Corruption and Policy: Back to the Roots

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Corruption is now recognized to be a pervasive phenomenon that can seriously jeopardize the best-intentioned reform efforts. This paper presents an analytical framework for examining the role basic market institutions play in rent-seeking and illicit behavior. The empirical results suggest that high barriers to new business entry and soft budget constraints on incumbent firms are particularly important institutional factors engendering opportunities for corruption. The findings also support the notion that economic development and maturation of democratic processes both temper corruption, as does, to a lesser extent, openness to international trade.

Key words: Corruption; Transition; Institutional development

JEL Codes: K42, P30, O17, L51, G30

1 INTRODUCTION

Ten years into the transition process, corruption is now recognized to be a pervasive phenomenon that can seriously jeopardize the best-intentioned reform efforts. As emphasized by a growing literature, corruption affects growth and investment, making its eradication a fundamental challenge for the long-term development of many countries (among others, see Mauro, 1995; Frye and Shleifer, 1997; Bardhan, 1997; Shleifer and Vishny, 1993; 1994 and 1998; Johnson, Kaufamann, McMillan and Woodruff, 2000; Friedman, Johnson, and Levin and Satarov, 2000). Indeed, the fight against corruption has become a key element in the policy agenda of many governments and international development agencies.

The deep and complex political economy dynamics surrounding the process transition economies are undergoing – fundamentally replacing entrenched central planning structures and vested interests regulated by a regime of command and control with new policy frameworks and institutions based on market incentives – make it essential for policy makers to understand the causes of corruption. Systematic investigation of the determinants of corruption in these economies, however, has been limited, with few empirical studies carried out. Exceptions are Ades and Di Tella (1999), which explores the links between corruption and degree of foreign competition; Treisman (2000), which analyzes the effects of historical
and cultural traditions, economic development and political institutions on corruption; and Broadman and Recanatini (2001a), which this article updates and draws from.¹

Despite the limited evidence on the causes of corruption, researchers and policy-makers increasingly agree that corruption thrives in environments plagued by certain institutional deficiencies, such as weak market signals, limited checks and balances, discretionary rules, and lack of transparency, among others (World Bank, 1997a; World Bank, 2001).² Economists in the field of industrial organization, antitrust and regulation have long recognized these institutional factors as potent determinants of corruption, opportunistic behavior and “capture” of government officials (among others, see Scherer, 1970; Kahn, 1971; and Shepherd and Wilcox, 1979). Only now are these relationships becoming conventional wisdom among specialists in economies of transition.

The purpose of this paper is twofold. We first review the analytical framework introduced in Broadman and Recanatini (2001a) to examine the role market institutions play in rent-seeking and illicit behavior. Second, using data only recently available across an array of transition economies, we provide preliminary empirical evidence on the links between the development of market institutions and incentives for corruption. Although the complexity of the issues and the limited data available call for caution, our cross-country exploration offers important indicative results. While virtually all of the institutional indicators we examine appear to be important, two emerge as especially statistically significant in engendering corruption: entry barriers faced by new businesses and soft budget constraints on incumbent enterprises. These empirical results also support the notion that economic development and maturation of democratic processes both temper corruption, as does, to a lesser extent, openness to international trade.

The main lesson from our analysis is that a well-established system of market institutions – especially one that provides for a robust competitive environment – reduces rent-seeking opportunities and incentives for corruption. We also call attention to the importance of both the design and effective implementation of such measures to promote the establishment of an effective market system. It is not enough, for example, to simply enact first-class laws if these are not enforced. In this regard, the dynamics engendered by the tensions in a country’s political economy regime play a crucial role in determining the extent to which implementation of a given policy reform in fact will be successful in curtailing corruption.

