

MANAGING CORRUPTION

in **Higher Education**
in **Moldova**

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The views in this paper are the sole responsibility of the author, and they do not necessarily coincide with those of Harvard University or of individuals interviewed for the study.

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Executive Summary

The Ministry of Education and Youth (MET) has recently become more active in addressing academic corruption, and on January 18, 2007, an action plan to prevent and combat corruption in the education system was authorized in collaboration with the Center for Combating Economic Crime and Corruption.

The present study attempts to provide MET with a framework to understand the dynamics of corruption in higher education, with a focus on cheating and bribery for grades. This coincides with the action plan's sixth goal of "identify[ing] the condition and causes favoring corruption in the education system" by the third quarter of 2007.

We develop a conceptual model to understand the conditions under which students and teachers are more likely to engage in academic corruption. These conditions include poor student and teacher quality, low effective penalties, and limited relevance of knowledge and skills acquired through higher education. To explain how universities shifted from a relatively uncorrupt equilibrium to one where corruption has become a prominent feature in classrooms, we isolate the Soviet breakup as a tipping point and analyze how the factors in our model changed over time. Based on our assessment, we recommend that MET intervene as students enter and/or exit the system by:

- Developing a standardized national admissions examination (entrance)
- Outsourcing state examinations to an independent, external agency (exit)

While any anti-corruption strategy will include ex post measures, the real challenge is to ensure that policy interventions move beyond the enforcement perspective and start addressing incentives for corruption. With adequate commitment and preparedness of the MET to tackle the underlying causes of corruption and to face tough political choices squarely, the potential to shift Moldova's university system to a high quality, low corruption equilibrium is within reach.

Acronyms

ASEM	Academy of Economic Studies of Moldova <i>Academia de Studii Economice a Moldovei</i>
BNS	National Bureau of Statistics <i>Biroul National de Statistica</i>
CCCEC	Center for Combating Economic Crime and Corruption <i>Centrul pentru Combaterea Crimelor Economice si Coruptiei</i>
CEE	Central and Eastern Europe
CNTDO	National Center for Transparency and Human Rights <i>Centrul National pentru Transparenta si Drepturile Omului</i>
EHEA	European Higher Education Area
ERC	English Resource Center, Chisinau
FRISPA	Faculty of International Relations, Political Sciences, & Public Administration, USM <i>Facultatii de Relatii Internationale si Stiinte Politice, USM</i>
GCB	Global Corruption Barometer, Transparency International
IPP	Institute for Public Policy <i>Institutul de Politici Publice</i>
MACIP	Moldovan-American Center for Private Initiative
MET	Ministry of Education and Youth <i>Ministerul Educatiei si Tineretului</i>
REI	Faculty of International Relations, ASEM <i>Facultatea de Relatii Economice Internationale, ASEM</i>
TI	Transparency International
TIMSS	Trends in International Mathematics and Science Study
UASM	Agrarian University of Moldova <i>Universitatea Agrara e Stat din Moldova</i>
UPM	State Pedagogical University “Ion Creanga” <i>Universitatea Pedagogica de Stat “Ion Creanga”</i>
USM	State University of Moldova <i>Universitatea de Stat din Moldova</i>
USMF	State Medical and Pharmaceutical University “Nicolae Testemitanu” <i>Univesitatea de Stat de Medicina si Farmacie “Nicolae Testemitanu”</i>
UTM	Technical University of Moldova <i>Universitatea Tehnica a Moldovei</i>

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This study was originally written in fulfillment of the thesis requirement for the degree of Master of Public Administration in International Development at the Kennedy School of Government (KSG), Harvard University. The two Kennedy School faculty members who were directly responsible for guiding my work were professors Asim Khwaja and Michael Walton. Their questions, comments, critique at all the stages of the project, along with the high quality standards they imposed, ensured that I produced a policy study worthy to bear the KSG seal on the cover. I also want to thank Professor Matt Andrews. Despite not being my official advisor, he has spent many hours guiding me in the development of the analytical framework and has always been available to discuss my study.

In addition to these faculty advisors, there is one more person at Harvard whom I want to acknowledge – Alexander Culiuc, a doctoral student from Moldova. Our discussions on this subject since December 2005 ignited my interest in the topic. Since then, he has been involved in every stage, providing me with background information and first-hand experiences, introducing me to his contacts in Moldova, translating documents from Romanian, helping me conceptualize the problem and editing my writing. If I were to single out one person without whose contribution this study would not have materialized, it would be him.

From the very start I knew that the study would have been inadequate if I were to rely exclusively on secondary sources. My January 2007 trip to Moldova represented the most prolific period of research. Over the two weeks, I met and interviewed 28 professors and 33 students from eight Moldovan universities, top experts on education and corruption from nine NGOs and think tanks, and high officials in two government agencies. I would love to acknowledge the contribution of each of them by name. However, given the sensitivity of the subject, some have preferred to keep their contribution anonymous. The fact that I cannot mention these individuals by name in no way reduces my gratitude towards them.

This policy study is primarily addressed to the Ministry of Education and Youth. As a result, I feel very fortunate to have had the opportunity to interview high positioned officials within the Ministry, and I would like to thank them for taking their time to meet with me. It was very reassuring to meet people who acknowledged the problem of academic corruption and manifested genuine interest in addressing it. I hope this study will prove useful to them. The Center for Combating Economic Crime and Corruption also offered useful background information and statistics.

I had the privilege to interview and draw on the expertise of individuals who define the policy debate on academic corruption. Chronologically, I should start by thanking Mircea Eșanu,

who I first met in the summer of 2006. On behalf of the National Center for Transparency and Human Rights, he provided me with the dataset for their 2004 student survey on university corruption, along with other documents and contacts. Anatol Gremalschi from the Institute of Public Policy has equipped me with a wealth of studies undertaken by the Institute, and he shared with me his unique perspective as a key individual who defined and influenced Moldova's education policy over the last decade. Constantin Marin (State University and Pro Bologna NGO) offered a wealth of insights on the Bologna process and the importance of academic integrity in educational reform, and he also facilitated a survey among students at the Faculty of Journalism.

I am indebted to current and past faculty members for sharing their first-hand observations on higher education in Moldova. Overwhelmingly, they have preferred to remain anonymous. Igor Cialenco and Veaceslav Ionita have been most helpful, and Tiberiu Scutaru's contribution went far beyond what I ever expected from a person who barely knew me. Ryan Kennedy and other Fulbright university teachers also provided a useful insider-outsider perspective.

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1 Introduction and policy motivation

The “Economic Growth and Poverty Reduction Strategy” approved by the Parliament of the Republic of Moldova in December 2004, defines European integration as a “fundamental development objective.”¹ These aspirations have been reflected in a range of reforms aiming to realign the legal, economic and social systems to EU principles and standards.

While EU representatives have indicated that Moldovan membership is premature and that considerable efforts will be required in furthering reforms, particularly in the area of governance, human rights, and minority protection, Prime Minister Tarlev has reaffirmed Moldova’s “firm intention” to pursue EU membership.²

Moldova’s participation in the Bologna Process, an initiative to create a single European Higher Education Area (EHEA) by 2010, acknowledges that European integration extends beyond economic considerations. Through modernization of higher education and increased academic cooperation, Moldova will contribute to the key objective of building Europe into “the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion.”³

The Bologna Process consists of forty-five nations who have agreed upon and committed to joint principles and objectives for higher education. Priorities for 2010 include the development of a national framework of qualifications based on a two-cycle degree system (bachelor, master) and a national quality assurance system.⁴

Moldova, along with Armenia, Azerbaijan, Georgia, and Ukraine, were among the last round of countries to join the Bologna Declaration at the Bergen Ministerial Conference in 2005. Nevertheless, preparations began as early as 2003 when Moldova declared its intention to participate in the process at the conference of education ministers in Berlin.

With the Bologna Process underway, radical reforms have been initiated to meet the strategic priorities adopted in the 2005 Bergen Communiqué. Achievements in the first year of adherence to the process include the introduction of the two-cycle model of higher education through amendments to the Educational Law.⁵ While progress has also been made on other dimensions of the Bologna principles and priorities, Viorelia Moldovan-Batranac, the Vice-

¹ Government of Moldova, “Economic Growth and Poverty Reduction Strategy Paper (2004-2006),” May 2004, 34.

² Lobjakas, Ahto, “Moldova: EU Officials Say Union Membership Hopes Are Premature,” *Radio Free Europe*, April 11, 2006. <http://www.rferl.org/featuresarticle/2006/04/40898395-58a4-4eec-ae39-6d468f8b909b.html/>.

³ Bologna Process, “Realising the European Higher Education Area,” *Communique of the Conference of Ministers responsible for Higher Education in Berlin on 19 September 2003*.

⁴ Bologna Process, “The European Higher Education Area—Achieving the Goals,” *Communique of the Conference of European ministers Responsible for Higher Education, Bergen 19-20 May 2005*.

⁵ MET, “Moldova: a year after the adherence to the Bologna Process,” *AlmaMater*, June 12, 2006.

minister of Education and Youth, acknowledges that implementation of reforms are hampered by insufficient time, money, bureaucracy, and resistance to change.⁶

Surprisingly, corruption in higher education is neither listed among the problems identified in the Vice-minister's presentation at the December 2003 informal conference of Ministers of Education in Strasbourg nor is it addressed in the "Strategy on higher education in the Republic of Moldova within the framework of the Bologna Process." The author could not locate other reports discussing corruption in the context of the Bologna Process in Moldova.

Furthermore, the discussion of educational corruption is largely absent from the 2006-2008 "Consolidated Strategy for the Education Sector." The strategy reviews the current situation in the education system and proceeds to outline overall priorities for the sector. Although a quarter of the 11,000 word report is devoted to identifying constraints in the system, including the lack of financial resources, qualified teachers, equipment, and modern teaching materials, corruption is mentioned only once: "introduc[ing] subjects to develop communication skills into the Framework Plan for higher education, including...anticorruption training, etc."⁷

While corruption has commanded minimal attention in the Bologna strategy, Heyneman warns that corruption will likely lead to the demise of the Bologna Process. A key objective in facilitating academic and labor mobility is to build a common framework where degrees are equivalent and recognized across the EHEA. However, with academic corruption rampant in many Central European countries, qualifications obtained from universities of high repute would be afforded a similar status as degrees obtained through less honest means. Heyneman has called this "the educational equivalent in the EU of unilateral disarmament."⁸

Although these warnings may provide an overly bleak forecast of the future of the EHEA, the threat of educational corruption is real and addressing this problem will be critical given that the "adherence of the educational system to the Bologna Process represents one of the main components of the policy of European integration of the Republic Moldova."⁹ We should mention at this point that the Ministry has recently become more active in this arena, and on January 18, 2007, the Ministry of Education and Youth (MET) convened with the Center for Combating Economic Crime and Corruption (CCCEC) to authorize an action plan to prevent and combat corruption in the education system.

The present report attempts to provide the MET with a framework to understand the dynamics of corruption in the higher education system, with a focus on cheating and bribery for grades. This addresses the sixth item in the "Joint Action Plan of the MET-CCCEC,"

⁶ Moldovan-Batrinac, Viorelia, "Report of the deputy minister of Education and Youth of the Republic of Moldova at the informal Conference of the ministers of education from the 5 states-members of the Bologna Process," December 12, 2006. http://www.almamater.md/cgi/jump.cgi?DB=Article&view=File_en&ID=2138/.

⁷ Government of Moldova, "Consolidated Strategy for the Education Sector (2006-2008)," 2005.

⁸ Heyneman, Stephen, Kathryn Anderson, and Nazym Nuraliyeva, "The Cost of Corruption in Higher Education." Conference on the Economics Of Education Institute for the Study of Economics Of Education, France, June 2006. <http://www.u-bourgogne.fr/colloque-iredu/posterscom/communications/Pa91StephenHeyneman.pdf/>.

⁹ Batranac, Viorelia, "Recent achievements in the reforming of higher education from the Republic of Moldova," *AlmaMater*, December 21, 2005. <http://www.almamater.md/articles/1110/en.html/>.

which requires MET and CCCEC “to identify the condition and causes favoring corruption in the education system” by the third quarter of 2007.¹⁰

Section 2 defines the scope of the problem in Moldova by reviewing available evidence on corruption in higher education. Section 3 identifies the driving force behind the vicious circle by analyzing the conditions under which students and teachers are more likely to engage in corruption. We also develop a framework to explain the origins of the existing system of corruption and to characterize the self-enforcing “bad” equilibrium. Section 4 presents policy options to break the vicious circle and discusses the feasibility of each intervention. Some of the most effective solutions resonate with the eleventh item in the MET-CCCEC action plan, which aims to “ensure transparency of the admission process and exams and promote the objective evaluation of students.”¹¹

¹⁰ MET-CCCEC, “Joint Action Plan of the MET-CCCEC” January 18, 2007.

¹¹ Ibid.

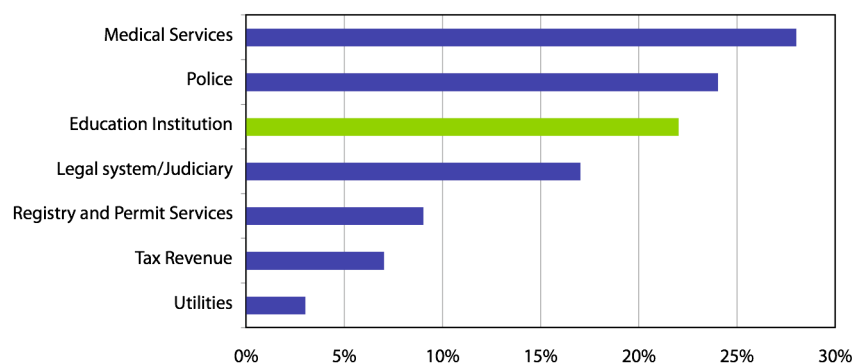
2 Corruption in education: evidence from Moldova

According to the 2005 Global Corruption Barometer (GCB), the education sector in Moldova is perceived as the fourth most corrupt sector out of fifteen. This places education behind the police, customs, and medical services. A regional comparison shows that the education sector is perceived as being relatively more corrupt in Moldova than in other CEE countries.¹²

These rankings are computed by asking respondents to evaluate corruption levels on a scale of 1 to 5 in each of the fifteen sectors in their country. While GCB fulfills its purpose of “providing an *indication* of the... extent of corruption from the view of citizens,”¹³ the reliability of perceptions data as an indicator of actual levels of corruption is unclear. Evidence of systematic biases in corruption beliefs points to the limitations of corruption perceptions, and caution is warranted when trying to use these indicators interchangeably with more objective corruption measures. Nonetheless, such surveys provide a useful starting point, and there is some evidence suggesting a positive correlation between corruption perceptions and reality.¹⁴

Having clarified some of the drawbacks of the perceptions measures, we can look to the second component of the GCB, which collects information on the proportion of households who have admitted to paying bribes in the past 12 months. According to the 2006 survey, 22% of Moldovan respondents indicated that they or someone living in their household have paid a bribe to an educational institution (Figure 1).¹⁵ Since survey respondents often underreport engagement in illegal activities, this number provides a lower bound of actual corruption levels.

