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Overall quality of the education system

Countries are ranked from 1 (does not meet the need of a competitive economy) to 7 (does meet the need of a competitive economy)

Source: OECD Report on Education, www.oecd.org

From the Editor:



Dear Reader,

In the post-industrial era the importance of human capital for economic development is difficult to overestimate. In this issue of BT, we look at various aspects of human capital development and its efficient use in transition economies. Two papers open the issue, one by Yemtsov, Cnoblach, and Mete, and the other by Denisova and Kartseva. Both discuss returns on one type of human capital investment — education — in Eastern European and the CIS countries. In all countries further schooling seems to produce higher wages but in some countries, notably those in Central and Eastern Europe, returns on schooling are relatively high, while in others, e.g. some CIS countries, such returns are relatively low. "Socialist era skills" are disadvantaged in the modern labor market in comparison to the skills of recent graduates. In most countries vocational education produces lower returns.

Although transition economies inherited a relatively good stock of human capital, their education systems have needed substantial improvements to better adapt to modern requirements. Several papers in this issue discuss changes in education systems that have already taken place and steps that need to be taken in transition economies. In the Baltic countries and Belarus the private sector has emerged as an important player in higher education, especially in addressing the education needs of ethnic groups, and will remain a significant factor in the future (Hansen and Vanags). Czech public universities need to better diversify and reach out to older age cohorts by, for example, offering shorter and more vocational courses (Goglio). Low enrollment rates in secondary education in Albania can be remedied by improving tertiary education and child care as well as providing better information to households (Hazans and Trapeznikova). Although many transition countries realize the need for education reform, the lack of political will may lead to failure, as has happened in Bulgaria (Dainov). Low wages and an inadequate incentive structure in higher education may create dynamic problems and discourage young talent from applying to academia (Berde and Vanyolos).

Despite remaining problems, in some areas education systems in transition countries have stayed competitive or even become visibly better. Tom Coupe shows how economics education and research improved in Ukraine after the breakup of the Soviet Union. Technical education in many transition countries had high standards already during socialism, and technical specialists from Eastern Europe seem to outcompete their peers in the West. Dalia Marin demonstrates that German and Austrian firms now out-source some technically intensive activities to firms located in CEE and Russia.

Several papers in this issue discuss the wage gap between private and public sectors. Yemtsov, Cnoblach and Mete show that in CEE countries public sector wages are higher than private sector wages, while in the CIS they are either at the same or a lower level. The latter conclusion is indeed confirmed by Gorodnichenko and Peter for Ukraine, and Gimpelson and Lukyanova for Russia. In studying why people continue working in the public sector despite low official pay, Gorodnichenko and Peter find that the two groups do not differ much in the level of expenditures and attribute the difference to bribes. Gimpelson and Lukyanova look at interregional differences and argue that a more flexible regional wage system will help to improve the situation.

Ksenia Yudaeva, Managing Editor

Returns on Schooling in Transition Countries

The differences in returns on schooling in different countries reflect the advances in market reforms and the institutional features of labor markets

Ruslan Yemtsov, Stefania Cnobloch, and Cem Mete

Major changes in public policy marked the last decade for transition countries and some labor market outcomes — such as the prevalence of low returns on schooling years after the commencement of the transition — continue to puzzle policy makers and researchers alike. We discuss the trends in returns on schooling during the late 1990s and early 2000s using household survey data from nine transition economies: Belarus, Bulgaria, Georgia, Hungary, Moldova, Poland, Romania, Russia, and Tajikistan.

Relatively Low but Increasing Returns on Schooling

Following a period with high variation in the returns on schooling, in 2002 an additional year of schooling was associated with a wage increase of somewhere between 4-8% for most of the countries. The countries can be split into a relatively high-returns group — Poland, Moldova, Hungary, Belarus, and Bulgaria — with the returns varying from 6.7% to 8.2%, and a low-returns group — Georgia, Tajikistan, Russia and Romania — with the returns not more than 4.9%. Convergence at such a low level for a long duration may be a cause for concern because it could be both a cause and a consequence of low productivity and it could have implications for the demand for schooling and long-term human capital accumulation. However, on the positive side, if one compares the last two years for each country, the returns on schooling increased in all countries but Georgia and Tajikistan.

Fast Reformers Enjoy Higher Returns on Schooling

The countries under study are characterized by very different degrees of economic reform and overall economic

development. In 2003, according to the World Bank, the GDP per capita rates varied from US\$208 in Tajikistan to US\$5,103 in Hungary. The 2003 EBRD transition score spanned from 3.7 for the most reformed Hungary (on a scale from 1 to 4+, the latter representing the standards of an industrialized market economy) to around 1.9 for Belarus. Our estimates suggest that fast reformers are indeed experiencing higher returns on schooling and that the correlation between the transition score and returns on schooling in the private sector is particularly strong.

The Public Sector Downsizing Has Implications for Returns on Schooling

The share of public sector employees among all employees has reduced consid-

Countries with high returns on schooling include Poland, Moldova, Hungary, Belarus, and Bulgaria

erably in the period under study in all countries except for Belarus and Georgia. However, the early 2000s still exhibit considerable variation: Moldova is at one extreme with slightly over 30% of all employees working in the public sector and Belarus is at another extreme with about 75% of all employees working in the public sector.

We find that the median wage in the public sector is much higher than in the private sector in Bulgaria, Hungary, Poland and Romania, is about the same in Moldova and Belarus, and is considerably lower in Russia, Georgia and Tajikistan. Interestingly, in the last couple of years there has been a strong improvement in public sector wages relative to private sector in the countries where the public sector wage previously lagged behind. While interpreting the results, it is important to remember that

the labor compensation packages tend to take different forms in public and private firms. The workers in public firms, for example, could accept lower wages in exchange for greater security or possibility to use their job as a source of informal income. This would push the observed returns on education downwards because historically the public sector hosts better educated workers.

The returns on education in the public and private sectors converged over time in Russia while they diverged appreciably in favor of the public sector in Belarus, Bulgaria, Hungary and Moldova. An extremely sharp drop in the returns on education in Georgia in the public sector over the period of the economic crisis (2000) can be explained by the ballooning of wage arrears to public sector workers, which particularly affected health, education and public

administration sectors (with a large share of highly educated workers). In Romania, the returns on schooling remained higher in the private sector throughout the time period under consideration here.

Declining Returns on Vocational Schooling

In five of the nine transition countries — Belarus, Bulgaria, Hungary, Poland, and Russia — the graduates of vocational secondary schools are the largest group among working age adults with more than basic education, although the share of vocational graduates entering the labor market is falling in all countries. There is also a wide dispersion of higher education attainment across countries: from 27% of Georgians with a university diploma to just 9% of

Romanians and Tajiks. In recent years the expansion of higher education is evident in Moldova, Poland and Romania while other countries show stability and sometimes even decline (Tajikistan, Georgia and Bulgaria).

Our estimates show that the wage premium for tertiary graduates has expanded or remained stable over time, while vocational graduates have seen their wage levels crumble. In the public sector, the returns on tertiary education are at least as strong as they are in the private sector in most cases. Finally, the private sector also rewards vocational education less than the public sector in all countries.

The (Lack of) Rewards for "Socialist Era Skills"

Have older workers with socialist era skills lost relative to younger

Younger workers are more likely to be employed than older workers in the same skill group

cohorts? A detailed analysis by age groups reveals that in all countries but Georgia, younger workers are more likely to be employed than older workers in the same skill group. The "new" skills thus seem to be more relevant for the new economy. Even though no robust trend applies to all countries, in four countries there are negative returns on experience. These countries are only marginally different from others in terms of the speed of transition but they tend to have significantly better educated populations with 18.5% of the workforce having completed tertiary schooling compared to 11.4% in the rest of the countries. Thus, competition associated with a high-skill labor supply seems to matter more for lower returns to older workers than the general reform environment in a country.

The gender gap in earnings

The gender gap in transition countries is not that different from other countries and, thus, does not emerge as the main reason for low returns on schooling. The female disadvantage in earnings has become more pronounced over time in Hungary and Russia. In contrast, the gender gap in earnings diminished over time in Georgia, Moldova, Romania, and Tajikistan.

Having said that, it is important to account for the changing or segregation of women into certain occupations, where returns on their human capital are falling. Traditionally, a large part of public sector jobs (health care and education) in transition economies was staffed by women. If the share of public sector in total employment declines then the gender gap in earnings might increase: the gender gap is more severe in the private sector in eight of nine countries, Hungary being the only exception to the rule.

Poverty Trap?

As the transition to a market economy continues, one may expect a stronger link between the acquisition of skills and the resources that parents are willing to devote to their children's education. The increasing wage gap between

university graduates and workers with vocational or basic education suggests that those who are leaving the education system earlier will face increasingly inferior outcomes in terms of future employment prospects and pay. When combined, these two trends may contribute to the persistence of poverty across generations.

Are poor children indeed becoming more likely to be channeled into low-return education paths? In Bulgaria, the share of wealthy children of age 16-18 with basic or less than basic education approached zero over time, while for poor children it increased to more than 60%. Furthermore, the percentage of poor children enrolled in vocational and specialized secondary schools increased in the absence of a similar trend for general secondary school enrollment. In contrast, the share of wealthy children enrolled in general secondary school increased considerably from around 40% in 1995 to more than 70% in 2003, while the same share of poor children dropped to 20%, from 30% in 1995. The Polish experience is more or less the same.

In Georgia, the "poor children are being channeled to vocational schools while wealthy children are being channeled into general secondary schools

over time" story does not apply, as Georgia has not been following an excessive pro-vocational secondary-school strategy. Also in Tajikistan, the share of vocational school graduates among working age adults is small — 10.5% in 2003. Perhaps because of this, the vocational school graduates do relatively well in the labor market (and poor children are less likely to enroll in these schools when compared with the wealthy).

Conclusions

In sum, while returns on schooling remain generally low in many transition countries, they are starting to increase for most countries in our sample. The differences in rates of return reflect the advances in market reforms and the institutional features of labor markets. Additionally, as the market economy commenced, vocational school graduates' earnings eroded in the private sector in all countries except for Tajikistan, where the premium to vocational secondary education remains high due to a small share of vocational school graduates in the workforce. We also find that although the negative effect of "old" skills and the gender gap in earnings do exist, they are not large enough to explain the low returns on schooling in transition countries.

Clearly, transition has produced winners and losers. The university graduates and those who attend general secondary schools — who end up enrolling in universities and even those who fail to enroll in universities — are among the winners. In this context, it is unfortunate that poor children are being channeled into the low-return education paths. More specifically, we find that over time secondary school age poor children are becoming more likely to discontinue education or enroll in vocational schools instead of enrolling in general secondary education schools.

Ruslan Yemtsov and Cem Mete are senior economists at the World Bank; Stefania Cnobloch is a graduate student at Boston University. The findings, interpretations, and conclusions expressed herein are those of the author(s) and do not necessarily reflect the views of the International Bank for Reconstruction and Development / The World Bank and its affiliated organizations, or those of the Executive Directors of The World Bank or the governments they represent. **BT**

Returns on Education in Russia

Students looking to earn higher income should choose engineering, law or economics departments

Irina Denisova, Marina Kartseva

The dramatic changes in the Russian labor market in recent years are related not only to the transition from the planned to the market economy, but also to attempts to bridge the technological gap, which calls for new knowledge and skills. The transition to the market brings growing uncertainty about the results of reform and future labor demand. How have returns on various specializations changed in Russia? Are new diplomas rewarded more than old ones?

Drawing on the data of the Russian Longitudinal Monitoring Survey, we assess the returns on the following specializations in secondary vocational and higher education: teaching, engineering, law, economics, the humanities and medicine.

We find that the modern labor market favors vocational technical education (for both men and women) and vocational education in law and economics for women. Higher education in engineering, law and economics also carry a "bonus" in terms of higher future income, the bonus being larger for women. At the same time, the year a diploma was obtained is insignificant, i.e. new diplomas are no better than old ones.

People with degrees in engineering, law, economics and the humanities are more likely to agree to low-skilled jobs

than trained teachers and doctors. Perhaps teachers and doctors are less "flexible" and dislike change. Or perhaps it is easier for them to find employment in the field of their specialization, which, coupled with the widespread practice of informal payments, makes their work attractive. Surprisingly, women less often agree to unskilled jobs.

The holders of engineering diplomas gained in secondary vocational institutions, as well as holders of higher education diplomas in education, law, economics, engineering and medicine are less likely to be unemployed compared to holders of degrees in the humanities.

How does one account for the differences in the returns on educational specialization?

- The higher return on a certain type of education may mean a bonus for specialized skills acquired in the process of learning a particular trade. This interpretation is justified at the intuitive level when applied to legal and economics knowledge, but less so as applied to engineering areas of expertise. Although these areas contribute most to downward mobility, their professional mobility characteristics are totally different: a lot of jobs for lawyers and economists with secondary vocational education and far fewer jobs for engineers. Thus, the labor

market apparently does not reward specialized knowledge acquired by engineers during their training — instead, it may reward the significant general education component in an engineering diploma.

- Perhaps the economic, legal and engineering areas of expertise have been acquired by people with higher abilities and consequently greater productivity. In that case the market rewards the higher abilities signaled by the diploma. This explanation looks plausible considering the traditionally tough competition for admission to economics and law schools, and the typically more complicated curricula at engineering schools. Then the difference between education in economics and engineering boils down to the fact that in economics selection occurs at the very beginning while in engineering selection takes place further down the road.

All the explanations agree on one main thing: higher productivity is rewarded by higher wages and the difference lies in the sources of productivity — accumulated human capital, whether it is general or specialized.

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In spite of the relatively high unemployment in Russia, Russian enterprises are short of labor, especially of skilled workers. A 2005 survey of about 1,000 manufacturing companies conducted by the Institute for the Economy in Transition and CEFIR has revealed that about 30% of companies are in need of managerial personnel, 47% are short of engineering and technical specialists, almost 80% report a shortage of skilled workers and 16% of unskilled workers. Enterprises face a dilemma: to hire someone with the required skills in the labor market or to provide in-company training.

Our study shows that contrary to the widespread view that the system of retraining at Russian manufacturing enterprises is in decline, the majority of them do offer further training to at least some groups of workers. The level of training at Russian enterprises is comparable to that in Eastern Europe and the share of retraining costs in total labor costs is comparable to that in Western European countries.

In-company training of employees is a strategy that allows enterprises to save the costs of hiring an employee

with the necessary qualifications when such costs are high. Our survey demonstrates that the higher the cost of finding an employee with the necessary qualifications, the more probable it is that the enterprise chooses to train the employees in-company. The effect is statistically significant for engineering and technical specialists and skilled workers.

When hiring people without the required skills, enterprises spend money on training not only in specialized, but also in industry specific and general skills.

The results of the study offer indirect evidence that the state training programs aimed at meeting the demand for general and to some extent industry specific education often do not cope with their task. This tends to incur additional costs to enterprises because they have to fill the gaps in the system of vocational training by offering on-the-job training.

