Quantifying the Relationship Between Corruption in Education and Economic Development in the Eastern Europe and Eurasia Region: A Feasibility Study

1 May 2007

Submitted by
John C. Weidman
University of Pittsburgh
Institute for International Studies in Education
5910 Posvar Hall
Pittsburgh, PA 15260

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

Quantifying the Relationship Between Corruption in Education & Economic Development in Europe and Eurasia: An Exploratory Literature Review

Executive Summary

As stated in the "Technical Directions" provided by the Social Transition (ST) Team at USAID, the main objectives of this review were:

> *…to (a) validate/confirm the premise that existing scholarly studies have not developed a comprehensive framework and/or a model to quantify the effect of corruption in the education sector on a country's economic development; and (b) to develop such a framework and/or model, if in fact there is no adequate framework currently available.*

As the work evolved, however, and began to address objective (b), it seemed more appropriate to treat the review as a *feasibility study*, namely, as an assessment of the extent to which this type of activity had sufficient potential to warrant continued investment in light of recently published materials and other activities underway to address the complex issues of corruption in education and its impact on the overall social fabric of a country, not simply on economic development.

The paper begins by describing the indicators of corruption most commonly used for research and country ranking purposes, identifying their strengths and weaknesses. The second section discusses several articles that develop empirical models of corruption and examine its relationship to indicators of educational and national economic development as well as returns to individuals. It points out shortcomings of this approach and argues that developing quantitative indicators of the actual costs of corruption are a pre-condition to effective mathematical modeling of its effect on economic development.

The third section expands the notion of corruption and emphasizes the importance of going beyond basic economic indicators and corruption perception indexes in order to estimate the costs of corruption in education more directly. It illustrates the types of costs incurred by various stakeholders, both corporate and individual (Chapman, 2002; Heyneman, 2004; Rumyantseva, 2005), suggesting the importance of building an inventory of types of corruption in the education sector and collecting data on the costs of each. The fourth section addresses the feasibility of collecting data on the financial costs of corruption in order to estimate the effects of actual costs incurred, as opposed to peoples' perceptions, on indicators of individuals' economic status and national development. Survey methods, including public expenditure tracking surveys (PETS), are discussed (Reinikka and Smith, 2004; Reinikka and Svensson, 2003).

Main conclusions from the literature review are:

1. Corruption in education is an important international concern receiving extensive attention by agencies such as the World Bank (Anderson and Photos, 2003) and IIEP (Bray, 2003; Hallak and Poisson, 2007); in the scholarly journal literature

(Heyneman, 2004; Tanaka, 2001); and some of the best policy and program-oriented work already existing in this area has been funded by USAID (2005; Chapman, 2002).

2. Limits of production function research:
    a. Since most available indexes of corruption rely on data about people's *perceptions*, they are not appropriate for modeling actual costs.
    b. The unit of analysis tends to be the country rather than individuals, so statistical analyses reflect a country-wide estimation of associations rather than one related directly to educational experiences at the school or individual levels.
    c. Several of the more theoretical articles present arguments that are synthetic and purely mathematical without subjecting them to empirical testing (e.g., Bjorvatn and Søreide, 2005).
    d. Results also depend on the methods of estimating relationships among variables in the equations, including the selection of intervening variables (Dreher and Herzfeld, 2005).
    e. The econometric literature is not accessible to lay audiences and tends to have limited policy relevance.
    f. There is no agreement on the "best" indicators to use in such studies. Rather, indicators tend to be chosen on the basis of the particular hypotheses being tested and/or the availability of data.
    g. No single model has been developed that can comprehensively account for all of the forms of corruption, many of which may be disguised as a cultural norm (i.e., giving a gift to a teacher for all major holidays) and vary in importance from country to country.
    h. Given the absence of actual data on what is being spent for various types of corruption, coefficients reported for regression analyses can provide only rough approximations of relationships among corruption in education and indicators of economic development.
3. Collecting data on expenditures for corrupt practices in education is very expensive, and hence, not feasible on a large, multi-national scale without significant investment.

Recommendations of the report for continuing the work on education and corruption are:

1. <u>Identify dimensions of corruption in education and possible indicators for each</u>. Both tables and Figure 2 in this paper give examples of many types of corruption in education.
2. <u>Review existing data</u>. Identify a set of E & E countries for which there are already existing data that might contain appropriate indicators for the dimensions of corruption in education identified in Recommendation 1.
3. <u>Collect primary data in one or two E & E countries to assess the feasibility of obtaining reliable cost information for main indicators</u>. Data could be collected in a non-judgmental way without reference to whether or not specific types of payments are legal or culturally appropriate.

Introduction

This paper explores the cost of corruption in education, a problem growing in size and scope as the demand and increased competition for advanced training and credentials expands in countries around the world. Corruption, in general, is a matter of great significance in the international community. One estimate of its magnitude was indicated in a statement by the German ambassador to South Africa in the opening session of 5th Global Forum on Anti-corruption at Sandton in Johannesburg on 2 April 2007 attended by over 1,500 delegates from more than 100 countries, including ministers, heads of anti-corruption and law enforcement agencies, and officials dealing with governance, money laundering and customs:

> *Regardless of increasing success, fighting corruption on a global scale has become ever more necessary. More than 20 percent of loans distributed by the World Bank are linked to corruption.*

As stated in the "Technical Directions" provided by the Social Transition (ST) Team at USAID, the main objectives of this review were:

> *…to (a) validate/confirm the premise that existing scholarly studies have not developed a comprehensive framework and/or a model to quantify the effect of corruption in the education sector on a country's economic development; and (b) to develop such a framework and/or model, if in fact there is no adequate framework currently available.*

As the work evolved, however, and began to address objective (b), it seemed more appropriate to treat the review as a *feasibility study*, namely, as an assessment of the extent to which this type of activity had sufficient potential to warrant continued investment in light of recently published materials and other activities underway to address the complex issues of corruption in education and its impact on the overall social fabric of a country, not simply on economic development. In fact, even the "Technical Directions," recognized that corruption in education can have significant non-economic effects on a country:

- ***Loss (deterioration) of quality of education*** *– while the importance of education for promotion of economic development is generally recognized, a realization that corruption in the educational systems erodes future possibilities of sustainable development is not sufficiently recognized; persistent absence of viable economic opportunities to improve one's life can lead to significant out-migration of the young generation in search of better opportunities for both education and employment.*
- ***Financial loss*** *– in most countries, the education sector represents one of the largest, if not the largest, components of public expenditure. Given the sheer size of the educational budget and the number of actors involved in educational activities, the opportunities for leakage and misuse of funds represent a serious concern.*
- ***Social inequality*** *– corruption promotes social inequality and undermines social cohesion because the poorer sections of society that can least afford it, bear the greatest burden of corrupt practices.*

- ***Ethical loss*** *– in a society where dishonesty and corruption (as opposed to a merit-based system) is rewarded, the ethical cost of corruption in education is higher than for any other public service. As a result of such a system, the younger generation develops cynicism and discouragement that translates into lack of trust in government and, consequently, lack of civic and political participation. Both of these outcomes undermine principles of democracy.*

This paper follows the definition of corruption used by Heyneman (2004, p. 637): "because education is an important public good, its professional standards include more than just material goods: hence the definition of education corruption includes the abuse of authority for personal as well as material gain." This means that corruption is not simply an economic concern, but rather can be an insidious factor undermining moral authority of and transparency in governments and political systems. While the major regional focus of this paper is on education corruption in Europe and Eurasia (E&E), the paper includes consideration of research on other regions that addresses significant substantive and/or methodological issues.