Figure 1 Proportion of households that have paid bribes in the past 12 month



Source: *Global Corruption Barometer 2006*

¹² Transparency International, *Global Corruption Barometer 2005*.

¹³ Transparency International, “Report on the TI Global Corruption Barometer 2005,” December 9, 2005.

¹⁴ In a study of corruption in road-building projects in Indonesian, Olken (2006) finds that villagers’ stated beliefs is correlated with an objective measure of corruption, which is constructed by taking the difference between independent estimates of the cost of the road and the reported costs by the village. He also finds that villagers are able to distinguish between the probability of corruption in the road project and general levels of corruption in the village.

¹⁵ Transparency International, *Global Corruption Barometer 2006*.

Transparency International (TI) Moldova also conducted an opinion poll in 2004 in which one-third of students admitted to paying bribes and only 5.3% of students believed that their refusal to pay a bribe would have no negative consequences on their ability to excel academically. Lilia Carasciuc, the Executive Director of TI Moldova, estimates that these unofficial payments total 126 million lei a year.¹⁶ Unfortunately, these measures of informal payments in the education sphere do not distinguish between bribery at higher education and other levels of education, and they also fail to indicate what households and students are paying bribes for.

In addition to these statistics, anecdotal evidence of petty-corruption in Moldova's education system range from web discussions on professor price lists¹⁷ to quotations on bribery in TI Moldova surveys. A student in the 2005 TI Moldova survey claimed, "I paid a bribe to pass the Master exam; it was 'the policy' of the professor."¹⁸ More recently, in October 2006, a student at the Academy of Economic Studies of Moldova (ASEM) posted a comment on an ASEM Yahoo! group stating, "Why don't you understand that the present situation is great for everyone. Professors get bribes, and we don't have to worry about classes."¹⁹

The author's personal correspondence and interviews with students, faculty, Ministry officials and experts confirm the prevalence of this phenomenon. One ASEM student indicated:

The problem is that in Moldova this kind of stuff happens regularly. For almost every exam, we, and through "we" I mean all the members from my group collect, say, 10 lei to buy some chocolates, a bottle of champagne...Personally, I hate these favors. I am paying my contract! That's all I should pay the Academy of Economic Studies. If I refuse to pay, I can become a black sheep of the class.²⁰

While there is ample anecdotal evidence to suggest that corruption in higher education is widespread, we also have access to a dataset that can provide valuable insights on student experiences and attitudes towards corruption. In 2004, the National Center for Transparency and Human Rights (CNTDO) conducted a survey on a representative sample of 1,199 students from 10 Moldovan universities. The project was conducted under the wider research agenda of the Southeastern Europe Anti-Corruption Student Network, with similar surveys conducted in Bulgaria, Croatia, and Serbia and Montenegro.

The survey is divided into seven sections: (1) admissions, (2) grades, (3) administration, (4) textbooks, (5) cheating, (6) general questions and (7) personal data. Questions relevant for clarifying the scope of corruption can be grouped under three broad categories: awareness, perception, and engagement in corrupt activities. We present the relevant results below.

¹⁶ "NGO Concerned with Corruption in Moldova's Education System," *Moldova Azi*, June 15, 2005. <http://social.moldova.org/stiri/eng/3331/>.

¹⁷ See for example <http://www.ournet.md/~studento/student/mita/mituirea1.html>

¹⁸ Carasciuc, Lilia, Svetlana Pinzari, and Ianina Spinei, "Diagnosis of Bribery in Business," *TI Moldova*, 2005.

¹⁹ Ciobanu, Vasile, "Pentru ratatzii din grupu ista cari se cred dishteptz," web discussion comment posted on Oct 7, 2006. http://groups.yahoo.com/group/BAA_ASEM/message/163/.

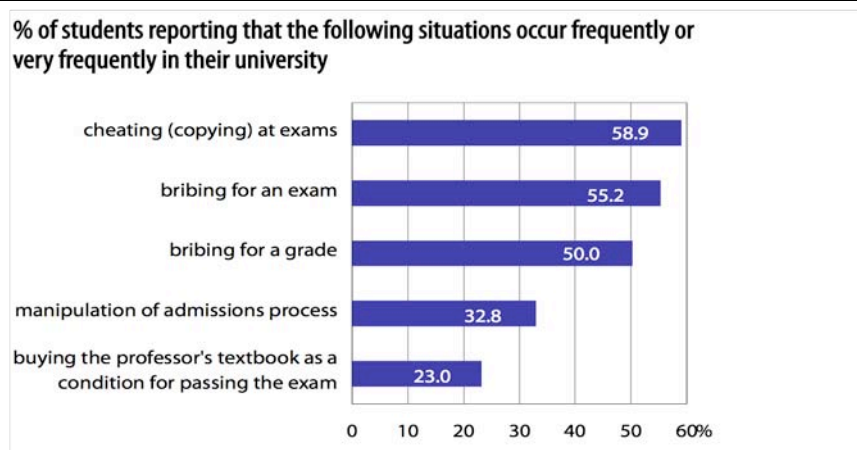
²⁰ Email correspondence with student at ASEM, February 4, 2007.

Awareness and Perception

Approximately 79% of respondents have heard of illegal methods to bypass the admissions process. Similarly, 80% of students are aware of bribing for grades and exams at their faculty. While there appears to be extremely high levels of awareness among students, these measures are hard to interpret as they do not necessarily correspond to the magnitude of the problem: high figures may simply reflect awareness of isolated cases or public discussion of the problem.²¹

Perception data provide more meaningful measures, but, as noted previously, perceptions do not map unambiguously into actual levels of bribery. When asked to estimate the percentage of students using illegal methods to enter university, the average number quoted was 27%. Respondents also estimated that 34% of students in their universities offered bribes to pass exams and 28% of professors in their universities demanded bribes for passing an exam.

Figure 2 Student's perception of the frequency of various activities



Source: CNTDO 2004 Survey

Among students who have responded to questions regarding the frequency of various activities in their department, over half of the students identified cheating and bribing for exams and grades as occurring frequently or very frequently in their university.

Actual Participation

Perhaps most informative are the survey questions which asked students to indicate whether they themselves have engaged in various corrupt activities. However, we expect to see some underreporting for the following two reasons:

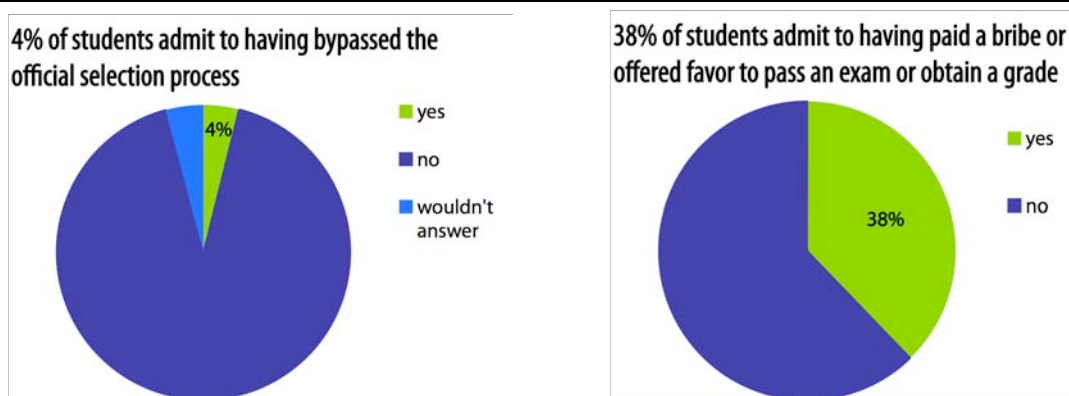
- **Unwillingness of respondents to reveal engagement in illegal activities.** When students are forced to pay a bribe or offer a favor to professors, there is a strong incentive for them to protest against such behavior. However, when both parties benefit from the exchange, neither has an incentive to reveal their involvement in these activities.

²¹ However, it should be noted that the survey was carried out in 2004 when academic corruption was not yet a hotly debated topic.

- **Selection bias in the survey design.** Professors interviewed for this study often complained about the number of students who do not come to class and expect to pass the course without studying. While these students are more likely to engage in academic corruption, it is unclear whether they have been included in the survey.²² As we lack information on the proportion of students who are regularly absent from classes, we are unable to estimate the magnitude of this bias.

Despite underreporting in measures of actual participation, these responses are nonetheless valuable as a lower-end estimate of the magnitude of academic corruption. For example, the survey indicates that at least 4% of students have bypassed the official admission process (Figure 3a). With respect to corruption during the academic year, we have two relevant survey questions: (2.5) *have you ever paid for an exam or grade?* and (2.12) *have you paid or offered a favor to a professor (or a member of the staff) for passing an exam?* Using the responses from these questions, we construct a measure of whether a student has paid a monetary bribe and/or offered a favor for an exam and/or grade. As shown in Figure 3b, over a third of students admitted to engaging in such activities while at university.

Figure 3 Participation of students in academic corruption



Source: CNTDO 2004 Survey

Assuming that students are equally willing to report their engagement in both activities, participation in academic corruption within the university process appears to be higher than at the admissions stage. This observation is also borne out in our earlier discussion of corruption perceptions, where only 32.8% of students identified manipulation of the admissions process as a common practice in comparison to the 50-55% of students who considered bribery for grades and exams to occur frequently or very frequently.

While there is no corresponding question in the survey that asks students to indicate whether they have cheated on examinations, we have collected additional data by distributing a two-page questionnaire to students at ASEM. The questionnaire, which covers 130 students, was distributed during January 15-18, 2007 to several groups at the Faculty of International Relations (REI). Among REI students, 62% of respondents admitted to cheating and on

²² The final report of the survey does not provide details on how students are identified within the selected universities and faculties. The report neither makes any reference to obtaining class lists at universities nor does it provide a protocol for how surveyors would track down students who are absent from classes. As a result, it is likely that the sample was restricted to students who were physically present at the universities between 01.12.2003 and 15.12.2003.

average students cheated in 26.6% of their classes. Also, 29.1% of respondents admitted to paying a bribe or offering a favor for an exam and/or grade. This is slightly lower than the 33.3% of ASEM students who admitted to the same activities in CNTDO's 2004 survey and the 34.8% of ASEM students who admitted to having bribed a professor to avoid a failing grade in the November 2006 survey by the Moldovan-American Center for Private Initiative (MACIP).²³

Regardless, these results provide cursory evidence to suggest that cheating is the most prevalent form of academic corruption, followed by bribery (both monetary and in-kind) for grades and exams. As a result of the high prevalence of these two forms, we will focus the subsequent analysis entirely on (1) cheating in examinations and (2) bribery for passing an exam or receiving a certain grade.

²³ MACIP, "Integritatea Academica la Academia de Studii Economice," 2006.

3 The vicious circle of corruption: identifying the causes

Consider a market in which diplomas are commodities and the two agents involved are students and teachers. Students demand diplomas, and the university faculty supplies them. Diplomas vary in “quality,” as measured by the average grade. In a well-functioning educational system, the average grade is an *objective* measure of the knowledge acquired. If employers consider university-provided knowledge to be useful, the average grade contributes to the value of the graduate on the labor market. This explains why a high average grade may be desirable.

In a poorly functioning education system, the grade is not perfectly correlated with the acquired knowledge. This deviation from the first-best scenario can arise in several ways:

- **Cheating:** students manage to demonstrate more knowledge than they actually possess
- **Bribing:** students and teachers enter into a side agreement to determine grades
- **Subjective grading:** teachers evaluate students based on principles other than the level of knowledge demonstrated by students

In this context, students and teachers each face a set of three options:

Students	Teachers
■ Study	■ Evaluate objectively
■ Cheat	■ Allow Cheating
■ Bribe	■ Accept/demand bribes

In the next two sections, we model the decisions of both parties. In reality, there is also a third party involved – the labor market. We expect employers to update their beliefs and pay less attention to grades and/or diplomas as the education system moves towards a corrupt equilibrium. This, in turn, would reduce the incentives for students to obtain high grades and/or diplomas. For now, we will assume that the demand for diplomas and high grades does not fall in the short term. This assumption will be qualified in Section 3.3.

3.1 Modeling student behavior

The ultimate goal of a student is to graduate, i.e. obtain a diploma. The student chooses an optimal combination of (1) studying, (2) cheating, and (3) bribing in order to meet minimum graduation requirements. We assume that these factors are substitutes, an assumption borne out through private interviews with students. One student admitted to paying bribes in 30% of classes. When asked why he did not pay in more classes, the student responded that he paid bribes in classes where it was hardest to cheat. At the same time, he indicated that he had cheated in all of the remaining classes.²⁴

As a further simplification, we group cheating and bribery into a single decision of whether to engage in corruption. Without loss of generality, we assume that higher education consists of

²⁴ Interview with student, January 18, 2007.

a single representative course. The decision to engage in corruption depends on whether the net expected benefits of academic corruption exceeds the net expected benefits of studying:

	Studying	Corruption
Benefits	<ul style="list-style-type: none"> ■ Diploma ■ Knowledge 	<ul style="list-style-type: none"> ■ Diploma ■ Reduced effort/time (<i>for studying</i>)
Costs	<ul style="list-style-type: none"> ■ Effort/Time 	<ul style="list-style-type: none"> ■ Effort/Time (<i>for corruption</i>) ■ Effective penalties ■ Social ostracism ■ Moral costs ■ Monetary costs

On the benefit side, both studying and corruption can secure a diploma. Knowledge, however, is only acquired through studying. Ultimately, the benefit of studying depends on the relevance of university-provided knowledge and skills on the labor market.