Source: Irina Denisova, Olga Lazareva, Sergei Tsukhlo (2006). "Hiring or Retraining: the Experience of Russian Enterprises." Working Paper series of the Institute for the Economy in Transition, Moscow. **BT**

Human Capital and Outsourcing in Eastern and Western Europe

Hungary, Poland, the Czech and Slovak Republics, Romania, Bulgaria, and Russia have become new members in the international division of labor

Dalia Marin

With eastern enlargement, European firms are reorganizing their international value chain, and are outsourcing and offshoring production to Eastern Europe. What is the extent of outsourcing and offshoring to eastern European countries, and how does this affect employment and human capital in "Old" Europe? Has an exodus of jobs, including high-skilled jobs, to Eastern Europe, in fact, taken place?

International outsourcing is a relocation of activity outside the firm to an independent input supplier. Offshoring is a relocation of activity, which remains inside the firm, to another country. The firm chooses the offshoring option when the net gain from organizing the activity inside the firm outweighs the costs. The firm chooses to outsource when the reverse is the case.

German affiliates in Russia, Czech Republic and Croatia and Ukraine are more R&D intensive than their parent firms

Furthermore, the firm chooses the location with lowest production costs, including wages, transport costs, and the cost of contracting.

In answering the questions above, we make use of new survey data of 660 German and Austrian firms with 2,200 investment projects in Eastern Europe during the period 1990-2001. These are two of the most important neighbors of eastern European countries. For example, CEE countries accounted for 58% of Austrian total outgoing FDI in the period 2002-2004. The available data represent 100% of Austrian and 80% of German direct investment in the new EU member states, the countries of the next enlargement round (Bulgaria, Romania, Croatia) and Russia and Ukraine (for simplicity, all these countries are called Eastern Europe).

We find that some eastern European countries, such as Hungary, Poland, the Czech and Slovak Republics, Romania,

Bulgaria, and Russia have clearly become new members in the international division of labor. In the Czech Republic, Bulgaria, Slovakia, and Romania, German offshoring investment is as high as 70%. Although offshoring investment is much less important for Austrian firms compared to their German counterparts, in Russia and Poland it plays a very significant role, amounting to 68% and 42%, respectively.

In addition, eastern European firms play an important role in international trade taking place inside multinational corporations, the so-called intrafirm trade. It plays a central role in Austria, as 68.5% of the country's imports from Eastern Europe are goods from Austrian affiliates there to their parent firms in Austria, and 22.4% of Austria's exports to Eastern Europe is trade within a

multinational enterprise. In Germany such intrafirm transactions are comparatively less important with 21.6% of imports and 11.7% of exports taking place between the parent firm in Germany and its affiliates in Eastern Europe.

Large Labor Cost Savings

Lower costs of eastern European affiliates help firms to lower overall production costs and to stay competitive in an increasingly competitive environment. German and Austrian firms can save 37-73% of labor costs by outsourcing activities to Eastern Europe. Indeed, the data confirms that 45% of German investments and 17% of Austrian investments in Eastern Europe are motivated by lower wages in labor intensive production stages.

German multinationals have created 463,550 jobs, and Austrian multinationals have created 201,795 jobs in Eastern

Europe. At the same time multinational relocations have led to a direct loss of approximately 89,100 jobs in Germany and 22,000 jobs in Austria. Yet, while fears about job losses seem to be grounded, the losses account for only 0.3% and 0.7% of total employment in Germany and Austria, respectively.

Eastern Europe Rich in Human Capital

A new concern in Germany and Austria is that they are now losing not only low-skilled jobs but also high-skilled jobs in, for example, R&D and IT sectors. How skill intensive is the activity of German and Austrian affiliates in Eastern Europe compared to their parent company in reality? We find that on the share of workers with a university or college degree only German affiliates in Hungary, and Austrian affiliates in Slovenia have a skill share below that of parent firms.

On the share of personnel engaged in R&D or engineering activities, however, the picture is quite different. German affiliates in Russia, Czech Republic and Croatia and Ukraine are more R&D intensive than their parent firms. In contrast, none of the Austrian affiliates in Eastern Europe exceed their parent company on R&D intensity, with the exception of Russia. The latter seems to be due to Austrian economic policy: the government gives strong tax incentives and subsidies to firms engaged in R&D activity, which may induce firms to locate more of such activity in Austria and less in Eastern Europe.

Why do German and Austrian multinationals outsource the most skill and R&D intensive activities to Eastern Europe? We find that the source of the problem is the relative scarcity of human capital in Germany and Austria.

The Baltic States, Russia, Hungary, and Bulgaria are the most skill rich countries as measured by the share of the

labor force with a tertiary education level. Germany's education level lies below the OECD average, and Austria turns out to be the most skill poor country. Firms move the most skill intensive activities to Eastern Europe because they cannot find the skilled workers in their home labor market. Moreover, both countries experienced a decline in the growth rate of human capital in the 1990s, which incurred significant economic costs for them: 0.5 and 0.3 percentage points less growth in Germany and Austria, respectively.

A New Conflict between Old and New Europe?

An increase in the outsourcing activities of western European firms has benefited skilled workers in Eastern Europe. The relative wages for skilled workers in Poland, Hungary and the Czech Republic considerably increased during 1995-2003, however, in Germany and Austria they remained almost constant. Using Austria and Poland as examples, we explore why this was the case.

Both Austria and Poland experienced a sharp increase in outsourcing: from 20% to 30% between 1990 and 2000 in Austria, and from 4% to 80% between 1994 and 2002 in Poland. Outsourcing in Poland is defined as foreign assets as a percentage of domestic assets. With an annual growth rate of the skill to wage ratio of 4.4% (a total rise of 41% between 1994 and 2002), Poland shows

the strongest increase in the skill premium since the announcement of eastern enlargement. Yet in Austria relative wages for skills declined by 2% during 1995-2002.

The increase in the skill premium in Poland and its decline in Austria suggests that Austrian firms were outsourc-

Skilled workers in Eastern Europe have benefited from outsourcing activities of Western European firms

ing the more skill intensive stages of production to Eastern Europe and specializing in the more labor intensive stages of production in Austria.

We suggest that this happened in Austria because Austria is poor in human capital relative to its trading partners. The economic impact of international outsourcing was indeed substantial in Austria: the wage bill share of human capital would have increased by 13.6% more and relative employment by 24% more in the absence of outsourcing activities in the eight years of 1995-2002.

In both Austria and Poland outsourcing contributes roughly 35% to the change in the relative wage for skilled workers. In other words, in the absence of outsourcing, relative wages for human capital would have declined by 35% less in Austria and they would have increased by 35% less in Poland.

In the absence of an aggressive R&D policy pursued by the Austrian govern-

ment, the decline in the skill premium would have been much more pronounced. In 2001, 38.2% of R&D expenditures were financed by the government, compared to only 29.1% on average in OECD countries. Our estimates show that an increase of state-aided R&D expenditures, as a percent-

age of value added by 1 percentage point, pushes up the relative wage bill of high-skilled workers by 0.83 percentage points. The technology policy effect on the relative wage bill of skilled workers is of much larger magnitude than the effect of technical change and outsourcing.

A "War for Talent" rather than a "War for Firms"

To improve the situation, German and Austrian authorities should liberalize the movement of skilled workers either by allowing immigration of skilled workers from their eastern neighbors or by giving tax incentives for foreign students graduating in German and Austrian universities to stay in the country. The new era is characterized by a "war for talent" rather than by a "war for firms".

**Skill endowment in selected countries
(education levels in percent of labor force)**

	High skill	Low skill
OECD high income countries, average	0.156	0.779
Germany	0.147	0.759
France	0.237	0.763
UK	0.147	0.749
CEE, average	0.135	0.738
Baltic States	0.195	0.589
Czech Republic	0.105	0.895
Hungary	0.156	0.844
Poland	0.114	0.852
SEE, average	0.091	0.835
Croatia	0.101	0.830
Romania	0.080	0.875
Russia	0.178	0.494

Note: High skill = tertiary level; low skill = now schooling or first/second level. Data are from 1998, except for Russia (1996)

Dalia Marin is Professor of Economics at University of Munich. The article summarizes the author's recent research, including the following papers: "A New International Division of Labor in Europe: Outsourcing and Offshoring to Eastern Europe", Journal of the European Economic Association, Papers and Proceedings, 2006; "Is Human Capital Losing from Outsourcing? Evidence from Austria and Poland" jointly with Andzelika Lorentowicz and Alexander Raubold, CEPR Discussion Paper No 5344, London, 2005; "A Nation of Poets and Thinkers — Less So with Eastern Enlargement? Austria and Germany", CEPR Discussion Paper No 4356, London, 2004, "The Declining Prospects for Human Capital in Germany: A Result of the New International Division of Labor?" jointly with Alexander Raubold, University of Munich 2006, Mimeo. Full text of the papers can be accessed at: http://www.vwl.uni-muenchen.de/lm_marin/marin/marin.html BT

The Visibility of Ukrainian Economists 1969–2005

Ukrainian economists still rarely, but increasingly, publish in international economics journals

Tom Coupe

The visibility of Ukrainian economists can be illustrated using two indicators: first, the number of publications by Ukrainian scholars in *EconLit* database, following Mirucki (1999), and second, the number of Ukrainians with PhDs from western schools.

One of the most striking findings of Mirucki, who studied the visibility of Ukrainian economists for the period 1969–1994, was their almost complete absence in internationally refereed journals. He found that 14 local economists based in Ukraine had published in only three different economics journals (none of them a top economics journal).

This modest contribution of Ukrainian economists to the international literature was not that surprising given the isolation of the Soviet Union. Soviet-trained economists were very different from the western-trained ones — they either specialized in "political economy", meaning Marxist-Leninist style of economics or "mathematical economics", which focused on mathematics rather than economics.

After the fall of the Soviet Union, however, several initiatives were taken to stimulate the development of modern economics in Ukraine. These ranged from sending people to the West to study economics, to retraining economics teachers for the establishment of western-style masters programs. None of the above mentioned initiatives had as a specific goal to create Ukrainian academics that would publish in internationally refereed academic journals. Still, teaching has been claimed to enhance research. Hence, if the quality of education improved through the different initiatives we could also expect an increased quantity and quality of research.

A Sharp Increase in the Number of PhDs

One immediately measurable consequence of these programs has been a sharp increase in the number of Ukrainian

PhDs earned at a western university — at least 35 between 1995 and 2005.

Most Ukrainians who went abroad to do a PhD remained abroad after graduation, illustrating the brain drain effect. Only three of them have returned to work as academics in Ukraine so far. Several of the remaining 32, however, keep ties to Ukraine through participation in conferences, research on Ukraine or by teaching short courses in Ukraine. Of further note is the low percentage of PhDs who work for the private sector after graduation and the fact that Ukrainians who went to Europe to study also tend to work in Europe afterwards, and similarly, Ukrainians who went to the US to study also remain in the US afterwards.

Publishing Performance

We found that a total of 86 Ukrainians published in journals that are indexed in the *EconLit* database during 1969–2005, together contributing to 121 articles. However, very few of these Ukrainians are frequent publishers. Lilia and Serguei Maliar are, with 11 publications in the *EconLit* database, the biggest Ukrainian contributors. In order to be in the top 500 of economists for the period 1990–2000 one had to publish more than 17 articles. The younger economists in the list can still reach such a level, e.g. the Maliars' first publication was only in 2000. The results also indicate that the older economists in the list do not publish regularly internationally. For example, an economist, who shares fourth place in terms of publication number had his first publication in 1969 and his fourth in 1996.

Besides the quantity of publications, one also needs to look at the quality. Compared to 1969–1994, we now have several Ukrainians who published in top journals, like *The Journal of Political Economy*, and *The Journal of Finance*.

That things are improving cannot only be seen from the number of Ukrainians with PhDs but also from the evolution over time — while before the

number of publications per year was no more than six (with the exception of 2000), the number of publications with input from Ukrainian economists was 18 in 2003 and 34 in 2004. Also the average quality per article increased. The new generation of economists who have been trained in western or western style masters and PhD programs has started publishing.

Looking at the affiliations of the researchers, it is clear that there are no institutions that have gathered several Ukrainian economists who publish in international journals. Many publications originate from Ukrainian economists working abroad. The absence of Ukrainian universities is not that surprising given the system that allocates teaching to universities and research to the academies. It is, however, also hard to find members of the Academy of Sciences who regularly publish in international journals. Given the incentive structure of the Academy this is not surprising — in the annual report of the Academy, the economics section indicates which Academy economists have been rewarded with state recognition (diplomas of cabinet of ministers, state prizes, honorary diplomas etc). None of the mentioned recipients publish regularly in international journals; most of them do not have any such publication.

In sum, even 15 years after the end of the Soviet Union, Ukraine's contribution to the modern economics literature remains very limited. Still, there are now more Ukrainians with PhDs from western schools, and more and more Ukrainians are publishing in good economics journals. There is still a lot of work to do, however, to make Ukrainian academics based in Ukraine prolific researchers or to attract prolific Ukrainian researchers back to Ukraine.

Tom Coupe is Academic Director at Kyiv Economics Institute and Program Director at EERC, Ukraine. The full text of the paper can be obtained from the author. **BT**

The Private Sector in Higher Education in the Baltic States and Belarus

Faster adaptability to new labor market demands and responsiveness to ethnic groups requirements drive private sector development

Morten Hansen and Alf Vanags

While the state remains the major provider of higher education in all post-communist countries, in many a significant private higher education sector has emerged since the start of transition. The latest internationally available figures for private sector higher education enrollments are shown in Table 1 below and it is evident that there is a very wide dispersion ranging from Russia with just over 40% of students in the private sector to the Slovak republic with less than

Latvia and Estonia have the highest numbers of private sector institutions

1%. Why is this so? Why did the private sector emerge? When did it emerge and how fast has it developed? The research reported here attempts to address these issues in the context of the three Baltic countries and Belarus.

All four of the countries studied are former Soviet republics. Estonia and

Latvia have two of the top four private sector enrollments, while Lithuania seems to be lagging behind in terms of private sector development. On the other hand, Belarus, which arguably has been slow in general market reform, has a bigger private sector in higher education than, say, Hungary or Slovenia. Also Latvia and Estonia have significant ethnic minorities which represent a possible reason for the emergence of a private higher education sector. Thus, we have a sample

of neighboring countries with diverse higher education private sector enrollment, diverse reform background and diverse ethnic composition.

Our research was conducted on the premise that the private sector has emerged in response to the presence of a number of gaps in public sector provision during transition. Thus we had the following hypotheses:

- The private sector may be a response to a gap at the top end of the quality spectrum, thereby creating an incentive for the emergence of elite institutions. This quality gap may be the result of inadequate or obsolete human capital or inadequate physical capital that affects quality, such as study facilities, libraries, and computers.

- Alternatively it may be that there was a quantity gap at the bottom end of the spectrum. Constraints on the funding of public institutions may limit access to higher education in the face of growing demand, in this instance creating an incentive to offer "demand-absorbing" institutions and programs for students who are unable to gain access to mainstream institutions.

- Thirdly, there may have been inadequate public sector opportunities for particular ethnic or religious groups. This was potentially important in the Baltics

because of the large Russian-speaking minorities in Latvia and Estonia.

- Finally, there may have been adaptability gaps. For some highly marketable skills, e.g. information technologies, the private sector may be faster to adapt and offer suitable programs.

