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Student Expectations of the Financial Returns to Higher Education in the Czech Republic and England: Evidence from Business Schools

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Abstract

In this paper, the short-cut method is used to estimate expected rates of financial returns to higher education in the Czech Republic and a modified version of the method is used to suit the current English system of deferred tuition fees. First year university students were asked to estimate their earnings with and without a university degree at two points in time. The findings show that students perceive higher education to be a profitable investment and that rates of return vary by gender as well as by country and place of study. We conclude that the current level of tuition fees in England does not act as a disincentive for students to enter higher education.

1. Introduction

2. During the last fifteen years, there has been a growth of interest in the returns to higher education by policy makers. This has been due to increasing difficulty in funding higher education as student numbers have expanded. The fact that there are often substantial private returns to higher education has been used as a reason to shift the burden of funding higher education away from the tax payer and to the student – or sometimes to the graduate (Barr and Crawford, 2005).
3. In countries where there is a consensus for a welfare state financed by high levels of general taxation (e.g. in Scandinavia), university studies have tended to remain free at the point of entry. This has also been the case in countries in which the age participation rate has remained below the OECD average (e.g. in the former COMECON countries of Central/Eastern Europe). In such countries, the costs associated with university funding have remained “affordable” for the taxpayer. In the Czech Republic for instance, public universities have remained free at the point of entry with student numbers capped and excess demand has been mopped up by encouraging the growth of a vigorous private sector. By contrast in the UK the private sector remains very small and the “marketisation” of higher education has taken place in the public universities via the introduction of tuition fees, which cover part of the costs of tuition.

This study reports on data on students’ perceptions concerning financial returns to their higher education studies in three Czech faculties of economics and one English business school. The study is unusual in focusing on the question of *perceptions* as most studies in this area have attempted to measure *actual* returns.

Only a few studies have examined the comparability of earnings expectations to reality within the educational context.

In this study, when estimating the private rate of return, the costs will consist of foregone earnings and tuition fees but will not include living expenses. Living expenses may be covered by parents if they can afford them or by government in terms of maintenance grants for those from disadvantaged backgrounds and will be incurred anyway if a decision is made not to enter higher education.

Based on the above, the following formula (Eq. 11) can be used for calculating rates of return to education.

Position of (Eq.11)

where

- E is average earnings of an individual who has a j level and i level of education respectively
- S is years of schooling
- r is the rate of return to education

Since the basic short-cut method formula (Eq. 11) assumes foregone earnings as a cost of education it is designed to measure rates of return to higher education in countries where the higher education is provided to students without charge, such as in the case of public universities in the Czech Republic. In England however tuition fees have been in place since 1998. Therefore some adjustments must be made in order to compute the rate of return in England as accurately as possible.

Tuition fees for full time undergraduate students were first introduced in England and Wales in 1998 (the so called ‘old’ system) and were set at £1,000 per student per annum for all Bachelor degree courses and were subject to an inflationary adjustment (by 2005/06 the fee had risen to £1,175). The tuition fee was contingent on family income, with the possibility of a full or partial waiver for students from lower socio-economic backgrounds.

Since the fees had to be paid upfront they are added to the formula in the denominator as they were a cost to students as much as their foregone earnings during their university studies. Therefore the formula (Eq. 12) used to calculate the rates of return to higher education in England between 1998/1999 and 2005/2006 is as follows:

Position of (Eq.12)

where

- E_u are earnings of an individual with a university education
- E_s are earnings of an individual with a secondary education
- S are years of higher education
- r is the private rate of return to education
- C_u are the costs of university education

In January 2005 the UK parliament voted to permit universities in England and Northern Ireland to charge a fee of up to £3,000¹ per annum for all undergraduate courses (the so called ‘new’ system). Unlike the ‘old’ tuition fee system, the ‘new’ fee regime, which came into force in England and Northern Ireland in September 2006, does not require the payment of an upfront fee – rather it asks students to take out a loan to cover the cost of the fee. The loan is then repayable after graduation and instalments are collected alongside income tax and national insurance and are automatically deducted from wages. In other words this is similar to a graduate tax, such as that which was introduced in Australia in 1989 (Barr, 1993).