The cost of studying will vary depending on the innate ability of a student, as well as abilities developed in earlier stages of education. To achieve the same level of academic performance, students with higher abilities can exert less time and effort than low ability students. At the same time, since the quality of a teacher determines his or her ability to transfer knowledge to students, higher quality teaching can facilitate the process of acquiring, internalizing, and practicing the knowledge supplied through higher education. This reduces the cost of effort and time for all types of students.

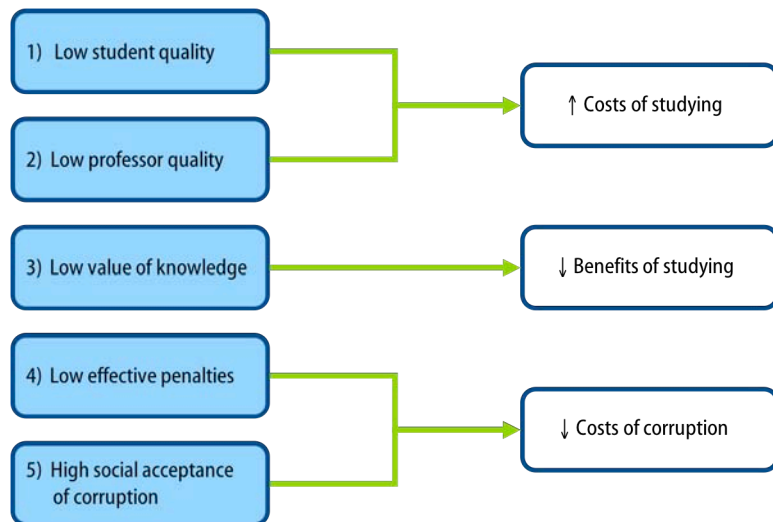
Although not immediately apparent, **the cost of corruption** does include an effort/time component. With respect to academic corruption, students who cheat have to exert effort and time to prepare crib notes and other cheating devices. Bribery also requires that students exert effort and time to find channels to approach teachers directly or through intermediaries. Additional costs in this category include the effort and time used to conceal one's activities. To some degree, the student's perceived need to hide their engagement in academic corruption will be affected by the level of effective penalties and the social acceptance of these behaviors.

Effective penalties take into account the degree of punishment for academic corruption and the probability that the punishment is implemented. Here we are concerned with punishments defined by the academic disciplinary code and national legislation. The probability of being punished depends both on the ability to detect the activity and institutional willingness to prosecute offenses. Punishments, however, are not limited to legislative and disciplinary action. Social ostracism is also a form of punishment in which social intolerance towards corruption can result in resentment towards students who engage in bribery or cheating.

Unlike other costs of corruption, moral costs (i.e. guilt) depend on the individual student. Finally, while there may be monetary costs associated with cheating devices, these costs are insignificant when compared to bribe payments or gifts. Although students' financial resources should have a limited impact on the overall levels of academic corruption, financial constraints do affect the student's choice between cheating and bribing.

Based on our analysis above, we identify six conditions under which students are more likely to bribe or cheat. Figure 4 shows how each of these conditions increase student incentives to engage in academic corruption by either increasing the cost of studying, decreasing the benefits of studying, or decreasing the costs of corruption.

Figure 4 Conditions leading to corruption among students



3.2 Modeling teacher behavior

Although certain circumstances may increase the incentives for students to bribe, the completion of the transaction depends on the demand for bribes from professors. Cheating, however, is a unilateral act and can occur with or without the instructor’s approval: the teacher cracks down on cheating but students find alternative methods that cannot be detected by the teacher, or the teacher turns a blind eye to cheating.

Teachers can (1) evaluate students objectively, or (2) engage in corruption by tolerating cheating or by accepting/demanding bribes. The benefits and costs of each option are outlined below:

	Objective Evaluation	Corruption
Benefits	<ul style="list-style-type: none"> ■ Professionalism 	<ul style="list-style-type: none"> ■ Reduced effort/time ■ Higher effective wage
Costs	<ul style="list-style-type: none"> ■ Effort/Time 	<ul style="list-style-type: none"> ■ Moral costs ■ Effective penalties ■ Social ostracism

In the analysis that follows, we introduce two assumptions:

- (1) Exams cover topics outlined in a pre-determined curriculum regardless of the amount of knowledge that the teacher effectively transfers to students through classes.
- (2) Teachers are averse to failing students because of administrative pressures and the convention of blaming professors for student failure (see Section 3.3 for discussion).

Objective evaluation of student performance provides teachers with moral benefits from fulfilling their professional responsibilities. We expect the objective evaluation of students to go hand in hand with teacher quality. For example, we should observe many students failing in classes where teaching quality is low but evaluation is objective. The abnormally low student performance would attract the administration's attention, raising questions about the professor's teaching abilities. Assuming that high quality teachers have to exert less effort to transfer a given level of knowledge to students, we conclude that low quality teachers have fewer incentives to evaluate students objectively. Nevertheless, as the quality of students fall the required effort will increase for all types of teachers. A final point to make is that high quality teachers may also place more value on professionalism, thus deriving greater benefits than a low quality teacher.

The benefits of corruption reside in higher effective income. When teacher quality is low, greater effort and time is required to teach the curriculum. In such circumstances, it may be easier for teachers to allow cheating or bribery. By engaging in corruption, teachers reduce their effort without incurring the appropriate reduction in salary, i.e. they are paid more per unit of effort. In the case of bribery, the effect is reinforced through a second channel: bribes also provide supplementary income, which is absent in the case of cheating. Because of decreasing marginal utility, the benefit of supplemental income falls as legal salaries increase. Notice that teachers can obtain supplementary income also through alternative legal sources (e.g. part time work in the private sector). If high quality teachers have better access to these legal sources of additional income, this would further reduce the need for such teachers to resort to bribery.

The decision to engage in corruption can carry **legal, social, and moral costs**. In the case of cheating, the teacher's legal and social costs are minimal. Since it is difficult to identify whether teachers allow students to cheat or whether students cheat despite the teacher's efforts to curb such conduct, punishments for cheating are typically directed at students.

Ethical standards also affect the teacher's decision by determining the magnitude of the moral costs. We can hypothesize that these moral costs from corruption are inversely proportional to overall social acceptance of such deeds. This is reflected in comments made by a former professor of Moldova State University (USM): "They see how other professors raised their income by taking money and it spreads to the rest of the teachers. Even honest, good lecturers are easily contaminated because it is impossible to survive off these wages."²⁵

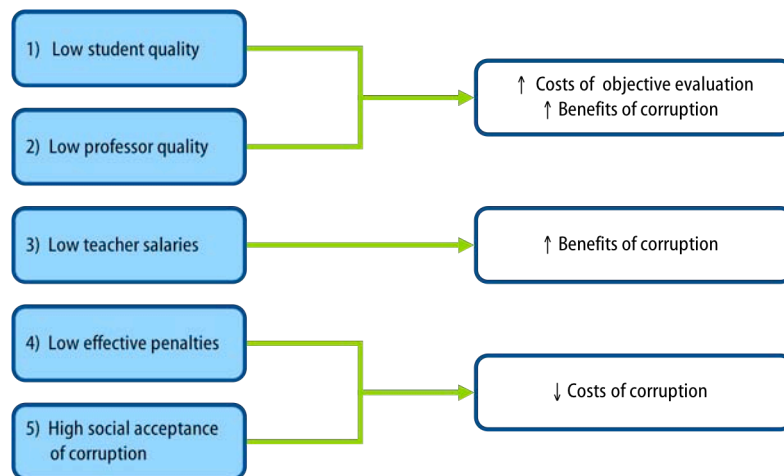
Also, if teachers feel that their salaries are "unfair," they may feel entitled to obtaining higher compensation through any available means. This would essentially diminish the moral costs associated with the activity. This is in the spirit of Hart and Moore's discussion on the feelings of entitlements in contractual relationships. They suggest that "getting less than what you are entitled to causes aggrievement and leads to retaliation and 'shading'."²⁶

²⁵ Interview with a professor, January 22, 2007.

²⁶ See Hart and Moore (2006). In their model, parties feel entitled to the best available outcome outlined in the contract at date 0. They are "well treated" if they receive this entitled outcome at date 1. In Moldova, we observe that many professors had signed employment contracts with the government before the Soviet breakup. After the breakup,

We can thus identify five conditions under which teachers will have higher incentives to engage in corruption. Four of these conditions are shared with students (Section 3.1):

Figure 5 Conditions leading to corruption among professors



3.3 Mapping the consequences of the USSR breakup on higher education

In this section, we examine to what extent the conditions presented in Sections 3.1 and 3.2 exist in Moldova, and we provide an explanation for how these conditions emerged. We argue that (1) the origins of the current self-enforcing equilibrium can be traced to the breakup of the Soviet Union, and (2) all the conditions mentioned above are simultaneously present in Moldova, contributing to a highly entrenched system of academic corruption.

Under the Soviet regime higher education was characterized by high selectivity, with admissions reserved for the brightest secondary school graduates regardless of their economic or social background. The system was well funded by the State, and it provided professors with one of the best-paid jobs in society along with numerous opportunities for academic mobility. Not only was the teaching profession highly respected, graduates of higher education also carried great status. Students were guaranteed positions in public and state establishments that provided stable salaries along with other privileges, and unemployment was virtually nonexistent in Moldova during this era. In fact, many of the gigantic industrial enterprises in the republic faced a permanent undersupply of qualified personnel.²⁷

Since the purpose of Soviet education was to train highly qualified specialists and researchers for different branches of the national economy and to augment the scientific potential of the USSR,²⁸ a major priority for Moldovan universities from 1951 to 1990 was to promote research activities in the real sciences and prepare engineers, technicians, as well as specialists in communications, industry and other fields.²⁹ In essence, higher education was a small but

salary arrears and the failure to index wages to inflation meant that the government had effectively reneged on these contracts.

²⁷ Pitei, Victor, "Links between the Educational System and the Labor Market," *IPP*, June 25, 2003.

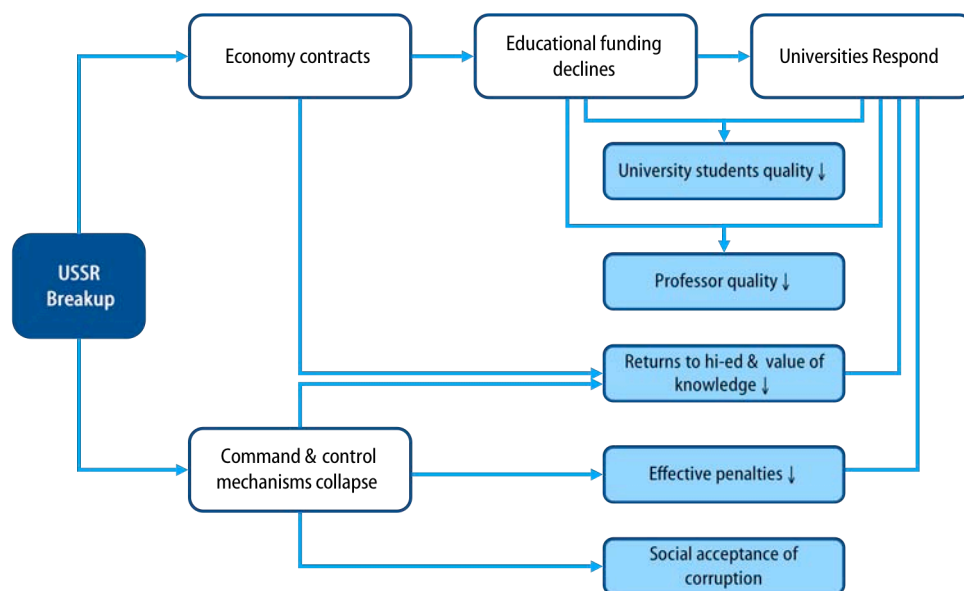
²⁸ Barrow, L. C. ed. "Higher Education in the USSR." *UNESCO CEPES*, 1990.

²⁹ Tiron, Stefan and et. al. "Higher Education in Moldova." *UNESCO CEPES*, 2003.

well respected enterprise that provided social prestige and job security to students and professors alike. Furthermore, Heyneman remarks that while the Soviet education system may not have been immune from corruption, anecdotal evidence suggests that corruption in education was lower than in other sectors.³⁰

Nowadays, higher education in Moldova is quite different. We see a poorly funded system of mass higher education where corruption is widespread and teachers no longer command the respect and prestige that characterized the profession only fifteen years ago. To understand how the system regressed, we examine the impact of the Soviet breakup and subsequent events. As shown in Figure 6, the breakup resulted in a contraction of the economy and a collapse of command and control mechanisms. The economic contraction led to a chronic underfunding of the education system, which eventually forced universities to commercialize. In what follows, we will discuss these events separately and link them to the conditions identified in our model.

Figure 6



3.3.1 Economy contracts

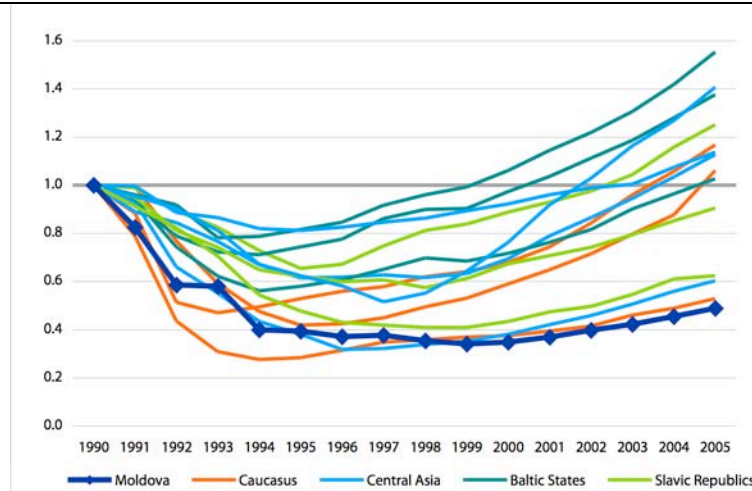
During the Soviet times, Moldova's economy was highly integrated into the Soviet system and isolated from world markets. With little natural resources of its own, Moldova relied on other republics for low-cost fuel for its power plants, as well as raw materials for its manufacturing sector. At the same time, industrial manufacturing produced highly specialized intermediate inputs, which were then exported to the rest of the Soviet Union for final assembly. Exports to other republics constituted nearly half of Moldova's estimated GDP prior to 1990, whereas exports to international markets barely reached 2% of GDP.³¹

³⁰ Heyneman.