The structure of the paper is as follows. In the second section we outline the characteristics of a set of reforms commonly believed to establish the basic market institutions for economies in transition. In the third section, we assess the bivariate statistical links between these variables and report the results of a multivariate statistical analysis. This empirical evidence sheds light on the relative importance of each institutional reform in explaining cross-country differences in the incidence of corruption. The fourth section sketches out an agenda for policy reform. The final section concludes.

2 MARKET INSTITUTIONS AND CORRUPTION

Most economists would agree that the set of key institutions that are the building blocks for a market-based economy are also likely to be important in curbing corruption. We describe here five such institutions.

¹ Broadman and Recanitini (2001a) provides extensive documentation and analysis of the issues covered in this article.

² Klitgaard (1996) attempts to formalize this intuition introducing an interesting, yet simple model to explain corruption: C (corruption) = M (monopoly power) + D (discretion) − A (accountability), i.e. corruption depends on the amount of monopoly power and discretionary power that officials exercise and the degree to which they are held accountable for their actions.
Price and Production Decisions

Price and production decisions determined by market forces – signals from demand and supply – are powerful tools to curb rent-seeking and corruption since they imply the reduction of discretion and distortions in the allocation of resources in a country and promote efficiency. In particular, the application of market-determined prices and production decisions:

(i) engenders self-regulating, atomistic discipline on producers to behave competitively, where prices are cost-based with little discretion exercised and

(ii) reduces scope of opportunities for government intervention/discretion in the supply-demand equilibration process; imposition of ‘hard budget constraints’ is a critical pressure point throughout a country’s market system.

The liberalization of prices and production from administered controls common under central planning regimes can reduce incentives for corruption most effectively if it facilitates the creation of transparent mechanisms for the allocation of resources and it is applied with consistency. If the liberalization process itself is not transparent or unevenly implemented – for example, subsidies/tax arrears are eliminated in certain sectors or firms but maintained for others, or wages and investments are distorted through non-market oriented policies, such as through certain tax concession schemes – then politicians and bureaucrats can enjoy greater discretion, increasing the possibility for abuse and corruption. The design and implementation of such reforms are thus key to understand their links with corruption.

Government follow-through on announced liberalization is also critical. Comprehensive price and production reforms, approved by government but not credibly enforced, can create more incentives for corruption. In a word, while liberalization reforms can mitigate corruption, the existence of corruption makes the reform process itself more difficult. This is the core of the political economy problem affecting the relationship between reform and reducing corruption, and is an issue that poses challenges in empirical assessment of that relationship (discussed more fully below).

Competition Policy

The industrial sectors that many formerly planned economies inherited at the beginning of the transition were not competitively structured, often characterized by large plants and companies relative to the actual (market) demand, resulting in diseconomies of scale and scope. The great emphasis placed on heavy industrialization at the expense of underdeveloped services during central planning led to the creation of this highly concentrated industrial structure. In addition, the central planning system actively promoted regional autarky and self-sufficiency, resulting in artificially geographically located industries and “duplication of facilities”. Because of socialist objectives, these plants were designed to produce goods not necessarily in line with market preferences, but rather dictated by state orders and/or military needs. All these factors contributed to an anti-competitive structural inheritance for a wide array of transition countries; two prominent examples are China and Russia, (see Broadman (2001) and Broadman (2000a), respectively).

Such a distorted business structure can easily foster corruption unless competitive restructuring reforms and checks and balances are put in place. Allowing for the free play of competitive forces is essential if firms are to have little (if any) direct effect on market prices and prices are set in line with costs. Competitive discipline – along with price and production liberalization – is key to reducing discretionary behavior by both business and government
officials, especially in the latter case where, within state owned enterprises (SOEs) there is
weak separation between the interests of business and government (see the section below on
corporate governance). Competition also provides for an efficient allocation and use of
resources, and improvements and innovations in product and service quality.