The paper begins by describing the indicators of corruption most commonly used for research and country ranking purposes, identifying their strengths and weaknesses. The second section discusses several articles which develop empirical models of corruption and examine its relationship to indicators of educational and national economic development as well as returns to individuals. This literature review focuses primarily on articles published in referreed journals, but also include a few conference and other working papers that address educational corruption directly, focus on the E & E region, and/or are written by authors whose work is otherwise widely published. It points out shortcomings of this approach and argues that developing quantitative indicators of the actual costs of corruption are a pre-condition to effective mathematical modeling of its effect on economic development.

The third section expands the notion of corruption and emphasizes the importance of going beyond basic economic indicators and corruption perception indexes in order to estimate the costs of corruption in education more directly. It illustrates the types of costs incurred by various stakeholders, both corporate and individual (Chapman, 2002; Heyneman, 2004; Rumyantseva, 2005), suggesting the importance of building an inventory of types of corruption in the education sector and collecting data on the costs of each. Such an approach can used with confidence if (a) there is a reasonably complete inventory of most common corrupt practices in the education sector; and (b) it is possible to obtain reliable cost/expenditure data for virtually the entire set of common corrupt practices. Identifying key variables is the more straightforward of these two tasks.

Obtaining robust measures is a far more difficult task, particularly since it seems safe to assume that people participating in corrupt practices are likely to be reluctant to provide information about either the costs or the economic benefits to themselves. Hence, the fourth section addresses the feasibility of collecting data on the financial costs of corruption in order to estimate the effects of actual costs incurred, as opposed to peoples' perceptions, on indicators of individuals' economic status and national development.

Survey methods, including public expenditure tracking surveys (PETS), are discussed (Reinikka and Smith, 2004; Reinikka and Svensson, 2003). The paper concludes with a discussion of approaches to reducing education corruption in developing nations and both the feasibility and advisability of continuing to invest in mathematical modeling of corruption in education.

Measuring Corruption: Widely Used Indicators

International Country Risk Guide (ICRG)

The widely cited research by Mauro (1995 and 1998) on corruption and uses the International Country Risk Guide (ICRG) as its indicator of corruption. This is a proprietary index of corruption developed by the PRS Group that is based on people's perceptions of governments. It was developed to provide information to business clients who were considering international investments:

> *The system is based on a set of 22 components grouped into three major categories of risk: political, financial, and economic, with political risk comprising 12 components (and 15 subcomponents), and financial and economic risk each comprising five components. Each component is assigned a maximum numerical value (risk points), with the highest number of points indicating the lowest potential risk for that component and the lowest number (0) indicating the highest potential risk. The maximum points able to be awarded to any particular risk component is pre-set within the system and depends on the importance (weighting) of that component to the overall risk of a country.*
> *The ICRG staff collects political information and financial and economic data, converting these into risk points for each individual risk component on the basis of a consistent pattern of evaluation. The political risk assessments are made on the basis of subjective analysis of the available information, while the financial and economic risk assessments are made solely on the basis of objective data. In addition to the 22 individual ratings, the ICRG model also produces a rating for each of the three risk factor groups plus an overall score for each country.*
> *After a risk assessment (rating) has been awarded to each of the 22 risk components, the components within each category of risk are added together to provide a risk rating for each risk category (Political, Financial, or Economic). The risk ratings for these categories are then combined on the basis of a formula to provide the country's overall, or composite, risk rating. As with the risk component ratings, the higher the rating computed for the political, financial, economic, or composite rating, the lower the risk, and vice versa* (Source: http://www.prsgroup.com/ICRG_Methodology.aspx).

Users of the ICRG data must pay for it and, as a proprietary data set, there is not full disclosure of the components. In addition, the ICRG has not included countries in the E&E region and is, therefore, not appropriate for studies of education corruption there.

Corruption Perceptions Index (CPI)

By far, the most common indicator of corruption used in research is another index of people's ***perceptions***, the Transparency International (2006b) Corruption Perceptions Index (CPI). This index includes individual questions about people's views across the entire spectrum of government and business activity, including education, but the composite index reflects perceived corruption in a country, generally, not specific to any particular sector. It is possible, however, to get disaggregated data for the various sectors represented in the composite index (Heyneman, et al., 2006).

> *The CPI draws on 12 different polls and surveys from 9 independent institutions. TI strives to ensure that the sources used are of the highest quality and that the survey work is performed with complete integrity. To qualify, the data must be well documented and sufficient to permit a judgement on its reliability. All sources must provide a ranking of nations and must measure the overall extent of corruption. This condition excludes surveys which mix corruption with other issues, such as political instability of nationalism for instance.*
> *Data for the CPI has been provided to TI free of charge. Some sources do not allow disclosure of the data that they contribute; other sources are publicly available. For a full list of survey sources, details on questions asked and number of respondents for the CPI 2006, please see the detailed document on the CPI metholodogy at*
> *http://www.transparency.org/policy_research/surveys_indices/cpi/2006/methodology*

Søreide (2005) provides a comprehensive critique suggesting that composite CPI scores should not be used to rank countries and, by implication, is not necessarily the best indicator for empirical studies of corruption for the following reasons:

1. It is not clear to what extent the CPI refers to legal or illegal activities.
2. The lack of consensus on what qualifies as corruption makes it difficult to understand the criteria behind the ranking.
3. The ratio between the different scores is unknown and not constant.
4. Individual perceptions of hidden activities are not reliable.
5. The weaknesses are not comprehended by the masses and the ranking is generally not referred to with the necessary consideration.
6. Its value for statistical studies is uncertain.
7. Its value for poor countries in which corruption is a huge challenge is uncertain.
8. Its value to reduce corruption worldwide is not verified.

Nonetheless, recently published research continues to use the CPI composite index for analyses of the relationships among corruption, education, and economic outcomes (Méndez and Sepúlveda, 2006; Heyneman, et al., 2006). In large part, this is due to Transparency International's high stature in the international community and its anti-corruption publications,including the "Corruption Fighters' Toolkit" (http://www.transparency.org/publications/toolkit); the TI Sourcebook 2000, "Confronting Corruption: The Elements of a National Integrity System"

(http://www.transparency.org/publications/sourcebook); the Bribe Payers Index (Transparency International, 2006a); the Global Corruption Barometer (Transparency International, 2006c); and reports on corruption and education by Meier and Griffin (2005) and Meier (2004).

