Trends of Financing Higher Education in Lithuania

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Abstract

Today Lithuania and other countries are rapidly moving towards the system of mass higher education. However, a high-quality mass system of higher education cannot be entirely financed by tax payers because tax funding tends to be regressive. The average tax payer funds a service from which only a fraction of the population directly benefits. Higher education system requires public financing to be supplemented on a significant scale from private resources. The author suggests increase financing of Lithuanian higher education by using private resources, i.e. by increasing tuition fees which would reduce the regression of financing the system of higher education. The system where graduates pay a larger share of their study costs would be both fair and economically efficient. Government must give a loan to fund increased tuition fees for studies and the costs-of-living. Currently used mortgage-type loans in Lithuania should be changed into income-contingent loans in which loan repayments would be a fixed proportion of graduate’s annual income. Expanding higher education based on income-contingent, graduate’s contributions are the most direct way to achieve equity in access to higher education.

Keywords: higher education, financing, Lithuania

JEL Classification: H52, I22, J24

1. Introduction

Information and communication technologies, global economic activities, transition towards higher autonomy and personal responsibility have changed needs of individuals and nations for education. Education is considered to be a form of investment not only into communal and national future but also into future success of separate individuals.

The sector of higher education has a strong effect on economic prosperity. Today developed countries are rapidly progressing towards the system of mass higher education. Such development of higher education is necessary and desirable. In practice, however, the system of higher education cannot be financed only from the state budget. All states, including economically strong ones, have confronted to a greater or lesser extent with difficulties financing higher education therefore discussions on the development of its financing, possibilities to guarantee supplementary periodical financing and costs sharing between those participating in higher education and society have started (M. Guille, 2002; Greenaway, M. Haynes, 2000; 2003; Universities UK, 2001; B. Chapman, D. Greenaway, 2004; N. Barr, 2005).

The system of mass higher education requires public financing to be supplemented with funding from private resources. In order to guarantee the quality of and access to higher education it is necessary to develop a mechanism of attracting private resources. What is meant

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in practice is the system of income-contingent loans, i.e. loans with contributions as a percentage of a graduate’s future incomes until loan repayment.

The aim of the paper is to discuss the system of financing higher education in Lithuania in the context of West European states, provide arguments in favour of higher expenditure for higher education by increasing tuition fee contributions and creating conditions for all students to take income-contingent loans. The paper is organized as follows. In Part 1 financing of higher education is discussed showing that though the number of students has been increasing allocations for higher education have been increasing only insignificantly, allocations in Lithuanian higher education institutions per student are 2.5 times smaller than an average in the EU states. In Part 2 arguments for public and private gains from higher education are provided proving that the beneficiaries should also share costs of higher education. In Part 3 it is showed that in order to assure quality of higher education tuition fee contributions should be raised. Now mortgage-type loans meant to cover study costs exist in Lithuania however they should be replaced by income-contingent loans to be repaid after graduation paying a certain percentage of incomes.

2. The system of Lithuanian higher education

When Lithuania restored its independence a reform of the system of science and studies was initiated there by higher education institutions and in 1991 the Law on Science and Studies of the Republic of Lithuania came into effect. It stated that:

- a progressive three-cycle system of Bachelor, Master and Doctoral studies was introduced,
- the academic process was democratized – the principles of a high school autonomy and academic freedom were implemented,
- the role of the Senate as a supreme self-governance body was legalized,
- the unity of science and studies was legalized.

In 2004-2005 the university sector in Lithuania included 21 institutions of higher education: 10 state universities, 5 state academies and 6 non-state higher schools. The non-university sector included 27 colleges: 16 state and 11 non-state. In 1995 the sector of higher education included only 15 universities.

During the last years the number of participants in higher education has notably increased in Lithuania and other EU states. In 1996 there were 57,488 full-time, evening and correspondence students at tertiary level in Lithuania, in 2004 the number amounted to 188,203, i.e. increased by 3.3 times. As the number of tertiary students increased their gender structure also slightly changed. In 1996 female students made up 56.5% of all tertiary students, in 2004 – 60.16%.