In the main, where business environments are poorly structured competitively, opportunities
for rent-seeking behavior can arise from two different but interactive elements that
promote discretion and special interests. On the one hand, barriers to new private sector
entrants that otherwise would exert competitive discipline and reduce protection prolong the
discretionary power of the old business elite and hamper the restructuring process. On the
other hand, seller concentration among incumbent firms fosters anti-competitive conduct and
collusion resulting in inefficient production and labor hiring decisions, price distortions, and
poor product quality. These two features of market structure are closely related to the political
economy interests driven by the government capture – the impact of firm’s activities on
government decision-making. Together, these factors create strong resistance to change and
the introduction of competitive forces, thus facilitating the emergence of corruption.

Competition is usually enhanced when there is market-driven restructuring of inefficient
enterprises, allowing for horizontal and vertical divestiture of integrated firms operating
beyond the point of scale economies, and the exit of insolvent and value-subtracting firms
bottling up assets that otherwise can be deployed to higher values in use. At the same time,
the most competitive economies are those where there is a clear rules-based enabling
environment encompassing a level “playing field” for new business entrants as well as a set
of effectively imposed penalties for anti-competitive conduct, such as collusion, anti-
competitive mergers, price fixing and/or predatory pricing, and false advertising.

Regulation of Infrastructure Monopolies

At the beginning of the transition process, it was clear that the existing infrastructure net-
works, created under the regime of central planning, needed extensive restructuring to meet
the demands and standards of a market economy system. Demand for these services had been
greatly distorted both by artificially low prices, which bore little relation to cost, and by cross-
subsidies. In addition, most transition economies inherited state owned large-scale utilities –
including but not limited to electric power, gas, oil, telecom, and transport – where there is
effectively little separation between government and business.

The distortions in prices and output, the heavy influence of government on what should
have been exclusively commercial decisions, the concentration of ownership, and the decay
of the physical networks, all have worked to create an environment ripe for corruption. This
has manifested itself though the ways rates are set; the awarding of franchise agreements;
scope and quality of service offerings; barter and non-payments; and disposition of profits.

In most countries worldwide, due to changes in markets and technology, many (but not all)
previously “natural” monopolies are no longer so, and the socially optimal industrial
structure is increasingly competitive, with unbundled service offerings and open entry and
exit.3 In transition economies, there is a wide variation in the recognition that the market and
technological fundamentals of infrastructure services have changed.

Of course, effective reformation and restructuring of the infrastructure monopoly sectors
present a fundamental political economy challenge for transition economy governments.

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3There are excepted segments where infrastructure markets cannot support the competitive provision of service,
e.g., local distribution of natural gas, water, sewage.
These monopolies are typically bottleneck facilities with huge financial and natural resource endowments at their disposal, usually comprising nationwide networks. They are often run by the most powerful of entrenched interests and can effectively oppose competitive pressure and arms-length oversight. Untangling the web of barter, offsets and non-payments between government agencies – the consumers – and utilities – their suppliers – makes this reform challenge even more difficult.4

In the utility markets where “natural” monopoly conditions do not or no longer exist, reducing incentives for corruption can be enhanced by de-monopolization and privatization of the existing networks and introduction of competitive forces as a substitute for regulation. In the remaining utility markets, where underlying technologies give rise to large economies of scale and scope relative to market demand and thus natural monopoly (or natural oligopoly) conditions prevail, regulatory reform entails the establishment of an independent, transparent and publicly accountable regulatory oversight regime. The establishment of independent regulatory agencies – both at the central and (most critically) at the local level, where regulatory capture is most pronounced – is key (see Broadman (2000a). Where such institutions have been created to operate with transparency (public hearings), simplicity (well-defined rules-based principles), and accountability (election of regulators or term limitations), the payoffs in terms of reduced corruption have been significant (see World Bank(2001)). Effective independence also hinges on reforms which ensure that the regulatory entities are financially autonomous; that agency heads have clear lines of authorities; that the agencies have autonomous legislative authority; and that regulatory staff are sufficiently well-trained and of sufficient scale.