Estimating the Relationship Between Corruption and National Development: Econometric Models

The most common way of estimating the relationships among corruption and economic outcomes is to use a production function approach as shown in Figure 1. Each of the variables included represents a construct to be operationalized rather than a specific indicator. The model is intended to illustrate possibilities, not provide an exhaustive list. In this approach, indicators of key input, throughput (intervening), and output (outcome) variables are entered into multiple regression models and the coefficients for each variable are calculated. Models vary, depending upon the variables of interest, statistical properties of the measures, and the linearity assumptions underlying them.

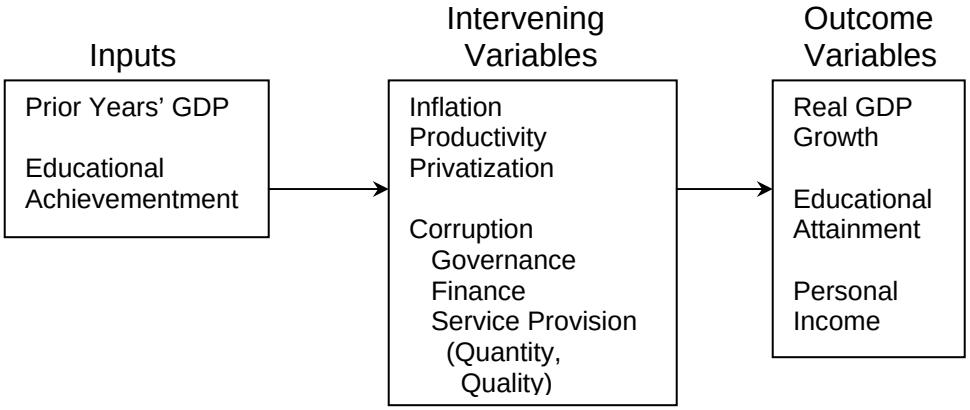

Figure 1. Production Function Model of Corruption in Education

According to Dreher and Herzfeld (2005), arguably the pioneering work on corruption and economic growth was published by Paolo Mauro (1995). He used data from Business International (BI) as proxies for corruption and various other institutional variables:

> …*now incorporated into* The Economist Intelligence Unit, *BI is a private firm that sells these indices typically to banks, multinational companies, and other international investors. BI published indices on 56 "country risk" factors for 68 countries, for the period 1980-1983, and on 30 country risk factors for 57 countries, for the period 1971-1979* (Mauro, 1995, p. 683).

These data are subjective indices of corruption, amount of red tape, efficiency of the judicial system, and various categories of political stability. Corruption in the education sector is not measured. It is interesting to note that Mauro, himself, was somewhat

sceptical about these data: "I do not necessarily agree with the Business International consultants' views and subjective indices relating to any individual country (footnote, p. 682). In addition, given the time period for which these data were collected, no E&E countries were included. Overall findings from this study were that "corruption is found to lower investment, thereby lowering economic growth" (p. 682). Using the proprietary International Country Risk Guide (ICRG) index described in the foregoing, Mauro (1998) found that corruption was related to reduced government spending on education in a cross section of countries that did not include those in the E&E region.

A more recently published article by Méndez and Sepúlveda (2006) addressing the relationship between corruption and economic growth includes political freedom as an intervening variable. These authors estimate models for each of three corruption indices, the ICRG, the CPI, and the Institute for Management Development (IMD) index published in the *World Competitiveness Yearbook.* Independent variables include data from 1960 to 2000 on values of real population growth, real income per capita, annual GDP growth, secondary school enrollment rates, the investment share of GDP, and the share of government expenditure as a percentage of GDP taken from the World Bank's (2006d) World Development Indicators. The index of political freedom is taken from Freedom House International and includes two sub-indices, political rights and civil liberties. The results of this study show no significant relationship between corruption and economic growth for the countries that do not have political freedom, a common condition across countries in the E&E region. Hence, this study supports the inference that the type of political regime can be an important determinant of the relationship between corruption and economic growth. However, these authors also acknowledge the limitations of the type of data used in the analyses, suggesting that:

> *…a definitive judgment about the exact role of government cannot be made in this study. Direct measures of the cost of combating corruption, of the cost that bureaucratic regulations impose on investment and of the misallocation of government expenses due to corruption would be needed to explore this issue further* (p. 95).

Le Van and Maurel (2006), in an unpublished paper, develop a sophisticated mathematical model of education, corruption and economic growth that focuses on developing countries. They lag economic growth variables between 1960 and 1996 against governance indicators developed by the World Bank (2006b). Overall, the empirical analyses support the inference that corruption decreases the return to education, though there also appears to be a threshhold level of per capita GDP, below which corruption has no effect.

Heyneman, et al. (2006), also in an unpublished paper, use existing data to study corruption in higher education. They report on surveys of students in six countries (Bulgaria, Croatia, Kyrgyzstan, Kazakhstan, Moldova and Serbia) that show corruption varies by market demand of academic major, with greater frequencies in high demand fields such as law, economics and finance. Universities in these countries with local accreditation were also more corrupt than institutions accredited in Europe or North America. These authors used data from Transparency International on perceptions of

corruption in education in 68 countries to examine its association with payoff to higher education, finding that pervasive corruption tends to reduce income among people with higher education. In short, education corruption reduces the value of higher education, possibly through dilution of its quality.

It must be noted that is very difficult to get people to report actual income in these countries, largely because acceptance of government taxation is not widespread in formerly socialist countries. Consequently, Heyneman, et al. (2006) had to use respondents' ***perceptions*** of their income relative to others as being high, medium or low. They estimated the effects of corruption perceptions on income perceptions and then estimated the actual monetary effect by calculating the reduction in lifetime marginal return from higher education for those countries for which such data were available. Heyneman, et al. (2006) concluded their paper with the assertioin that *the first step to effective policy intervention is to acquire information about the experience and cost of corruption."*

To summarize key problems with the foregoing studies, only one (Heyneman, et al., 2006) dealt explicitly with the E&E region, possibly because the best available data seem to come from OECD. All of these studies employ widely used indices based on peoples' *perceptions* of various types of corruption in a country rather than indicators reflecting *actual amounts of money changing hands* for various corrupt activities or witholding goods or services for which payment has been made.

Also problematic is that this type of study uses indicators of economic growth that are lagged at least a decade in order to avoid confounding issues related to using contemporaneous variables. Economic data from E&E countries in the immediate pre- and post-transition years (i.e., late 1980s through mid-1990s), a period in which data for the E&E region are very unreliable due to the rapid economic shifts (e.g., hyperinflation, rapid growth of income inequality, etc.), countries were experiencing in their transitions from command to market economies (Asian Development Bank, 2004). Most of this type of research uses the country as the unit of analysis and relies on readily available data from agencies such as the World Bank, e.g., "World Development Indicators" (2006d) or "Worldwide Governance Indicators" (2006b).

In sum, while there is a literature on mathematical modelling of the relationship between corruption and economic indicators, much of it is highly theoretical (e.g, Bjorvatn and Søreide, 2006) and/or uses methodology that it is not accessible to a lay audience. Empirical analyses rely on readily available international data sets that do not contain data reflecting actual monetary costs of corruption (e.g., Méndez and Sepúlveda, 2006; Tirole, 1996). There are very few studies that explicitly consider the empirical realtionship between corruption and education. Finally, several of the authors mentioned in the foregoing assert that it is necessary to quantify corruption in order to get more accurate estimates of its effect on national economic growth and other personal returns to education.