³¹ Orlova, Nina and Per Ronnas, "The crippling cost of an incomplete transformation: The case of Moldova." *Post - Communist Economies*, 11, 3 (Sep 1999).

When the Soviet Union dissolved, the Moldovan economy suffered a dual blow from the destruction of its input distribution channels and the loss of its output markets. GDP fell by 70% between 1991 and 1997, and the economy only recently recovered to half of its 1990 level (Figure 7). Orlova and Ronnas compare the paralyzing effect of the disintegration of the centrally planned economy to “an assembly line where the links between the various work stations are abruptly cut... particularly since under central planning vertical linkages via planning authorities in Moscow were the norm and direct horizontal linkages between economic agents were poorly developed and generally discouraged.”³²

Figure 7 Evolution of Real GDP in Former Soviet Republics (1990=1)



Source: Economist Intelligence Unit Data Service (http://www.culiuc.com/archives/2006/01/gdp_dynamics.phtml)

A large number of enterprises became bankrupt and the manufacturing sector experienced a near-collapse.³³ Aggravating this situation was the fact that a disproportionate share of the industry, as well as a major power plant, was located in the breakaway region of Transnistria. In addition, Moldovan universities and research institutes experienced a large fall in the demand for scientific and technological research, which was previously driven by contracts from enterprises throughout the Soviet Union.³⁴ This is reflected in the decline of specialists employed in scientific institutions from 25,000 in 1990 to 8,170 in 2000.³⁵ Overall, the economy shifted to lower-tech industries, and self-employment in agriculture, petty trade and other low productive activities increased.³⁶ Therefore, not only did the economic contraction reduce total demand for labor, but it also reduced the skill premium.

In other words, the value of higher education and the accompanying knowledge and skills declined in the aftermath of the Soviet breakup. Although the recent expansion in several industries (telecom in particular) has partially offset this effect, it is clear that Moldova has a long way to go before the demand for skilled labor will approach pre-independence levels.

³² Ibid, 376.

³³ Pitei, 2.

³⁴ Tiron, 42.

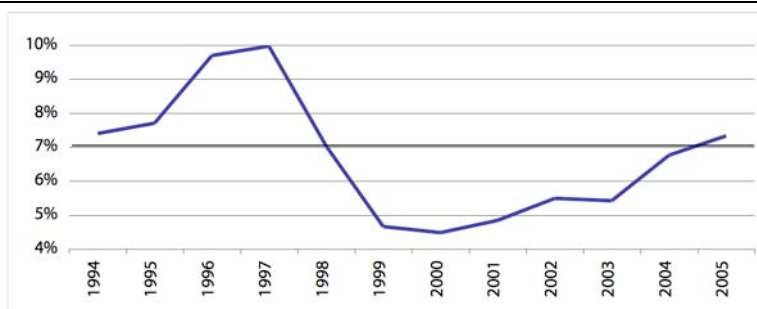
³⁵ Percinschi, Natalia, “The Scientific-Technical and Innovation Policy in Moldova,” prepared for the 4S & EASST Conference in Paris, 2004. http://www.csi.ensmp.fr/WebCSI/4S/abstract/abstract_papier.php?numero=883/.

³⁶ Orlova, 388.

3.3.2 Educational funding declines

As stated in MET's "National Report on Education for 1990-2000," the government guarantees at least 7% of GDP for public spending in education. Although this rule was met until 1998, the same report acknowledges that the budget allocation for education covered only 40% of educational expenditures and schools were deteriorating as a result of insufficient funds to repair buildings and provide basic sanitary conditions, heating, and lighting.³⁷

Figure 8 Educational Expenditures as share of GDP



Source: *Moldova Economic Trends; Statistical Yearbook of the Republic of Moldova*

According to the "Consolidated Strategy for the Education Sector (2006-2008)," despite improvements in the economy and an increase in public spending on education from 16.4% of the consolidated budget in 1999 to 23.4% in 2004, financing continues to be significantly lower than in the early 1990s.³⁸ This has directly affected the quality of both primary and secondary schooling as shortages of textbooks and other materials hinder the learning process. However, the most serious consequence of the under-funded education system has been the large exodus of qualified teachers at all levels of education. In 1998, three-fourths of the 2.7 thousand graduates with pedagogical training were given placements at schools but only 31% reported to their postings.³⁹ Between 1998 and 2000, nearly 4200 teachers left the profession with an additional 2497 teachers leaving in 2001.⁴⁰ The World Bank also estimates that a third of migrants are former public employees, particularly from the education sector.⁴¹ This is significant, considering over a quarter of the working-age population has migrated abroad.⁴²

The 2004 National Report on Education attributes the shortage of teachers to low wages, averaging 200 lei in 1999, and arrears in the payment of salaries.⁴³ Salary arrears have ranged anywhere from six months up to two years in certain localities.⁴⁴ Owing to low, unstable salaries and poor school facilities, educational institutions have not been able to attract qualified new instructors and the former prestige of the teaching profession has declined.

³⁷ MET, "National Report on Education for 1990-2000," 2001.

³⁸ Government of Moldova. "Consolidated Strategy for the Education Sector (2006-2008)."

³⁹ MET, "National Report on Education for 1990-2000."

⁴⁰ Ibid

⁴¹ World Bank, "Moldova Education Policy Note: Analysis in Support of Improvements in Quality, Equity and Efficiency in the Education Sector," Report No. 32882-MD, July 2005.

⁴² UNDP, "The Republic of Moldova National Human Development Report 2006," 2006, 24.

⁴³ MET, "National Report on the Development of the Education System in Republic of Moldova," 2004.

⁴⁴ OECD, "Thematic Review of Education Policy of Moldova," 2003, 128.

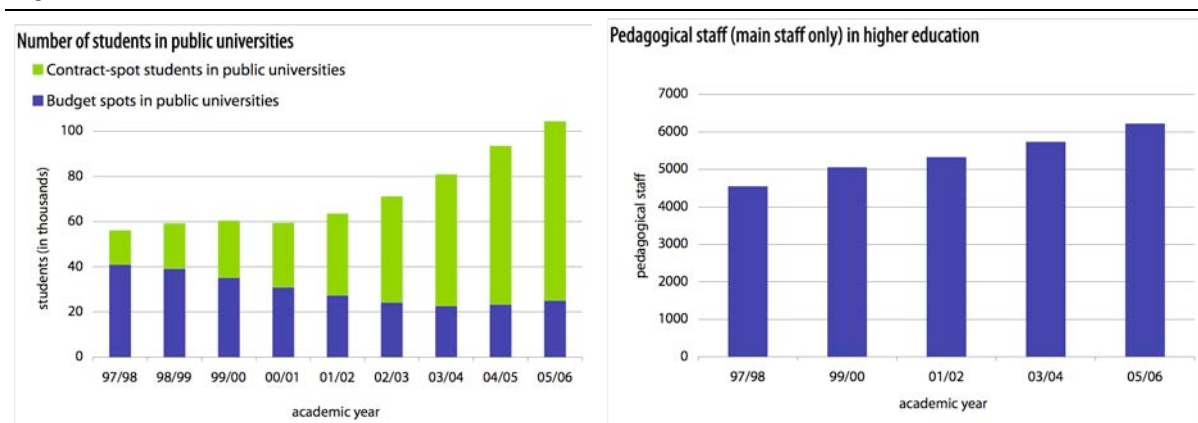
In fact, the government has acknowledged that many of the current instructors lack required teaching qualifications, further eroding the status of teachers and the quality of education.⁴⁵ Therefore, we can surmise that the deteriorating quality of schools and teaching is likely to have lowered the average quality of secondary school graduates, with many of these graduates receiving inadequate preparation to continue on to higher levels of education.

3.3.3 Universities respond

The sharp decline in public revenues since Moldova's independence has also resulted in a steady reduction of State funding for higher education. Not surprisingly, Moldovan universities were among the first in the former Soviet Union to introduce tuition fees in 1995. The emergence of private universities and tuition-based public universities was a radical departure from the Soviet system of free education. Stefan Tiron, former Counselor to the Minister of Science and Education, explains that the introduction of tuition fees "was forced on us by circumstances."⁴⁶ Students could now either attend university on budget spots (government financed seats) or on contract spots (privately-financed seats).

Pressures to increase the amount of funding from contract-spots gave universities incentives to rapidly expand the student body. As a result, the number of students in public universities increased by over 80% between 1997 and 2006. Whereas only 27% of public university students were on contract in 1997, the ratio has now reversed with over three-fourths of students in state universities paying tuition. Pedagogical staff also increased over this period, but only by 37% across all universities.⁴⁷ The higher student teacher ratio in itself implies lower teaching quality.

Figure 9 Students and pedagogical staff



Source: Annual Statistical Yearbook 2005 & 2006

While the government has considered the increase from 180 students per 10,000 in habitants in 1998 to 351 students in 2006 "an advancement in the intellectual potential of Moldovan society,"⁴⁸ it has neglected to adjust this "advancement" for quality deterioration. Higher

⁴⁵ MET, "National Report on the Development of the Education System in Republic of Moldova," 2004.

⁴⁶ Bollag, Burton, "Moldova Becomes First of the Former Soviet Republics to Charge Tuition," *The Chronicle of Higher Education*, Feb 5, 1999. <http://chronicle.com.ezp1.harvard.edu/weekly/v45/i22/22a04601.htm>

⁴⁷ BNS. *Annual Statistical Yearbook 2005 & 2006*.

⁴⁸ Government of Moldova. "Consolidated Strategy for the Education Sector (2006-2008)."

education suffers from some of the same problems that afflict the wider education sector, including low professor salaries and the inability to attract qualified candidates into the profession.⁴⁹ This rapid transformation of higher education into a mass phenomenon has come at the cost of lower selectivity in student admissions as well as in the hiring of pedagogical staff.

According to a former senior lecturer at the Department of Mathematics at USM, the department did not hire any new faculty members for at least seven years between 1988 and 1995. However, despite being one of the least popular majors, the department has expanded by approximately one to two lecturers annually since the introduction of tuition-based education. This has forced the department to reduce hiring standards in order to meet the increasing demand for lecturers, particularly in a time when many top mathematics professors have left the country.⁵⁰ At the same time, other faculty members in the department complain about current students, some of whom still cannot add simple fractions.⁵¹

Furthermore, lecturers are often discouraged by the administration from failing underperforming students as these students contribute to the university's bottom line. As several teachers have suggested, expelling students is analogous to "expelling" the university's income and the main source of professor salaries. Two professors interviewed for this study indicated that they have been told directly by the administration that if they wanted to provide a list of students for expulsion, then they should also bring a list of teachers who could be released.⁵²

Given that education quality has deteriorated and the economic contraction reduced the number of jobs for university graduates, it is somewhat surprising that the demand for university diplomas has remained strong. Two key hypotheses have emerged from interviews with students, professors, and employers: (1) inertia in social values and (2) migration.

Inertia in social values

Obtaining a diploma is a standard hiring requirement in Moldova, and according to students from ASEM and USM, "in order to become someone in life you must get a diploma."⁵³ This social norm is a remnant of the Soviet era where the small higher education sector was highly respected and graduates were consistently rewarded with better living standards. While high returns to Soviet education reflected the relevance of university knowledge, the current social standard of completing university has largely been disassociated from the notion of acquiring knowledge.⁵⁴ As one lecturer pointed out "you are nobody without papers and it doesn't

⁴⁹ World Bank, iii.

⁵⁰ Interview with Igor Cialenco, February 1, 2007.

⁵¹ Interview with professor from Faculty of Mathematics and Computer Sciences, USM, January 23, 2007.

⁵² Interviews with university lecturers, January 16-28, 2007.

⁵³ Interviews with students from ASEM and USM, January 28, 2007.

⁵⁴ While this hypothesis does not fit into framework of a rational agent who is optimizing using all available information, recent work in macroeconomics use the concept of "sticky information." For example, Mankiw and Reis (2006) uses an inattentive agent who is not continuously updating her information set to motivate the non-neutrality of money in the short run. A similar argument is used in Mankiw and Reis (2001).

really matter how you get them.” Clearly, we expect these dynamics to change as people realize the decreased value of the diploma, but it may take years before this happens.

Migration

Another hypothesis for why students have continued to enter universities despite the collapse in domestic demand for labor is the expectation of high returns to university education when working abroad. Since the majority of Moldovan migrants are engaged in activities that require significantly lower qualifications than higher education,⁵⁵ there appears to be no need for a diploma when working abroad. However, a closer investigation into migrants’ earnings shows that university graduates earn on average 45% more than migrants with only high school qualifications. Ghencea and Gudumac explain in their study on migration:

Regardless of the level of education, the Moldovan migrants, once entered the target country, will have to, at least for the initial period, find a job that does not require a higher level of education. Subsequently, their level of education will determine their adaptation pace to new conditions, opportunities, their capacity to negotiate a better wage, status.⁵⁶

In both these scenarios, the return to higher education is derived from having a physical document called the diploma, while enhanced human capital (i.e. knowledge and skills obtained through university) is neither necessary nor directly rewarded.