These hypotheses are of course neither mutually exclusive nor exhaustive, but seemed the most relevant for the Baltics/Belarus case.

Information was gathered on all higher educational establishments in the four countries on such issues as enrollment, types of programs, language of tuition etc. This information paved the way for in-depth interviews with selected institutions (typically five or six) in each of the countries.

Private Sector Institutions Quick to Innovate

While Estonia and Latvia exhibit the highest shares of private sector enrollment they also have the highest numbers of private sector institutions, in particular when compared to the size of their populations (Table 2).

Table 2 also shows that, except in Lithuania, the private sector emerged very quickly suggesting that education entrepreneurs were rather quick to spot market opportunities in the sector.

Geographically, these institutions are heavily concentrated in the capital cities (e.g. 16 of 17 are in Riga and 22 out of 26 are in Tallinn), again with Lithuania as an exception (only five of 13 are in Vilnius). Interestingly, many institutions have branches in other cities (e.g. 13 of the 16 Riga-based institutions).

Private sector establishments are typically quite small. Nine institutions in Estonia have enrollments of less than 100 students. In Estonia and Lithuania the largest institutions have enrollments of less than 3,000, while in Latvia the Baltic Russian Institute is the largest with an enrollment over 7,000, and in

Table 1. Students in private higher education establishments as a share of all students in higher education, academic year 2003–2004

Country	Share
Belarus	17.0
Bulgaria	14.4
Croatia	3.1
Czech Rep.	3.2
Estonia	31.0
Hungary	14.2
Latvia	26.1
Lithuania	7.0
Macedonia, FYR	9.4
Moldova	22.2
Poland	29.4
Romania	23.2
Russia	40.6
Slovak Rep.	0.2
Slovenia	6.9
Ukraine	12.0

Source: European Centre for Higher Education, www.cepes.ro

Table 2. Number of private institutions by country, 2002–2003

	Estonia	Latvia	Lithuania	Belarus
Number of institutions	26	17	13	15
Number of institutions per 1 mln inhabitants	18.6	7.4	3.6	1.5
Proportion of institutions founded by 1995	77%	60%	30%	100%

Belarus the largest is the Institute of Management and Entrepreneurship with more than 8,500, but these are much less than the big public universities like the University of Latvia with an enrollment of more than 27,000. This in part reflects a much narrower specialization of programs in the private sector as compared with the public.

Thus the private sector is an important provider of vocational studies especially in Latvia and Belarus and study programs are heavily dominated by commercial subjects (business, management, economics, law etc.). In this respect the private sector emerged for similar reasons in all four countries. The public sector was too slow and inert to innovate in response to the rapid changes brought on by transition.

Closing the "Ethnic Gap"

Evidence on the language of instruction is clearly in favour of our hypothesis of an "ethnic gap". The private sector provides significant training in Russian in Estonia and Latvia, the two countries with large Russian-speaking minorities.

Expansion of the private sector was facilitated in Estonia and Latvia by the possibility of catering to the Russian-speaking minorities. Other reasons for

the differing development of the private sector in higher education across the countries — the presence of the Russian-speaking minorities in Estonia and Latvia who were denied public higher education in Russian. Additionally, however, there is a positive attitude towards private higher education in those two countries on the part of government, whereas the government is perceived as largely hostile in Lithuania and increasingly hostile in Belarus.

Certain country-specific features are also present. In Latvia, new legislation requires a higher level of education for certain public officials such as policemen, which the private sector successfully provides. In Lithuania, study loans are only possible for students in the public sector, thus severely denting the private sector's ability to compete. In Belarus, the private institutions seemingly cater to the lower end of the market, i.e. they fill what we have denoted as a "quantity gap". The Belarussian State University is perceived as the top institution with fees 2-3 times higher than in the private institutions. Another very country-specific case for Belarus is discounted places at state institutions with no or low tuition fees for children of policemen (not a small group in Belarus!) and for children of families

from the large areas affected by the 1986 Chernobyl disaster in Ukraine. The private sector's expansion were a more "practical" orientation (short courses, very specialized courses), the possibility of paying higher wages and the possibility of providing a less "Soviet" study environment.

This also partly explains

from the large areas affected by the 1986 Chernobyl disaster in Ukraine.

In terms of our four hypotheses we clearly have support for adaptability and "ethnic" gaps as drivers of private sector development and some support, especially in Belarus, for the view that the private sector is providing places for students at the bottom of the quality spectrum but very little support for the quality gap hypothesis, though our visits to the private sector institutions indicated that physical facilities were rather good.

Future prospects are also perceived rather differently in the four countries, though with Estonia and Latvia being reasonably similar. In these two the private sector is seen as a significant part of the future, though with fewer institutions due to the upcoming demographic crunch. In Estonia, the private sector's current "aggressiveness" (e.g. actively targeting Chinese students) should continue to make its role important. Lithuanian institutions complain of a lack of competitiveness vis-a-vis the public sector while, not surprisingly, the private sector's future in Belarus is seen as highly dependent on the future of the current regime.

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A recent study by OECD and the World Economic Forum ranked 125 countries according to their preparedness for the competitive economy. Countries were ranked from 1 (does not meet the needs of new economy) to 7 (does meet the needs of new economy)

Number in ranking	Country	Quality of the educational system	Number in ranking	Country	Quality of the educational system
1	Finland	6.0	34	Poland	4.4
5	Denmark	5.6	35	Latvia	4.4
30	Czech Republic	4.5	42	Hungary	4.0
31	Estonia	4.4	45	Lithuania	3.9

Source: http://www.oecd.org/topic/0,2686,en_2649_37455_1_1_1_37455,00.html

Educational Opportunity Gap Widening in China?

While the gender bias in educational attainment in China has been virtually eliminated, inter-provincial inequality remains high

Min-Dong Paul Lee

Education has been an important channel of social mobility in China for over a thousand years. However, since the founding of the People's Republic of China in 1949, education has been subject to a series of disruptions under various political manipulations and state policies, including the Great Leap Forward economic policy in the 1950s and the Cultural Revolution of 1966-1976. The effect of these disruptions on the educational system was clearly evident in the relatively high proportion of the population over six years of age who had never attended school — about 10% on average and as high as 46.4% in Xizang (Tibet). The inter-regional variation of educational attainment remains very significant (see Figure). The percentage of the population over six years old who have never attended school in western provinces is almost four times higher than in northeastern provinces. Also there is a sharp gender inequality: the proportion of the female population who never attended school is more than twice as large as that of the male proportion.

In order to remedy the high regional disparity in educational attainment, the Chinese government passed the Law on Nine-Year Compulsory Education in 1986. Although the government did not immediately offer nine years of free education for all, it significantly stepped up the effort to improve education in the semi-urban and rural areas in terms of both quantity and quality. It also increased the share of the educational budget in total government expenditure — from 6.8% in 1978 to 18.8% in 1998. The increasing willingness to invest in education among individuals and families is also evident from the fact that a sharp increase in tuition had no effect on enrollment rates between 1990 and 1998.

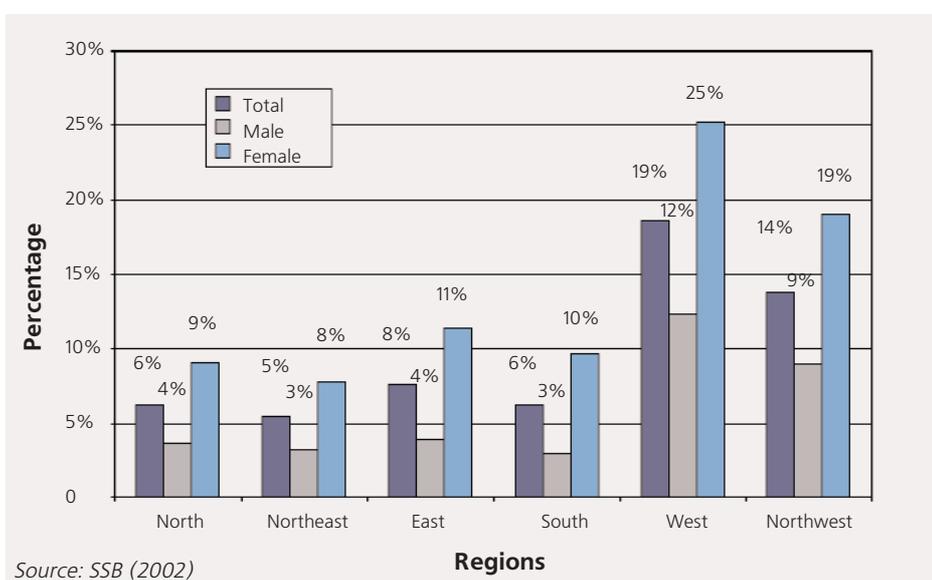
The increased educational investment resulted in a rapid expansion of education over the last two decades. Elementary school enrollment rate for school-age children grew from 93.9% in 1980 to 98.9% in 1998, and the percentage of primary-school graduates entering junior high grew from 75.9% in 1980 to 94.3% in 1998, according to

the Ministry of Education. The administration and financing of education was also effectively decentralized in 1985. Since then, provinces have been making most of the core decisions regarding educational policies and financing independently.

By almost every measure, China's overall performance in improving the educational system is impressive. Has the expansion of education been consistent and fairly distributed throughout China? Do Chinese students today, irrespective of gender and region, have more equal opportunities to receive schooling? These questions are important for the issue of rapidly growing income inequality in China, as education is one of the most consistent predictors of a person's future income. For example, a recent study on the returns from education in China estimated that the return of an additional year of schooling was a whopping 10.2% in 2001, which can be compared to only 4% in 1988.

The analysis is based on data from the Educational Statistics Yearbooks of China and China Statistical Yearbooks for 1994-2002.

Population aged over 6 years who never attended school



Gender Gap Eliminated

Despite the compulsory education law adopted over 15 years ago, the national average probability of making the transition from grade one to grade nine was less than 75% between 1994 and 2002. The transition probabilities vary significantly between provinces: a student in Zhejiang province for example is almost five times more likely to stay in school through the ninth grade than a student from Xizang (Tibet) in the same age cohort. Most of the difference in enrollment numbers can be attributed to dropouts. Indeed, because of the continuing administration of the *hukou* (residence registration) system, permanent inter-provincial migration for families with school-aged children is still rare in China.

The first surprising outcome revealed by the analysis of the within-cohort probability of making the transition from grade one to nine among those who entered primary school in 1994 is that gender inequality has been almost completely eliminated. The gender inequality index shows that female students in most provinces are even more likely to stay in school than male students. Thus, the expansion of education has clearly had a favorable effect on female students.

However, inter-provincial educational inequality still remains very high. The inter-provincial inequality index shows that a student attending school in Beijing in the 1994 cohort is 4.89 times more likely to make the transition to ninth grade than a student in Xizang. Students in the coastal provinces have a much better probability of making the transition to grade nine than students in the inland provinces.

Trends in Educational Opportunity

Looking at the first major transition in schooling — from elementary to junior high school — I found that elementary education has indeed been expanding over the nine-year period under observation. The national average transition rate increased substantially from 89.5% for the 1994-1995 cohort to 95.1% for the 2001-2002 cohort. This is a clear sign that more and more students are receiving the basic education in literacy.

The difference between provinces has also been narrowing; however, the relative ranking of provinces has not changed

significantly. In other words, students from Xizang province are still disadvantaged compared to those from Zhejiang province, though to a smaller degree.

Does the trend continue into upper years of schooling? Sadly, not. Based on the inter-cohort comparison of making the transition between grade seven and nine, the transition probability has in fact slightly deteriorated, from 90.2% for the 1995-1997 cohort to 89.4% for the 2000-2002 cohort. This means that a smaller number of students from younger cohorts are staying in school until grade nine. Although the difference is not huge in percentages, in absolute numbers, almost 800,000 more students decided to drop out in the 2000 cohort compared to the 1995 cohort. What is even more surprising is that the dropout rate increased in spite of the sharp increase in the government's educational spending and the growing demand for more skilled and educated workers in the labor market. In addition, the inter-provincial inequality of educational attainment at junior high level is being aggravated.

Thus, while educational inequality is decreasing during the earlier years of school, it is increasing in the later years. Even though China is moving towards greater equality in terms of basic literacy, inequality is increasing with regard to more advanced technical skills and knowledge. If the labor market continues to expand and employers place an increasing premium on skills and knowledge that require a higher level of education, then wage inequality in China will further increase in the future.

Sources of Inequality

The primary candidate for explaining any type of inequality in China has often been the urban bias in government policy. The rural-urban difference is indeed evident: the average national transition probability for urban students from grade seven to grade nine was 0.95, whereas the same probability for rural students was 0.77. Yet the comparison of Xizang (85% of students living in rural areas) to Zhejiang (24% students in rural areas) shows that the differences in population composition account for only 36% of the differences, and for other pairs of provinces, including neighboring provinces, the latter share is even lower.

Thus, the inter-provincial difference does not come primarily from the differences in population or geographical composition. The source of inequality is much more complex and systemic. Students in the rural areas of Zhejiang or Jiangsu have a much better chance of making the transition from grade one to four than students in rural Xizang or Guizhou. There are other, as yet unidentified, structural barriers that discourage students in inland provinces from staying in school, and economic expansion of inland provinces will not automatically solve the problem.

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Education for the New Economy: Country Ranking

A recent study by OECD and the World Economic Forum ranked 125 countries according to their preparedness for the competitive economy. Countries were ranked from 1 (does not meet the needs of new economy) to 7 (does meet the needs of new economy)

Number in ranking	Country	Quality of math and science education	Number in ranking	Country	Quality of math and science education
1	Singapore	6.3	35	Latvia	4.7
7	India	5.7	39	Slovenia	4.6
8	Czech Republic	5.7	40	Macedonia, FYR	4.6
11	Romania	5.5	43	Russia	4.5
13	Hungary	5.5	50	Ukraine	4.4
18	Estonia	5.3	51	Bulgaria	4.4
21	Slovak Republic	5.2	53	Poland	4.4
24	Serbia and Mont.	5.1	58	Moldova	4.3
26	Lithuania	5.0	62	China	4.1
31	Croatia	4.9	63	Georgia	4.1

Source: http://www.oecd.org/topic/0,2686,en_2649_37455_1_1_1_1_37455,00.html

Are There Alternatives to Building New Schools in Albania?

Albania should improve tertiary education, the child-care system, and information dissemination

Mihails Hazans and Ija Trapeznikova

Whether judged by the educational attainment of the adult population or by secondary and tertiary enrollment rates, Albania by 2002 compared very unfavorably to most European countries. Moreover, between 1989 and 1995 secondary enrollment rates dropped by 50% — a unique trend in the region. Low secondary enrollment is considered to be one of the key constraints to Albania's economic growth in the long run.

Albania differs from other transition countries in many respects. First, Albania's population is significantly less educated. Second, Albania is on a lower stage of economic development: its GNI per capita in 2002 was 3.4 times lower than that of Poland. Moreover, the Albanian labor market is dominated by agriculture. The demographic distribution of the population is also quite different: an Albanian teenager aged 14-19 has, on average, more than three siblings — a rare situation in other CEE countries. Finally, Albania's pre-transition background (Albania was the most closed country in the former socialist bloc and had not liberalized by the end of the socialist era) may affect incentives and the prospects for investment in human capital.