**Corporate Governance and Property Rights**

When corporate governance structures and incentives – the rules and institutions that determine the extent to which managers act in the best interest of shareholders – are weak, the incentives for opportunistic behavior and corruption are often strong. This is especially true for firms with significant (or even complete) state ownership (SOEs) – a common feature of transition economies – where there is often little effective separation between government and business: in such firms, fundamental conflicts-of-interest are more likely to arise because of the tension between the decisions of managers, who are appointed by the government and thus naturally more inclined to protect workers and delay the restructuring process, and the interests of shareholders.

This conflict of interests and objectives between shareholders and managers is also present in privately held firms where there is widely dispersed ownership and thus separation of ownership and control (see Shleifer, A. (1998)). With control delegated to professional managers, owners face a principal-agent problem: where there are weak checks and balances, such as ineffectual boards of directors or lack of independent financial audits, the shareholders (principals) cannot be assured that their interests are fully protected from those of the managers (agents). Conversely, in the case where share ownership is closely held with the main shareholder playing an active role in management (“insider control”) but there are weak internal and external disciplines on corporate performance, such as a banking system that does not engender strong creditors’ rights or require scrupulous payment of credit, deleterious outcomes and economic distortions can arise: unchecked insider control can lead to asset stripping, de-capitalization and corruption, seriously hampering the restructuring process.

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4For an analysis of barter, demonetization and non-payments in Russia, see Hendley, Ickes, and Ryterman (1999).
This can also create powerful interest groups against corporate governance reforms. This is the case in Russia, among other transition economies (See Radygin (1999)). Thus, both in the case of SOEs and privately held firms, an effective and sound corporate governance structure is key in anticipating and resolving potential conflicts of interests between managers and shareholders and reducing incentives for rent-seeking behavior and corruption.

For most transition economies, establishing effective corporate governance incentives and institutions is a medium-term challenge, intertwined with the establishment of a competitive business environment. Responding to this challenge necessitates implementation of a multi-prong set of measures. It requires building a transparent and sound legal framework, such as a company law and a bankruptcy law; it demands establishing a tradition of adherence to ethical standards; and it involves creating a system of checks and balances that engenders compliance to rules transparency and accountability. In addition, the political economy problems of implementing and achieving corporate governance reform in SOEs – especially where systemic, widespread privatization is not politically accepted – are often appreciable; resorting to hybrid measures can result in new, unanticipated contradictions as the Chinese and Uzbekistan experiences suggest.5

A prominent example that corroborates the importance of the aforementioned reforms in curtailing corruption is the case of Russia’s financial and industrial groups (FIGs). Some of the core features of these banking-industrial holdings engender conflicts of interest, and thus facilitate rent-seeking behavior and corruption. The composition of the boards of directors of most of these groups, for example, reflects less commercial principles and more a system of personal affiliation and cadreship. There is extensive cross ownership of shares across FIGs, creating a complex web of inter-locking directorates with unclear lines of authority. In addition, these groups have established a system for the provision and allocation of internally-provided credit to control the activities of members, rather than rely on other (external) sources of credit that would serve an important due diligence and financial control function. It is also fairly common practice for FIGs to have access to the management of state shareholdings through trust management arrangements.

**International Trade and Foreign Direct Investment Policy**

The reduction of protectionist measures and the adherence to internationally accepted rules for international trade and foreign direct investment (FDI) provide for critical external discipline on firm behavior as well as that of public officials. This in turn reduces the incentives for corruption. For example, the pressure of international competition posed by imports engenders a healthy challenge to domestic firms to operate more efficiently. FDI is a potent tool for new entry: it not only creates powerful incentives for incumbent firms with market power to reduce prices to costs and improve product quality, but also engenders the transfer of advances in entrepreneurial talent and managerial skills.