3.3.4 Command and control mechanisms collapse

We now return to the second major effect of the Soviet breakup, namely the collapse of command and control mechanisms. It is best summarized in the words of a former Soviet official: “We used to work in a centrally controlled system where they told you what to produce. Now they’ve stopped telling us what to produce, so we don’t produce anything.”⁵⁷

While corruption was widely recognized as being symptomatic of business and government dealings under the former Soviet Union, the collapse of the USSR essentially resulted in a weakening of the centrally coordinated rent-seeking activities and the breakdown of monitoring mechanisms.⁵⁸ Shleifer and Vishny describe the post-communist government as being “so weak that it cannot fire or penalize officials in the provinces, or even bureaucrats sitting in the capital, for running their own corruption rackets.”⁵⁹

Furthermore, they argue that the transition from centralized bribe collection to a system with many independent bribe-takers, each maximizing bribes for himself, results in a greater quantity of bribes in equilibrium. They predict that while total corruption revenues are lower under decentralized corruption, the self-interested behavior of “independent monopolists”

⁵⁵ Ghencea, Boris and Igor Gudumac, “Labor Migration and Remittances in the Republic of Moldova,” 2004.

According to their study, 95% of male migrants are working in construction and reparation while 96% of women migrants provide housekeeping, baby-sitting, and social assistance services.

⁵⁶ Ibid

⁵⁷ As quoted in Harrison (2001).

⁵⁸ Andvig, Jens. “Corruption in China and Russia compared: different legacy of central planning,” in *The International Handbook on the Economics of Corruption*, ed. Susan Rose-Ackerman, (Northampton, MA : Edward Elgar, 2006).

⁵⁹ Shleifer, Andre and Robert Vishny, “Corruption,” *Quarterly Journal of Economics*, vol. 109, 1993.

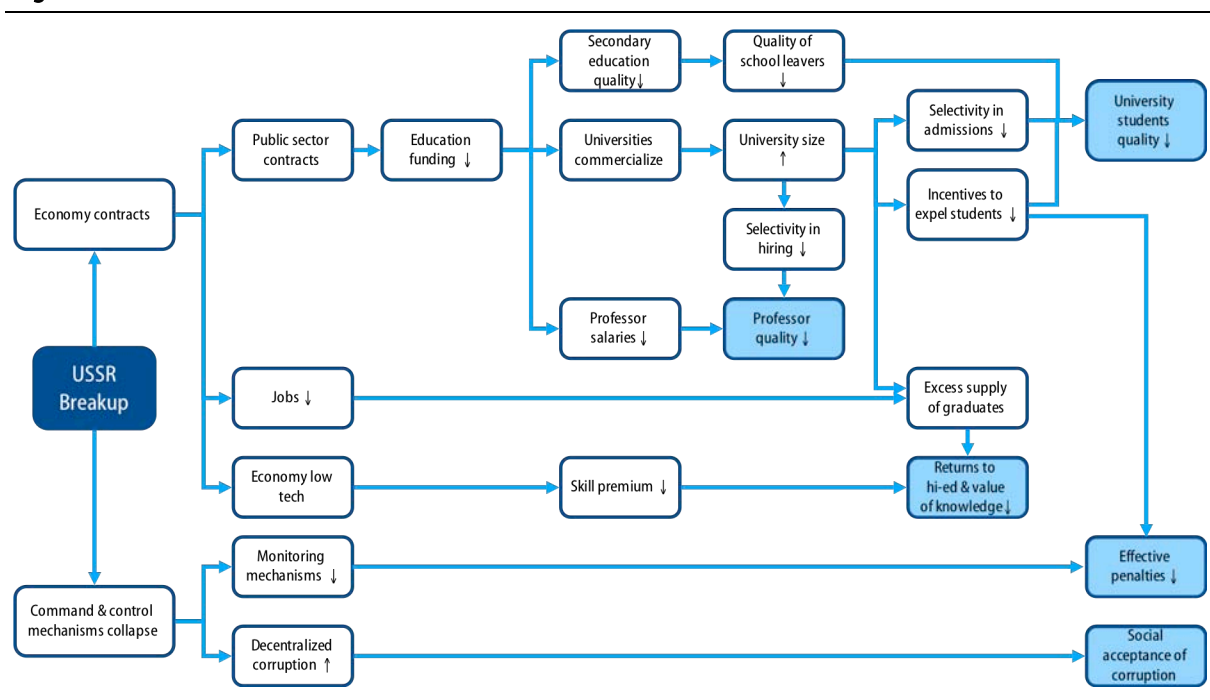
can be more detrimental to economic growth than centralized corruption.⁶⁰ For our purposes, we are concerned with how effective penalties and social acceptance of corruption increase as monitoring mechanisms break down and corruption becomes more widespread in society.⁶¹

The perception that the transition was accompanied by a surge in overall corruption is reflected in how a majority of respondents in 12 former socialist countries answered affirmative to the question “by comparison with the former communist regime, would you say that the level of corruption and taking bribes has increased.”⁶² It comes as no surprise that Moldova shares the 79th position in the 2005 Corruption Perceptions Index with Burkina Faso, Lesotho, Morocco and Trinidad and Tobago.⁶³ The World Bank’s Governance Indicators IV portrays an even bleaker picture, with Moldova falling from the 50th to 21st percentile between 1996 and 2004.⁶⁴

3.3.5 A short recap

Through our analysis, we observed that the Soviet breakup initiated a series of events that reduced the average quality of teachers and students, relevance and value of knowledge, and effectiveness of penalties and monitoring mechanisms relative to Soviet times. Concurrently, as corruption became more widespread in the aftermath of the collapse, social acceptance, both in terms of active engagement and passive tolerance of corruption, increased. Figure 10 is an expanded flow chart that summarizes the pertinent effects of the Soviet breakup.

Figure 10



⁶⁰ Ibid.

⁶¹ See Schelling (1973).

⁶² Richard Rose as quoted in Andvig, Jens, “A Polyani Perspective on Post-Communist Corruption,” 2003.

⁶³ Transparency International. Corruption Perceptions Index 2005. (The index includes a total of 159 countries.)

⁶⁴ World Bank, “Worldwide Governance Indicators Country Data Report for Moldova, 1996-2005.”

http://info.worldbank.org/governance/kkz2005/pdf_country2.asp

3.4 Current situation in Moldova

The historical account above provides a macro-level picture of how higher education shifted over time towards a corrupt equilibrium. The remaining part of this section takes a closer look at the present day situation in Moldova. Despite being constrained by limited availability of data, we provide a snapshot of the current situation by triangulating over multiple sources: interviews, focus groups, surveys, and national statistics. A comprehensive analysis would require access to ministry- and university-level data, as well as the implementation of surveys that would allow us to link cheating and bribery behavior to individual characteristics.

Student quality

As part of a study on secondary school students, the Institute of Public Policy (IPP) had originally planned to compare student performance on the Trends in International Mathematics and Science Study (TIMSS) with actual marks that students received at school.⁶⁵ By testing whether school marks accurately reflected student abilities as measured by the standardized test, this study could potentially evaluate the objectivity of grading in secondary schools and the level of grade inflation across schools. Given that grades are the main criteria for university admissions, a low correlation between the two performance indicators would suggest that the current admissions procedure is unlikely to distinguish between students of high and low abilities.

Unfortunately, the IPP study was never completed as the Institute could not obtain official approval to access secondary school grades. This example serves to illustrate the difficulties in measuring the quality of school leavers, particularly since bribery is also prevalent in secondary schools. In our questionnaire of 130 students at ASEM, 21% of respondents indicated that they (or their guardian) had paid a bribe or offered a favor for grades in secondary school.

The elimination of university-based admissions exams, while praised for limiting the discretion of universities and reducing corruption at the admissions stage, has essentially increased incentives to pay for grades at the secondary level. Consequently, the current admissions system offers limited quality control on the students entering higher education.

We encounter similar problems in measuring student quality at the university level. In the absence of direct indicators, we use a question in the CNTDO survey which asks students the maximum number of times it took them to pass an exam. Since this survey does not ask respondents whether they have cheated on exams, we focus solely on bribery.

An interesting point emerging from interviews with law students at USM was that students who pay bribes typically do not attend the regular exam session and often show up during the retake where professors have greater discretion. Students bribing in the first two rounds may be motivated to bribe for a number of reasons other than low quality. However, we can argue that having to retake the exam *more than twice* is an indication of low student quality.

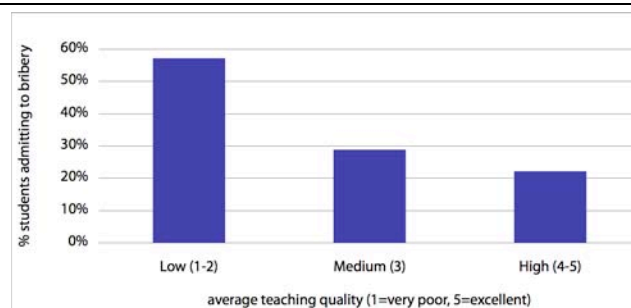
⁶⁵ Interview with Anatol Gremalschi, Program Director of IPP, January 25, 2007.

We can now test the hypothesis that low type students are more likely to bribe. The survey data confirms that 56% of students who require more than two attempts to pass an exam have engaged in bribery, whereas only 34% of students passing exams within two attempts have bribed. The difference between the two groups is statistically significant at 1%.⁶⁶ The only professor to have admitted to taking a bribe in our interviews commented that “normally good students pass the exam without paying.” This is also supported in interviews with students.

Professor quality

Without indicators to measure the quality of professors, it is difficult to establish a link between academic corruption and the quality of teaching. However, our survey of REI students shows that students who rate the average quality of teaching as being low are more likely to bribe or offer favors to pass an exam or obtain a certain grade.

Figure 11 Bribery is lower among students giving higher ranking to average teaching quality



Author's survey of 120 REI students (ASEM)

Students are asked to rank teachers on a scale of 1 to 5, where 1 indicates very poor teaching and 5 is excellent. A one-point increase in the average teaching quality is associated with a 0.13 decrease in the probability of bribing. This result is statistically significant at 1%.

Looking at more general results on teacher quality, in 2006, Maria and Oleg Bulgaru at the department of sociology at USM conducted a survey on 1,088 students across twelve faculties at USM. Only 26.4% of students were entirely satisfied with the quality of instruction. Among those who were partially or completely unsatisfied, 65.4% of students cited the professor's inability to “explain the subject in a clear and accessible form” as a main cause for dissatisfaction.⁶⁷

In another survey conducted by IPP and CBS-AXA, 21.4% of students indicated that “teachers not showing up for class” was a major reason for the low quality of higher education.⁶⁸ This places teacher absenteeism as the third most cited reason for low quality in universities. Of course these figures do not provide direct links between the quality of a teacher and their participation in corruption, but they do question the quality of teachers. During a workshop with eleven teachers at the English Resource Center (ERC), one

⁶⁶ When controlling for university and faculty effects, the probability that a low type student will bribe is .21 higher than high type students. This is again statistically significant at 1%.

⁶⁷ Bulgaru, Maria and Oleg Bulgaru, “Studentul si profesorul – doi actori ai procesului de instruire,” 2006.

⁶⁸ CBS-AXA and IPP, “Calitatea Invitatitului Superior in Viziunea Studentilor,” presentation, 2006.

participant summarized: “Anyone who wants to come to university can come—not only students *but* teachers too.”⁶⁹

Professor salaries

Higher salaries could reduce the need for supplementing incomes illicitly as well as provide a premium that teachers would lose if they were fired or prosecuted for corruption.⁷⁰ Constantin Marin, Dean of the Faculty of Journalism at USM, explains this idea as follows: “when salaries are low, the temptation for asking is very high—when salaries are low the person is not afraid of losing their job.”⁷¹ As a result, in this section we are interested in (1) how professor salaries compare to average wages, (2) the perception of professors regarding their own salaries, and (3) links between salary levels and participation in bribery.

Salaries depend on the level of education and work experience of the teacher. In public universities, the salary consists of a component paid from the state budget, plus a supplement paid from university funds. The government’s Decision 381 from 2006 sets the official salary received by different categories of teachers. At the entry level, the monthly base salary of a university lecturer with less than five years of experience is 625 lei. In the highest category, a full professor with over twenty years of teaching experience has a base salary of 950 lei.⁷²

The supplementary salary varies by faculty and depends on the total amount of extra-budgetary revenues from tuition fees. Faculties in high demand tend to have more students as well as higher tuition fees for contract students. Hence, these faculties (i.e. law, economics, finance) can afford to pay professors higher supplementary wages while pedagogy, sociology, and other less popular majors provide lower compensation for teachers. Nevertheless, this is not a stable source of income since the administration has discretion to take it away and the amount changes annually depending on the number of contract students admitted.

Overall, teachers typically earn at least double the official base salary. In a marketing study for Coca-Cola, the majority of university teachers in the study reported earnings between 1,000 to 2,500 lei per month.⁷³ The National Statistics Bureau (BNS) reports a slightly higher figure: 2,685 lei per month in 2006. Compared to the average non-agricultural salary of 2,230 lei per month,⁷⁴ teacher salaries “are neither high but nor are they very low,” as one professor put it.⁷⁵ This statement does not, however, reflect the general sentiment of university teachers, and even within MET officials have acknowledged that university salaries are low.

ERC workshop participants estimated the average teacher salary at the Pedagogical University to be closer to 1,000 lei per month. According to these teachers “when you complain [to the administration,] they tell you that the average salary is 2,500 lei but the average also includes

⁶⁹ Interviews at a workshop on corruption in universities at the English Resource Center in Chisinau, January 25, 2007.

⁷⁰ Lambsdorff, Johann, “Causes and Consequences of Corruption: What Do We Know from a Cross-Section of Countries?” in *The International Handbook on the Economics of Corruption*.

⁷¹ Interview with Constantin Marin, January 19, 2007.

⁷² Government of Moldova. “Hotarirea Guvernului nr 381 din 13 aprilie 2006.”

⁷³ Interview, January 25, 2007.

⁷⁴ BNS, “Cu privire la remunerarea salariaților în ianuarie-decembrie 2006.”

⁷⁵ Interview with professor at USM, January 23, 2007.

deans and the rector.⁷⁶ For them, an adequate salary to support themselves and their family would be at least 3,000 lei per month. This is 35% above the average national salary, a discrepancy that can be explained by underreporting in earnings, particularly in the private sector. Unreliable self-reported earnings are a standard problem in former Soviet countries.

