to what we find that does not help explain NGO sustainability. With regards to the broader literature on NGOs, we provide some small support for the contention that there is not a trade-off between government expenditures and the vitality of the NGO sector, as it shows no relationship with any of the eight dependent variables employed in our models. Similarly, not a single international factor shows any consistent relationship with NGO sustainability. Neither FDI inflows nor trade as a percentage of GDP produce statistically significant or substantively important coefficients across models. Foreign aid, which has been suggested by a variety of scholars to be an important contributor to the success of NGOs in developing and transitioning societies, also fails to produce a statistically significant or non-zero coefficient. This finding suggests further research into the question of under what conditions foreign aid may or may not support the development of the NGO sector.

With specific reference to the literature on the post-communist experience, we show that a state's status *vis-à-vis* the European Union has no association with the sustainability of its NGO sector. This offers a strong refutation of the popular idea that the EU's influence in the region has been something akin to an unalloyed good. This is not to say that the European Union has had a negative impact on NGOs in the region, but simply that there is no evidence here to support the idea of the EU as an exporter or protector of a robust NGO sector. This finding provides support for the possibility that studies finding a relationship between EU influence and positive

outcomes are problematic because they fail to account for possible selection bias regarding EU candidacy and the success of the post-communist transition.

Our paper raises broader questions regarding the political, legal, and economic conditions under which NGOs as social actors representing civil society operate, and how corruption influences NGO sustainability. We show that the level of corruption in a given country is, along with development and democracy, a key factor explaining variation in NGO development in the post-communist world. If corruption is rampant, NGOs connecting civil society to the state and market operate under substantially worse conditions. The implications of this study suggest that future research exploring the variation in NGO sustainability cross-regionally is called for. For example, examining variation in Asia, Africa, or Latin America would help generalize our findings linking corruption to NGO (un)sustainability. Such an examination would require, however, comparable cross-national data, which to date only exists for Eastern Europe and the former Soviet Union.

At a policy level, the recommendation suggested by this paper is simply that the not insubstantial sums of money being spent promoting the effective development of NGO sectors in the post-communist world and elsewhere need to be spent with greater cognizance of the fact that broader societal factors may work to undermine these efforts. A greater focus on effective anti-corruption policies would be a wise investment if the goal is the strengthening of NGOs and civil society. On the other hand, results also suggest that economic development is not a critical precondition for certain types of reform, namely that of the legal system, which has no relationship with societal wealth, suggesting that even in poorer countries the creation of legal rules protecting and fostering the NGO sector can have positive effects.

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Appendix

Corruption Measures

As was noted in the text, there is a high degree of correlation between the measures employed in the analysis and the Business Environment and Enterprise Performance

Table 3 The correlation between national averages (i.e., percent of firms in a given country answering yes) on a number of BEEPS questions and the Freedom House perception-based measure

BEEPS question	Correlation with Freedom House
Unofficial payments are frequent	0.55
Bribery is frequent in dealing with taxes	0.55
% reporting having paid, tax bribes	0.48
Bribery is frequent when dealing with courts	0.37
Licensing is <i>not</i> a problem	-0.28

Table 4 This table demonstrates the results discussed but not included in the main text, providing Model results for the other five components of the USAID NGO Sustainability Index as well as models with the Transparency International measure of corruption employed

	Public image	Org. capacity	Infrastructure	Service	Advocacy	TI full	TI restricted
Corruption	-0.26* (0.08)	-0.11 (0.06)	-0.20* (0.07)	-0.21* (0.06)	-0.15 (0.08)	-0.09* (0.04)	-0.09* (0.04)
Democracy	0.16* (0.04)	0.13* (0.03)	0.12* (0.04)	0.09* (0.03)	0.22* (0.04)	0.18* (0.03)	0.18* (0.03)
log(GNI/capita)	0.00 (0.14)	0.14 (0.12)	0.18 (0.14)	0.05 (0.10)	0.14 (0.16)	0.22 (0.12)	0.30* (0.11)
Govt expenditure	0.01 (0.01)	0.00 (0.00)	-0.00 (0.01)	0.01 (0.00)	-0.00 (0.00)	0.00 (0.00)	
Aid/GNI	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.02* (0.01)	-0.01 (0.01)	-0.01 (0.01)	
FDI inflows	0.00 (0.01)	-0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)	0.00 (0.01)	0.00 (0.00)	
Trade	-0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)	
EU	0.22 (0.23)	0.18 (0.18)	0.26 (0.22)	-0.41* (0.17)	0.04 (0.24)	0.16 (0.16)	
Intercept	4.01 (1.84)	2.49 (1.36)	3.01 (2.04)	3.96 (1.37)	1.29 (1.81)	1.33 (1.30)	0.78 (1.18)
ϕ	0.72	0.80	0.71	0.53	0.83	0.88	0.89
$\sigma_{\text{random effects}}$	0.41	0.25	0.46	0.44	0.15	0.20	0.19
AIC	407.38	267.96	359.86	273.26	422.91	163.51	126.61