What are the reasons for such low enrollment rates in secondary education? With very good data at hand (the Albanian Living Standards Measurement Survey 2002-2003 and Population Census 2001), we examine the relative importance of residential location and access to schools, as well as gender, parental education, family structure, and other relevant factors in shaping the demand for secondary education.

Family Background Effects

The effect of family structure and parental education on secondary school enrollment is strongly positive, which is a fairly standard result. However, unlike in many other countries, the effect of the father's education level is stronger and more significant than that of the mother, especially in urban areas.

The gender gap seems to exist only in urban areas: urban girls are significantly more likely than boys to study in secondary school. This may be explained by the fact that secondary education reduces the unemployment risk for young urban females a lot more strongly than for their male counterparts, while in rural areas the effect of secondary education on unemployment risk is equally weak for both genders.

The presence of younger siblings decreases the propensity to enroll in secondary school, and this is especially true for the urban population. It is known that in developing countries the cost of high fertility is often borne by older siblings, rather than by the parents: the older children might run the household chores, do the farm work, or contribute to the household income. Lack of public child care thus seems to be an obstacle for secondary school participation. Indeed, other things being equal, propensity to enroll in secondary school in rural areas is 7 percentage points higher if the community has a pre-school. In cities, the presence of grandmother in a household has a similar effect.

Children from rural families are more likely to enroll when household members have worked abroad in the last five years or have relatives who live abroad. Plausibly, remittances may ensure the possibility to study rather than work for children from such families. However, this effect (although slightly weaker) is also present when household per capita income is controlled. Hence, the following explanation is more likely: contacts with the outside world enhance understanding of the value of education and provide better information flows about future prospects. This effect is not significant in cities where information about education opportunities and return to schooling is presumably easier to obtain.

School Costs and Quality

Access to school is a very significant factor for enrollment in secondary education, especially in rural areas. The

absence of secondary school in a rural community reduces propensity to enroll by about 17 percentage points. Furthermore, a 10 Albanian lek increase in one-way commuting costs to school (which varies from 0 to 80 leks for 90% of the sample) reduces enrollment by two percentage points. Distance to the main school serving the community also has a significant negative impact on participation in secondary education: doubling the distance would lead, on average, to a fall in secondary school enrollment by three percentage points in rural areas and by 3.4 percentage points in cities (in addition to the effect of higher commuting costs).

School quality appears to be important for enrollment decision: a 10 percentage point increase in the proportion of teachers with higher education raises enrollment by 2 and 8 percentage points in rural and urban areas, respectively. Even more importantly, proximity to a university city substantially increases the likelihood of secondary enrollment in rural areas. In urban areas, a similar effect emerged in 2003, plausibly as a response to opening the market for private universities and increasing quotas for fee-based students in public universities.

Thus, while low incomes and poor access to schools appear major obstacles to enrollment, developing tertiary education (including private) and a child-care system, as well as disseminating better information about educational opportunities and return to schooling may be cost-efficient alternatives to building new schools. Similar recommendations have been given based on findings that poor access to secondary schools negatively affects primary enrollment in many developing countries.

Mihails Hazans is associate professor at the University of Latvia and research associate at BICEPS in Riga, Latvia. Ija Trapeznikova is a PhD student at Northwestern University, US. The full text of the paper can be viewed at SSRN: <http://ssrn.com/abstract=912810>. BT

Getting Education Right for Long-Term Growth in the Czech Republic

The Czech education system should offer more programs relevant to labor market requirements and promote lifelong learning

Alessandro Goglio

Many reforms have been introduced to improve the Czech education system since the end of the 1980s. These have endeavored to meet the educational needs of a changing labor market. In upper secondary education, reforms have been geared to providing more work-oriented skills and reinforcing the general education component of the system, which has increased the proportion of students attending general secondary courses. Tertiary enrollments have also started to grow, driven principally by high and ris-

The level of secondary educational attainment is high but tertiary educational attainments are very low by international standards

ing private benefits from university education, in terms of income and employment. The tertiary education enrollment rate has more than doubled from 7% to 15% between 1995 and 2004.

The level of secondary educational attainment is high by international standards, and the Czech Republic ranks among the best OECD performers on the duration of school attendance. In stark contrast, tertiary educational attainments are very low by international comparison.

Reflecting demographic decline, the demand for secondary education is set to fall quite rapidly. At the same time the government expects that the tertiary edu-

cation population will increase, with pressures stemming not only from the 19-25 year-olds but also from a backlog in demand from older cohorts. Indeed, prior to the transition the proportion of the working-age population that had attained tertiary education was very modest. Population ageing also implies that considerable attention will have to be given to improving the opportunities for lifelong learning. Currently, participation in continuing education is indeed low at only 5% of the working age pop-

ulation. In part, this is because providers have been slow to adapt to economic changes and business sector needs. Besides, there have been limited possibilities to transfer individual qualifications between levels and types of institutions.

Towards Output Oriented Financing

Education in the Czech Republic continues to be dominated by the public sector, though private providers have been in operation for several years now. Most notably, because access to public tertiary education is normally free of charge, the share of public expenditure is almost as high in tertiary education as it is in the lower levels of the system. About 80% of total university revenues are from the public sector, the remaining 20% coming from the universities' own sources.

Nevertheless, the actual amount of public funding

in education is relatively low. Across OECD countries, the Czech Republic ranks among the lowest in terms of the amount of public resources devoted to education, just below 5% of GDP and less than 10% of total public spending.

The funding of tertiary education has been changed recently to take into account not just the number of students but also the number of graduates, thereby introducing an element of output orientation into funding. In addition, the traditional formula financing is now combined with a new element of grant-based financing, based on long-term education plans. The hope is that this will encourage public universities to become more specialized in either research or teaching.

Modernizing Tertiary Education

Even though measures have been taken recently to improve public subsidy mechanisms, the centrally-funded system may be too weak to ensure the long-term financial sustainability of public tertiary education. Public universities have experienced a sharp decline in the level of funding per student — by 30% between 1995 and 2002 — because growth in student numbers has outstripped growth in public funding by a large margin (See Figure). Declines in per-student funding are also present in other countries in the region, but are less marked. The funding of public higher education institutions was boosted significantly in 2005 and further increases are planned for 2006. However, these increases are not enough to offset the long-term trend of a decrease in the level of public support per student.

Other problems include insufficient response to the labor market demand for skills and limited co-operation between universities and businesses on curricula. Additionally, too many students withdraw from university education without completing a degree, which is partly due to the inadequate supply of shorter and

Developments in the tertiary education system

	1995	2005
Distribution of tertiary education students (percent)		
Tertiary professional schools	4.2	8.7
Universities	95.8	91.3
Distribution of university students by programs (percent)		
Bachelor	23.7	52.3
Master	70.6	39.8
Doctoral	5.7	7.9

Source: Ministry of Education, Youth and Sports.

more practically oriented programs and the limited scope for switching from one program to another. There has also been weak progress in widening the student-support system, even though new measures have been introduced targeting students with a family income lower than 110% of the subsistence minimum.

Taken together, the lack of financing flexibility and the short supply of educational services, plus the impact of various system-wide regulatory rigidities, mean that public universities are severely limited in the number of places they can offer. University-specific admission rules and the tough competition to get into the universities reinforces the bias against students from disadvantaged families. The problem is exacerbated even further because the alternative options for tertiary education, the tertiary professional schools, are fee-paying. All in all, these factors keep the modernization of the public university system on hold.

An Accessible Secondary System Yet to Develop

Despite the good attainment rate in secondary education, the supply of general secondary programs is insufficient to satisfy the demand for general education. However the percentage of secondary school students enrolling in technical and vocational programs remains relatively high. At the same time, recent analysis shows that many students in vocational programs would benefit from a more demanding secondary education program. This supply-demand mismatch, among other effects, clearly makes for inefficient development of human capital by wasting talent.

There is also substantial variation in student performance between schools and less variation between students within schools, compared with other

countries. Some observers have suggested that the system of the gymnasium plays a role in this. Also, they consider that performance is strongly influenced by the family background, rather than being acquired at school. While there are advantages to the Czech system of decentralized responsibility in secondary education, it has risks of wide regional disparities in service quality. Ongoing reform of the school leaving examination system could, in principle, bring more standardized nation-wide final assessments and increase opportunities for benchmarking. However, because implementation of the new system is left to the discretion of the schools, use of the standardized school leaving exam is still very limited.

Policy Recommendations

In broad terms policy needs to work on three fronts:

- Further diversify tertiary education, particularly towards shorter and more vocationally oriented courses;
- Make secondary education more efficient and relevant to the labor market requirements through the enhancement of general education;
- Ensure better access to and a wider range of courses to promote life-long learning.

The rapid expansion of tertiary education requires more resources and better incentives for both students and higher education institutions. The introduction of tuition fees in public universities that at least partially reflect the cost of tertiary courses would make for better decision making by students and faster reaction by universities to changing demand conditions. This diversification of funding would also help universities cope with further rises in student numbers. Introduction of tuition fees should be

accompanied by publicly supported student loans in which repayments are conditional on graduate income. This would help reduce the risk that up-front payments limit access to university education. Any increase in funding has to be linked to output quality monitoring and evaluation

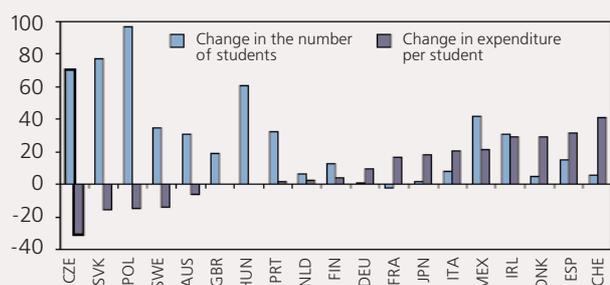
and complemented by strengthened cooperation between universities and enterprises. This would encourage providers to introduce programs that are more in tune with the labor market.

In further developing the new school leaving exams and curricula, secondary education institutions should consider closer consultation with universities. Access to general courses in secondary schools that provide options for entering tertiary education should be widened. This could be achieved by making these courses more widely available in the secondary technical schools and by equalizing the quality standards with those of the 4-year gymnasia. However, reform should go deeper towards creating a different structure of secondary education in order to enable bright children to realize their potential without discriminating against low-achievers. Measures include raising the quality of basic schools and enabling the transfer of students and teachers between schools. Decentralization of responsibility for secondary schooling has raised the importance of output measurement and benchmarking. Publicly accessible school-by-school information helps establish "quality maps" of the system and this encourages school directors, teachers and other interested parties to take remedial action when schools underperform. The currently low motivation of teachers would be increased by encouraging greater use of financial rewards for good performances, complemented with in-service training for teachers.

The Czech education system is too rigidly geared towards a set of standard pathways, and its strong segmentation makes it difficult for adults to add to their qualifications. Therefore, access to the education system for adults who want to take either secondary or tertiary level courses needs to be increased, as should the range of programs. There is also a need for establishing a more systematic approach to funding mechanisms and quality assurance. Moreover there is scope for encouraging demand for continued education, for example thorough information and guidance programs.

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Per student expenditure in tertiary education, 1995–2002 (total change, %)



Source: OECD, *Education at a Glance*, 2005.

Education Reform in Bulgaria 1990–2003: A Failure?

Future reforms should rely on broad coalitions, public involvement, and high publicity

Evgenii Dainov

In recent years, a mismatch between skills attained through formal education in Bulgaria and skills needed in the labor market became obvious to the general public. Employer organizations complained that they were increasingly unable to find Bulgarian nationals to fill managerial positions. Student performance also dropped: according to a 2003 OECD study, Bulgarian high-school students came 33rd out of 41 countries on literacy and mathematical skills. Moreover, the education system became far less inclusive: in 2003, drop-out rates for Muslim Roma in rural areas exceeded 25%, compared to only 2% for ethnic Bulgarians. Efforts to reform the education system, undertaken by the governments of the 1990s, seemed to have failed completely. An analysis of what went wrong in secondary education reform, based on documents, opinion polls, interviews and group discussions with school heads, teachers, and Education Ministry officials, sheds light on why those reforms had so little success.

Mid-1990s: Reform Suspended

In the first post-communist years, education was seen as basically sound, even if it was hobbled by too much inherited ideology and too little funding. The 1991 Education Act attempted to start reform by introducing objective benchmarks into the curriculum and teaching, aimed at attaining measurable standards. However, these benchmarks were never in fact introduced, and the only change visible to the public was the re-writing of history books to strip out communist ideology. However cosmetic this change was, it provoked the biggest-ever debate on education — a debate that the reformers lost.

When the Socialists regained power in 1994, those history book changes were reversed to avoid "politicization." "National survival" was seen as the main aim of education, rather than preparing

youth for the modern world, obviating the need for reform. Modernization was defined as making additions to curricula, rather than making changes. Teaching time was added in economics, languages, management, and law, massively overloading students as a result.

Reformist thinking came from outside agents — the World Bank and non-government organizations. International sources funded projects aimed at improving teacher qualification, modernizing teaching aids, the education of ethnic minorities, and setting up school boards. The Ministry of Education, however, opposed these initiatives, which it saw as foreign-funded threats to "national unity [and] the independence of the state".

Reform Efforts Renewed

When the reformist Union of Democratic Forces returned to power in 1997, education reforms were back on the agenda. A new reform plan called for cutting back student study loads to reasonable levels, introducing a system of elective courses, and teaching in Turkish and Roma dialects at schools in minority areas. Efforts were also taken to decentralize the system, delegating some authority and funding to schools. A World Bank loan, negotiated at the time, was marked for a major overhaul of the institutional framework of education, which would then form the basis for continued modernization.

Into the 21st Century: Failure of Reform

The results of the decentralization initiative, however, remained modest. Because school heads received no extra powers, and because school boards were badly structured, it is unsurprising that to date decentralization has remained a "pilot" activity, covering only 600 out of 3,700 schools. Other new elements, such as the introduction of public examinations and curricular reforms, remained on the drawing board, waiting

for the institutional re-haul that was to underpin them.

This overhaul failed to materialize as the education establishment geared up to resist the changes. Only 5% of the World Bank loan intended for institutional reconstruction had been spent by 2003. Of the dozens of new institutions supposed to be up and running by 2003 in order for reform to proceed, only a handful existed on paper and none had produced anything of substance.

There were several reasons for this failure. Bulgarian society at large was only partially aware of the aims of the education reform and was completely left out of the process. No regulatory documents imposed any obligation on Education Ministry staff to pursue the goals of the reform, and the political will to pursue the changes proved weak. The lack of accountability, transparency, and public scrutiny allowed education-related institutions to resist reform in order to serve their own self-interest. The government offered the 110,000 individuals employed by the education system no incentive to support reforms.

What Next?

By the 2005 elections, unease over the decline of education had translated into wide-ranging agreement that reform was necessary. In 2004, the Ministry of Finance, upset by seeing meager educational results despite budget increases, issued a major strategic document on reform, reigniting the debate.