In the absence of accurate earnings data, it is difficult to estimate how the teaching profession compares to actual wages earned in other skilled professions. We may want to put this in historical perspective. During the Soviet times, a full professor earned at least twice the average monthly salary in the economy. This was on par with salaries of republican-level ministers, although the latter obtained additional perks.⁷⁷ Currently, budget salaries of university professors are even lower than the wages of secondary school teachers. As one professor at USM explains, “Teachers understand their status in society is miserable if their budget salary is small.”⁷⁸

While it is clear that teachers are discontent with remuneration, establishing a direct link between the salary level of a teacher and whether they have taken a bribe is extremely difficult. To our knowledge, there have been no surveys on corruption conducted among teachers. Even if such a survey exists, it is likely to suffer from significant underreporting.

As a result, we can only present our findings from conversations with professors. In particular, we return to our interview with the professor who admitted to taking bribes. Having collected 800 euros as an *intermediary* for forty students at last year’s state examinations, he is no stranger to the phenomena. He summarizes the situation as follows:

The official salary from the state is small and difficult to survive off, so very frequently you cannot even refuse a bribe. It is very rational for me—an average professor can double his revenues and, with luck, you can triple or quadruple it. There are, of course, cases when lecturers are too greedy and trying to get too much. This is not acceptable.⁷⁹

Relevance and value of knowledge

When the knowledge and skills offered by higher education do not correspond to labor market demand, the benefits of studying are reduced. As a result, we are interested in the relevance of university curricula, returns to knowledge in the job market, and on a broader level, the labor market conditions faced by university graduates.

According to a 2006 draft proposal for the “Medium-term state policy on preparing specialists for the national economy” by the Ministry of Economy and Commerce, 80% of *professors* surveyed indicated that the current curricula does not correspond to the needs of the labor market. An additional 10% of professors answered that the curricula only partly corresponds to labor market demands.⁸⁰ In the 2007 draft, the authors concluded that

⁷⁶ Interviews at the English Resource Center.

⁷⁷ Email correspondence with the former 1st Deputy Chairman of State Planning Council (Gosplan), February 20, 2007.

⁷⁸ Interview with professor at USM, January 19, 2007.

⁷⁹ Interview with professor, January 22, 2007.

⁸⁰ Ministry of Economy and Commerce. “Concepția politicii de stat pe termen mediu privind pregătirea specialiștilor cu studii secundare profesionale, medii speciale și superioare pentru economia națională a Republicii Moldova.” Nov 2006.

vocational, secondary special, and higher education do not “perform the fundamental function of training a labor force which is adaptable, mobile, and capable of finding a job and [providing students] with skills required on the local and national labor market.”⁸¹ Focus groups conducted in 2006 by CNTDO also found that university students were equally skeptical about the relevance of their education. Students at the Faculty of International Relations, Political Sciences, and Public Administration (FRISPA) at USM even claimed that there were “too many ‘filler’ courses which provide jobs for professors but are completely useless in a professional environment.”⁸²

The 2006 BNS youth labor market report indicated that 73.9% of youths employed in finance felt they needed better qualifications to meet the challenges of their job. The share of employed youths who felt similarly in the fields of public administration, real estate, and commerce ranged from 59% to 67%.⁸³ This reinforces the statement by the Ministry of Economy and Commerce about the inability of the education system to adequately prepare graduates.

It is also worth noting that in a CBS-AXA and IPP survey on the quality of higher education 61.4% of students said that the most acute problem of higher education was “the disinterest of students in studying.”⁸⁴ Similar results were found in the CNTDO focus groups, where respondents noted that students are often indifferent towards their studies because of the lack of correspondence between the needs of employers and the skills and knowledge obtained in university. This attitude of indifference is also reflected in how some focus group participants indicated that the choice of major did not matter as long as they obtained a diploma.⁸⁵

Compared to respondents from vocational and secondary special schools, university students were also the most uncertain about job prospects in their field of studies. According to IPP, only 20% of university graduates find jobs related to their specialty or academic qualifications.⁸⁶ This confirms the weak link between higher education and the labor market.

Moreover, even when knowledge and skills have a strong correspondence with employer needs, this link can be weakened through improper hiring practices. Viorelia Batranac-Moldovan, the Vice-Minister of Education, explains that “until now there is hiring based on relatives and physical appearance. Qualifications are not respected, and there are no rules between the education market and the labor market.”⁸⁷ BNS reports that 41.7% of employed youths found their jobs through friends and family.⁸⁸

In the remaining part of this section, we further analyze the employment conditions faced by graduates. According to the government, majors such as business, economics, law, foreign

⁸¹ IPP, “Concept of medium term state policy on training specialists with vocational secondary, post-secondary and higher education for national economy of the Republic of Moldova,” Jan 2007.

⁸² CNTDO, “Connections of the educational system with the labour force market,” 2006.

⁸³ BNS, “Tinerii pe piata muncii,” Oct 2006.

⁸⁴ CBS-AXA and IPP.

⁸⁵ CNTDO, 2006.

⁸⁶ IPP, January 2007.

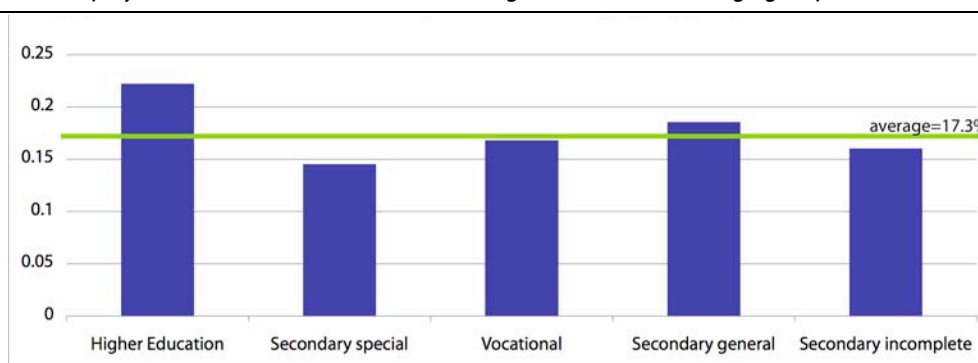
⁸⁷ Interview with Vice-Minister of Education, Viorelia Batranac-Moldovan, January 21, 2007.

⁸⁸ BNS, Oct 2006.

languages, and international relations are affected by “an excessive labor supply.”⁸⁹ In 2005, 30.7% of enrolled students were in economic-related fields and 14.4% were in law.⁹⁰ This points to potential higher unemployment rates among university graduates in these fields. Unfortunately, none of the publicly available statistics disaggregate labor market data by these specialty areas, and we can only look at overall employment statistics.

The 2006 unemployment rate of 5.6% is low compared to other countries in the region.⁹¹ This can be attributed in part to methodological reasons since the high share of workers placed on long-term administrative leave and underemployment is not reflected in these calculations. Interestingly, the employment ratio is also low with only 47.7% of the 15-64 age group being employed. The OECD average in 2005 was 64%.⁹²

Figure 12 Unemployment rates across educational categories for the 15-24 age group.



BNS. "Forța de muncă în Republica Moldova , ocupare a și șomajul trimestrul IV 2006."

To understand the labor market conditions faced by graduates, we focus primarily on the 15-24 age group. In 2006, the unemployment rate for youths was 17.3%, over three times the national unemployment rate. The problem is more pronounced in urban areas, where youth unemployment reached 24.9%, compared to the average urban unemployment rate of 7.6%.⁹³ Youth unemployment also shows alarming dynamics, having increased from 14.8% to 17.7% during the period 2000–2005.⁹⁴ Surprisingly, when we compare youth unemployment rates across educational categories, we find unemployment to be highest among youths with higher education. Within this segment 22.2% are unemployed.⁹⁵

The high unemployment rates among youth may be due to macroeconomic conditions in which failure to sustain high levels of net job creation diminishes employment prospects.⁹⁶ Along with the overall low demand for labor in the economy, unemployment among youths

⁸⁹ AlmaMater, "Plafonarea admiterii in universitati in baza taxelor de studii nu este o eroare, considera viceministrul Educatiei," July 4, 2006. <http://www.almamater.md/news/1530/index.html/>.

⁹⁰ IPP, January 2007.

⁹¹ BNS. "Forța de muncă în Republica Moldova, ocupare a și șomajul trimestrul IV 2006."

⁹² Ekonomifakta. "The employment ratio in different countries." http://www.ekonomifakta.se/en/Facts_and_figures/The_Labour_market/Employment/

⁹³ BNS. "Forța de muncă în Republica Moldova , ocupare a și șomajul trimestrul IV 2006."

⁹⁴ IPP, January 2007.

⁹⁵ BNS. "Forța de muncă în Republica Moldova , ocupare a și șomajul trimestrul IV 2006."

⁹⁶ Rutkowski, Jan. "Firms Jobs and Employment in Moldova." World Bank, Working Paper 3253, March 2004.

is likely to be related to the poor preparation of fresh graduates.⁹⁷ Where job prospects are uncertain and the value of knowledge acquired in university is low there clearly is very little incentive for students to study. Again, we might ask the question of why students even pursue higher education under such circumstances, and we can reiterate our previous hypotheses on the potential role of migration and inertia in social values.

In fact, the BNS reports that 70.3% of respondents in the 2006 youth labor market study would go abroad if they were offered the opportunity. Currently, 14.6% of youths are already abroad, making up 27.4% of all Moldovan migrants.⁹⁸ This not only supports our migration hypothesis, but it also implies that youth unemployment would be higher in the absence of migration.

Also, with 13.2% of remittances flowing into educational services, this means that parents are investing heavily in children's education.⁹⁹ However, parents working abroad might take longer in updating their beliefs about the expected value of higher education. Thus, the information asymmetry is one potential mechanism explaining inertia in social values.

Yet another potential explanation emerges from the 2006 CNTDO focus groups. Students expressed a sense of optimism that economic changes, including future EU integration and greater FDI inflows, would result in diversification and expansion of the labor market.¹⁰⁰

Effective penalties for students

When we refer to effective penalties, we are concerned with both the severity of penalties and probability of enforcement. The probability of enforcement depends in part on the ability to detect the activity and the institutional willingness to prosecute offenses and execute penalties.

As discussed previously, the CNTDO survey indicates that at least 38% of students admitted to having paid a bribe or offered a favor for an exam or grade. If effective penalties were high, we would expect to see a considerable number of students getting prosecuted and penalized. We would also expect student awareness of these cases, and hence penalties, to be high.

According to the survey, 79.7% of students indicated that they were aware of bribery in their faculty. The figure remains high at 72.2% among students who have not admitted to engaging in bribery. However, when asked whether they "know the penalties for a student who offers bribes to professors," only 14.6% of students answered affirmatively, and of these students nearly 90% thought the punishment was expulsion.¹⁰¹ Applying the reasoning above, we conclude that effective penalties are not high.

Furthermore, the difference in the number of students who bribe among those who know and who do not know the penalties is not statistically significant. Thus, students appear to bribe

⁹⁷ IPP, January 2007.

⁹⁸ BNS, October 2006.

⁹⁹ IPP, January 2007.

¹⁰⁰ CNTDO, 2006.

¹⁰¹ CNTDO. 2004 Survey on Academic Fraud.

irrespective of the perceived threat of expulsion. Since expulsion is a harsh punishment, this may suggest that low effective penalties are likely to result from a small probability of enforcing penalties rather than the lack of severe official penalties.

Nevertheless, in order to accurately gauge the severity of official penalties for students, we must look beyond student perceptions and go directly to university regulations, charters, and ethics codes. Constrained by limited access to these documents, we refer instead to a 2005 report in which CNTDO analyzes twenty-one regulatory documents from seven universities and MET.

According to the report, MET's "Regulations on the Didactic Process in Higher Education" stipulates that students can be dismissed from school for seven reasons including academic underperformance, failure to pass an examination by the third attempt, health problems, and violations of the university statute. Corruption is never explicitly addressed although "violations of the university statute" could potentially include academic fraud.¹⁰²

Unfortunately, sanctions for cheating, bribe-taking and bribe-giving are largely absent from the university statutes of at least seven major universities in Moldova.¹⁰³ Only in the case of the State Agrarian University is fraudulent behavior at exams even addressed. The penalty of expulsion, however, is restricted to cases where there are "uncontestable proofs." This presents considerable obstacles for expelling corrupt students because of the difficulties of obtaining hard evidence and the document's ambiguity regarding which proofs are acceptable or required. The CNTDO report also discusses the case of FRISPA at USM, where students drafted a "constitution" that is recognized by the university administration. Although the document clearly condemns academic fraud, no explicit sanctions are specified:

The students [of FRISPA] will not tolerate any form of academic dishonesty, including cheating, copying from other people during examinations, using cheat sheets, and intentionally or unintentionally plagiarizing... Such a deviation from moral norms will result in *severe punishments*¹⁰⁴ upon the student who commits these activities.¹⁰⁵

Not only are we left with the question of what "severe punishments" would be enforced in the event that a student engages in corruption but on a more general level these documents suggest that actual penalties are vague, if not largely absent in most universities. It is difficult to speak about the probability of enforcement when, in fact, there are no clear penalties to enforce.

However, even if universities were to officially penalize academic corruption by expulsion, we would expect enforcement to be low because of the administration's unwillingness to expel students. This same argument can be extended to show that despite regulations to expel students for academic underperformance and for attending less than one-third of classes, universities have little incentives to enforce these penalties. As a result, there are not only low effective penalties for bribery but also no official consequences or penalties for not studying.

¹⁰² CNTDO, "Regulamentele universitare," 2005.

¹⁰³ The report analyzed regulations and statutes from ASEM, USM, UPM, UTM, UASM, and USMF.

¹⁰⁴ Author's emphasis

¹⁰⁵ CNTDO, 2005.