Given that the vast majority of students choose not to pay the tuition fees upfront and that the loan debt will be collected from graduates in instalments, at 9% of the threshold above earnings of £15,000 in the UK, for up to 25 years, the tuition fees should not count as costs. Rather they should be seen as a reduction of the benefits from an investment in higher education. Therefore the formula (Eq. 13), developed by the authors, which will be used to calculate rates of return in England after 2006/2007 inclusive, is as follows:

¹ The fees increase yearly by no more than the rate of inflation and were set at a maximum of £3,225 per annum in 2009/2010. Almost all universities have chosen to charge the maximum fee for all Bachelor study programmes.

Position of (Eq.13)

where

- E_u are earnings of an individual with a university education
- E_s are earnings of an individual with a secondary education
- S are years of higher education
- r is the private rate of return to education
- 15,000 is the threshold of £15,000
- 0.09 is the instalment of 9%
- **Survey of Expected Earnings at Czech and English Universities**

○ **Background**

The institutions surveyed in this study, in the Czech Republic and England, are equivalent in status and form, although they are not identical in terms of curriculum. Czech students have a greater amount of economics, accounting, mathematics and information systems in their curriculum than their British counterparts while the latter tend to study a larger amount of the newer and “softer” management subjects.

In the Czech Republic, faculties of economics correspond to UK business schools. Despite the Bologna process, which introduced the system of three years’ study towards a Bachelor’s degree and two years’ study towards a Master’s degree in the Czech Republic, most Czech students “graduate” with a Master award after five years’ study. This is because of the fact that the Bachelor’s degree is not perceived to be a full-value university education. In England, most students who enter higher education aged 18/19 “graduate” with a Bachelor award after three years’ study, at least initially. Many English students return to higher education at a later date to pursue a Master’s degree by part time study.

○ **Methodology**

Between the academic years 2004/2005 and 2008/2009 a survey of earnings expectations was undertaken of first year students at three Czech faculties of economics: at the Technical University of Liberec, the University of Economics, Prague and the University of Pardubice; and at the University of Huddersfield Business School (UK)². Students completed the questionnaire in Czech (Prague, Pardubice and Liberec) or English (Huddersfield) and altogether there were 3,139 respondents.

A large lecture for first year students, with a high attendance rate, was identified and all those who were present were asked to complete the questionnaire. Those who were from foreign countries were excluded from the sample since their perceptions of earnings in the country of study are likely to be different. First year students were surveyed, during their first term, because their decision to enter higher education had been a recent one.

² The survey was undertaken with the financial support of GA ĀR 402/04/0039 from the Grants Agency of the Ministry of Education of the Czech Republic and of the University of Huddersfield.

The questionnaire began with general questions relating to gender and age. In the second part the students were asked about their expectations of income (in current prices i.e. without taking into account price inflation) in their first job immediately after graduation and then after 10 years of work experience. They were also asked about the level of earnings they would have expected if they had not entered higher education, both immediately after leaving school and after 10 years of employment. In all four cases, the expectations were obtained at three levels: minimum, most likely and maximum. For simplicity only the most likely earnings estimates are used for calculations in this paper.

The location and gender structure of the sample is presented in Table 1. Since the gender distribution of the sample is not even, gender differences in expectations could bias the results. Given that existing literature has shown that females tend to expect lower wages but higher returns to university education than males, the perceived private rates of return in this paper are calculated for men and women separately.

Position of Table 1(table1.xls)

The vast majority of students expected, during all surveyed years, higher returns with 10 years of work experience than as fresh graduates. This suggests that returns to higher education are expected to grow faster with experience and thus that graduates expect to benefit from their higher education studies more in the medium term than immediately after graduation. Table 3 provides the average expected rates of return (from all surveyed years) at all surveyed institutions and for both scenarios i.e. as graduates and with 10 years of labour market experience.