After reviewing previous failures of reform, we proposed the following elements of a reform strategy to the new Education Minister, who has been trying to implement them:

- Introduce competition between schools via determined decentralization and introducing the principle "the money follows the student." Empower principals and school boards to seek a variety of funding and introduce wage differentials for teachers linked to student performance

- Introduce competitive curricula and external examinations in order to evaluate the capacity of teachers and schools objectively.

- Lift remaining restrictions on private education, which would strengthen competition in the education system. Build a system of public scholarships for gifted children.

- Create a network of advisory and control bodies at all levels, in which all stakeholders participate.

- Create an accessible complaints system, including a national Education Ombudsman.

- Encourage voluntary adherence to EU education guidelines and other relevant international standards.

Successful reform needs a strong and motivated government, backed by determined public opinion. Bulgaria's attempts to reform its education failed due to vacillating governments, lack of public support, and entrenched administrative interests.

Future reforms will have to rely on sustained and resolute political will and coalition-building, allay public fears related to social mobility and national

pride, empower students, parents and school boards, maintain a high-profile media presence, introduce an objective evaluation of school performance, address exclusion of minorities and the disabled, and increase school choices by decentralizing finances.

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New Challenges for Education System

To achieve and sustain broad-based economic growth it is important to provide basic education and invest in the next generation. *The World Development Report 2007* states that there has never been a better time to invest in young people in developing countries. Those who are 12-24 years of age number 1.3 billion and make up the largest youth cohort in history. There is a significant progress in the field of education. Primary school enrollment rates in low-income countries outside China and India rose from 50% in 1970 to 88% in 2000. In Turkey, enriched child care and preschool programs led to higher achievement test scores and high school graduation rates, and lower crime rates for participants well into their twenties. The private returns to secondary and higher education have been rising, especially in countries that have close to universal primary education. With these advances come new challenges:

- Higher completion rates at primary levels strain the capacity for places in secondary school, where enrollments fall off. Girls particularly are left behind, just as they were in the expansion of primary education, except in South America, Eastern Europe, and the former Soviet Union.

- The vast numbers spilling out of primary schools have not learned what they should. *The Annual Survey of Education Report 2005* in India that collects regular data on literacy and numeracy skills of school children in rural areas showed that 31% of 11-14 year-olds cannot read a story text with some long sentences, 47% cannot do division. Standardized tests — including those for the command of basic skills — show that students in developing countries lag far behind those in OECD countries. In this respect it is critical to make sure that children are getting a quality education and are meeting minimum requirements.

- In many countries, both secondary and tertiary education curricula is not relevant to the social and economic needs of students and tends to be fragmented, overloaded and based on factual content. Educational system should try to respond to employers' demand for quality and relevance by revamping upper secondary curricula to emphasize practical thinking and behavioral skills and offering more of a blend of academic and vocational sub-

jects. Policies that link educational institutions with prospective employers from the private sector through regular consultations and joint university-industry research projects help, as has happened in China.

- Educational institutions need to be more accountable to students. To avoid a decline in the quality of regular classroom instruction, Turkey now prohibits teachers from providing after-school tutoring for their own students. Reform measures introduced in Georgia to fight corruption in higher education illustrate the effectiveness of combining a unified examination system, control mechanisms, and improved transparency.

- Concerns about the quality and relevance of basic training come just when the demand for advanced skills, such as problem-solving abilities critical for many industries, is increasing. Contrary to what might be expected, the greater availability of skilled and educated workers in a more integrated global economy may not necessarily lead to falling returns on skills. It may actually boost the demand for skills even further by inducing faster skill-intensive technological change.

- Investment climate surveys show that more than a fifth of all firms in developing and transition countries as diverse as China, Bangladesh, Brazil, Estonia, and Zambia rate inadequate skills and education of workers as a major or severe obstacle to their operations.

Addressing these challenges is also important in terms of poverty reduction. The close interconnection of education and improving living standards is obvious for at least two reasons. First, the capacity to learn is much greater for the young than for older people, so missed opportunities to acquire skills, good health habits, and the desire to engage in the community and society can be extremely costly to remedy. Second, human capital outcomes of young people affect those of their children. Better educated parents have fewer, healthier, and better educated children.

Full text of the "World Development Report 2007: Development and the Next Generation" can be downloaded at www.worldbank.org **BT**

Institutional Change in Hungarian Higher Education

Academia is unable to attract young faculty to teach a rapidly growing student population

Eva Berde and Istvan Vanyolos

Higher education enrollment in Hungary, as in the rest of Eastern Europe, has exploded in the past 16 years. This growth has far outstripped the increase in the number of faculty members (see Figure). The student-faculty ratio, which was 6:1 in 1990, increased to nearly 16:1 in 2004.

Along with financial challenges Hungarian universities have undergone major structural changes. Between 1990 and 2004, while student enrollment increased four-fold, higher education expenditure as a percent of GDP dropped almost 20%. Universities changed institutional settings and rules, introduced new courses into the curriculum, and revamped old courses. Higher education funding changed from base financing to enrollment-based financing. Many colleges and universities were merged into larger units. Universities have started the transformation to the new EU Higher Education system, known as the Bologna process, which has almost been completed at the bachelors' level, and is now focused on transforming masters' level instruction.

We interviewed department chairs, vice-deans, and finance directors (18 in total) from three public, natural sciences universities in order to gain a micro-level understanding of these changes.

Over 1990-2004, the proportion of young faculty decreased. In 1994,

instructors in higher education earned, on average, 1.78 times less than upper management earned in the private sector. By 2004, this proportion increased to 1.9, even though higher education salaries increased significantly. Despite economic difficulties academic staff turnover was low in recent years.

The proportion of full professors increased, while the proportion of assistant professors decreased. Most young professionals, unless they have taught before, enter academia as assistant professors. Only three departments in our survey hired young professionals at the associate professor level.

Lack of Incentive System

State funding covers employee salaries in most departments. Grants often fulfill departmental needs for teaching materials and supplies. This latter use of grant funds, though technically against the rules, is vital for day-to-day operations. In engineering departments projects done for private companies is another source of funding. About half of the departments offer tuition-based courses that account for 5 — 20% of total budgets.

Most grant monies come from state-funded foundations. The shift to grant funding represents a change in the way public resources are allocated to universities, but not a change in the source of funding. Theoretically oriented departments, being less successful in attracting private money, have been forced to make cutbacks.

Hungarian academics work in academia because they feel passionate about the field. None of the surveyed faculties have a specific incentive system. Student evaluations, required by law, seem to play no role in chairs' evaluations of fac-

ulty performance. Department chairs may exert influence over colleagues through evaluations of publication, teaching, grant writing activity. In general, departments cannot properly reward teaching or research excellence. Grant money can reduce teaching loads, though this is uncommon. Conference participation may also serve to reward hard work.

Research: Western Orientation

Publishing in refereed international journals is common in all the departments. They produced 14 publications per year on average, or about 1.24 publications per year per faculty member. Publication in Hungarian peer-reviewed journals is less frequent. Only half of the departments published in Hungarian, mostly textbooks. Two departments said that their faculty had applied or was planning to apply for a patent.

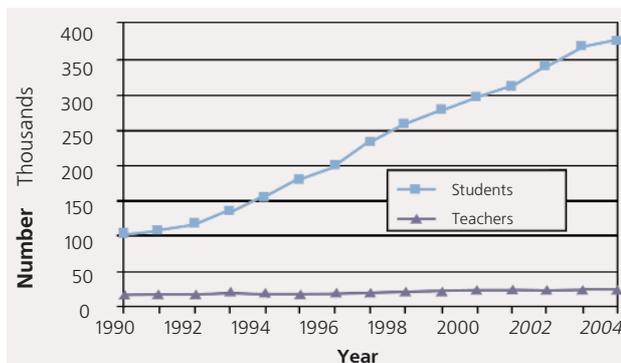
Writing joint grant proposals, aimed at either research or student/faculty exchange, is the most common form of cooperation with other universities. Other joint projects or long-term strategic agreements were conducted with public institutions primarily with the Hungarian Academy of Sciences, and to a lesser extent with private companies. While all but one department reported some interaction with foreign institutions, only seven had cooperation agreements with domestic institutions.

In sum, Hungarian education, while coping with major changes, needs to do even more. One of the main challenges is that academia appears unable to attract young talent, leaving an aging professoriate to teach a growing student population.

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The number of students and faculty, 1990-2004



Source: OM (2004/2005)

Note: Student totals include both part and full-time students. Part-time students comprise slightly more than two-fifths of the total.

Measuring Bribery in Ukraine's Public Sector

Bribery accounted for about 1% of Ukraine's GDP in 2003

Yuriy Gorodnichenko, Klara Sabirianova Peter

Corruption undermines the strength of public institutions and hampers economic growth and development. The cost of corruption is particularly high in developing and transition countries where bribery is endemic. We develop a framework to estimate the extent of bribery in the public sector using micro-level data on observable labor market outcomes, household spending, and asset holdings, using data from the Ukrainian Longitudinal Monitoring Survey.

When bribery is widespread and exists for many years, it should appear through sectoral differences in wages and employment flows, and we can use these differences to infer the size of bribery in the economy. We find that public sector employees in Ukraine are significantly underpaid compared to workers in the private sector. The average wage gap is 24%-32%, and is largest (up to 60%) among the most productive and highly paid workers. Moreover, the gap has not diminished in 1997-2003 despite similar rates of voluntary separations and labor mobility in both sectors, the flows in and out and the virtually unchanged size of the public sector.

Why do public sector employees in general, and the most productive workers in particular, continue working in the sector despite low official pay? We explore several factors that might explain why a public sector employee earns less than a private sector employee:

1. *Government wage control.* In an environment with three to four-digit inflation during the early 1990s this could be an important issue, however, after 1996 inflation dropped significantly and the government implemented eight revisions of the wage grid level in the public sector during 1997-2003. Despite this, the sectoral wage gap has remained large.

2. *Differences in hours of work.* A public sector employee, on average, works three (males) to seven (females) hours less per week than a private sector employee. However, the sectoral gap in hourly wage remains large (about 19%).

3. *Fringe benefits.* Workers in the public sector may accept lower wages in exchange for higher non-monetary compensation. However, the monetary value of fringe benefits per worker is larger in the private sector than in public organizations. Furthermore, the distribution of fringe benefits across the percentiles of conditional wage is practically flat in all sectors, and thus fringe benefits cannot explain the private-public wage gap that increases with the wage level.

4. *Job security and risk aversion.* Public sector workers may accept lower wages in exchange for higher job securi-

ty and lower volatility of wages. However, the estimated sectoral differences in the probability of layoffs and reasonable values of workers' risk aversion cannot match the existing gap.

5. Other factors, such as *job satisfaction, bonuses, and multiple job holding*, do not seem to compensate either, and hence be traded for lower wage.

The wage gap thus remains large accounting for differences in the factors above. More importantly, the large sectoral differences in wages are not translated into comparable differences in the levels of consumer expenditures and wealth. This indicates that public sector employees receive an unobserved monetary compensation — "a bribe" — that allows them to enjoy the level of consumption comparable to the consumption of workers in other sectors. In support of this argument, we also find that the gap between consumption and reported income is the largest for subsectors of public administration (including police, customs and tax authorities) and public sector managers and medical workers — groups that are commonly perceived as bribe takers and have also the greatest opportunities to extract bribes.

The bribery explanation of the wage gap is consistent with other studies and media reports that portray widespread

bribery in the Ukrainian public sector. For example, according to the 2002 national survey of corruption, 44% of the respondents indicated that they had paid bribes or given gifts at least once in the previous year. Ukraine is persistently at the bottom of the world distribution of the Transparency International Corruption Perceptions Index. It was ranked 69-70 among 85 surveyed countries in 1998, and 122 among 146 countries in 2004.

Using the equalizing differences framework to obtain an estimate of bribery at the country level, we find that

The extent of bribery is estimated at US\$460-580 million

the lower bound estimate of the extent of bribery in Ukraine is between US\$460 million and US\$580 million, which is equivalent to 0.9-1.2% of Ukraine's GDP. Our alternative estimates suggest that the amount of bribery could have been as high as US\$750 million in 2003.

Hence, at least 1% of GDP should be allocated to ensuring fair wages in the public sector. Given that the wage gap is particularly large at the top of the wage distribution, the decompression of wages in the public sector might be a necessary prescription for reducing corruption at the top levels. Although ensuring fair wages in the public sector is necessary in reducing corruption, it is not a sufficient condition and should be complemented with other measures such as increasing transparency and competition in the public sector, improving accountability and enforcement and thereby reducing the incentives and power to extract bribes.

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Public Sector Wages: "Bonus" or "Fine"?

Wages in the public sector should be decentralized and tied to the functioning of regional labor markets

Vladimir Gimpelson, Anna Lukyanova

The topic of underpaid public sector employees has recently loomed large in discussions on economic and social policy in Russia. Although the increased attention being paid to the problem by the authorities owes a great deal to the upcoming 2008 elections there are objective grounds for serious concern. The average monthly wages in the education and public health sectors, which form the bulk of the budget-supported sector, have over the past 15 years varied between 40-60% of the average industrial wage. Even by the end of 2006, after repeated revisions of the minimum monthly wage during the past years, it has still not exceeded the upper limit of that band.

A simple comparison of average wages across sectors and industries does not in itself provide grounds enough for maintaining that there are wage gaps between sectors. Nor does it indicate the size of the gap because workers in different sectors have different levels of education, skills and experience. Besides, a high wage may compensate for hazardous labor conditions, difficult climatic hardship and other negative aspects of work. Finally, in choosing an occupation people are guided not only by the size of pay but also by highly individual leanings and preferences. All this implies that when dealing only with average wages aggregated for all the surveyed workers across several sectors we are comparing something that does not quite lend itself to comparison. Such assessments are approximate at best. But if one tries to take into account all the above differences what would then be the wage gap between the public and private sectors? Is it the same for all groups of workers? How different is the gap in regions with different levels of economic development? Finally, if the gap between average wages is so large, what is the reason?

It should be noted that problems in the labor market may arise both if public sector employees are underpaid and if they are overpaid. Being relatively underpaid stimulates a selection "of the worst"

and drags wages down in the economy as a whole by inflating ineffective employment and encouraging corruption. Conversely, inflated wages in the public sector relative to the private sector tend to reduce overall employment, as witnessed by the experience in Western Europe.

Ignoring Labor Market Signals

Nominal public sector wages in the Russian Federation are a direct result of government wage policy, whose main mechanisms include the minimum monthly wage and a unified wage scale. By contrast, the wages in the non-governmental sector are set in the competitive labor market in which the firms seek to maximize their profits. How completely and promptly the state receives market

Wage gap between public and private sector increases as per capita gross regional product grows

signals and translates them into comparable wages in the public sector (while avoiding excessive dependence on political factors) goes a long way in determining the existence and size of the intersectoral gap at any point in time.

Reacting to the macroeconomic shocks of 1992, 1994 and 1998, the relative public sector wages initially "sagged" but then quickly rebounded. The period between 1999 and 2004 is particularly interesting because the nominal minimum monthly wage increased six-fold. However, the increase has hardly affected the relative wage in public health and education.

