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Facts

EXPRESS

WHAT IS THE COST OF EDUCATION OF INTERNATIONAL STUDENTS?



► Perspectives into the economic impact of study time in Finland



Background

THE NUMBER of international students in Finnish higher education institutions has increased in the 2000s, an objective set by the Finnish Ministry of Education and Culture: There are now almost 20,000 foreign degree students in Finland, representing about 6% of all students. Higher education institutions have invested in tuition in English, and in developing recruitment and other services for international students. Finland is one of the leading non-English-speaking education providers in Europe that offer tuition in English.¹

Because provision of education to international students is an important part of the work of higher education institutions, it is relevant to study its impact from the economic perspective, too. In autumn 2014, VATT - the Institute for Economic Research in Finland

and CIMO published a preliminary study² on what is already known about the subject, based on studies conducted elsewhere, and on how it should be studied in Finland. CIMO has already written about the study and the relevant issue of employment of international students in other Fact Express publications.

In this Facts Express (2B/2015) we

READ MORE:

- **Facts Express 4b/2014:**
What do we know about the economic impact of international higher education students?
- **Facts Express 5b/2014:**
Employment of international students in Finland

will present some perspectives and a framework for further studies on the economic impact of international students in Finland. These are based on an analysis by VATT focusing on the economic impact during students' time of studies, commissioned by CIMO. The report will be published in VATT Publication Series in May 2015.

Analysis that is restricted only to the time of studying does not give a whole picture of the economic impact because the emphasis will be on expenses at this stage. The most significant benefits arise only after studies have been completed, if students remain in the country and are employed there.

It is then important to expand the analysis of economic impact of international higher education students to the time following graduation, too.

¹ Wächter & Maiworm (eds.): English-Taught Programmes in European Higher Education. ACA

² Garam, Jaalivaara, Kuosmanen & Suhonen (2014): Eiselvitys ulkomaalaisten korkeakouluopiskelijoiden taloudellisista vaikutuksista. Valtion taloudellinen tutkimuskeskus VATT. Valmisteluraportti 21/2014. [VATT - Institute for Economic Research: a pre-study of the economic impact of international higher education students]



International students and education can have a number of different effects that cannot always be measured in money.

It depends on our perspective what we regard as a benefit and as a cost. The economic impact of international students can be looked at from the perspective of the higher education institution, the host country, the student or his/her country of origin.



What do we mean when we talk about the economic impact of international students?

PROVIDING foreign nationals with education is a wide issue with a number of effects that cannot necessarily be measured with money. Some are difficult to discern, some unexpected.

Here we examine the impact of international students from the perspective of cost-benefit analysis, that is, the expected costs and benefits of studies are estimated based on their monetary value.

Our perspective will also influence what we regard as a cost and what as a benefit: we can examine the issue from the perspective of the higher education institution, the host country, the student or his/her country of origin. Here we shall focus on the perspective of the host country, in this case, Finland.

The costs and benefits of international students to the Finnish economy can be divided as follows:

RESOURCE COSTS OF HIGHER EDUCATION INSTITUTIONS

- organisation of education and guidance
- provision of support services
- tailor-made services and support, such as recruitment from abroad and provision of tuition in a foreign language

OTHER PUBLIC SECTOR COSTS

- student accommodation, health care and student catering
- other financial support*

DIRECT ECONOMIC BENEFITS

- income from tuition and other fees**
- students' research results
- economic value attached to students' labour
- students' spending of goods and services

EXTERNALITIES, THAT IS, BY-PRODUCTS OF ACTIVITIES

- congestion costs, that is, overcrowding in student services
- marginalisation of Finnish students in higher education
- cultural interaction
- impact on the success of Finnish students in their studies

*Foreign students cannot receive Finnish student grant if they are in Finland with a temporary student residence permit. To get a residence permit, students coming to Finland from outside of the EU/EEA must prove that they have sufficient funding to cover their studies and an insurance to cover possible health care and medicine costs.