The number of tertiary students in the EU-25 was close to 17 million in 2002/2003. This is an increase of 2.5 million students – 17% in five years – since 1997/98. The number of male students in all EU member states is slightly higher (50.5%) except Germany where the number of female students is a little higher. Female students strongly predominate in Iceland, Albania and the Baltic states where female students make up over 60% of the student population (Andren, 2005).

In 2004 70.4% of all students in Lithuania were studying at state universities and academies, 2.2% at non-state higher schools, 22.1% at state colleges and 5.3% at non-state colleges. The number of students in tertiary education relative to the population of Lithuania is shown in Figure 1.
Tertiary graduates are a great and potential inflow into the stock of human resources of science and technology therefore they play a significant role contributing a knowledge-based economy to stay innovative and competitive. In 2004 the total number of graduates from Lithuanian universities and colleges was 32,800 compared to about 9,500 in 1990, i.e. the number of graduates increased by 3.4 times since 1990. In the same period of time the number of young people graduating from secondary schools increased by 1.5 times. Such an increase in the number of graduates to some extent is due to the fact that multiple graduations became more common. Lange (1998), however, argues that an unlimited access can harm the reputation of the system and reduce graduates’ employment possibilities.

Expenditure for education is an investment, which can enhance economic growth, raise productivity, contribute to personal and social development and reduce social inequality. The proportion of national financial resources allocated for higher education is one of key choices made by Lithuania and other EU countries.

Until 2000 in Lithuania state budget allocations for higher education rose every year and made up less than 0.8% of GDP; in 1998 its maximum was reached (by absolute values: 404.7 mln LTL, 0.9% as a part of GDP). In 2000 state budget allocations for universities were reduced to 355.9 mln LTL, remained such until 2002 and made up about 0.7% of GDP. In 2002 when students’ enrolment in state financed full-time studies was raised, state budget allocations for universities were also raised and in 2005 reached almost 458.8 mln LTL (almost 0.7% of GDP). Since 2001 the state budget introduced accounting of university revenues from services, what in 2004 increased from 128.5 mln LTL (0.26% of GDP) to 203.5 mln. LTL (0.33% of GDP). In 2004 allocations for universities including from the state budget reached 408.9 mln LTL (0.66% of GDP) and made up 1% of GDP. Allocations for colleges made up about 0.2% of GDP.

Expenditure for higher education institutions as a part of GDP in different states is given in Figure 2.
Expenditure for higher education as a part of GDP in Lithuania is similar to an average of the European Union (1.15%) and OECD countries (1.2%). Total expenditure for higher education and as a part of GDP is higher in those countries where not only public funds but also tuition fee contributions, donations and other non-governmental resources are used. In those countries, where allocations for higher education are over 2% of GDP (Canada, USA, Korea), a significant part of funds are received from these alternative sources. In 2002 in OECD countries an average of 21.4% of all funds allocated for higher education institutions consisted of funds from the private sector. In the USA this part amounted to 66% (OECD: Education at a Glance, 2003, p. 220).

Although it is rather difficult to evaluate the amount of optimal resources required for student training in a modern society the comparison of costs per student may be a good starting point evaluating the efficiency of different educational models. Analysing expenditure for education per student at tertiary level significant variations are observed among countries, the highest level of expenditure per student being in the United States (18,260.1 EUR) and the lowest in Bulgaria (2,744.7 EUR). In 2002 an average expenditure per student in EU-25 states was 7,946 EUR meanwhile in Lithuania it was one of the lowest in the expanded European Union and equalled to the 3,199 EUR (Schmidt, 2005). These comparisons are based not on currency exchange rates but on purchasing power standarts. The index of purchasing power standarts is used because currency exchange rates are influenced by many factors (interest rate, trade policy, expectations for economic growth, etc.), which are little related to current relative purchasing power in various countries.

Higher education in Lithuania experienced about a 20% decrease of financing per student from the state budget from 1989 to 2005. One of the reasons was that the number of students in state financed places increased but the resources for allocations remained the same. Secondly, the number of university students in non-state financed or partly financed places constantly increased. Those students pay smaller tuition fee contributions than allocations for state financed students are and therefore the more students are enrolled in non-financed or partly financed places of state higher institutions the more average allocations per student decrease.
Expenditure per student at tertiary level of education usually increases with the level of welfare of the state (Chart 1). Countries with GDP per capita below average also tend to spend less than an average per student at tertiary level of education. All EU new member-states except Cyprus spend less than an average per student at tertiary level of education in EU-25. Most countries with GDP per capita higher than 21,200 EUR PPS spend more than an average per student at tertiary level of education.

