

Non-Technical Summary

### **Demand for and and Labour Market Outcome of Higher Education in Hungary**

The aim of the research project was twofold (i) to investigate the labour market performance of higher education graduates: wages, employment and participation in post school training and (ii) the effect of labour market possibilities on students' application decisions on higher education in Hungary.

#### *Estimating wage equations for Hungarian higher-education graduates*

This paper uses two samples of Hungarian higher-education graduates so as to estimate the return to master degree (university) as compared to bachelor degree (college), in-school labour market experience, foreign language knowledge, use of IT, and other factors (gender, studying at a cost-priced place, diversity of skills) that might have an impact on wages. Existing studies dealing with the return to education in Hungary do not distinguish between master and college degrees, they treat higher education as one degree. This is the first study on Hungarian data applying IV techniques and a multiple indicator solution in order to diminish potential estimation biases due to the endogeneity of some independent variables and the simultaneity of working time and wages.

We have considered wage premia associated with university diploma compared to college degree. When correcting for endogeneity and simultaneity of some variables we arrive at about 13 (FIDÉV1) and 24 (FIDÉV2) per-cent-high wage-gain. The results show that ols would considerably underestimate the return to university education. The idea that work for pay when in school (in-school labour market experience) affects post-school wages seems to be justified. The hypothesis that cost-priced education implies lower wages, so cost-priced students earn less than those finished their study at state-funded places is rejected. Having two field of studies instead of one does not result in higher wages. The graduates differ in their accessibility to jobs, due to the skills embodied in the type of education they have. This factor has an impact on wages. The results suggest that a "broader" type of education produces wage premia for it leads to better education/job match due to lower job-search costs resulted from accessibility to many jobs.

### *Labour Market Status of Hungarian Higher-Education Graduates*

This paper analysis the labour market status of Hungarian higher-education graduates on the basis of the same two FIDÉV samples as the previous one. The choice of labour market status was treated in a labour-supply framework. The models were estimated by multinomial logit using a five-category classification (employed, self-employed, unemployed, students, other inactives), employed being the category of reference. The two key explanatory variables were wages and hours of work. It was assumed that school-leavers observe the going market wages and hours of work school-leavers with the same type of education can get.

The results show that higher expected wage offers increase the probability of employment, and, in some cases, that of remaining student. It also decreases the probability of being unemployed and out of the labour force. More hours of work are associated with higher probability of employment and lower probability of self-employment. These results suggest that the potential employee accepts longer hours of work in return to a more stable, less risky job. It also seems that longer expected hours of work motivate some graduates to postpone their labour market entry. As for the level of education, self-employment attracts the more educated. This might be interpreted that graduates with university diploma are willing to choose more risky jobs at given wages and hours of work. Almost the same pattern emerges for graduates becoming inactives. It is more likely that persons with college diploma become unemployed. Graduates with types of education making more occupations accessible are more likely to become self-employed and unemployed and remain students. In addition, they less probably choose the employed and the out of the labour force status.

### *Job-training of Hungarian higher-education graduates*

This paper focuses on job-training of new graduates. More than a half of the employees who had finished their studies in the preceeding year has participated in job-training between graduation date (1999) and September 2000. The work in this paper considers two aspects of the problem. First, the relationship between training probability/training length and the initial human capital (proxied by level of education and in-school labour market experience) is concerned with, and, second, some elements of the training-cost-sharing decision is analysed.

There are some signs that university education reduces the probability of training as compared to college education, whereas in-school labour market experience increases it. This might mean that in-school experience indicates better job-abilities resulting in lower marginal costs of and/or higher marginal returns to training. University education reduces training length, as well. This is also consistent with a short-run fixed-productivity-requirements approach to job-training decision, for the more educated have more initial human capital that results in higher initial productivity thus less

additional human capital is needed at fixed job-productivity requirements. Another important result is that school-leavers holding diplomas with “narrower” types of education are more likely to obtain training, and also to have longer training programmes. Results for the cost-sharing decision are in line with Becker’s idea, since the firm is less likely to entirely cover the costs of general training and more likely to finance job-specific training programmes. As regards the relationship between education and training costs, the firm is rather willing to cover the costs of training for the more educated (university degree) than those with college education.

*The Role of Labour Market Expectations and Admission Probabilities in Students’ Application  
Decisions on Higher Education: the case of Hungary*

This paper analyses the effects of labour market expectations and admission probabilities on students’ application strategies to higher education. The starting hypothesis of this study is that students consider the expected utility of their choices, a function of expected net lifetime earnings and the probability of admission. Based on a survey carried out among Hungarian secondary school students, three aspects of application decisions are investigated: the number of applications; the institutions/field specialisation ranked first and last in students’ choices; and the selection between state-funded and cost-priced education.

The results suggested that the difference in the expected wage gain with first and last rank order applications has a significant positive effect on the number of applications. Students with relatively high expected wage gain in their first application are more willing to apply to further institutions, even though their expected wage gain is going to be lower. It was also found, that more talented students with a higher probability of admission to different institutions/field specialisations are more likely to submit a larger number of applications.

The results concerning the determinants of choosing a particular field specialisation in the first and last place were supported the assumption that students take into account the admission probability of their last choice with a larger weight and they are more willing to apply for a major with less favourable labour market opportunities if the admission probability is higher. The impact of expected wage gain proved to be smaller for last, compared to first choices.

Finally, the results suggest that the main determinant of the probability of choosing cost-priced education (where students have to pay the full market costs of their studies) is the admission probability to a state-funded place. The impact of other significant variables (family income and economics/business orientation) is much smaller. It became clear that the seemingly unwise application choices of students are in fact the result of a rational decision-making process and the increasing demand for orientations with less favourable labour market expectations can be explained by these facts.