The Structure and Dynamics of Corruption in Education

Table 1 below was developed for another research activity by USAID, but clearly illustrates the types of corruption that can occur in education systems by administrative levels. The structure of corruption in any country may only reflect certain portions of this list, but it provides a reasonably comprehensive picture of the opportunities for corruption at all levels of the education system.

Figure 2 shows a conceptual framework describing several core elements of corruption in education, taking into consideration the complex inter-relationships among educational institutions, national and local government agencies, external agencies, and the personal communities of students. It is not meant to be an exhaustive representation but rather to show key general elements in the complex process of corruption in education. It represents a conceptual synthesis based on my own work on sector-wide approaches (SWAPs) to education planning (Weidman, 2001) and educational reform in the formerly Soviet style economic and education system of Mongolia (Weidman and Bat-Erdene, 2002) as well as the typologies of education corruption by Chapman (2002) and Rumyantseva (2005). This framework also reflects themes appearing in many reports and articles that, taken collectively, provide a detailed description of corruption at all levels of the educational systems in the E&E region (USAID, 2005; Anderson and Photos, 2003; Asian Development Bank, 2004; Broers, 2005; Levin and Satarov, 2006; Rostiashvili, 2004; World Bank, 2006a) as well as other parts of the world (Bray, 2003; Heyneman, 2004; Tanaka, 2001; Hallak and Poisson, 2007; Meier, 2004; Meier and Griffin, 2005).

The framework in Figure 2 is shown as a set of intersecting ellipses, each reflecting a particular important potential source of corruption drawn from Table 1 in order to reflect the highly interactive nature of corruption across sectors (e.g., finance, governance, infrastructure, etc.). It recognizes that various types of corruption occur in different ways, depending upon the particular country, culture, and organizational/regulatory structure. Thus, it differs from the linear approach reflected in production function studies. It includes each structural "level of activity" shown in Table 1: central ministry, region/district, school, classroom/teacher, and international agencies. The framework adds an individual level which reflects the possibility of corruption through exchanges of cash and/or favors between students and educational authorities at various levels of the system.

The core of Figure 2 is the "educational institutions" in any country at the school and classroom levels, as well as the individuals staffing them, namely teachers and administrative staff. Opportunities for corruption occur in the daily work of these key personnel through interaction with the main direct clients (students, their families and friends). For instance, in the E&E region, teachers are particularly poorly paid civil servants, especially given their high level of education. Consequently, they can be particularly susceptible to accepting payments for providing services beyond what are normally available under less than ideal teaching conditions (e.g., large classes and multiple shifts in urban areas, poorly equipped facilities with less than fully functional

mechanics such as heating and plumbing, etc.). In many countries around the world, teachers provide tutoring for pay outside of regular school hours as a way to supplement their incomes (Bray, 2003). "Personal communities" reflect the world of students, their families, and friends. Students' parents may offer bribes to teachers and administrators

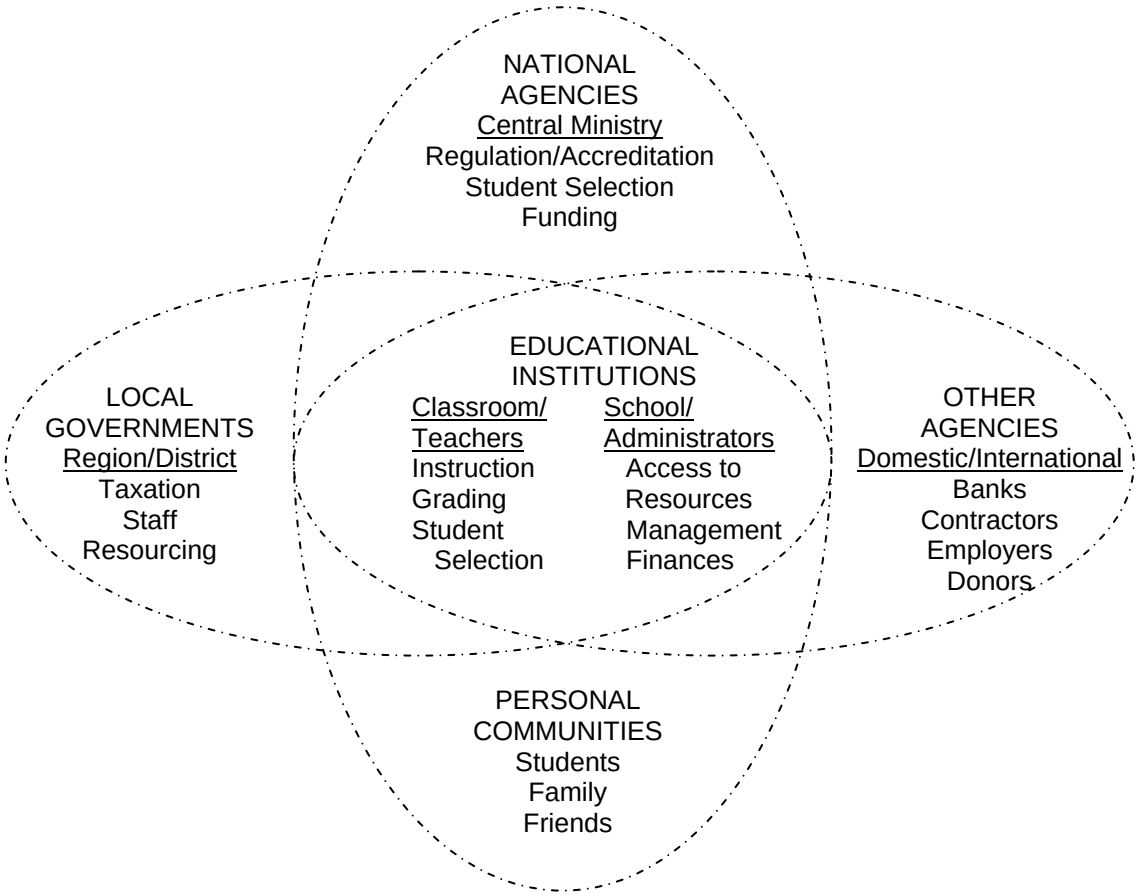

Figure 2. A Conceptual Model of Corruption in Education

for good grades or promotion to the next levels of education. They may also offer bribes to facilitate admission to successive levels of education, including universtiy. Administrators in schools may also have direct access to school finances and the possibility to use them for personal gain. This is not to say that corruption is inevitable, but rather that the ***opportunity*** for corruption exists and, under certain conditions, may take place.

Three other external entities affecting educational institutions but with more variable direct intervention are local governments, national educational agencies, and other agencies, especially those that might be involved with financing their activities. "Local governments" generally have some control over allocation of resources, either through taxation or distribution of funds from the central government. They may also play a role in staffing of schools, approving appointments of administrators and possibly even teachers and support staff. "National agencies" regulate activities related to student

selection and movement between grades and levels of education. They also allocate financial and other school resources such as textbooks to local schools, including contracting for construction and furnishing of buildings. It is not uncommon for public officials around the world to find ways to steer lucrative contracts to firms in which they have some personal and/or financial interest.