Vested interests that have enjoyed trade protection and been able to capture rents often are politically powerful and possess an effective lobbying base, and thus resistant to trade and FDI reform. Wide variations in tariff schedules, and intricate systems for quotas, and the existence of tax or other special concessions for FDI are breeding grounds for rent-seeking behavior and corruption. This can also create powerful interest groups against corporate governance reforms. This is the case in Russia, among other transition economies (See Radygin (1999)). Thus, both in the case of SOEs and privately held firms, an effective and sound corporate governance structure is key in anticipating and resolving potential conflicts of interests between managers and shareholders and reducing incentives for rent-seeking behavior and corruption.

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behavior and corruption. Whenever tariffs differ greatly across goods, the difference between them creates increased opportunities for customs officials to exercise discretion and to extract rents from importers: officials may offer (or threaten) to misclassify goods in exchange of bribes. Thus, greater uniformity of tariff structures cuts down the incentives for corruption. Similar reasoning applies to duty exemptions or quotas; their existence invites opportunistic behavior by customs officials and often creates pressure to protect the special interests of a few producers. Their elimination or the transformation of quotas into tariffs can reduce rent-seeking behavior (See Ades and di Tella (1999), and Treisman (2000)).

The lack of clarity in government trade policies and the non-transparent business environment that has ensued have also worked to limit inflows of FDI and to perpetuate inefficient behavior of domestic firms. This in turn encourages corruption. More generally with regard to FDI, tax, duty and other concessions, including the creation of “special economic FDI zones” or “priority FDI programs” often are recipes for discretionary behavior by government officials and thus corruption. Moreover these concessionary measures generally do not engender more FDI than what otherwise would take place and on net give rise to sizeable fiscal drains and therefore do not constitute sound policy. Dismantling them or refraining from establishing them in the first place is desirable. Similarly, the simplification of FDI “negative lists”, which stipulate a country’s sectors where FDI is either prohibited or limited, greatly reduces discretion and in turn opportunities for corruption.

3 EMPIRICAL ANALYSIS

We have argued that lack of development of certain basic market institutions creates fertile ground for discretionary behavior and corruption. What evidence exists to support these arguments for countries in transition?

Data

Assembling data to measure institutional development and levels of corruption across transition economies is a sizeable challenge. Exploring empirically the nature and the strength of the relationship between these variables is even more of a challenge. Fortunately new data on the development of key market institutions for a large set of transition economies have recently become available. The EBRD (1999) has assembled a variety of indicators on institution-building in as many as 26 countries in Central and Eastern Europe and the former Soviet Union. Two prominent indices of corruption are also recently available for these countries: one is the Corruption Perception Index (“CPI”), prepared by Transparency International; the other is the Graft Index (“Graft”), calculated by Kaufmann, Kraay and Zoido-Lobaton (1999), which we primarily use. Our empirical assessment of the links between institutions and corruption follows two approaches.

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7We report below our use of the CPI measure. The Graft Index is derived using an unobserved components model and data from 12 different sources. The Graft Index is measured on scale of −2.5 to 2.5, with higher values corresponding to lower corruption. The results reported in our paper uses the inverse of the Graft Index so that an increase in the index represents an improvement, i.e., a decrease in corruption.
Bivariate Correlations

Table I presents bivariate correlations between Graft and six of the institutional indices developed by the EBRD for the transition countries assessed by the institution. We use the EBRD indices on (i) Entry Barriers; (ii) Soft Budget Constraints; (iii) Infrastructure Reform; (iv) Development of the Legal Framework; (v) Bankruptcy Law Development; and (vi) Trade System Reform. The data for the Graft index are for 1999 and the data for the EBRD indices are for 1998. The table's first row provides strong evidence that there are statistically significant correlations between corruption, as measured by Graft, and the various EBRD institutional indices in all the cases.

Testing for Relative Importance and Causality: Some Initial Results

Can we say something more about causality and the relative contribution of each institutional factor in explaining corruption? We have begun to explore systematically this question through multivariate statistical analysis using the EBRD indices.