3. Who should pay for higher education?

Education is important for material welfare of individuals in their future: for their ability to get higher incomes participating in the labour market, to live longer and lead happier life in general. While studying at higher schools persons gain knowledge, skills and competences, i.e., they develop human capital. Most industrial countries subsidise, to a greater or lesser extent, higher education, but financing from private resources has started plying an increasingly important role. On the average 82.8% of financing resources for tertiary education institutions come from public sources in Europe, 12.1% from households and 5.1% from non-profit organizations and enterprises (Schmidt, 2005). A traditional argument for financing of higher education is that it generates external benefit and fosters economic growth.

More educated workers demonstrate higher labour productivity and stronger community cohesion; the risk of being involved in society destructive criminal activities is reduced for them. External benefits also include satisfaction from living in society with functioning democratic institutions and related freedoms, more books, more newspapers and more literature.
Findings by Bynner & Egerton (2000) point out at a clear link between higher education and participation in community affairs, democratic processes, egalitarian attitudes, parenting and voluntary work. Moreover, they report that these links hold true even when other potential variables such as a family background are considered. Some attempts have been made to quantify these effects. E.g., Lochner & Moretti (2001) stress the link with social savings when access to higher education reduces crime rate. Their estimates suggest that a 1% reduction of male drop-out rates from higher schools would save as much as $1.4 bn or about $ 2,100 per extra male graduate from higher school.

Other justifications for state financed higher education are incomplete educational loan markets and missing private opportunities to ensure against educational risks [e.g. Carneiro & Heckman (2002) on incomplete loan markets, Garcia-Pealosa & Wälde (2000) and Wigger & von Weizsäcker (2001) on missing private insurance markets].

Subsidies to higher education are intended to provide equality of chances to all agents, no matter what their family wealth is. However, the main difference between allocations for higher education and expenditures for secondary education is that higher education costs are smaller for those who continue studies at higher institutions. If an average tax payer has lower lifetime incomes than an average university graduate (whose lifetime incomes are defined as a discounted sum from all future incomes minus income taxes and private education costs), financing of higher education through general taxation implies reverse lifetime redistribution, i.e. redistribution from the poor to the rich.

The benefit from higher education is not only public but also private therefore it is fair and effective for the beneficiaries to make their contributions financing higher education. Higher education can be regarded, at least partly, as a yield giving consumption benefit, as a means of benefiting for those directly involved in the process of obtaining advanced knowledge. The main motivation for both the suppliers and the purchases of the service of higher education is the benefit from investment.

In all countries investment in higher education is associated with significant gains participating in the labour market:

- Higher average after-tax earnings,
- Better employment possibilities,
- Stronger attachment to the labor market in the form of increased labor force participation.

The simplest evidence of a private benefit from tertiary education is higher earnings by graduates compared with non-graduates. Figure 3 shows that earnings of tertiary level graduates in the age group of 25-64 are substantially higher in all countries and particularly in Lithuania and the United States. Earnings by men with tertiary education as compared with upper secondary education range from 43 % in Italy to 102% in the United States. Education gives advantage not only in initial earnings but also in wage premiums which increase with the time spent in the labour market.

One more important reason for seeking education is reduced unemployment risk. Nowadays the tendency of reducing unemployment rate raising education level is practically observed in all European countries. The latest EUROSTAT data of 2004 shows that in Lithuania unemployment
rate among persons with primary and lower secondary education was 14.5%, among persons with secondary education – 12% and among persons with tertiary education only – 5.7% (Table 1). This regularity is typical for all age groups, both males and females.