"Other agencies" either provide services (e.g., contractors) or resources (e.g., banks, donors) to the educational system. Currently, for instance, it is common practice for donor contractors in the Russian Federation to use private agencies to make certain (for a fee) that funds to pay local employees are available in local banks, at least for a day or two, and that employees are informed about when to get their salaries. In order to estimate the total costs of corruption in the education sector, it would be necessary to collect representive financial information on carefully chosen indicators that are representative of all five entities shown in Figure 2.

Collecting Data on Financial Costs of Corruption in Education

As has been mentioned in the foregoing, while there is a wealth of information about corruption in education, much of it does not include systematic cost estimates. For instance, the studies of corruption by Transparency International (2006a,b,c) and other already mentioned that have used their corruption indicator (CPI) are based on surveys conducted in several countries, but respondents are asked about their ***perceptions*** of different sectors in which corruption might occur, not how much money might change hands. In addition, while such indices have education components, they are aggregated into composite measures, not used as stand-alone indicators.

Experience at the World Bank has indicated that it is possible to collect data on micro-economic indicators of corruption through public expenditure tracking surveys (PETS), service provider surveys and enterprise surveys (Reinikka and Svensson, 2003). PETS is the best documented (Reinikka and Smith, 2004) of these approaches. The following

Table 1: Common Forms of Corruption in the Education Sector by Level *

Level of Activity	Type of Behavior
Central Ministry	Kickback on construction and supply contracts
	Favoritism in hiring, appointments, and promotions decisions
	Diversion of funds from government accounts
	Diversion of funds from international assistance funds
	Ghost teachers and employees
	Requiring payment for services that should be provided free
	Withholding needed approvals and signatures to extort bribes (e.g., gifts, favors, outright payments)
	Directing the location of construction and services to locations that offer opportunities for gain by oneself, family, or friends
	Requiring the use of materials as a way of creating a market for items on which oneself, family or friends hold an import or production monopoly
Region/district	Overlooking school violations on inspector visits in return for bribes or favors
	Diversion of school supplies to private market
	Sales of recommendations for higher education entrance
	Favoritism in personnel appointments (e.g., headmasters, teachers)
School level	Ghost teachers
	Diversion of school fees
	Inflation of school enrollment data (in countries in which central ministry funds are allocated to school on basis of enrollment)
	Imposition of unauthorized fees
	Diversion of central MOE funds allocated to schools
	Diversion of monies in revolving textbook fund
	Diversion of community contributions
Classroom/ teacher level	Siphoning of school supplies and textbooks to local market
	Selling test scores and course grades
	Selling change of grade
	Selling grade-to-grade promotion
	Selling admissions (especially to higher education)
	Creating the necessity for private tutoring
	Teachers' persistent absenteeism to accommodate other income producing work
International agencies	Payment of bribes
	Payment of excessive or unnecessary fees to obtain services
	Skimming from project funds
	Allocating (or acquiescing in the allocation of) project related opportunities on the basis of candidates connections rather than on merit

* Source: Chapman, David. 2002 (November). "Corruption and the Education Sector." Sectoral Perspectives on Corruption. Prepared by MSI, Sponsored by USAID, DCHA/DG, Contract no. AEP-I-00-00-00009-00 Rapid Response Task.

describes briefly the steps involved in a PETS survey (Reinikka and Smith, 2004, Ch. 4):

1. *Preparing for the study through consultation*
    a. *Reach agreement on the purpose and objectives of the study*
    b. *Identify key service delivery issues and problems (research questions)*

c. Determine the structure of government's resource flow, rules for resource allocation to frontline schools and the accountability system
d. Obtain a good understanding of the institutional setting with respect to the relationship of government and private for-profit and not-for-profit providers
e. Assess data availability
f. Assess available local capacity to carry out the survey and engage in data analysis and research
g. Choose the appropriate survey tool

2. Sampling strategy (representative set of schools in a country)
3. Design of questionnaires (for interviewing head teachers, principals, or staff responsibility for financial matters; separate data sheets to collect quantitative data from school records; and questionnaires to collect data at the local, regional and national levels). The following general elements are to be included in the school questionnaires (Appendix 1 of the Reinikka and Smith document contains a sample questionnaire):

a. Identification of the school
b. Number of students in the school
c. Personal information about the head teacher
d. Teachers
e. Facilities
f. Location, distance and school choice
g. Organization and governance
h. Supervision and accountability
i. School's sources of funding
j. What did the school spend its money on?
k. Data sheet to the value of in-kind support
l. Quality of records

Administering PETS surveys can be complex because they require reasonably well-educated people to administer the surveys, enter data, and do analysis. They also require significant cooperation (and time) of school staff and government officials at the local, regional and national levels. All of this can be very expensive. The World Bank (2006c) recently completed a PETS survey in Mongolia, a country with 2.5 million people that is transitioning from a Soviet-style education system similar to those found in E&E countries. This study cost between $70,000 and $90,000, **not counting time of World Bank staff** (Charles Abelmann, World Bank, personal communication). In addition, because the primary objective of PETS is tracing public resource flows (e.g., funding leakage) through the education sector, it does not address private expenditures of families and individuals for influencing various desired outcomes.

In summary, such surveys are labor intensive, expensive, and limited in scope to the flow of government funds. They are also limited by the capacity of local agencies to conduct the surveys as well as representativeness of the set of providers and enterprises accessible and willing to provide data. Further, even if there is systematic documentation of funds leakage, bribery, and other types of favoritism, conventional approaches to reducing

government corruption across sectors such as audit and legislation may not be enough, especially in developing countries. Referring to studies of African countries, (Reinikka and Svensson, 2003, p. 13) identify several "fundamental determinants of corruption" which are equally applicable to countries in the Europe and Eurasia region and that also must be dealt with in order to develop successful national anticorruption programs:

- *Restricted civil society involvement;*
- *State/government perceived as a vehicle for personal wealth accumulation;*
- *Prevalence of patronage politics; and*
- *Small elite with close political connections.*

These and other issues related specifically to the Eastern Europe and Central Asia region are also addressed in another World Bank publication outlining a "multi-pronged strategy" with the following five elements:

- *Building* ***political and public accountability***
- *Strengthening* ***competitiveness in the private sector***
- *Building capacity and institutions for* ***public sector management***
- *Enhancing* ***civil society participation***
- *Fostering* ***institutional restraints*** (Anderson and Photos, 2003, p. 2)

Three common themes emphasizing good governance cut across the initiatives by the World Bank for fighting corruption in Europe and Central Asia:

- *First, bringing* ***transparency*** *to government processes and decision making makes corruption more difficult to disguise.*
- *Second, establishing institutions that emphasize* ***accountability*** *for public sector performance helps ensure that officials have incentives to perform well.*
- *Lastly, allowing stakeholders to have some* ***voice*** *or direct input into the decisions that affect them helps ensure a more responsive government* (Anderson and Photos, 2003, p. 4).