We start with insights from the existing, small literature on the determinants of corruption, which focuses on developed and developing economies. In essence, this literature suggests that corruption can be explained by the quality of the government of a country – as reflected by the country’s level of economic development – and the quality of the country’s political institutions. In particular, it is typically posited that incentives for corruption and illegal activities are likely to be lower in countries more economically developed (measured by GDP per capita) and where there are greater democratic political processes and a strong independent press (measured by an index of democracy). In addition, it is also usually hypothesized that openness to foreign trade – especially to competition from imports – (measured by imports as percentage of GDP) reduces the potential rents of government officials, and, in turn, decreases incentives for corruption. To summarize, the existing literature on the determinants of corruption – in developed and developing economies – generally follows this type of model:

\[
(1) \quad \text{Corruption} = f(\text{economic development, quality of political institutions, openness to trade}) \\
= b_1 + b_2(GDP) + b_3(\text{Index of democracy}) + b_4(\text{Imports/GDP})
\]

In the case of transition economies, however, which, as we note above, are in the process of undergoing fundamental changes in their basic institutional regimes from a reliance on central planning to market-oriented incentives, the empirical specification of this model is likely to be inadequate. In particular, the quality of government in transition countries is likely not to be fully captured by a measure of GDP alone. Arguably more than developed and developing countries, the quality of government in transition economies would seem to be a direct function of the types of basic institutions on which we have been focusing. Put differently, while GDP may be a good gross proxy for quality of government, the underlying institutions that actually determine the quality of government would seem to be better measures. The last column in Table I suggests this argument has some merit: GDP per capita is highly correlated with all of the individual institutional indicators except one. The use of a...
TABLE I Correlation Coefficients Between Corruption and Institutional Indicators.

<table>
<thead>
<tr>
<th>Variable</th>
<th>GRAFT</th>
<th>Trade system index</th>
<th>Infrastructure rating</th>
<th>Entry barriers</th>
<th>Soft budget constraint</th>
<th>Legal effectiveness</th>
<th>Bankruptcy law index</th>
<th>Democratic reform index</th>
<th>GDP per capita</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRAFT</td>
<td>1</td>
<td>0.5529**(25)</td>
<td>0.7913**(25)</td>
<td>−0.5191**(19)</td>
<td>−0.346*(20)</td>
<td>0.5603**(24)</td>
<td>0.5183**(24)</td>
<td>0.88696**(25)</td>
<td>0.8321**(26)</td>
</tr>
<tr>
<td>Trade system index</td>
<td>1</td>
<td>0.6893**(25)</td>
<td>0.041(19)</td>
<td>0.2199(20)</td>
<td>0.4962**(24)</td>
<td>0.4734**(24)</td>
<td>−0.7233**(25)</td>
<td>0.3941**(26)</td>
<td></td>
</tr>
<tr>
<td>Infrastructure rating</td>
<td>1</td>
<td>−0.3699(19)</td>
<td>0.2421(20)</td>
<td>0.6892**(23)</td>
<td>0.5393**(23)</td>
<td>−0.8641**(25)</td>
<td>0.5568**(25)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entry barriers</td>
<td>1</td>
<td>0.2985(19)</td>
<td>−0.1595(19)</td>
<td>−0.0938(19)</td>
<td>0.3482(19)</td>
<td>0.4793**(19)</td>
<td>0.4793**(19)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soft budget constraint</td>
<td>1</td>
<td>0.4441**(20)</td>
<td>−0.20(20)</td>
<td>−0.20(20)</td>
<td>0.271(20)</td>
<td>−0.1185(20)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Legal effectiveness</td>
<td>1</td>
<td>0.8545**(24)</td>
<td>−0.5378**(23)</td>
<td>0.4905**(24)</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Bankruptcy law index</td>
<td>1</td>
<td>−0.511**(23)</td>
<td>0.5208**(24)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Democratic reform index</td>
<td>1</td>
<td>0.6774**(25)</td>
<td>0.6774**(25)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GDP per capita</td>
<td>1</td>
<td></td>
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</tbody>
</table>

Number of observations in parentheses.