Effective penalties for teachers

Contrary to the ambiguous and often non-existent penalties for students, official penalties for professors are defined under the Criminal Code of Moldova. Chapter 15 of the Criminal Code penalizes acts of passive corruption, the trafficking of influence and receipt of illicit compensation. More specifically, Article 324 defines passive corruption as occurring when:

Any person holding a position of responsibility who has demanded or received cash securities, gifts and presents, other good or material benefits or who has accepted services or privileges not due to him for performing or delaying an action relating to his professional duties, for doing an act contrary to his duties or for the award of a distinction, a function, a contract of supply or favorable decision on the part of the authority.¹⁰⁶

Sanctions vary depending on how often the offense is repeated, the number of persons involved, and other aggravating circumstances. The most basic punishment for passive corruption involves 2 to 7 years imprisonment or a fine of 3,000 to 5,000 conventional units, where one unit currently equals 20 lei.¹⁰⁷ In either case, the offender forfeits the right of holding office or engaging in certain activities for a period of 2 to 5 years.¹⁰⁸

The key phrase, however, is “person holding positions of responsibility,” which as defined in Article 123 are public officials who “by law, appointment, election... are assigned certain rights and obligations with a view to exercising the functions of public authority or of enterprises responsible for administrative or organizational activities.”¹⁰⁹ This is typically interpreted as applying to university rectors, deans, and chairs but not to ordinary professors and lecturers.¹¹⁰

On the other hand, Article 326 on the traffic of influence and Article 330 on the acceptance of illicit rewards by a public servant are likely to be more applicable to regular professors and lecturers.¹¹¹ We can verify this by looking at press releases on the website of CCCEC, the specialized independent body for enforcing legislation to prevent tax evasion, financial and economic crimes, and corruption.¹¹²

Among the few education-related news releases in 2006, there were two corruption cases where ordinary professors and lecturers were investigated. Ludmila Timotin, a professor of the Polytechnic College in Chisinau, was charged under Article 326 for collecting 600 and 800 lei in exchange for guaranteeing two students that she would influence the examination committee to give them higher marks.¹¹³ In another case at the Department of Psychology of a

¹⁰⁶ The Criminal Code as translated in the Appendix of GRECO, “Draft Evaluation Report on Moldova,” (2003)

¹⁰⁷ Criminal code, Art 64(2), translated by TI Moldova. Fines are set in conventional units (one conventional unit=20 lei)

¹⁰⁸ Criminal Code, Art 124.

¹⁰⁹ Criminal Code, Article 123

¹¹⁰ Avraam, Mihail, Vasile Gurin, Anatol Donciu, *Depistarea, cercetarea și calificarea infractiunilor de coruptie*, 2005.

¹¹¹ Criminal Code, Article 326

¹¹² “The Law of the Republic of Moldova of Instituting Center for Combating Economic Crimes and Corruption, No. 1104-XV of 06.06.2002.” translated by TI Moldova.

¹¹³ CCCEC. “CCCEC a retinut un profesor universitar corupt.” June 9, 2006.

university in Chisinau, a senior lecturer was prosecuted under Article 330 for accepting 300 dollars to help a student obtain the necessary grades for the ‘differences’ exams.¹¹⁴

The penalties under these articles are less severe than Article 324. However, they still include imprisonment of up to 3 years and fines of 200 to 400 conventional units, which roughly equals 1.5 to 3 months’ salary for an average professor.¹¹⁵

Despite severe official penalties, the probability of enforcement appears to be low, particularly for ordinary professors and lecturers. The CCCEC investigated 308 cases in 2006 of which 41 were in education. Most investigations of education-related corruption cases were directed at high-level administrators with 64% involving directors of educational institutions and 16% involving the chief of departments within schools. These statistics clearly acknowledge that the CCCEC have not focused on petty bribery at the level of ordinary teaching staff. In addition, across 2005 and 2006 only 10 of the 68 education-related cases were in higher education.¹¹⁶

It is also unclear how the responsibility for corruption cases is spread across the CCCEC, Anti-Corruption Prosecutor Office, and the Ministry of Internal Affairs. When we met with CCCEC to obtain statistics on the number of investigations and prosecutions in higher education, officials claimed that they did not have information on the outcomes of investigations. They explained that prosecutions are handled separately by the Anti-Corruption Prosecution Office, and although this agency is housed in the same building as CCCEC, there appears to be minimal coordination. This reduces the probability that penalties are enforced.

The disregard for penalties, which arises in part from low levels of enforcement, is evident in our conversation with the bribe-taking professor: “Bribery is an unofficial practice but only from a legal point of view, and if the lecturer is ‘correct,’ meaning he does not ask too much and he gives the agreed upon mark, there is no risk of being sent to jail.”¹¹⁷ In fact, the tendency is for universities to deal with cases internally. Students and professors have noted that teachers have been caught in the past, but the outcomes of these investigations are rarely publicized and professors often continue to teach at the university.¹¹⁸

As one professor explains, “Moldova is a small country and if you blame someone, that will stay with you for your entire life. It is an implicit rule that problems will be dealt with internally.”¹¹⁹ This comment also underscores why even honest professors may be averse to

¹¹⁴ CCCEC. “CCCEC a demascacat un nou act de coruptie la o instituti de invatamint.” June 22, 2006.

¹¹⁵ This is based on the BSN 2006 report on wages where the average monthly wage for university professors was 2658 lei.

¹¹⁶ Email correspondence with CCCEC, “Infrațiuni de Coruptie in Invatanint 2005-2006 CCCEC.”

¹¹⁷ Interview with professor, Jan 22, 2007.

¹¹⁸ For example, in the Faculty of Foreign Languages at USM, there have been at least two bribery scandals the past six years. In both instances the professors who were investigated are still teaching at USM.

¹¹⁹ Interview with professor, January 16, 2006.

reporting on colleagues. Other reasons cited by teachers include the inability to prove corrupt behavior and how “it is better not to create ill will and enemies out of colleagues.”¹²⁰

In such an environment, it comes as no surprise that nearly three-fourths of students surveyed by CNTDO could not identify the penalties for professors. Even among respondents who said they knew the penalties there were large variations in what they thought the penalties were, and this essentially reinforces our conclusion that effective penalties for teachers are low.

Social Acceptance

We previously presented the idea of social acceptance in connection to the moral and social costs incurred by students and teachers. As more people engage in corruption, this mainstreams corrupt behavior and reduces the moral repugnance of these activities. For example, when people perceive that many others are paying bribes this reinforces the notion that bribes are more likely to be accepted by the other party, and it also creates an understanding that bribes may be necessary to solve certain problems. At the same time, the bribe-taker becomes less fearful of being punished since everyone around is engaged in this behavior¹²¹ and those in charge of detecting corruption are likely to be corrupt as well.¹²²

To put it more formally, Andvig illustrates a simple model based on Schelling’s work in which the marginal benefit for corrupt and honest officials follows an inverted U-shaped curve. When there are few corrupt officials, the utility of an honest official is higher than that of a corrupt person. As the number of corrupt officials increase, the utility of the honest agent declines and eventually becomes negative. This results in three equilibria—all agents are honest, all agents are corrupt, or at any given point agents are indifferent between corrupt and honest behavior. The last equilibrium is unstable, where it pays for the marginal official to become corrupt if an additional person is corrupt and the inverse is true when there is one less corrupt official.¹²³

The problem with the simple multiple-equilibria model above, as Bardhan explains, is that “the mechanisms through which the economy reaches one or the other equilibrium are not fully spelled out.”¹²⁴ Nevertheless, this theory suggests that, starting from an unstable equilibrium, modest shifts in the frequency of corruption can have large impacts on long-term levels.

It is, however, difficult to conduct a cross-sectional analysis of the correlation between social acceptance and corruption levels, particularly since this is a dynamic interaction that lends itself better to a time-series analysis. Social acceptance is also hard to measure because it relates to a greater willingness to actively participate in corruption as well as a more passive

¹²⁰ Interview with ASEM professor, January 18, 2006.

¹²¹ Cabelkova, Inna, “Perceptions of Corruption in Ukraine: Are they Correct?” CERGE-EI Working Paper No. 176.

¹²² Andvig, Jens and Karl Moene, “How Corruption May Corrupt,” *Journal of Economic Behavior and Organization*, Jan 1990, 13(1).

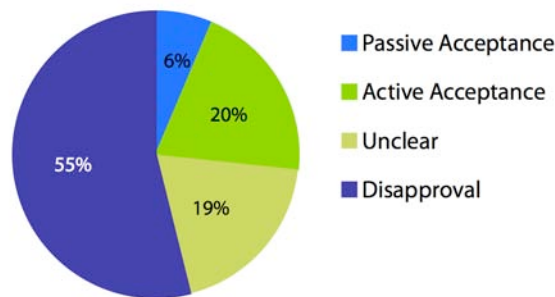
¹²³ Andvig, Jens. “The Economics of Corruption: A Survey.” *Studi Economici*, 1991, 43.

¹²⁴ Pranab Bardhan. “Corruption and Development: A Review of Issues.” *Journal of Economic Literature*, Vol. 35, No. 3. (Sep., 1997), pp. 1320-1346.

acceptance of corruption. Finally, we cannot analyze social acceptance of academic corruption separately from social acceptance of corruption at large, which is beyond the scope of this study.

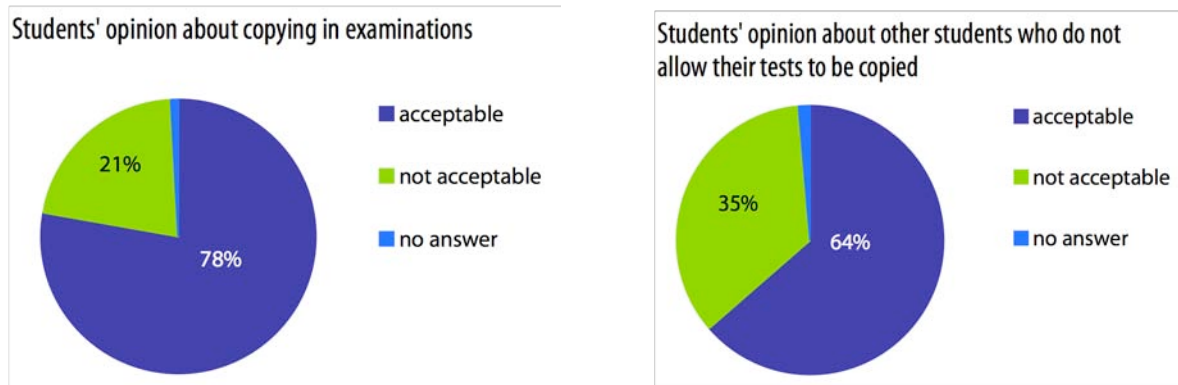
What we can provide is a cursory look at social acceptance through the CNTDO survey. When students were asked whether they would report a case of bribery only 18% of students said they would. Among students who would not report the case, the most popular reason, accounting for 42% of responses, was that “denunciation of one single case would not make a difference.” This captures the passive acceptance among students. Another indicator of social acceptance is that 20% of students responded that their parents actively supported bribery by giving them money and an additional 6% of students noted that their parents passively supported bribery.¹²⁵

Figure 13 Parent’s attitude towards bribe-giving



Even more striking is that 78% of students believed that copying in examinations was acceptable. When asked about their opinion of students who do not allow their tests to be copied, 35% of students thought this behavior was unacceptably or absolutely unacceptable. Most of these students indicated that such behavior was anti-social and students who did not share answers during tests “lacked colleague-hood” or were not “real friends.” In the extreme case, those who do not engage in academic fraud may become cultural outliers.

Figure 14 Student opinions about cheating



‘Active acceptance’ includes all responses in which students indicated that their parents were ready to bribe or have given them money to bribe. ‘Passive acceptance’ includes responses in which parents did not give students money but were indifferent to bribery or were advising their children to bribe. ‘Unclear’ includes responses in which students indicated that they were not interested in their parent’s opinion or that their parents were unaware of bribery.

¹²⁵ CNTDO. 2004 Survey on Academic Fraud.

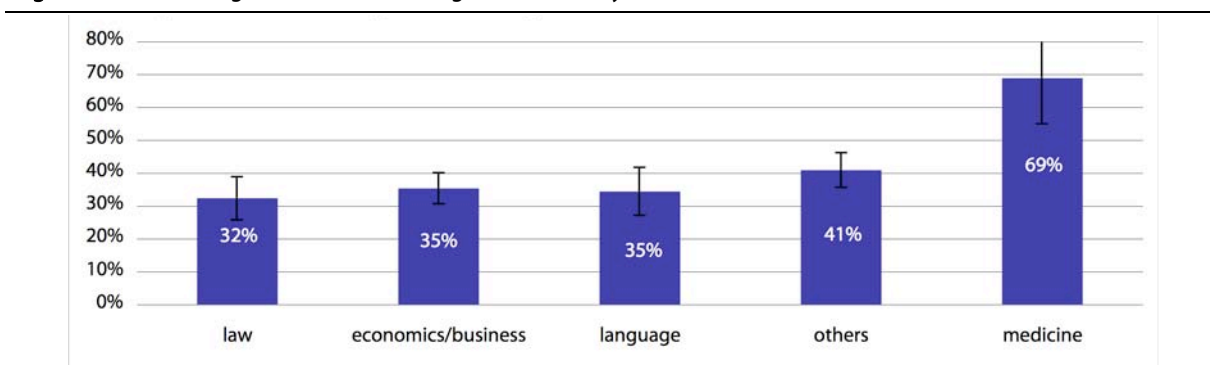
3.5 Cross-Sectional Analysis

In the previous sections, we analyzed how the factors in our conceptual model changed over time and how they look in present day Moldova. In doing so, we tried to explain how universities shifted from a relatively uncorrupt equilibrium to one where academic corruption has become a prominent feature in classrooms. We, however, can also use our model to look at variations in corruption across different groups. For example, when analyzing bribery across faculties, we can hypothesize that less popular faculties may be attracting people who are deeply committed to the field or those who have failed to secure a seat in more popular faculties (i.e. business, economics, law, foreign language, and international relations). Whether the average quality of students is higher or lower in these faculties depends on which effect dominates.

The CNTDO survey, while useful for analyzing bribery outcomes, does not allow us to match outcomes with faculty attributes. Nonetheless, an interesting observation is that medicine is a clear outlier, with 69% of students admitting to bribery. Among other faculties, there are no statistically significant differences in bribery levels except between law and others.¹²⁶

The considerably higher bribery rates in medicine can be explained by the higher opportunity cost of failing in this field. Practicing medicine without a medical diploma is impossible, and there is a clear return to having the physical document. Medical studies are also one to two years longer than other majors and titles are awarded only after the completion of a residency period.