This report indicates that the World Bank will continue to emphasize good governance that includes transparency, accountablity and voice in its anti-corruption campaigns. To support its efforts in monitoring anti-corruption progress, the World Bank (2006b) has developed indicators of these governance issues.

Existing and Ongoing Work on Corruption in Education

That there has been significant investment in research and program development in the Europe and Eurasia Region aimed at fighting corruption in education indicates a wide-spread acceptance of the notion there are substantial reasons for taking steps to reduce the problems associated with corrupt governance and finance that are found throughout the region. Publications from the World Bank (Anderson and Photos, 2003) and USAID (2005) have provided extensive analyses of corruption in the region, including policy and programmatic recommendations for reducing corruption at all levels. Appendix D of the TAPEE report (USAID, 2005) deals specifically with corruption in education and

Heyneman (2004) provides a comprehensive list of interventions to lower the incidence of corruption in education.

Though not focused specifically on the E&E region, the paper on "Corruption and the Education Sector" prepared for USAID by Chapman (2002) is thorough and comprehensive. Transparency International (Meier, 2004; Meier and Griffin, 2005) has commissioned reports on corruption in education.

UNESCO's International Institute for Educational Planning (IIEP) in Paris has funded an extensive program of research and training on corruption and education (Bray, 2003; Hallak and Poisson, 2002, 2007; van Nuland and Khandelwal, et al., 2006; Levacic and Downes, et al., 2004). Taken together, these volumes alone provide a wealth of information on the various types of corruption in education and contain recommendations about what needs to be done to combat its negative effects. They also provide methodological information about conducting surveys of education corruption in developing countries. Further, in conjunction with the World Bank, the Open Society Institute, Transparency International, and the U4 Anti-Corruption Resource Centre (www.u4.no), IIEP is sponsoring a "Summer School" program on "Transparency, Accountability and Anti-Corruption Measures in Education" in Paris on 6-15 June 2007. The objectives of this program are:

- *to develop awareness of the magnitude and harmful consequences of corruption in education;*
- *to train participants in the design and implementation ofvarious diagnostic tools aimed at assessing distroted practices in the use of education resources;*
- *to train participants on how to improve and transparency and accountability in education.*

The volume by Hallak and Poisson (2007) will be one of the main resources for this program. The final chapter synthesizes the findings from the entire volume about how to address the challenge of corruption in the education sector. Table 2 shows the synopsis of findings included in the book. Three "major strategic axes for improving transparency and accountability in the management of the education sector are described:

- *the **creation and maintenance of regulatory systems** involves adapting existing legal frameworks so that they focus more on corruption concerns (rewards and/or penalties), designating clearn nomrs and criteria for procedures (with regard to fund allocation of procurement, for instance), developing coes of practice for the education profession, and defining well-targeted measures, particularly for fund allocation;*
- *the **strengthening of management capacities** to ensure the enforcement of these regulatory systems. This involves increasing institutional capacity in various areas, particularly information systems, setting up effective control mechanism against fraud and promoting ethical behaviour; and*
- *encouraging **enhanced ownership of the management process.** This involves developing decentralized and participatory mechanisms, increasing access to information particularly with the use of ICT's, and empowering communities to help them exert stronger "social control."*

Table 2. Regulation, Management and Ownership *

Areas	Regulations	Management	Ownerhip
• Financing • Allocation of specific allowances (fellowships, subsidies, etc.)	• Equitable and transparent allocation formula • Clear financial procedures (guidelines) • Stardization of the format of financial reports	• Computerized/automated process • Training of principals and administraive staff in financial procedures • Budget scrutiny • Independent mechanisms of control • Internal and external audit • Sanction of fraud (penalties)	• Social mobilization • Information to the public • Training of stakeholders
• Construction, maintenance and school repairs • Writing, production and distribution of textbooks' • Distribution of equipment, furniture and materials (including transport, boarding, canteens and school meals)	• Clear legislation and regulation on procurement procedures (guidelines) • Standardized policies for school maintenance and repairs • Clear policy for equipment/materials • Clear copyright and book policy	• Detailed and transparent contract specification • Pre-qualification of suppliers • Computerized/automated process (e-procurement, linear models) • Procurement scrutiny • Internal and external audits • Sanction of fraud (penalties)	• Involvement of ministry of education • Information to the public • Peer monitoring/control (integrity networks) • Citizen oversight committee
• Teacher appointment, management (transfer, promotion), payment and training	• Open competition for teacher recruitment • Clear and objective criteria for teacher management (including promotion and transfer system)	• Cleaning the list of teachers • Computerized/automated process • Adequate incentive systems • Control of absenteeism • Reporting of anomalies	• Involvement of trade unions • Information to the public
• Teacher behaviour (professional misconduct)	• Professional and ethical standards/codes • Basic norms (private tutoring)	• Training • Private tutoring complementary to mainstream education • Adequate incentive systems	• Involvement of the profession (design, enforcement of the codes) • Peer monitoring/control of the implementationof the codes • Information to the public
• Information systems	• Establishment of reliable education management information systems (EMIS) • Report cards • Tracking surveys	• Computerized/automated process • Training • Adequate incentive systems • Independent mechamisms of control of the reliability of data • Periodic audits of information • Sanction of fraud (penalties)	• Information to the public (information displayed on public boards, available through the main newspapers, the internet, etc.)

• Examinations and diplomas • Access to universities • Institution accreditation • Cross-border movements (overseas students, franchised courses or institutions)	• Clear anti-academic fraud policy • Transparent rules and procedures for being admitted to universities • Transparent criteria for obtaining accreditatioin • Design of internationl guidelines on cross-boarder education	• Confidentiality of exam content and anonymity of candidates • Computerized exam management • Mechanisms to detect fraud (use of statistical tools) • Sanction of academic fraud (penalties) • Design of standardized national exams • Outsourcing the management of exams and accreditation procedures	• Adoption of standards of academic integrity by the profession • Adoption of honour codes by the profession • Establishment of reliable and user-friendly information systems on recruitment procedures, list of graduates, accredited institutions, accrediting agencies, etc.

Source: Hallak and Poisson, 2007, Table 9.2

One additional example is the International Monetary Fund (IMF) supported publication of an extensive edited volume (Abed and Gupta, 2002; reviewed by Hillman, 2003) on governance, corruption and economic performance in a variety of low-income countries. All of these resources commissioned by major donors and/or development NGOs include much that is applicable to the E&E region and, taken together, largely cover what is known about education and corruption. Table 1 and Figure 2 in this paper reflect this knowledge.

Conclusions

1. Corruption in education is widely accepted as an important international concern and is continuing to receive extensive attention by a variety of highly respected agencies such as the World Bank (Anderson and Photos, 2003) and IIEP (Bray, 2003; Hallak and Poisson, 2007). It has also been addressed in the scholarly journal literature (Heyneman, 2004; Tanaka, 2001). Further, some of the best policy and program-oriented work already existing in this area has been funded by USAID (2005; Chapman, 2002).