**significant at the 5%.
*significant at the 10%.
measure of imports alone as a proxy for openness to foreign trade is also unlikely to be adequate. The linkages between trade and corruption are likely to be affected by a country's exports and imports, as well as the quality of the institutions, such as the customs authority, which govern trade flows. The EBRD indicator of openness of the overall trade system captures these attributes.

Based on these considerations, we posit a model different from that specified in Eq. 1. In particular, as summarized in Eq. 2, our model employs the following variables: (i) a vector of institutional indicators measuring infrastructure development, entry barriers, soft budgets, legal effectiveness, bankruptcy law and trade openness (“Market Institution Indices”); (ii) an index of democratic development (“Democratic Reform Index”), and (iii) GDP per capita:

\[
\text{Corruption} = f(\text{quality of government, quality of political institutions, economic development}) \\
= b_1 + b_2(\text{Institutional indicators, including overall trade openness}) \\
+ b_3(\text{Index of democracy}) + b_4(\text{GDP per capita})
\]

At the bivariate level, Table I indicates there is a statistically significant relationship between Graft and both GDP per capita and the Democracy Reform Index. This result is consistent with the findings in the existing literature. But estimating Eq. 2 is a more difficult task. We know this at the outset because our intuition tells us – and Table I confirms – that most of the institutional indicators available are correlated with each other. This creates, of course, potentially significant multicollinearity problems in the statistical estimation process, thus potentially weakening the results.

Perhaps more important, some of the institutional indices are likely to be endogenous to corruption: if it is true, for example, that a poorly functioning legal system causes corruption, it may also be the case that widespread corruption prevents the improvement of the legal system. This causality or “simultaneity” problem reflects precisely the dialectic posed by the political economy dilemma of government capture that we have noted earlier and which makes implementation of corruption-curbing reforms so challenging and the measurement of the empirical linkages so difficult. The standard statistical solution for this problem is the use of instrumental variables. Unfortunately, we are not able to find suitable individual “instruments” for our explanatory variables at this stage, in part because of the unavailability of appropriate data. In order to help ameliorate this problem we use lagged explanatory variables in our multivariate estimation. Still, we caution that our results are tainted by the possibility of endogeneity and cannot provide conclusive evidence on the direction of the causality between development of market institutions and incidence of corruption.

Bearing in mind these considerations, we have focused our initial efforts on running a series of OLS regressions, attempting to control for the factors suggested in the existing literature. Table II describes the core results of our OLS estimation using the Market Institution Indices as explanatory variables, and the Democratic Reform Index and GDP per capita as control variables for the transition economies assessed by the EBRD. Despite the

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9The Democratic Reform Index (DRI) by Freedom House International is used to capture the degree of political and democratic development. This index is the unweighted average of five separate ratings: political process, civil society, independent media, government and public administration and rule of law. It is calculated on a one-to-seven scale, with one representing the highest and seven the lowest level of progress.

10The robustness of our results is confirmed by running the same regressions using both measures of corruption we refer to in the text: the Graft index and the CPI.
limited number of observations and the relatively large number of parameters we try to estimate, the coefficients on two of the Market Institution Indices – Entry Barriers and Soft Budget Constraints – are statistically significant and display the correct signs. The coefficient on the Trade System Index has the correct sign and reveals moderate correlation; it is, however, not statistically significant. The coefficients on the other two Market Institution Indices (Legal Effectiveness and Infrastructure Rating) are not statistically significant; nor do they display the correct sign. 11 The results suggest the following: the lower the barriers to new business entry and the harder the budget constraints on incumbent firms, the lower the corruption. As for the control variables, our model confirms the results in the literature. Economic development, as proxied by GDP per capita, and democratic reforms are indeed important checks on corruption, both displaying coefficients that are statistically significant and with the correct signs.