In the majority of developed countries the salaries of civil servants, including public health and education employees, are linked to the salaries of private sector employees. This in fact is the whole point of negotiations between the trade unions of civil servants and employers. It helps to implement the principle of equal pay for equal work. As a result civil servants can get substantial cash and "in-kind" rewards attributable to their higher level

of education and higher rates of salaries. The political significance of the sector and the clout of the trade unions increase the chances of getting such rewards. Its "in-kind" component may include a higher level of social protection, a more "friendly" working environment and extra protection against labor market risks.

The wage-setting mechanism for public sector employees in Russia is totally different, as it practically ignores the prices set in the labor market. The base part of public sector wages is set in a centralized manner through political-bureaucratic procedures of determining the minimum monthly wage and the unified wage scale. The subsequent fine-tuning at the local level depends on the interplay of market forces and resources at the disposal of the regional and local author-

ities. As a result, the nominal wage in the public sector is trying its best to tag along with the wages in the private sector. The wealthier the region, the higher the public sector wages are, but at the same time the harder it is for them to reach the level of the private sector wages. Not surprisingly, the wage gap remains significant.

Who Gets "Fined" and Who Gets a "Bonus"

Using the data from the Russia Longitudinal Monitoring Survey (RLMS) and the National Household Survey NOBUS we have obtained an assessment of the wage gap for comparable workers in the public and private sectors, that is, workers with similar main characteristics. To this end we have used the methods of propensity score matching and switching regression which make it possible to take into account non-random selection in each of the sectors. First, according to various methods, public sector employees with comparable characteristics are paid on average 20%

less than they could have been paid in the private sector. That is a sizable "fine", although its size turns out to be only half of what emerges from comparing average figures. Secondly, that indicator varies greatly between groups. For example, the fine diminishes with age, and it is less for employees with a higher education, managers of various ranks, rural and small-town dwellers. Thirdly, it varies greatly across regions.

In the poorest regions public sector wages are comparable to those of same-level private sector employees. For example, in the economically depressed Southern Federal District public sector wages are practically the same as in the private sector and are occasionally even higher. The wage gap increases from region to region as per capita GRP grows. Thus a 10% increase of per capita GRP increases the bonus of working in the private sector by 1.1 percentage points. This is a graphic illustration of the fact that the existing system of compensation in the public sector is geared towards financially weaker regions and penalizes those in wealthier areas.

There is an even stronger dependence between the size of the intersectoral gap and the regional unemployment level. An increase of regional unemployment by 1% diminishes the gap by 1.5%. Tensions in the regional labor market restrain the growth of wages in the private sector bringing them closer to wages in the public sector.

The greater the gap in favor of public sector employees, the more it depresses employment in the formal sector and stimulates unemployment by raising the reservation wages and increasing labor costs. Obviously, the poorest regions, which already have very high unemployment, will be hit the most. But a rise of public sector wages will force the non-state sector to do the same. In that sense

an upward shift of public sector wages is equal to a rise of the minimum monthly wage for all sectors.

Who Is to Blame for Low Wages?

Why are public sector wages much lower on average than those in the private sector? There are three potential reasons why public sector workers are underpaid:

- Public sector and private sector employees may differ in qualitative characteristics. For example, one group may be better educated than the other and therefore have a higher salary. However, our calculations show that the total contribution of differences in characteristics is comparatively small and on the whole tends to favor public sector employees.

- The labor market in each sector may evaluate similar workers differently. While this is true, the return on individual characteristics — keeping other things equal — turns out to be much higher in the public sector.

- There may be a difference between how the actual minimum wage (not to be confused with the minimum monthly wage) is set for public sector employees (by the state) and for private sector employees (by the market). Our analysis shows that in setting public sector wages the state falls far short of the market value of labor. Indeed, this is the main reason why public sector employees are underpaid. The labor market in turn tries to compensate for this gap by increasing returns on individual characteristics, but the gap turns out to be too wide for the market to close it fully.

What would happen if the composition of the public and private sector labor force were identical and the actual minimum wage in both sectors were the same? The gap would be twice as big as

it is today, but it would be in favor of the public sector employees. And what if differences in pay depended solely on differences in the actual minimum wage? The public sector employees would be underpaid 2.7 times more than they are today.

Can the state rectify the situation by simply raising public sector salaries in a centralized manner to match the average level of private sector wages? That is unlikely for several reasons. First, given the size of the workforce in the public sector, the expenditure will be too great. Second, employers in the private sector will likely be prompted to react to any raise of teachers' and doctors' salaries by increasing the salaries of their employees. As a result, the gap will remain, but the inflation level will increase. Third, centralized decisions are ineffective because the gap varies greatly across regions and groups of workers. Fourth, a rise of all public sector wages by a certain fixed amount will simply "shift" the gap to some other groups and may even replace underpayment with significant overpayment. Such overpayment would be hard on the economies of the most depressed regions, above all, in the North Caucasus, worsening the unemployment situation.

Policy Conclusions

The main conclusion from our study is that wages for the majority of public sector employees should be decentralized and should be tied to the functioning of regional labor markets. The negotiations of the education and public health workers trade unions with regional administrations may be one such mechanism of tying wages to the labor market situation. Yet, so far few regions have chosen not to base the wages of public sector employees on the unified wage scale, although they are allowed to do so according to the federal law.

Besides, labor compensation is closely linked to employment. A more rigid and decentralized pegging of the public sector wages to those in the private sector (that is, creation of institutional conditions for liquidating the gap) would require more flexibility in employment. The public sector should shed part of its labor force by getting rid of redundant people and abandoning the functions of social protection which are not inherent in it. In other words the wage reform must become an element in a systemic reform of the functioning of the public sector.

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Average wage gap between the public and private sectors

Average Wage (RUR)	Private Sector	Public Sector
Men	4146.7	3820.3
Women	2983.9	2661.4
In large cities	4330.2	3399.8
In rural areas	2272.8	2317.1
With primary education	2252.9	2003.6
With higher education	5007.9	3808.0

Source: NOBUS

Selective Schools Select Alphabetically

Students with last names at the top of the alphabetical list have a higher chance of being admitted to selective universities

Stepan Jurajda and Daniel Munich

Sorting based on "alphabetical order" is a fact of everyday life. Team members are listed in this order, including co-authors of scientific papers; students may be seated in a classroom according to their last name's position in the alphabet; competing firms are displayed alphabetically in phone and other directories. Could this systematic and omnipresent sorting provide an advantage to those positioned high in the alphabet? This question is often the object of popular discussions. Yet, so far there is little evidence on the issue, thanks in large part to lack of data with individual initials.

The question of non-discriminatory sorting is particularly important when allocating a prize or distributing a rationed good or oversubscribed public service, even when the allocation mechanism is based on applicants' characteristics. For example, it has been shown that the (randomly assigned) order in which musicians play in a competition affects their success, both in the competition and in their whole career.

In our study we ask whether students with last names sorted high in the alphabet enjoy higher chances of being admitted to oversubscribed selective schools.

Applicants at the Top of the List Treated More Favorably?

Why would one expect such effect to take place? Alphabetical sorting can be applied in school admission procedures when lists with multiple student characteristics (including test scores) are prepared for admission committees or when students are called to oral exams in alphabetical order. When applications are evaluated based on multiple criteria in the absence of a clear summarizing measure, marginal cases at the top of the list may obtain more favorable treatment compared to marginal applicants toward the bottom of the list where constraints on the total number of possible admis-

sions become more binding. Similarly, it is plausible that examiners are more attentive and approving, and applicants more rested, during oral exams scheduled on the morning of an exam day.

We focus on the Czech Republic, which features a highly selective admission process at both secondary and tertiary schooling levels, and thus provides a good example of the many European selective education systems. Furthermore, there is anecdotal evidence that alphabet-

A simple remedy would be to assign each application random numerical codes

ical sorting is used in student admission, at least at the tertiary level. Our empirical analysis is based on the experience of the whole population of secondary-school graduates in 1999. We start by studying the success of their applications to Czech universities and find a small, but statistically significant effect of one's last-name-initial position in the alphabet on admission chances for those applications on the margin of admission.

"Z" Students Have Higher Ability

The presence of alphabet-affected admission practices implies that among students admitted to selective schools, those with last names in the bottom part of the alphabet have on average higher ability. To see this, consider a simple model of school admission with students of three ability types (high, medium, and low) distributed independently of last name initial, where all high-ability and none of the low-ability students are admitted to selective schools, and where admission of medium-ability types is decided in a way affected by alphabetical sorting. Hence, the high-ability "Z" students admitted to highly selective programs should mix with both high and medium-ability "A" students. We test this implication using a national study-

achievement test administered to the student population graduating from secondary schools in 1999 and find evidence fully consistent with the alphabet-based sorting hypothesis. We also find some evidence that conditional on low education attainment, i.e. not being admitted to higher schooling levels, wages (and presumably ability) are higher for workers sorted low in the alphabet, presumably as low-ability "A" students mix with low- and medium-ability "Z" students.

Throughout our analysis we also test for the importance of the alphabetical position of the first-name initial, thus providing a natural check on our main results. We have no explanation for why the first-name initial should affect education outcomes and we do not find the first-name initial to have any explanatory power. Our findings are also robust in the use of different measures of one's position in the alphabet.

Should our interpretation of the empirical findings be correct, there would be a non-negligible negative effect of apparently non-discriminatory practices for individuals with last names towards the bottom of the alphabet. Rationing of public services based on a lottery is optimal, but the use of a fixed "lottery ticket", i.e. one's last name initial, throughout many lotteries (many schooling levels) is not fair. A simple remedy is to assign each application a numerical code at random and base sorting on this alternative lottery.

*Stepan Jurajda is the Deputy Director for Research and Associate Professor at CERGE-EI, Prague. Daniel Munich is the Deputy Director for Development and Public Relations and Assistant Director at CERGE-EI. Full text of the authors' paper is available at: www.cepr.org/pubs/dps/DP5427.asp. **BT***

The Demographic Challenge of the Czech Education and Pension System

Reducing gender difference may be an important social goal

Sergey Slobodyan, Viatcheslav Vinogradov

Recent research on intergenerational transfers not only looks at retirement programs, but also at transfers that finance the education of younger generations. Much has been written about the fiscal challenges facing many European countries when the large post-WWII generation retires and when falling birth rates translate into smaller working age cohorts. We rely on the model of intergenerational flows recently developed by Michele Boldrin and Ana Montes, using Czech Republic Microcensus for 1996 and 2002, to study the effect of different demographic and fiscal projections on future intergenerational flows of funds, especially on the gender balance of the flows.

The model has two intergenerational flows of funds, one supporting education, and the other supporting retirement. Each cohort can compare what they get, in implicit "loans" and what they give, in "repayment" of those loans, at each life stage. Equating the net present value for one's implicit educational loan and its "repayment" defines an implicit rate of return. Similarly, equating the net present value for social security benefits and for the portion of taxes used to finance public education defines a second implicit rate of return. Boldrin and Montes show that efficient allocation requires these two rates to be identical, and moreover, to be equal to the risk-free interest rate. Public education and pensions could, therefore, be welfare improving in societies where borrowing for education is restricted. Additionally, the equality of the two implicit rates could be considered "fair" from an individual's point of view, as the interest rate "paid" on money "borrowed" from the state for education is the same as the rate "received" on the money "lent" to the state.

We apply this theoretical framework to the Czech Republic under different demographic scenarios and fiscal rules. We also model the effects of an increase in the retirement age and of hypothetical imbalances in pensions or educational

transfers. We combine current budget rules (i.e., pensions and educational transfers per capita) with a fixed demographic structure, based on the current age distribution.

Higher Returns for Educating Next Generation

For the whole population, paying for educating the next generation provides significantly higher returns (in form of pensions) than the interest "paid" on educational "borrowing." For males, the two rates are almost equal. Demographic change, however, will affect the gap between the two implicit interest rates. The direction of movement of these interest rates and the size of this gap over time depends on an assumed scenario of demographic development, and on the type of budgeting rules chosen. We distinguish between two rules: first, a "supply driven" rule, in which taxes per capita are fixed at their current level, and second, a "demand driven" rule, in which transfers per capita are fixed. As the population structure eventually stabilizes at different levels determined by assumed demographic projections, various fiscal tools can narrow or eliminate the gap between the two implicit rates of return.

The choice and efficiency of the applied fiscal tools depends on projected demographic changes and budgeting rules. Even if different tools, such as adjustments to the level of pension benefits or educational transfers, equalize the two implicit interest rates, the level of the common interest rate may still vary. Thus, the relative efficiency of these tools would be different as well, because along with pair-wise equality of the implicit interest rates, efficiency also requires their simultaneous equality with the market interest rate.

The most dramatic outcome of our analysis is the gender difference in the fairness of the pension/education system. Czech pension law allows earlier retirement to women with children. In addition, biological and behavioral factors

cause educational and retirement choices to differ between men and women. The gender imbalance makes our calibration more difficult than those performed for other European countries so far. Most pension systems around the globe do not treat men and women in different ways, although gender-specific rules are a potential policy tool.

One of the outcomes of our study is that better demography improves the overall fairness of the system. On the other hand, more children might mean less working women who retire earlier under the Czech pension law, which leaves males with a larger tax burden and decreases the system's fairness for them, as compared to females.

Education Spending Preferable to Raising Pensions

If reducing gender difference in fairness is deemed an important social goal, collecting relatively more taxes from females (either by encouraging them to increase labor force participation with potentially negative effects on fertility, or by reducing the gender wage inequality) will be more effective if the "supply driven" fiscal rule is chosen. The "supply driven" fiscal rule, however, might lead to rapidly falling standards of living for the elderly and a deteriorating quality of education if unfavorable demographic developments emerge. Finally, if one is ready to use unbalanced fiscal adjustments to improve the fairness of the system, our results suggest that spending more on education is probably a more efficient policy than raising pensions.

Sergey Slobodyan is Assistant Professor at CERGE-EI and Viatcheslav Vinogradov is Researcher at the Economics Institute of the Czech Academy of Sciences, Prague. The authors gratefully acknowledge funding from GDN and thank participants in the GDN 2004 conference in Prague, the CERT seminar in Edinburgh, and the Economic Growth workshop in Copenhagen for valuable comments and suggestions.

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Russian Healthcare: For the Healthy or the Sick?

Less healthy people often receive less effective in-patient care, which is also costlier for the state

Galina Besstremyannaya

Most patients in today's Russia make a conscious choice to pay for their medical services to guarantee better quality. They may turn to medical institutions on the voluntary health insurance (VHI) programs, sign a services agreement directly with an institution, or pay the clinic/doctor informally. Since better-off consumers can mostly afford to pay for healthcare, others have to rely on mandatory health insurance (MHI) programs and "free" healthcare, despite its relatively lower effectiveness. In fact, according to some surveys, the share of patients unsatisfied with the quality of services provided under MHI is 28.4%, compared to a 15.5% share among VHI patients.

What is the relation between the quality of healthcare services in in-patient and out-patient institutions and the health status of respondents? Our study is based on data from the 2004 Russia Longitudinal Monitoring Survey (RLMS), which covered 12,641 people in over 30 regions.

The health status of respondents in our analysis includes both objective and subjective assessments. If a respondent regarded his/her level of health as good or very good, or as average but did not have any health problems within the past 30 days, s/he was attributed a high health status. If a person's health was assessed as bad or very bad, or as aver-

age but the respondent had health problems within the past 30 days, the health status was regarded as low.