Table 1. Unemployment rate of the population aged 25-59 with different levels of education (2004)

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<th>Lithuania</th>
<th>EU-15</th>
<th>EU-25</th>
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<tbody>
<tr>
<td>Primary and lower secondary education (ISCED 0-2)</td>
<td>14.5</td>
<td>10.4</td>
<td>11.4</td>
</tr>
<tr>
<td>Upper secondary education (ISCED 3-4)</td>
<td>12.0</td>
<td>7.1</td>
<td>8.4</td>
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<tr>
<td>Tertiary education (ISCED 5-6)</td>
<td>5.7</td>
<td>4.8</td>
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Source: Unemployment of the total population by level of education. EUROSTAT, 2005

The correlation of the level of education and unemployment rate is observed in all EU states without any exception. At the same time, if in old EU member-states (EU-15) the unemployment rate among people with tertiary education was 2.1 times lower than among people without tertiary education, in the majority of countries that joined EU in 2004 this gap was 3-5 times and in some countries even more.

Moreover, graduates also benefit from stronger participation in the labour market; their active working life is generally longer than of those with lower education. A typical tertiary level student
also experiences greater job and leisure satisfaction. Blanchflower & Oswald (2000) proved that when considering other factors people with higher education have a higher job and life satisfaction. Educational benefits are discussed in greater details in Carr-Hill (2001) and OECD (2001) sources.

Private rates of return gauge private demand for education and are useful in determining incentives for enrolling at higher education, or for assessing the equity effect of scholarships and fees. If the internal rate of return is greater than market rate of interest (assuming an individual can borrow against this rate) more education is a worthwhile investment for the individual.

Calculating private rates of return in Lithuania author assumed that benefits of education is the additional earnings of higher level of education compared with the previous level of education, and are based on the predicted earnings for both groups net of income taxes. Author allowed for these earnings to increase over time according to the mean wage growth during the year for each educational level. The calculations assume that the student is in full time education and has no work activity and hence no earnings while studying. Estimating returns to higher education author used the discounting method, found the rate of discount that equates the stream of discounted benefits to the stream of discounted costs.

The author’s calculations show that private internal rate of return from university education in Lithuania is higher than real interest rate of return from other productive asset and equals to 12.78%\(^1\), concluding that a person’s investment in human capital is an attractive way of building up one’s welfare.

As higher education gives not only public but also private benefit the beneficiary should have his/her share in financing it. It is unrealistic to expect more resources of public financing. Moreover, Greenaway & Haynes (2003) argue that even if it could happen, it should not happen because, on average, public funding redistributes resources from low income taxpayers to (future) high income tax payers and therefore is regressive. The social and private benefits of higher education support the case for a continued mix of private and public funding but with a shift to the latter.

3. Rise of tuition fee contributions giving income-contingent loans

The main source of financing state higher institutions in Lithuania is the state budget. Financing of higher education from the state budget is a political decision though limited because of the budget possibilities. Due to economic limitations and irrational use of allocations there is a constant shortage of financial resources for higher education and the state at its best cannot cover all study expenses incurred by all students. From 2002 tuition fee contributions of 1,000 LTL were fixed in Lithuania the rest part of study costs being covered from the state budget. For full-time students annual tuition fee contributions do not depend on the program, quantity and quality of the service received. Tuition fee contributions of 1,000 LTL are paid by 50% of full-time university students and by 20% of college students. Studies of the rest of students are fully financed from the state budget. Revenues in the form of tuition fee contributions amount to less than 10% of the budget expenses allocated for full-time university students. Commercial fee contributions are paid only by extramural, part-time and post-graduate students.

\(^1\) More detailed calculations provided by Sileika A., Tamasauskiene Z. (2003).
Students in Lithuania can get mortgage-type loans. For this purpose in 2005 20 mln LTL were allocated from the state budget as compared to 9.5 mln LTL allocated in 2002. Such budget can be used to cover expenses of a very small part of full-time higher education undergraduates, probably of less than 5%. Colleges and universities grant their students loans on the basis of their academic performance and financial situation in the family: socially disadvantaged students qualify for loans if they pay tuition fee contributions and family annual incomes are less than a quarter of an average salary in Lithuania. A standard amount of a loan is 4,500 LTL per year for living expenses plus 1,000 LTL to pay tuition fee contributions (the sum goes straight to the institution); students studying abroad can take an extra loan of 4,500 LTL per year. A 5% interest is payable per year. Interest payment and loan repayment begin two years after graduation and are spread over 15 years but with incentives for early repayment; postponement is possible in case of unemployment, illness, maternity leave, etc.