2. The research employing production function approaches to estimating the relationships among corruption and indicators of economic growth is limited in its usefulness for several reasons:
    a. Since most available indexes of corruption rely on data about people's perceptions, they are not appropriate for modeling actual costs. The most commonly used indicator of corruption, the Corruption Perceptions Index (CPI) developed by Transparency International (2006b), is a global measure reflecting the way that citizens view their countries with respect to corruption in several sectors. While there is an education component to this index, it is not disaggregated because this would make the overall CPI less robust in statistical analyses.
    b. The unit of analysis tends to be the country rather than individuals, so statistical analyses reflect a country-wide estimation of associations rather than one related directly to educational experiences at the school or individual levels.
    c. Several of the more theoretical articles present arguments that are synthetic and purely mathematical without subjecting them to empirical testing (e.g., Bjorvatn and Søreide, 2005).
    d. Results also depend on the methods of estimating relationships among variables in the equations, including the selection of intervening variables (Dreher and Herzfeld, 2005).
    e. The econometric literature is not accessible to lay audiences and tends to have limited policy relevance.
    f. There is no agreement on the "best" indicators to use in such studies. Rather, indicators tend to be chosen on the basis of the particular hypotheses being tested and/or the availability of data.
    g. No single model has been developed that can comprehensively account for all of the forms of corruption documented in Table 1, many of which may be disguised as a cultural norm (i.e., giving a gift to a teacher for all major holidays) and vary in importance from country to country.

h. Given the absence of actual data on what is being spent for various types of corruption, coefficients reported for regression analyses can provide only rough approximations of relationships among corruption in education and indicators of economic development. Therefore, there is no way to tell how actual expenditure on corrupt practices in education at the individual, school, local government and national government levels is related to economic growth or individuals' economic resources.

3. Collecting data on expenditures for corrupt practices in education from individuals at the household level as well as from stakeholders at the national, regional and local levels is very expensive, and hence, not feasible on a large, multi-national scale without significant investment.

Recommendations

The "Technical Directions" for this study focused exclusively on assessing the feasibility of developing a comprehensive model *to quantify the effect of corruption in the education sector on a country's economic development* but were not clear to what end. Since USAID has already invested significantly in research designed to understand the phenomenon as well as to develop policy steps and programs designed to combat corruption in education, it seems to me not advisable to invest further in what appears to be a largely academic exercise. Whether or not corruption can be related to economic development in a rigorous, statistical way, through sophisticated econometric models is not likely to change the already widespread international acceptance of its importance and necessity to reduce its occurrence. It is also not likely to enhance the stature of USAID in the international development community.

What is, however, likely to make a difference is for this activity to contribute further to understanding of the nature and dynamics of corruption in education as a social and economic phenomenon. This would involve exploring ways to quantify the costs of corruption in education, recognizing that there is no single model of corruption, no "one size fits all" model that is uniformly applicable across countries and cultures. In other words, to understand costs, it is necessary to develop a comprehensive set of indicators of funds changing hands.

Further, quantifying the costs of corruption in education is a necessary first step to any subsequent analysis of how such expenditures might be related to opportunity costs in the broader economy of a country. Given the dearth of real data on the amount of money that changes hands, I would suggest two steps in identifying indicators of the actual costs to individuals and governments (at both local and national levels) of corruption in education, focusing on the E & E region:

1. <u>Identify dimensions of corruption in education and possible indicators for each</u>. Both tables and Figure 2 in this paper give examples of many types of corruption in education. The various dimensions listed could be used as starting points for further elaboration and exploration of indicators that could be used to estimate their actual costs to individuals as well as national and local systems of education. More refined indicators of expenditures

reflecting corruption in education could be gleaned from existing studies and reports such as those mentioned in Recommendation 2.

2. Review existing data. Identify a set of E & E countries for which there is already existing data that might contain appropriate indicators for the dimensions of corruption in education identified in Recommendation 1. Possible sources include country personal income and expenditure studies funded by such agencies as the World Bank and UNDP (e.g., country human development reports). There may also be appropriate data sets such at the repository at the Davidson Data Center and Network (DDCN) on transition and emerging markets housed at the University of Michigan. Select only those indicators for which the data are reliable and robust.

3. Collect primary data to assess the feasibility of obtaining reliable cost information for main indicators. To make this feasible on a cost basis, it would probably be necessary to limit primary data collection to one or two countries in which government officials were supportive of this particular type of activity. Survey design and data collection could be accomplished with the help of local NGOs that would organize interviews with samples of students, parents, teachers and school administrators about any payments offered and/or received with respect to the provision of education services. Data could be collected in a non-judgmental way without reference to whether or not specific types of payments are legal or culturally appropriate. An inventory could be made of the various possible costs associated with schooling and people asked to indicate how much they spend for each. In fact, being able to put an actual pricetag on various types of educational costs would contribute to understanding the full costs across the entire educational sector. Since people and countries (as reflected in their laws and regulations) vary in their definitions of corrupt practices, this approach could conceivably be more informative than trying to develop universal definitions of corruption.

Ultimately, of course, fighting corruption depends on the commitment of countries and individuals to the establishment and enforcement of legal, moral and ethical codes that permeate social and economic structures across an entire society, not just the education sector. The success of any efforts to understand the complex issues underlying corruption in education will ultimately depend on the commitment of government officials not only to supporting data collection but also to using results to implement policies and programs designed to address these issues.

References

Abed, George T. and Sanjeev Gupta. 2002. *Governance, Corruption, and Economic Performance.* Washington, DC: International Monetary Fund.

Anderson, James and Ilene Photos. 2003. *The World Bank and Anti-Corruption in Eastern Europe and Central Asia.* Washington, DC: The World Bank.

Asian Development Bank. 2004. *Education Reforms in Countries in Transition: Policies and Processes. Six Country Case Studies Commissioned by the Asian Development Bank in Azerbaijan, Kazakhstan, Kyrgyz Republic, Mongolia, Tajikistan, and Uzbekistan*. Manila, Philippines. Downloaded 11 October 2006 from http://www.adb.org/Education/educ-reforms-countries.pdf

Bjorvatn, Kjetil and Tina Søreide. 2005. "Corruption and Privatization." *European Journal of Political Economy. 21*: 903.914.

Bray, Mark. 2003. *Adverse Effects of Private Supplementary Tutoring: Dimensions, Implications and Government Responses.* Paris: International Institute for Educational Planning (IIEP).

Broers, Laurence. 2005. "After the 'Revolution:' Civil Society and the Challenges of Consolidating Democracy in Georgia." *Central Asian Survey, 24* (No. 3, September); 333-350.

Chapman, David. 2002 (November). "Corruption and the Education Sector." Sectoral Perspectives on Corruption. Prepared by MSI, Sponsored by USAID, DCHA/DG, Contract no. AEP-I-00-00-00009-00 Rapid Response Task. Downloaded 11 October 2006 from http://www.usaid.gov/our_work/democracy_and_governance/publications/ac/sector/education.doc

Davidson Data Center and Network (DDCN). Ann Arbor: The University of Michigan, William Davidson Institute (http://www.wdi.umich.edu) . An integrated, fully searchable database on transition and emerging markets. DDCN archives and provides free access to socio-economic micro and macro data on transition economies. http://ddcn.prowebis.com/

Dreher, Axel and Thomas Herzfeld. 2005. "The Economic Costs of Corruption: A Survey and New Evidence." Thurgau Institute of Economics, Kreuzlingen, Switzerland. Available at Social Science Research Network (SSRN) http://ssrn.com/abstract=734184

Hallak, Jacques and Muriel Poisson. 2007. *Corrupt Schools, Corrupt Universities: What Can be Done?* Paris: International Institute for Educational Planning (IIEP)/UNESCO.