The data show that while the frequency of turning to health care is directly related to the health status of respondents, both types of patients seek care in largely the same types of medical institutions.

The prevalence of payments in out-patient institutions depends little on the health status of patients. The main difference occurred with regard to expenditures for additional examinations (See Table). Although the frequency of payments in hospitals is relatively low, those with lower health status have to pay for drugs more often, both officially and unofficially. Thus, the frequency of payments for treatment rises as the severity of illness increases.

Less healthy people buy drugs recommended by doctors more often than the healthier ones. On the other hand 11.6% of patients with low health status could not buy drugs (compared to 7.2% of those with high health status). The major reasons for not buying drugs are too high costs (for 62% respondents with low health status and only 42% of those with high health status) and the lack of drugs in pharmacies (26% and 21%, respectively). On the other hand, healthier people are unwilling to buy recommended drugs more often, perhaps due to the less severe character of their illness or their intention to choose better, and more expensive, medicines, which they can afford.

The size of payments for medical services and drugs varies significantly for the two groups. The higher the health status, the larger the unofficial payments are in in- and

out-patient institutions. Respondents with a high health status pay on average RUR 1,059 a month unofficially for out-patient services, while those with a low health status only pay RUR 480. At the same time, less healthy people bear the higher cost of official payments for out-patient services and drugs. It should be noted that the necessary minimum of healthcare is provided to all patients regardless of whether they pay extra. Consequently, in most cases official and unofficial payments are compensation for insufficient public financing and cross-subsidization of one group at the expense of the other. Indeed, the studies of patient mortality in hospitals show no correlation between additional payments and the outcomes of treatment.

The healthcare services received by chronic patients do not seem to be any different from the rest, though the differences in payments for this group are even greater than for the whole sample. The total share of respondents with chronic diseases (of the heart, lungs, liver, kidneys, gastrointestinal tract, spinal column, and other) in the RLMS survey is 41%, of whom 58% have a low health status.

To sum up, less healthy people have fewer possibilities to pay unofficially for more costly, and presumably, more effective out-patient treatment and therefore turn to official health care more often. Replacement of out-patient care with in-patient for this group becomes more expensive for the state, which has to finance costlier hospital treatment. It is also more expensive for the patients, as in hospitals they have to buy drugs, although these are formally guaranteed by the state. Besides, higher demand for unofficial care provision in out-patient clinics by healthier patients indicates that informally provided care is more effective and is of a higher quality.

Galina Besstremyannaya is an economist at CEFIR. The article is based on the author's study that is available on request at: gbesstre@cefir.ru

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The frequency of payments in out-patient and in-patient institutions, percent of patients

Types of payments	High health status		Low health status	
	Out-patient	In-patient	Out-patient	In-patient
To doctor by money/presents	14.7	11.3	12.0	12.5
Of these				
Officially	53.6	73.0	51.1	73.0
Unofficially	47.8	27.0	50.7	27.0
For additional examination in out-patient clinic	76.7	36.4	71.7	46.2
For drugs in hospital				
Of these				
Officially		82.1		75.5
Unofficially		17.9		24.6

Parliamentarians' Meeting Focuses on Preparing for EU Accession

A meeting entitled "Towards a Common Economic Space in Southeast Europe" was attended by 40 parliamentarians from all over Southeast Europe in Athens on September 29-30, 2006. World Bank experts and donors active in the region, including the European Union and Stability Pact, also participated. The parliamentarians' meeting comes at a critical time in the process of EU integration, with all of the participating countries actively involved in various stages of discussions with the EU. As EU integration takes its course, the conference explored what actions can be taken in parallel to that process to achieve closer economic ties, reduce poverty, and improve cooperation between Southeast European countries. With this in mind, participants took part in brainstorming sessions focusing on four common issues that all countries involved are grappling with, namely energy, governance, labor markets and immigration, and trade/transport. Each session was chaired by a parliamentarian, and World Bank research was presented as well as contributions from other discussants and independent organizations. The sessions produced actionable ideas for moving forward on the issues. The conference was organized by the Parliamentary Network on the World Bank, with the support of the Hellenic Parliament and in cooperation with the World Bank and the Hellenic Foundation for European and Foreign Policy. For more information, visit: <http://www.seerecon.org/calendar/2006/events/parliamentarians.html>

HIV/AIDS Conference Seeks to Address Rising Infection Rates in Central Asia

On September 25, 2006, high-level parliamentarians and other officials from the Kyrgyz Republic, as well as parliamentary delegations from other Central Asian countries and Russia, convened in Bishkek for a conference on national and regional HIV/AIDS policy priorities and prospects. The event attracted health ministers, epidemiologists, and donor-financed groups working on HIV/AIDS. The event was organized by the Regional Project Management Unit of the Central Asia AIDS Project, which is supported by the World Bank and the UK Department for International Development. Transatlantic Partners Against AIDS was a co-organizer, and the Prime Minister of the Kyrgyz Republic sponsored the event. Central Asia has witnessed a dramatic increase in infection rates over the past four years, and the total number of cases is thought to be far more than reported. The conference outlined priorities and concrete next steps for fighting the epidemic in the region.

For a feature story on the event, visit: <http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/ECAEXT/0,,contentMDK:21072493~menuPK:2246556~pagePK:2865106~piPK:2865128~theSitePK:258599,00.html>

EU8 Quarterly Economic Report Brings Good News, Words of Caution

The most recent edition of the EU8 Quarterly Report was launched on September 27, 2006, in Warsaw. Lead author Thomas Blatt Laursen emphasized that though growth is con-

tinuing in the eight newest EU countries despite obstacles, the countries must seize the opportunity to enact reforms now. Several issues are complicating factors, including recent elections that led to unstable alliances and thus difficult reform environments, and mounting inflationary pressures. Fiscal balances are worsening, and budget plans for 2007 point to further laxity. Particularly in light of the recent demonstrations in the country, Hungary must follow through on its fiscal adjustment program and prepare spending reforms. This edition's Special Topic focuses on labor migration, looking at its positive and negative consequences for both the recipient and sending countries. To read the report, visit: <http://www.worldbank.org/eu8-report>

Estonia and Lithuania Transition from Borrower to Donor Country Status

Estonia and Lithuania graduated from the World Bank borrowing on September 17, 2006, during the World Bank and IMF Annual Meetings, joining ECA countries Czech Republic and Slovenia, who had graduated previously. Since Estonia and Lithuania joined the World Bank in 1992, the Bank's approach has been to promote good policies, strong institutions, and public investments as the main drivers for growth, increased competitiveness, social inclusion, and poverty reduction. The institution has done this through analytical work, policy dialogue, and lending. Efforts to support public private partnerships were also supported in recent years. In addition to receiving analytical and advisory support from the World Bank, Estonia borrowed a total of US\$150.7 million for eight operations in the environment, infrastructure, rural, and financial sectors, and Lithuania borrowed a total of US\$480 million for 17 operations to support structural reforms, reduce pollution in the Baltic Sea, and modernize the health, education, and infrastructure sectors. Following graduation, future cooperation with the World Bank will be based on knowledge sharing and partnership.

Report Reveals Meaningful Progress in Business Reforms in ECA

The World Bank's annual *Doing Business* report once again brought good news for the ECA region. The 2007 report, *How to Reform*, ranked Georgia and Romania number one and two respectively of the overall reformers, and named Eastern Europe as the most reformed region, with 38 reforms in 16 economies. In the former Soviet Union, 24 regulatory reforms in nine economies reduced the time, cost, and hassle for businesses to comply with legal and administrative requirements. *Doing Business 2007* also ranks 175 economies on the ease of doing business, covering 20 more economies than last year's report. Georgia jumped a spectacular 75 places this year. The rankings track indicators of the time and cost to meet government requirements in business start-up, operation, trade, taxation, and closure. Georgia improved in six of the 10 areas studied by *Doing Business*. However, more progress is sorely needed in CIS countries, which would greatly benefit from new enterprises and jobs that can come with more business-friendly regulations. In Eastern Europe, reforms were spurred by regulatory competition in the enlarged European Union. But despite the improvements, on average Eastern European countries still impose more regulatory obstacles on business than OECD and East Asian

countries. Significantly, the annual *Doing Business* updates have already had an impact. The analysis has inspired and informed at least 48 reforms around the world. To view this year's report, visit <http://www.doingbusiness.org/>

World Bank Launches First Supranational Bond Issue in Romanian Domestic Market

The IBRD announced its intent to issue a new Romanian Leu-denominated domestic bond of RON525 million on August 28, 2006. This will be the first supranational issue in Romania under local law and domestic clearing systems. The net proceeds of the sale will be used by the IBRD for its general operations. The bond issue is being brokered by ABN AMRO Bank Romania S.A. and Intercapital Invest. Country Director Anand Seth emphasized that the interest from foreign investors in this transaction is a signal of Romania's increasing EU convergence and will advance the goal of EU accession. The World Bank's bond products and investor presentation can be accessed through the website of the World Bank for bond investors: <http://www.worldbank.org/debtsecurities>

For a list of selected bonds issued recently by the World Bank, see: <http://treasury.worldbank.org/recentissues>

Most ECA Countries See Drop in Corruption for 2002–2005

Targeted efforts to reduce corruption in former socialist countries are showing positive results, but sustained reforms are needed to prevent back-sliding, according to a new World Bank report, launched on July 26, 2006. *Anticorruption in Transition 3: Who is Succeeding ... And Why?* (ACT3) takes a detailed look at firm-level survey data and concludes that the region's progress in reducing corruption is unmistakable. However, the prevalence of corruption in Eastern Europe and the former Soviet Union remains higher than in many countries of Western Europe, and large firms saw a greater reduction in bribery than the small firms that often spur growth and create jobs.

ACT3 is the third in a series of World Bank reports tracking levels of corruption in enterprise-state interactions since 1999. Like its predecessors, ACT3 draws on the Business Environment and Enterprise Performance Survey (BEEPS), a joint initiative of the EBRD and the World Bank. The triennial survey, conducted most recently in 2005, covers 26 former socialist countries and Turkey, as well as five western European comparator countries. The non-transition European comparators are Germany, Greece, Ireland, Portugal, and Spain. More than 20,000 firms have been interviewed since the inception of BEEPS. To read the report, visit: <http://www.world-bank.org/ecalact3>. To view all BEEPS surveys, visit <http://www.worldbank.org/ecalgovernance>

World Bank President Attends G8 Meetings

President Paul Wolfowitz visited Russia to attend the G8 Summit in St. Petersburg on July 16-17, 2006. Mr. Wolfowitz met with leaders of the G8, other countries, and international organizations to discuss global energy security, modern education systems, and infectious diseases, as well as globalization,

international trade, and Africa. Paul Wolfowitz stated that Africa could benefit from increased aid, specifically to improve education, and needs to address the "crying need for infrastructure" across the region. For the World Bank's G8 website, visit <http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/ECAEXT/RUSSIANFEDERATIONEXTN/0,,contentMDK:20855436~menuPK:2358694~pagePK:1497618~piPK:217854~theSitePK:305600,00.html>

This section has been provided courtesy of Merrell Tuck and Christina Lakatos, Europe and Central Asia External Affairs

Sustainable Development Environmental Leader Appointed To Key Position

Kristalina Georgieva, who served as the Bank's Country Director for Russia, has been appointed to the position of Director for Strategy and Network Operations within the Vice Presidency for Sustainable Development. In June, President Wolfowitz announced the integration of key areas such as energy, water, transport, oil, and mining, together with environment, social development, and agriculture into a new Vice Presidency for Sustainable Development, under the leadership of Vice President Katherine Sierra.

Uzbekistan: World Bank Supports Improvement of Basic Education

The World Bank's Board of Executive Directors approved a US\$40 million credit for the Uzbekistan Basic Education Project. The Project will help improve the quality and overall cost effectiveness of basic education in the country. Uzbekistan has achieved near universal access in enrollment in primary education for girls and boys totaling 99%, and secondary enrollment totaling 95.5%. The country has achieved almost complete literacy, which increased from 97.7% in 1991 to 99.3% in 2003. However, the quality of education still remains a main concern. By the time the Project is completed, the young people of Uzbekistan should be benefiting from more effective teaching in general secondary schools. Teaching practices will be improved as a result of in-service training, and allocation and utilization of public financial resources in the education sector will become more efficient.

Armenia: World Bank Supports Social Investment Fund Targeting the Poor

The World Bank's Board of Executive Directors approved a US\$25 million credit for a Social Investment Fund III Project for Armenia. This project will assist the Government of Armenia in its efforts to improve the living standards of the poor and strengthen institutions at the local level. By the time the project is completed, more than a hundred of the neediest communities (of small and medium size, and mostly rural) would benefit from newly constructed and renovated schools; specialized schools for orphanages, handicapped children, and art students; sports facilities; community centers; potable water in homes; and rehabilitated irrigation systems. **BT**

World Bank Publications

<http://www.worldbank.org>

World Development Report 2007: Development and the Next Generation

Published September 2006

ISBN: 0-8213-6541-X SKU: 16541, 336 pp.

The theme of *The World Development Report 2007* is young people between the ages of 12 to 24. Supporting young people's transition to adulthood poses important opportunities and risky challenges for development policy. Are education systems preparing young people to cope with the demands of changing economies? What kind of support do they get as they enter the labor market? Can they move freely to where the jobs are? What can be done to help them avoid serious consequences of risky behavior, such as death from HIV-AIDS and drug abuse? Can their creative energy be directed productively to support development thinking? The report focuses on crucial capabilities and transitions in a young person's life: learning for life and work, staying healthy, working, forming families, and exercising citizenship. For each, there are opportunities and risks; for all, policies and institutions matter.

Capacity Building in Economic Education and Research

Edited by Francois Bourguignon, Boris Pleskovic, Yehuda Elkana

Published in 2006 by Central European University Press, World Bank ISBN: 0-8213-6595-9 SKU: 16595, 448 pp.

This book presents papers from the conference on "Scaling up the Success of Capacity Building in Economic Education and Research," which took place in Budapest at the Central European University campus. It includes contributions from key researchers, academics and policy makers from Europe, the United States, and developing countries that identify and brainstorm on capacity building challenges.

The World Bank Annual Report 2006

ISBN: 0-8213-6759-5 SKU: 16759, 64 pages, published September 2006

The Report includes:

- a summary of the World Bank's major initiatives and activities this year;
- regional reports with lending to each region;
- the year's lending and advisory activities;
- a description of all new projects approved this year;
- the complete financial statements of the World Bank;
- World Bank organizational information, including a list of all Country Offices.

A CD-ROM containing organizational information, project summaries, and financial statements, is enclosed.

World Bank Working Papers

<http://econ.worldbank.org>

Iaroslav Baclajanschi, Lawrence Bouton, Hideki Mori, Dejan Ostojic, Taras Pushak, and Erwin Tiongson

The Impact of Energy Price Changes in Moldova

WPS3960, July 2006

In January 2006 the price of natural gas supplied to Moldova increased from US\$80 to US\$110 per thousand cubic meters. Prices may increase further in the near future, putting additional pressure on the economy and leading to adverse effects on the poorest households. This study examines the potential impact of higher energy prices on the economy of Moldova and on individual households using data drawn from the 2004 Household Budget Survey. The results suggest that energy price changes could dampen economic growth while putting additional strains on the current account deficit. The impact on the poorest households could be significant and protecting them may require resources in the order of 0.7 to 1.7% of GDP. This study identifies possible policy responses to dampen the shock of the energy price increase and to promote the longer-term objective of reducing energy vulnerability.