Each is a linear mixed effects model with an AR(1) correlation structure, conducted on an imputed dataset with an N of 279. Coefficients reaching at least the 0.05 level of statistical significance are marked with an asterisk

Table 5 This table demonstrates the results of Models 1–5 when conducted on the “original” pre-imputation data with systematic patterns of missingness, rather than the post-imputation data

	Model 1.1 AR(1)	Model 2.1 LME AR(1)	Model 3.1 LME AR(1)	Model 4.1 Legal environment	Model 5.1 Financial viability
Corruption	-0.18* (0.06)	-0.11 (0.06)	-0.11* (0.05)	-0.25* (0.09)	-0.12 (0.07)
Democracy	0.15* (0.02)	0.14* (0.03)	0.13* (0.02)	0.20* (0.04)	0.15* (0.03)
log(GNI/capita)	0.20* (0.09)	0.34* (0.11)	0.35* (0.10)	0.09 (0.14)	0.48* (0.13)
Govt expenditure	-0.00 (0.01)	0.00 (0.00)			
Aid/GNI	0.02 (0.01)	0.00 (0.01)			
FDI inflows	-0.00 (0.00)	0.00 (0.00)			
Trade	0.00 (0.00)	0.00 (0.00)			

Table 5 continued

	Model 1.1 AR(1)	Model 2.1 LME AR(1)	Model 3.1 LME AR(1)	Model 4.1 Legal environment	Model 5.1 Financial viability
EU	0.47* (0.13)	0.13 (0.12)			
Intercept	2.14 (0.90)	0.61 (1.04)	0.75 (0.91)	3.37 (1.43)	-1.17 (1.26)
ϕ	0.79	0.94	0.95	0.89	0.89
$\sigma_{\text{random effects}}$	-	0.00	0.00	0.44	0.37
AIC	92.09	13.21	-78.57	182.65	116.90
Missing obs.	90	90	57	57	57

Coefficients with standard errors in parentheses for five-models linear mixed effects models with an AR(1) correlation structure. At the bottom, the number of missing observations in each model is noted. Multiple imputation procedures were conducted using Amelia II v 1.2–17 to account for the fact that missing data found in the original data were not missing at random. For information see <http://gking.harvard.edu/amelia/>

Table 6 Nations in transit corruption scores

	Min	Mean	Max
Slovenia	2	2.1	2.3
Poland	2.3	2.6	3.3
Estonia	2.5	2.7	3.3
Hungary	2.5	2.8	3
Slovakia	3	3.4	3.8
Latvia	3	3.4	3.8
Czech Republic	3.3	3.5	3.8
Lithuania	3.5	3.7	4
Bulgaria	3.8	4.3	4.8
Romania	4	4.4	4.8
Croatia	4.5	4.8	5.3
Macedonia	4.8	5.1	5.5
Bosnia	4.3	5.1	6
Serbia	4.5	5.4	6.3
Albania	5	5.4	6
Georgia	5	5.4	6
Belarus	5.3	5.6	6.3
Armenia	5.8	5.8	5.8
Ukraine	5.8	5.9	6
Kyrgyzstan	6	6	6
Russia	5.8	6	6.3
Moldova	6	6.1	6.3
Tajikistan	6	6.1	6.3
Uzbekistan	6	6.1	6.5
Azerbaijan	6	6.2	6.3
Kazakhstan	6	6.3	6.5
Turkmenistan	6	6.3	6.8

Survey (BEEPS) conducted by the European Bank for Reconstruction and Development and the World Bank. Each wave of this survey asks the managers of thousands of firms across sectors and post-communist countries about their experiences with corruption, regulations, licensing, and a number of other relevant phenomena. The table below demonstrates the correlation between the national average for each post-communist country on a number of BEEPS questions from the 2005 and 2008 surveys and the Freedom House perception-based measure used in our analysis. While obviously these are the reports of business managers (three quarters of which are coming from manufacturing and wholesale and retail trade), and as such would be inappropriate to use in our analysis, they do show a very high degree of correlation with the expert-survey perception-based measures, suggesting that our analysis is capturing to a large degree the experienced corruption environment in the post-communist world (Tables 3, 4, 5, and 6).

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