Hallak, Jacques and Muriel Poisson. 2002. *Ethics and Corruption in Education.* Results from the Experts Workshop Held at IIEP, Paris 28-29 November 2001. Paris: International Institute for Educational Planning (IIEP)/UNESCO.

Heyneman, Stephen P., Kathryn H. Anderson, and Nazym Nuraliyeva, 2006. "The Cost of Corruption in Higher Education." Unpublished paper. Nashville, TN: Vanderbilt University (December 1).

Heyneman, Stephen P. 2004. "Education and Corruption." *International Journal of Educational Development, 24*: 637–648.

Hillman, Arye L. 2004. "Corruption and Public Finance: An IMF Perspective." *European Journal of Political Economy, 20*: 1067-1077.

Kaufmann, Daniel, Aart Kraay, and Massimo Mastruzzi. 2006. "Measuring Corruption: Myths and Realities." *Development Outreach*, September: 37-41. http://www1.worldbank.org/devoutreach/september06/article.asp?id=371

Le Van, Cuong and Mathilde Maurel. 2006. "Education Corruption and Growth in Developing Countries." Unpublished paper. Paris: CES, Université de Paris I Panthéon Sorbonne. Email: maurelm@univ-paris1.fr

Levacic, Rosalind and Peter Downes, with country case studies by Brian Caldwell, David Gurr, Jim spinks, Peter Downes, Han Herczynski, Maria-Beatriz Luce and Nalu Farenzena. 2004. *Formula Funding of Schools, Decentralization and Corruption: A Conmparative Analysis.* Paris: International Institute for Educational Planning (IIEP).

Levin, Mark and Georgy Satarov. 2000. "Corruption and Institutions in Russia." *European Journal of Political Economy, 16*:113-132.

Mauro, Paolo. 1998. "Corruption and Composition of Government Spending." *Journal of Public Economics*, 69 (1998):263-279.

Mauro, Paolo. 1995. "Corruption and Growth." *Quarterly Journal of Economics, 110* (August): 681-712.

Meier, Bettina. 2004. "Corruption in the Education Sector: An Introduction." Unpublished paper. Berlin: Transparency International.

Meier, Bettina and Michael Griffin (Eds.). 2005. *Stealing the Future: Corruption in the Classroom.* Ten Real World Experiences. Berlin: Transparency International.

Méndez, Fabio and Facundo Sepúlveda. 2006. "Corruption, Growth and Political Regimes: Cross Country Evidence." *European Journal of Political Economy, 22*: 82-98.

Reinikka, Ritva and Nathaniel Smith. 2004. *Public Expenditure Tracking Surveys in Education.* Paris: International Institute for Educational Planning.

Reinikka, Ritva and Jakob Svensson. 2003. "Survey Techniques to Measure and Explain Corruption." World Bank Policy Research Working Paper 3071.

Rostiashvili, Ketevan. 2004. *Corruption in the Higher Education System of Georgia*. Tbilisi: Transnational Crime and Corruption Center (TraCCC), Georgia Office, Starr Foundation and IREX. Downloaded 11 October 2006 from http://www.traccc.cdn.ge/publications/index.html

Rumyantseva, Nataliya L. 2005. "Taxonomy of Corruption in Higher Education." *Peabody Journal of Education, 80* (1): 81-92.

Søreide, Tina. 2005. "Is it Right to Rank? Limitations, Implications and Potential Improvements of Corruption Indices." Paper prepared for the IV Global Forum on Fighting Corruption, Brasilia, Brazil, 7-10 June.

Tanaka, S. 2001. "Corruption in Education Sector Development: A Suggestion for Anticipatory Strategy." *International Journal of Educational Management, 15* (4): 158-166.

Tirole, Jean. 1996. "A Theory of Collective Reputations (with Applications to the Persistence of Corruption and Firm Quality." *The Review of Economic Studies, 63* (No. 1, January): 1-22.

Transparency International. 2006a. *Bribe Payers Index (BPI) 2006: Analysis Report.* Berlin: Transparency International – International Secretariate. Available at http://www.transparency.org/policy_research/surveys_indices/bpi/bpi_2006

Transparency International. 2006b. *Corruption Perceptions Index (CPI) 2006: Press Release.* Berlin: Transparency International – International Secretariate. Available at http://www.transparency.org/policy_research/surveys_indices/cpi

Transparency International. 2006c. *Report on the Transparency International Global Corruption Barometer 2006.* Berlin: Transparency International – International Secretariate. Available at http://www.transparency.org/policy_research/surveys_indices/gcb/2006

van Nuland, Shirley and B.P Khandelwal with contributions from K. Biswal, E.A. Dewan and H.R. Bajracharya. 2006. *Ethics in Education: The Role of Teacher Codes – Canada and South Asia.* Paris: International Institute for Educational Planning (IIEP).

USAID. 2005. *TAPEE (Transparency, Accountability, Prevention, Enforcement, Education): An Analytic Framework for Combating Corruption & Promoting Integrity in the Europe and Eurasia Region.* USAID Europe and Eurasia Bureau Anti-Corruption Working Group. PN-ADD-630. August.

Weidman, John C. 2001. "Developing the Mongolia Education Sector Strategy 2000-2005: Reflections of a Consultant for the Asian Development Bank." *Current Issues in Comparative Education* [Online], 3 (No. 2, May 1). http://www.tc.columbia.edu/cice/Archives/3.2/32weidman.pdf

Weidman, John C. and Regsurengiin Bat-Erdene. 2002. "Higher Education and the State in Mongolia: Dilemmas of Democratic Transition." In David W. Chapman and Ann E. Austin (Eds.), *Higher Education in the Developing World: Changing Contexts and Institutional Responses*. Westport, CT: Greenwood Press.

World Bank. 2006a. "Russian Federation. Administrative and Regulatory Reform in Russia: Addressing Potential Sources of Corruption." Policy Note. Report No. 36157-RU. Washington, DC.

World Bank. 2006b. "Worldwide Governance Indicators." Six dimensions of governance, 1996-2004: (1) Voice and Accountability, (2) Political Stability and Absence of Violence, (3) Government Effectiveness, (4) Regulatory Quality, (5) Rule of Law, and (6) Control of Corruption. Available at http://www.worldbank.org/wbi/governance/govdata

World Bank. 2006c. *Public Financing of Education in Mongolia: Equity and Efficiency Implications.* Report No.: 36979-MN. Washington, DC.

World Bank. 2006d. "World Development Indicators-2006." Washington, DC. http://devdata.worldbank.org/wdi2006/contents/cover.htm