Males from the surveyed Czech universities expect very similar rates of return as graduates³ but rates of return differ later in their working lives. Males from Prague, Liberec and Pardubice expect as graduates rates of return of 11.80%, 12.33% and 11.50%, respectively. However, 10 years after graduation the returns are expected to double in Prague, grow by 50% in Liberec and decline slightly in Pardubice. Rates of return for Czech females differ by approximately 1 percentage point, with females from Prague expecting the highest and females from Pardubice expecting the lowest returns to their higher education⁴. 10 years after graduation the returns of Czech females are expected to increase but not as significantly as those of Czech males; the increase is around 3 percentage points.

Position of Table 3(table 3.xls)

The findings indicate that there is a significant expected pay off to higher education. Moreover, the expected returns increase with work experience which suggests that the benefits from higher education are larger in the medium term than immediately after graduation. Additionally the results show that the expected returns differ by gender and by country.

Both genders in Huddersfield expect on average higher returns than their counterparts in the Czech Republic. However, males from Prague tend to expect higher returns than males from Huddersfield in the medium term. The immediate expected returns for males in Prague, Liberec and Pardubice are lower than those for males in Huddersfield. Within the Czech sample, males in Prague expect the greatest increase (almost double) in returns in the medium term when compared to returns

³ No statistical difference at 5% level of significance

⁴ Statistically significant difference at 5% level of significance

immediately after graduation. In addition, males in Liberec expect a greater increase (ca 50%) than their peers in Pardubice, whose expected returns tend to actually decrease with experience.

Females from Huddersfield – like their male counterparts - expect the highest returns immediately and in the medium term when compared to females from Prague, Liberec and Pardubice. Within the Czech sample, females from Prague expect the highest and females from Pardubice expect the lowest returns at both points in time. The increase in returns is also greatest for females in Prague and lowest for females in Pardubice. These differences between universities may be caused by the labour market conditions of the regions in which the universities are located. For example Prague, as the capital city of the Czech Republic, generally offers more job opportunities and opportunities for professional growth than any other region in the country.

It is noteworthy that on average in the Czech Republic the immediate expected returns to higher education tend to be similar for men and women and tend to differ in the medium term, with men expecting a greater increase in returns. However, in Huddersfield a gender gap seems to appear⁵ at the point of graduation, with women expecting greater returns, but diminishes in the medium term.

One might expect a priori the expected returns to higher education in England to be much larger (for both genders) than those in the Czech Republic given the differences in time spent in higher education i.e. in England university studies typically last three years whereas in the Czech Republic they last five years. However, this advantage in time investment and thus lower foregone earnings is reduced by the direct costs of the investment - the tuition fees - in higher education in England. Nevertheless, the results from Huddersfield clearly show that the perceived returns to higher education are much larger than those expected by Czech students, in spite of Czech public university education being free of charge.

In addition, the age participation rate in the UK is almost double that of the Czech Republic (OECD, 2008). This would suggest that the demand for university graduates will stagnate in the UK when compared to the Czech Republic and consequently the wage premium of graduates will stagnate too; thereby leading to lower returns to higher education. It seems likely that students see the main benefit of higher education to be an increased chance of being employed as a means of being able to compete for any job (Becker and Lewis, 1992; Clare, 2005; Ischinger, 2007).

For males in Huddersfield the expected returns declined from 2004/2005 to 2006/2007 (for females to 2007/2008) and then started to grow (see Table A1 in Appendix A). Paradoxically, this may be caused by the fact that during this period the tuition fees increased. Although the fees do not need to be paid upfront, students perceived the tuition fees as a burden and thus started to expect (require) a higher wage premium to their higher education studies to compensate for the perceived costs. If, however, the fees are entered into the short-cut method according to the economic presumption that they are not direct costs, but rather a reduction of the future benefits from the investment, the returns consequently will increase.

Position of Table A1

⁵ Although not statistically significant at 5% level of significance

However, our results suggest that students expect a higher wage premium to compensate for the perceived costs. Thus, there will be a level of tuition fees (even deferred fees), which will eventually act as a disincentive to enter higher education since students will not expect indefinitely that their future employers will be able to offer them a wage premium high enough to compensate for the perceived costs of higher education. Once the perceived costs outweigh the perceived benefits, regardless of whether or not there are actual returns to higher education, the demand for higher education might decline.

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