4 A POLICY AGENDA FOR INSTITUTIONAL REFORM

Although the institutional reforms described here are presented separately, we recognize there are likely to be significant interactions and synergies among them and that, as a result, a reform program needs to be designed and implemented in an integrated fashion to be most effective in reducing incentives for corruption.

Liberalize Price and Production Decisions. Our analysis suggests that transition countries that have systemically allowed for market-determined price and production decisions, applied hard budget constraints, and eliminated or significantly reduced subsidies in a uniform, transparent manner have substantially reduced incentives for corruption. Countries where firms’ enjoyment of softer budget constraints and arrears is a more common practice tend to have higher levels of corruption. The lessons from our own field experience and that of other practitioners is that the benefits from the discipline of implementing price reforms and applying hard budget constraints make them clear priority reforms to create an overall enabling environment for market-related institutions and legal frameworks to take root and set strong signals for combating corruption (see World Bank (2002)).

11Inclusion of the Bankruptcy Law Index never produced meaningful results and thus is not reported in Table II.
Promote Vigorous Inter-Enterprise Competition (Non-Utility Sector). Institutions that engender competition appear from our analysis to be especially important in checking corruption. The recent experience of transition countries provides us with some valuable lessons as to which are the most effective competition policy frameworks (see World Bank (2001)).

Reform the Regulatory Regime Governing Infrastructure Firms. Our analysis of incentives for corruption suggests that it is important in transition countries, where the capacity for enforcing regulation is likely to be relatively weak, that policy makers introduce competition as much as possible in sectors where it can substitute for regulation. Competition can effectively substitute for regulation where: (i) services may be supplied by competitive markets (e.g., electricity generation and long-distance telecommunications); or (ii) services may face competition from other services using different technologies – intersectoral competition (e.g., a railroad sector facing competition from truck and barge operators). Where competition is relied upon to protect customers from monopolistic abuses, the resulting “deregulations” does not mean that government then has no role in providing such protection; rather, competition law rather than regulation is applied.

Strengthen Corporate Governance Incentives and Property Right Protection. While different transition countries have utilized corporate governance frameworks rooted in different legal traditions, giving rise to different “models” of corporate governance (Anglo; Germanic; Japanese; etc), the most of effective regimes have been those that have clear lines of authority, effective checks and balances and transparent accountability. To guarantee the sustained realization of corporate governance reforms, such initiatives must be paired with the introduction of a transparent and market-based regime for price and production setting, and one that engenders the free-play of competitive forces.

Reform Trade and Foreign Direct Investment Policies. Membership in the rules-based WTO can provide transition countries with perhaps the most potent set of institutional checks and balances in the international economic sphere and thus substantially reduce discretionary behavior and corruption with regard to international trade and foreign direct investment policies. In parallel with accession to the WTO, countries wishing to discourage rent-seeking and illicit behavior would do well to unilaterally implement WTO policy recommendations.

5 CONCLUSION

The fight against corruption has become a key element in the policy objectives for governments of transition economies, where this phenomenon threatens the overall reform process. Although extensive evidence on the links between corruption and economic growth has been collected, the factors that cause corruption are still not well understood, with few empirical studies on the determinants of corruption carried out. Despite data limitations and the challenge of calibrating with precision the complex relationships among corruption’s potential determinants, our empirical exercise gives some support to the notion that weaknesses in certain basic market institutions serve to create incentives for corruption. In particular, our investigation suggests that low entry barriers and hard budget constraints – long-held as central elements of a competitive regime that reduces discretionary behavior and government capture – play especially important roles in curbing corruption. To reduce the incentives for corruption, policy makers need to give sufficient attention to the design and effective implementation of economic reforms that foster the development of basic market institutions.
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