

Policy Brief



Politických vězňů 7, P.O. Box 882, III 21 Prague 1, Czech Republic ■ phone (+420) 224 005 123, fax (+420) 224 211 374 ■ www.cerge-ei.cz, office@cerge-ei.cz

Worker Flows and Education-Specific Human Capital Mismatch in the Czech Republic and Russia: A Comparative Study

VIATCHESLAV VINOGRADOV, CERGE-EI

Objectives of the study

The accumulation of human capital is a key determinant of economic performance across countries and over time. However, for transition economies the important issue is not the (historically high) level of human capital, but its composition. In other words, the education-specific, rather than general, component of human capital is what made CEE countries different from their OECD counterparts. The pre-transition labor market equilibrium was subject to change, once the economy was exposed to new market conditions. Post-reform countries were facing high variations in demand for different types of training even at the same education level. The transition to a market economy would relocate workers from outdated occupations to expanding ones, but only at a cost. One should expect switching occupations to entail the loss of marketed human capital. This research attempts to quantify the evolution and the extent of education-specific human capital mismatch in Russia in the past decade, and to compare the Russian experience to that of the Czech Republic.

Empirical findings

The core idea is to research into the evolution of occupations over time in terms of the number of workers employed, average wage rates across occupations, and types of worker education. Retrospective educa-

tion-employment histories of 4700 individuals in the Czech Republic in the period 1991–1996, and 4812 respondents from Russia for 1996–2001 are used to analyze job flows, labor flows by occupation and education types, and to quantify the extent of education-specific human capital mismatch. These data have been adjusted for experience, consumer price index and real wage trend, and aggregated to three stylized types, namely, Business ((B) – e.g. managers, office workers, business professionals, occupations in banking, sales, and services), Technical ((T) – professionals and mid-level technicians in technical fields, mining and construction industry workers, workers in metal treatment and mechanics, plant and machine operators and assembles), and Other ((O) – teachers, medical professionals and technicians, artists, social workers, agricultural and forestry workers, natural sciences). Based on the adjusted data, for each year a Human Capital Mismatch Index (HCMI) is constructed. Technically, HCMI is evaluated as a ratio of the average wage of movers with training X to occupation Y to the average wage of those workers with training Y who stay in occupation Y in a given year (here X and Y are (T), (B), or (O)), controlling for general human capital, i.e. for the number of years of schooling (or education level). Small values of HCMI indicate a wide education-specific human capital mismatch, while numbers close to 1 suggest that the mismatch is mild.

The data reveals that both countries were characterized by high labor mobility. In particular, in the Czech Republic, about 34% of the population changed profession at least once between 1989–1997. People with the lowest level of education and years of schooling more frequently retired, or stayed unemployed several times. In contrast, people with the highest education level (years of schooling) either got promoted to higher managerial positions or became self-employed. Those people with a higher education level also tended to change employer and profession more frequently. The most active age group appears to be those aged 36–43 (30 percent of all movers), while 28–31 year old workers are even with the 48–51 age group. Furthermore, nearly 50 percent of Czech workers changed job (but not necessarily occupation) at least once. In Russia, the average age of those who kept only one job between 1996–2001 was 41.7 years, while workers who changed jobs at least once are aged 38.2 years and comprise 28.4 percent of the sample.

Statistics on the number of graduates by field of study shows that in all three countries the number of graduates with technical education decreased over time while the number of graduates in business occupations gradually increased. Symmetrically, business occupations expanded and technical occupations declined in the Czech Republic and Russia. In contrast to the existing studies, the returns to occupation-specific tenure

were positive and significant in the Czech Republic. HCMI in both countries exhibited a positive trend, though the magnitude of adjustments towards a better utilization of education-specific human capital was substantially different among the Czech Republic, and Russia.

Conclusions and policy recommendations

Overall, the education-specific human capital mismatch across both countries is

empirically observable. It does not appear to be of an excessive magnitude in the Czech Republic. In Russia, however, the empirical evidence suggests that too many people were forced to move to alternative occupations in which their training was inadequate, and therefore, the problem of education-specific human capital mismatch emerged in full. The situation is gradually improving, and the positive dynamics of HCMI in Russia suggests, that the Russian labor market has passed the turmoil stage and entered the phase of moderate

adjustment. Nevertheless, there is still a vital need to provide a carefully tailored re-training program, or foster job creation in technical fields. The latter is the major policy implication of this research for the Russian Federation.

The research was supported by the U.S. Agency for International Development's SEGIR EP Contract No. PCE-I-00-00-00014-00, reference Russia Task Order No. 803 Improvement of Economic Policy Through Think Tank Partnership Project. The opinions, findings, and conclusions or recommendations expressed herein are those of the participants and do not necessarily reflect the views of the U.S. Agency for International Development.

Principal Investigator:

Viatcheslav Vinogradov
viatcheslav.vinogradov@cerge-ei.cz



The opinions, findings, conclusions or recommendations expressed herein are those of the author(s) and do not necessarily reflect the views of the U.S. Agency for International Development, trustees, officers, or other staff members of the CERGE-EI or supporting institutions. © CERGE-EI, 2004

The Center for Economic Research and Graduate Education (CERGE) of Charles University is a research and educational institute with independent legal status. Its main purpose is to provide top quality Ph.D. level graduate education in theoretical and applied economics. Economic research, focused on the theoretical problems of economic transition and European integration, represents an important component of CERGE activities.

The Economics Institute (EI) of the Academy of Sciences of the Czech Republic is a center for modern economic research. The EI is primarily oriented towards theoretical and applied economics, econometrics and game theory. It also takes part in important economic policy debates. CERGE-EI is a joint work-place of the two organizations, incorporating all of their activities into a single entity. CERGE-EI has been awarded US accreditation in the year 2000. This makes it the first non-US educational institution in Central and Eastern Europe and the former Soviet Union to receive such an endorsement of its doctoral education program.



Politických vězňů 7, P.O. Box 882, 111 21 Prague 1, Czech Republic
phone (+420) 224 005 123, fax (+420) 224 211 374 • www.cerge-ei.cz • office@cerge-ei.cz