Figure 15 Percentage of students bribing in each faculty



Source: CNTDO 2004 survey; * Y-error bars represent 95% confidence interval

¹²⁶ We cannot make any unambiguous conclusions since “others” aggregates all faculties which were either less popular or had insufficiently small sample sizes. It includes social assistance, biology, journalism, radio electronics, energetic, architecture, agricultural, and pedagogical faculties.

4 Breaking the vicious circle: policy options

4.1 Where we want to go

As we argued in Section 3, Moldovan universities are currently plagued by (1) insufficient quality controls on students entering the system, (2) little value-added throughout the higher education cycle, and (3) unclear linkages between universities and firms. Ideally, we want a high-value added, meritocratic university system that is accompanied by a vibrant, expanding firm sector. Greater competition and rapid growth in emerging industries will increase selectivity in hiring, while creating pressures for universities to differentiate on quality. Although major changes in the labor market are unlikely in the medium term, MET needs to push the university system in anticipation of long-term changes in the labor market.

4.2 How we can get there

Despite growing international mobilization to combat corruption, there has been limited analysis of anti-corruption initiatives. To the extent that incipient lessons can be distilled, they reflect relatively few success cases and the broader applicability of such activities is unclear.¹²⁷ Overall, we can classify anti-corruption activities in two groups: *ex post measures* such as legal and institutional interventions to improve detection, enforcement, and prosecution of committed acts, and *ex ante measures* focusing on the underlying incentives for corruption.¹²⁸

Moving away from tackling symptoms towards undercutting corrupt incentives

Undue emphasis on *ex post* measures, at the expense of tackling the causes of corruption, has led many countries to experiment with anti-corruption commissions, ethics codes, and legal sanctions for corrupt behavior. It has, however, proven difficult to build and enforce such institutions, and their effectiveness rests largely on the ability of anti-corruption agents to resist capture and obtain the necessary information for efficient monitoring. If underlying incentives are left unaddressed and corruption is systemic, corrupt behavior will spread to the detection and enforcement mechanisms. In such settings, *ex post* strategies are rarely effective.¹²⁹

As several interviewed Moldovan students noted, corruption scandals lead only to momentary reductions in bribery, and anti-corruption crackdowns and media campaigns are typically accompanied by shifts towards alternative channels of bribing, particularly bribery through intermediaries. This decreases the risk of detection, and as it stands, petty corruption is already difficult to detect since financial audits and other common detection mechanisms

¹²⁷ Bailey, Bruce, et. al., "Synthesis of Lessons Learned of Donor Practices in Fighting Corruption," July 2003.

¹²⁸ Kaufman, Daniel, "Revisiting Anti-Corruption Strategies: Tilt Towards Incentive-Driven Approaches?" in *Corruption and Integrity Improvement Initiatives in Developing Countries* (New York: UNDP, 1998).

¹²⁹ Shah, Anwar, and Mark Schacter, "Combating corruption: look before you leap," *Finance & Development*, Dec 2004.

cannot be used. Finally, limited independence, transparency and accountability of CCCEC¹³⁰ constrain its capacity to sanction offenders.

We should, however, give credit upfront to university efforts to promote academic integrity. ASEM's approval of an honor code in February 2007 is a clear indication that universities are mobilizing and searching for solutions to address academic integrity. Nevertheless, results of the MACIP survey of 450 ASEM students indicate that only 25.8% of respondents think that the honor code will be respected. This is despite the fact that 47.3% of respondents said it was necessary to draft a code.¹³¹

While any anti-corruption strategy will include ex post measures, the real challenge is to ensure that policy interventions move beyond the enforcement perspective and start addressing incentives for corruption. As Shah and Schacter strongly advise, "the answer lies in taking an indirect approach... after all, 'corruption' can be addressed without ever uttering the 'C' word."

Points of Intervention for the Ministry of Education and Youth

The end goal of reducing corruption within higher education is to produce graduates with enhanced human capital. To meet this goal, the MET can intervene (1) when students enter the university system, (2) during the university education process, and/or (3) when students exit from the system. The first and last points are concerned with the inputs and outputs of the education system and are clearly under the mandate of the MET. On the other hand, quality assurance during the university process should largely be left to individual institutions since the Moldovan Constitution guarantees university autonomy. We thus recommend that the MET intervene as students enter and/or exit the system by:

- Developing a standardized national admissions examination (entrance)
- Outsourcing state examinations to an independent, external agency (exit)

Policy Intervention 1: Standardized National Admissions Examination

As we argued in Section 3, Moldovan universities have a perverse incentive to admit more students at the cost of lower selectivity in student admissions. Furthermore, the current admissions procedure, which relies entirely on high school grades has done little to filter out students who are incapable of continuing on to higher levels of education.

The problem with low quality entrants and students who are coming to university for reasons other than acquiring knowledge is that these students have higher incentives to engage in corruption: their costs of studying are higher, while the benefits may concurrently be lower. The key objective is to control the composition of "inputs" into the higher education system. Setting quality benchmarks at the entrance level automatically implies that the university sector will initially shrink. Future re-expansion will require reforms in lower levels of education such that the entire educational process is coordinated to produce high quality school leavers.

¹³⁰ Parliamentary Assembly, Council of Europe, "Function of Democratic Institutions in Moldova," Doc. 10671, 2005.

¹³¹ MACIP, "Integritatea Academica la Academia de Studii Economice," 2006.

In 2006, the government directly intervened to contract the university sector by setting admissions quotas for both budget and contract spots in public and private universities under Decision 434. As a result, the number of students matriculated dropped 19.3% compared to 2005.¹³² These quotas were intended to match the supply of professionals to labor market needs, and no attention was given to the composition and quality of entrants. Thus, contraction of the sector is necessary but insufficient unless complemented by front-end quality controls.

In many countries, the screening mechanism at the admissions level includes standardized national entrance examinations. While Moldova formerly had entrance exams, these were administered and graded separately by individual universities. As a result, universities had high discretion in the admissions process, which was counterproductive since universities had few incentives to reject students and impose quality cut-offs. Hence, it is critical that entrance exams are conducted at the national level, preferably by an independent body.

Several FSU countries have demonstrated that the introduction of standardized national examinations is feasible and effective in increasing transparency in admissions. In Azerbaijan, the complete process was automated and computerized including the construction and administration of the test, as well as grading and reporting of scores.¹³³ In Georgia, examination sites were monitored by security cameras and a live TV feed allowed the public to observe students during testing.¹³⁴ These examples provide models that Moldova can follow.

Nevertheless, we anticipate substantial opposition from parents and universities. This is apparent in how parents opposed MET's efforts to create a national testing center for the secondary school exit exams in 2006.¹³⁵ As for universities, the experience of both Kyrgyzstan and Russia indicate that these changes are often perceived as threats to university autonomy.¹³⁶ In addition, as the student body shrinks to reflect the availability of qualified candidates, universities will be forced to diversify their sources of funding. However, at the same time a smaller student body means that universities can also cut overhead costs.

By endorsing Decision 434, the ministry showed that it could challenge university interests in order to push through controversial reforms. The critical task is to maintain the political will for reform. To minimize opposition, MET will have to devote significant time and effort in engaging all stakeholders. To build public confidence in the process, it is essential that the testing body is a credible, autonomous agency. The establishment of an independent body has the additional benefit of being able to attract international experts as advisors or staff members. This is particularly desirable since the design of national tests requires significant technical expertise.¹³⁷ In both Kyrgyzstan and Georgia, the testing bodies received outside

¹³² BNS "Activitatea institutiilor de învățământ mediu de specialitate și superior la începutul anului de studii 2005/06."

¹³³ Hallak, Jacques, and Muriel Poisson, "Corrupt schools, corrupt universities: What can be done?" *IIEP*, 2006, 248.

¹³⁴ Meier, Bettina and Griffin, Michael, "Stealing the Future: Corruption in Classrooms." *TI*, 2005.

¹³⁵ Interview with Anatol Gremalschi, Program Director of IPP, January 25, 2007.

¹³⁶ Clark, Nick, "Education Reform in the Former Soviet Union," *World Education News and Reviews*, December 2005, Vol 18, No 6. <http://www.wes.org/eWENR/05dec/feature.html/>.

¹³⁷ Heyneman, Stephen. "Education and Corruption," paper presented to the International Forum at the Annual Meeting of the Association for the Study of Higher Education, Sacramento, California, USA, Nov 2002, 6.

support from the American Councils for International Education and the Educational Testing Services.¹³⁸

Finally, the high degree of planning to develop testing mechanisms, pilot runs, and follow-up surveys on testing procedures necessitates significant financial resources. In mid-December donors announced a US\$1.2 billion aid package for Moldova, which exceeds the combined aid received since 1991. This signals that international donors are beginning to respond,¹³⁹ and that future support may be available for more targeted interventions. As such, the MET needs to be more proactive in securing external financing.

Policy Intervention 2: External State Examinations

If a university were to set high standards and fail a certain percentage of students, this would deter students from attending that institution. From the university standpoint, there is little incentive to implement such performance standards. This implies that pressures for performance must necessarily arise from an external source. In most economies, this pressure would come from the job market. However, with weak links between Moldovan universities and the labor market, it is unlikely that such pressures will develop in the short term.

Instead we encourage the MET to use state examinations, which are conducted at the end of the university cycle, as an entry point for imposing performance standards on universities. State exams are currently held within each faculty by a panel of examiners, which includes professors from the student's faculty as well as guest professors. The high discretion of the panel presents numerous opportunities for corruption, and while outsourcing state exams will limit abuse at this stage, this is not the primary focus of this recommendation. The key idea is to use these exams as a platform to (1) identify low-type students as they exit the system and (2) create accountability for learning outcomes throughout the university process.

Because the external testing body will be mandated to fail students who do not meet a specific threshold, universities will no longer be able to manipulate whether students will pass or fail the state exam. All students of the same discipline will be treated equally in the process, and consequently, passing rates and average scores can be used to rank universities and faculties. It is critical that these statistics are published on the MET website, thus creating incentives for universities to self-monitor and ensure that performance standards are met.

In short, since this mechanism creates institutional accountability at the end of the line, universities are forced to make sure that there are no gaps in accountability earlier in the process. Universities will have higher incentives to rigorously monitor the quality of teachers and curriculum, and they may even consider changing the composition of teaching staff or raising teacher salaries. We should, however, caution that the empirical evidence on increasing salaries to reduce corruption is poor.¹⁴⁰ Regardless, in order not to interfere with the autonomy of universities, decisions of how each institution self-monitors should be made internally.

¹³⁸ Clark, 2005.

¹³⁹ EIU, "Country Report: Moldova, February 2007."

¹⁴⁰ Lambsdorff, Johann, "Causes and Consequences of Corruption: What Do We Know from a Cross-Section of Countries?" in *The International Handbook on the Economics of Corruption*.

Failure to adequately self-monitor will be reflected in low student passing rates on the state examination. This, in turn, will affect the university's ability to attract future students. At the same time, universities can use the rankings to differentiate on quality and possibly charge higher fees over time. Finally, the threat of failing the state exam and having this reported on the diploma would also increase the benefits of studying for students.

It may be optimal to outsource these exams to either Romania or Ukraine, but such a decision would be highly controversial. The alternative is to carefully design a domestic testing system. It is only realistic that the commission responsible for writing and marking the exams would include both professors and experts in the field. As a result, it is critical that individual test papers cannot be directly linked to the identity of students and that the reporting of grades is automated. Since students are interested in having a specific professor administer and mark their examination, measures to enforce anonymity can dissolve the dependence between students and teachers. A potential solution is to have students register on computers as they enter the testing hall, and a cover page will be printed with a bar code that encodes the student's identification number.

While these mechanisms may prevent bribery at external exams, they may also drive students towards cheating. As we pointed out earlier, ex post measures will continue to be a component of any anti-corruption strategy, and in the case of cheating, detection is much easier than bribery. For example, it may require video monitoring or live feeds of testing halls to involve civil society in the monitoring process. MET also needs to be explicit that academic fraud at state exams will automatically disqualify students from being able to graduate.

As with the standardized entrance exams, we anticipate opposition from universities, as well as from professors and students. Administrations are unlikely to advocate for quality rankings of universities and may again perceive these measures as a threat to university autonomy. According to one interviewed professor, teachers may resist this intervention if external exams would expose them as bad teachers and also because the state exams are the largest source of bribery revenues.¹⁴¹ Finally, students are likely to resent high-stake exams particularly if they are low-quality students or if the material covered in the exams fail to produce practical, real knowledge gains. To address student concerns, MET may want to collaborate with employers to ensure that relevant skills and knowledge are being tested. Furthermore, universities and students should be adequately informed about the knowledge and skills being tested in these exams, and universities should be given sufficient time to align their curricula to these performance goals.

Despite the challenge of sustaining political will in the face of broad opposition from these stakeholders, there are encouraging signs that MET is moving in the direction of external state exams. In our conversations with MET, high-level officials indicated that they planned to work with the Ministry of Justice to pilot an external state exam in 2007 or 2008. These exams will be prepared by a team of experts and will be administered in test halls on computers. We, however, cannot emphasize enough the need for MET to be cautious about

¹⁴¹ Interview with professor, January 22, 2007.

the issue of anonymity and the value of using the results of these exams to rank universities and faculties by quality.

Choosing between policy options

Given resource constraints, we recommend that MET focus on the second policy option of external state exams coupled with a university ranking system. We advocate this intervention over a national standardized admissions test because (1) it provides incentives for universities to self-monitor and improve accountability for learning outcomes throughout the university process, and (2) there is already internal support within MET for restructuring state exams. Finally, these measures will eventually produce a trickle-down effect, deterring low quality students from entering higher education, thereby serving as an indirect mechanism for controlling the inputs in the system.

4.3 Conclusion

By addressing corruption indirectly through these measures, MET will have greater success than if it had focused solely on detecting, enforcing, and prosecuting committed acts of corruption. With adequate commitment and preparedness of the MET to tackle the underlying causes of corruption and to face tough political choices squarely, the potential to shift Moldova's university system to a high quality, low corruption equilibrium is within reach. According to Ackerman, while "long-lasting corruption control is a rare and precious achievement...[it] is not beyond the power of determined and intelligent political reformers."¹⁴²

¹⁴² Rose-Ackerman, Susan, "International Handbook on the Economics of Corruption." xxxvii

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