Financing of Lithuanian higher schools per student on average is 2.5 times lower than an average in EU states. The consequence is lower quality of studies. The government is not prepared to cover the necessary costs from additional taxation or elsewhere reduced public services. It is essential to raise tuition fee contributions and thus raise financing of higher education. It would be fair and economically efficient if graduates could cover a bigger part of their education costs from their future incomes. Attempting to provide education for free conditions to take a loan to cover tuition fee contributions should be created for all students. Present study loans, i.e., mortgage-type loans when a person repays it in full plus interest should be replaced by income-contingent loans. The system of income-contingent loans makes repayments conditional depending on whether a graduate’s earnings exceed a pre-specified level, repayment is calculated as a percentage of his/her weekly/monthly earnings.

Raised tuition fee contributions would raise university revenues and consequently study quality there. Because of stronger competition resources will be used more efficiently. Tuition fee contributions should differ as costs of different level qualifications awarded by different institutions greatly differ and students studying at a small regional university should not have to pay equal contributions as those studying at a university of global recognition. The system of elite higher education made it possible to presume that study quality at all universities is alike therefore they should receive equal financing. The system of mass higher education does not support this myth. In order to guarantee competitive quality of institutions at international level they should receive different financing depending on costs at a particular institution and demand for a program. Tuition fee contributions should differ. Different contributions are fairer as they reduce regression of the system which is based on financing from the state budget. Lange (1998) shows that introduction of contributions under market conditions and individual pricing will make the product (higher education) better and crowd out low quality institutions which used to benefit for a too long time from protective financing from the state.

It is sometimes argued that financing of higher education in the form of personal loans rather than of taxes might discourage students from poor backgrounds; it is unfair that very successful graduates will pay a smaller share of their incomes than less successful ones. These arguments miss the point that a person’s strive for tertiary level education and education in general is
primarily determined by his/her cognitive development in early childhood and fundamentals gained at school (Carneiro & Heckman, 2002). A strong argument against tuition fee contributions is that students from low income families may be discouraged to continue studies at tertiary level. Tuition fee contributions paid in advance would be fairer than when they are paid during study time and repaid after graduation.

Recent data from Australia confirm that the combination of tuition fee contributions and loans has not aggravated access to education there. Chapman & Ryan (2001) assessing HECS experience conclude that participation in higher education has increased after it was introduced and there is no evidence of decreased participation in education among students from low income families. It is supported by Blondal et al. (2002) who have come to the same conclusion after similar processes in New Zealand.

4. Conclusions

When Lithuania restored its independence implementation of big reforms in the system of higher education started. The number of higher institutions rose by 1.4 times, the number of students by 3.3 times. Higher education has become mass education in Lithuania as well as in other West European states. Allocations for higher education, however, rose only insignificantly. In 2004 allocations for higher education in Lithuania made up 1.2% of GDP. Expenditure per student is still one of the lowest as compared with other West European states. In 2003 it reached 3,199 EUR by purchasing power parity. Subsequently, higher education quality declined.

Higher education provides not only public benefit expressed by positive external gains but also private benefit. In 2004 average earnings of male employees with higher education was by 72% and of female employees by 41% higher than of those with secondary education. Calculations made by the author of the paper show that investment in higher education is profitable, internal rate of return to higher education equals to 12.78%. Financing of Lithuanian higher education should be raised attracting private resources and in this way quality of and access to higher education will improve. The theory of economics shows that financing of higher education is regressive because this service is financed by all taxpayers though only a part of population benefits from it. In order to improve the efficiency of and access to higher education it is necessary to raise tuition fee contributions.

Tuition fee contributions should be variable and depend on costs and demand. However, before raising contributions conditions for all students willing to take study loans should be created. Now practised mortgage-type loans should be replaced by income-contingent loans when it is known what percentage of future earnings, exceeding a fixed minimum, is to be paid meanwhile an exogenous variable is time during which the loan will be repaid. In the opinion of the author it would be fair and effective to raise tuition fee contributions and grant income-contingent loans because education would be provided for free during the study time and variable contributions would motivate higher education institutions to use financial resources more efficiently.
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