Stephen Knack

Measuring Corruption in Eastern Europe and Central Asia: A Critique of the Cross-Country Indicators

WPS3968, July 2006

This paper assesses corruption levels and trends among countries in the transition countries of Eastern Europe and Central Asia (ECA) based on data from several sources. Data from firm surveys tend to show improvement in most types of administrative corruption, but little change in "state capture" in the region. Broader, subjective corruption indicators tend to show somewhat greater improvement in ECA than in non-ECA countries on average. A "primer on corruption indicators" discusses definitional and methodological differences among data sources that may account for the apparently conflicting messages they often provide. This discussion concludes that depending on one's purpose, it may be more appropriate to use data from a single source rather than a composite index because of the loss of conceptual precision in aggregation. The gains in statistical precision from aggregating sources of corruption data are quite modest because of interdependence among data sources. Finally, the paper emphasizes the need for scaling up data initiatives to fill significant gaps between conceptual definitions of corruption and the operational definition embodied in the existing measures.

Rita Almeida and Ana Margarida Fernandes

Openness and Technological Innovations in Developing Countries: Evidence from Firm-Level Surveys

WPS3985, August 2006

The authors analyze the role of international technological diffusion for firm-level technological innovations in 43 developing and transition countries. Their findings show that, after controlling for firm, industry, and country characteristics, exporting and importing activities are important channels for the diffusion of technology. They also find evidence that the majority of foreign-owned firms are significantly less likely to engage in technological innovations than minority foreign-owned firms or domestic-owned firms. The authors interpret this finding as evidence that the technology transferred from multinational parents to majority-owned subsidiaries is more

mature than that transferred to minority-owned subsidiaries. This finding supports the idea that equity joint ventures maximize technology transfers to local firms.

Infrastructure Department, Europe and Central Asia Region
Dimensions of Urban Poverty in the Europe and Central Asia Region

WPS3998, August 2006

The study examined the disparities in poverty within urban areas between capital cities and secondary cities, and focused on dimensions of poverty related to provision of network infrastructure and energy services in cities. Household surveys carried out in 1998-2003 in 20 countries provided the data for the study. The study found substantial differences in urban areas between the capital and secondary cities, with households in secondary cities being worse off. In addition, secondary cities often had poverty indicators equivalent to, or worse than, those of rural areas, including in terms of access to and the quality (reliability) of infrastructure. The study confirmed that many households, especially in secondary cities, are "infrastructure-poor" because of unreliable and deteriorated services and that these households are hidden in studies that do not examine actual quality. Finally, the study found that income and infrastructure inequality are generally higher in urban areas, although inequality in secondary cities often was greater than that in the capitals.

Lire Ersado

Azerbaijan's Household Survey Data: Explaining Why Inequality is so Low

WPS4009, September 2006

While the Azerbaijan household income and expenditure survey (HIES) data satisfy most empirical regularities expected in typical household survey data, the inequality measures based on the data are unusually low. For example, for 2002-2004, the consumption Gini coefficient is in the range of 16-18%. This is among the lowest Gini coefficients ever observed in any country, and is extremely low even by the standard of countries generally considered as the most equal in the world. Azerbaijan, a transitional economy with a significant natural resource base, is unlikely to be the most equal country in the world. The paper investigates why inequality measures are unusually low in the Azerbaijan household survey data. The main inference from the findings is that the observed low inequality indices are not due to poor supervision of the interviewers and the data collection process. The author finds that the main culprits for the observed low inequality in the HIES data are the low participation rates of wealthy households in the household surveys, and the widespread availability of well-targeted public and private transfers.

Lire Ersado

Rural Vulnerability in Serbia

WPS4010, September 2006

In this study, the author analyzes the nature, extent, and causes of rural vulnerability in Serbia using panel national household data from the 2002 and 2003. While low levels of consumption (poverty) explain about 70% of vulnerability, the author identifies risk and uncertainty as crucial dimensions of rural life in accounting for the remaining 30% of household vul-

nerability. Households and regions with a greater share of their livelihood depending on agricultural activities are more at risk of vulnerability than those with a significantly higher share of their income coming from nonagricultural sources. Dependence on agricultural income is directly associated with higher aggregate risk, underscoring the agricultural sector's lopsided exposure to covariate shocks in general, and the negative impact of the 2003 drought in particular. Rural vulnerability to poverty and risk is also strongly associated with asset ownership and access to markets to mobilize them in time of need.

Daniel Kaufman, Aart Kraay, and Massimo Mastruzzi

Governance Matters, 2006: Worldwide Governance Indicators

WPS4012, September 2006

This paper presents the updated aggregate governance research indicators for 213 countries for 1996-2005, for six dimensions of governance: voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, control of corruption. The current release of these indicators and their data sources represents the largest publicly available data resource on governance in the world. These evidence-based empirical measures help development stakeholders track the quality of institutions, support capacity building, improve governance, and address corruption. The indicators are based on hundreds of variables and a compilation of more than 120,000 responses from citizens, experts and enterprises worldwide, distilled from 30 underlying sources.

LICOS / Centre for Transition Economics

<http://www.econ.kuleuven.be/LICOS/DP/DP2006.htm>

Karen Macours and Johan Swinnen

Rural Poverty in Transition Countries

Discussion Paper 169/2006

This paper uses new poverty data based on household level surveys to analyze changes in rural poverty and rural-urban poverty differences in 23 transition countries of Central and Eastern Europe and the former Soviet Union. Firstly, it is argued that to understand the current differences in rural poverty, it is crucial to understand the differences in the levels of rural and urban poverty — and their causes — in the 1990s. The impact of the most important reform policies affecting the rural areas — in particular agricultural price and trade liberalization, land privatization, and farm restructuring — largely occurred before 1998. Secondly, the authors explain how both differences in reform policies and in initial structural conditions can help explain the heterogeneity in rural poverty outcomes across countries. Differences in land reform and farm restructuring, and the migration patterns triggered by those, can help explain why the rural-urban poverty gap is higher in some countries than in others. Differences in human capital and rural infrastructure and services also play a role. Thirdly, concerning the developments after 1998, the authors emphasize the role of public transfers and wage increases facilitated by economic growth.

Johan Swinnen and Liesbet Vranken
Causes of Efficiency Change in Transition: Theory and Cross-Country Survey Evidence from Agriculture
Discussion Paper 172/2006

This paper examines how the distribution of efficiency scores changes with the various stages of transition. The empirical analysis uses a unique set of farm survey data from Albania, Bulgaria, Czech Republic, Hungary, and Slovakia, collected during 1997-2001. The authors calculate farm-level efficiency indicators and correlate the efficiency distributions of the countries with various indicators of particular reforms. In explaining what causes the shift in the distribution of efficiency scores during transition, the authors develop a theoretical model on how reforms affect heterogeneity in production efficiency within a country.

Olena Havrylchuk and Emilia Jurzyk
Profitability of Foreign and Domestic Banks in Central and Eastern Europe: Does the Mode of Entry Matter?
Discussion Paper 166/2006

This paper analyzes the differences in profitability between domestic and foreign banks using data for 265 banks in the Central and Eastern European countries (CEEC) for 1995-2003. The research shows that foreign banks, especially greenfield institutions, earn higher profits than domestic banks. However, this effect is acquired, rather than inherited, since there is evidence that foreign banks tend to take over less profitable institutions. Profits of foreign banks in the CEEC also exceed profits of their parent banks, explaining the reasons for their entry. Further, the authors study the costs and benefits of foreign ownership by analyzing determinants of profitability for domestic, takeover, and greenfield banks. Profits of foreign banks are less affected by macroeconomic conditions in their host countries. However, greenfield banks are sensitive to the situation of their parent banks. Only domestic banks enjoy higher profits in more concentrated banking markets, whereas takeover banks suffer from diseconomies of scale due to the fact that they acquired large institutions.

BICEPS

www.biceps.org

Friederike Welter and Susanne Kolb
Women and Entrepreneurship in Latvia
TeliaSonera Institute Discussion Paper No 4 / 2006

This paper gives an overview of female entrepreneurship in Latvia by exploring its nature and extent, based on both statistical and survey data. Female entrepreneurship is contextualized by explaining its various economic and social roles, and by identifying the factors that influence it — especially in a country undergoing transition. Female entrepreneurship in Latvia is analyzed with the help of primary and secondary statistical data which examines women's motives for becoming an entrepreneur as well as their goals and perspectives. Finally, policy recommendations for fostering female entrepreneurship are discussed.

Morten Hansen and Alf Vanags
Inflation in the Baltic States and other EU New Member States: Is there a Mystery to Unravel?
BICEPS Research Report, May 2006

All three Baltic countries have experienced significantly increasing inflation lately (Latvia posts the highest inflation rate in the EU25) although the actual levels of inflation remain different. This report examines in detail the sources of inflation and concludes that virtually all possible sources of inflation — money growth, overheated labor and property markets, the Balassa-Samuelson effect, EU funds, remittances etc. are at work in the Baltic states at the moment. The different inflation levels are a historical legacy from the times when the Baltic countries pegged to different currencies. Latvia imported inflation from a weak dollar in the last years of its SDR peg, Lithuania imported deflation from the strong dollar during its dollar peg until 2002 while Estonia, with its peg to the deutschmark and subsequently to the euro remained "in the middle". To overcome the current inflation problems the Baltic countries must either contract their economies via tighter fiscal policies or open labor markets for immigration.

Other Publications

Libor Krkoska and Katrin Robeck
The Impact of Crime on the Enterprise Sector: Transition versus Non-Transition Countries
EBRD Publication, July 2006, www.ebrd.org

This paper identifies the factors explaining why some enterprises are more likely to be targeted by crime than others, and analyzes the impact of crime on enterprise performance and behavior. The results of enterprise surveys conducted in 34 countries in Europe and Asia during 2002 and 2005 show that higher rates of crime are particularly associated with the weak development of micro enterprises in the services sector, operating in large countries with high unemployment. The paper also highlights the deterrent effect of crime on FDI inflows and job creation, especially in less advanced transition countries, providing empirical evidence to substantiate the importance of the fight against crime for economic development.

Fabrizio Coricelli, Balazs Egert and Ronald MacDonald
Monetary Transmission Mechanism in Central and Eastern Europe: Gliding on a Wind of Change
BOFIT Discussion Papers No 8 / 2006, www.bofi.fi

This paper surveys recent advances in empirical studies of the monetary transmission mechanism, with special attention to Central and Eastern Europe. In particular, it explores possible interrelations between different channels and their impact on prices and the real economy. The empirical findings are then briefly compared with results for industrialized countries, especially for the euro area. The authors assess the relative importance, and potential development, of the different channels, emphasizing the relevant asymmetries between Central and Eastern European countries and the euro area. **BT**

Seventh IMF Jacques Polak Annual Research Conference

November 9-10, 2006, Washington, USA

The theme of this year's conference is Capital Flows. The topics include:

- the role of capital flows in economic development and growth;
- booms and busts in capital flows to emerging market countries, and policies that can mitigate their effects;
- global financial imbalances and their resolution;
- the impact of capital mobility on domestic policies and institutions;
- the determinants of the direction, size and structure of international capital flows.

More information: <http://www.imf.org/external/np/res/seminars/2006/arclindex.htm>

The 20th World Energy Congress

November 11-15, 2007, Rome, Italy

Every three years, The World Energy Council (WEC) holds a World Energy Congress, which attract WEC members, energy industry leaders, government ministers, heads of international organizations, government representatives and regulators, academics, the media and individuals interested in sustainable energy development. "The energy future in an interdependent world" is the main topic of this congress. In particular, the congress focuses on social issues concerning the developing and the emerging countries that are facing the international energy market and on how to ensure sustainable progress for the industrialized countries ensuring not only economic development but also improving energy efficiency for a better life and environment.

More information: http://www.worldenergy.org/wec-geis/wec_info/what_wec_does/wec_congress.asp

CEPR Annual Public Policy Symposium 2006

November 11, 2006, Kiel

This conference is the seventh program meeting of the Public Policy program. Its goal is to provide a forum for work in public economics (including political economy and public policy issues) and to bring together economists in the field from across Europe and researchers from outside the region. The conference hopes to provide an opportunity for researchers from different universities and countries to discuss their work in a relaxed atmosphere and to develop long-term collaborative relationships.

More information: <http://www.cepr.org/Meets/diary/listyear.asp?year=2006>

Transition: 15 years of building the future

November 28, 2006, London, UK

The conference is organized by Chatham House and the EBRD to mark the 15th anniversary of the founding of the EBRD. It will discuss the following questions:

- The drivers of the reforms and political commitment;
- How can economic progress be bolstered by political freedom and strong social structures?

- Possible causes for concern;
- What are the obstacles to sustainability and how can they be overcome?

More information: <http://www.chathamhouse.org.uk/index.php?id=5&cid=104>

Labor Market Workshop 2006: "Wage and Labor Cost Dynamics"

December 14, 2006, Frankfurt am Main, Germany

Understanding the patterns, sources and implications of wage and labor cost dynamics is an essential requirement for the effective conduct of monetary policy, as wage costs are a crucial determinant of inflation and are closely linked to features of price setting in the euro area. The workshop organizers include the European Central Bank and CEPR. The workshop papers will address the theme of wage and labor cost dynamics in the euro area. This includes empirical characterization of aggregate, country and sectoral wage and labor cost dynamics in the euro area, as well as a structural analysis of its determinants and its interaction with inflation dynamics. This theme encompasses many of the topical questions in the current policy debate. A particular interest also concerns the design and use of firm level surveys to investigate the nature and the source of wage and labor cost rigidities and their implications for price setting.

More information: <http://www.cepr.org/Meets/diary/listyear.asp?year=2006>

VIII International Scientific Conference: "The Modernization of the Economy and Public Development"

April 3-5, 2007, Moscow, Russia

The conference is organized by the State University—Higher School of Economics (SU-HSE) with participation of the World Bank and International Monetary Fund. The Conference workshops and round tables will be devoted to the following priority problems:

- Modernization of the state and the prerequisites for institute building
- Economic growth: background and perspectives
- Resource economy and socio-political development
- Integration: global and local contexts
- Civil society self-organization, social capital and elites

Applications for presentations at section meetings should be mailed to SU-HSE by December 10, 2007, at: interconf@hse.ru. For more information visit: www.hse.ru

22nd Congress of the European Economic Association

August 27-31, 2007, Budapest, Hungary

The Central European University and the Hungarian Academy of Sciences will host the next joint European meeting of the European Economic Association and the Econometric Society. Economists and professionals working in related fields, including those who currently are not members of the European Economic Association or the Econometric Society, are invited to submit theoretical and applied papers in all areas of economics for presentation at the meeting.

More information: <http://www.eea-esem-budapest2007.hu/common/main.php?pgid=honlap&honid=5>

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