**Between 2010 and 2014, Finnish higher education institutions were able to trial tuition fees from students from outside of the EU/EEA who were enrolled on foreign-language Masters' programmes. At present, in spring 2015, tuition fees are not being charged. An application fee of about 100 euros is planned for students applying from outside of the EU/EEA for study programmes starting in 2016.



Differences among different fields of education are big. The majority of international students study subjects, the cost of which is below the average.

We cannot put a definite price on education of international students. Different methods of calculation produce different results.



What does higher education of international students cost in Finland?

IT IS OFTEN pointed out when discussing tuition fees that they should cover the costs of education. However, there is no clear answer to the question of how much education of international students costs. Different methods of calculation take different things into account and produce different results. Each method has its strengths and weaknesses.

The simplest method to estimate the cost of the higher education resources is to divide the cost provided by higher education institutions themselves by the number of students³. According to this method, education of an international student will cost, on average, 7,000 euros/year in a traditional university and a little more in a university of applied sciences. The figures have remained roughly the same over the past few years.

A two-year Master's Degree in a traditional university costs, on average,

about 13,000 euros, and a 3.5-year degree in a university of applied sciences about 26,000 euros.

Differences between different fields are big. Traditional university education is the most expensive in the arts and the cheapest in the social sciences and humanities. The cost of studying technology, business and natural sciences, the sectors with most international students, is a little below the average in comparison (about 6,000 euros/year/student).

The most expensive study fields in universities of applied sciences are culture and natural resources and environment. The most inexpensive fields are business and administration, the sector with the most international students (about 6,700 euros). Another popular field among international students – technology and transport – is more expensive (about 8,200 euros).

Attention to fixed costs reduces the cost estimate

The above calculation method does not take into account that education of international students can be more expensive than that of native students

at department level. Neither does it factor in that some of the costs of universities are fixed, remaining the same regardless of the number of students. These things are taken into account in marginal cost calculation in which the average cost of an individual student is estimated using statistical methods.

With this calculation method, education of one full-time degree student costs, on average, 2,800 euros per year in a traditional university and 2,300 euros in a university of applied sciences. Now, when we factored in that a single student does not increase the fixed costs, the total is considerably smaller.

When foreign and native students are examined separately, education of foreign students in traditional universities costs more than that of the native ones, sometimes – depending on the calculation method used – even considerably more. However, the cost of international students in universities of applied sciences is smaller than that of the native ones, which is a surprising result.

The confidence intervals of calculations are so big, however, that it is not possible to estimate costs of foreign and native students reliably based on them.

³ To be precise, we are talking about the mean value of the average expenses of sector units of HEIs, weighted by the number of international students. The information about HEI costs have been taken from KOTA and Vipunen databases and the finance database of the National Board of Education.



Money students spend as consumers is income to the Finnish economy.

Finnish economy benefits from the spending and labour of international students during their studies

HERE, we shall examine the economic benefits to Finland of the labour and the spending of international students during their studies. The euros used for spending and the salaries received give a rough estimate about the economic benefits in question. The data comes from a student survey conducted in 2014 that, among other things, examined spending, income and employment of students.

Foreign respondents to the survey spent, on average, 840 euros per month, that is, about 10,000 euros per year. A student brings this amount of money to the Finnish economy when their spending is paid for by funding from abroad. The biggest expenses for students were accommodation and food.

Salary from a job, received by 36% of respondents, was the biggest source of funding for international students.

The salary was, on average, 270 euros per month, 3,300 euros per year. It is not clear from the data if the salary came from Finland or from abroad; it is probable that the students worked for a Finnish employer. Other important sources of funding were parents and relatives and savings.

Based on the students' spending and salaries, we can estimate the tax income for Finland. The most significant tax regarding spending is the value added tax, which for the purposes of this estimate is assumed as 14% for food, 10% for expenses relating to studying and health, and 24% for other expenses. According to this calculation, each student pays, on average, 1,000 euros in VAT per year through their spending.

Furthermore, it is estimated that students will pay 11% of income tax and other tax-like fees from their salary, that is, on average 740 euros per year.

About a third of respondents received public sector benefits, such as the student grant. This was a less significant source of income compared to salaries, support from families and savings, amounting on average, to about

170 euros per month, 2,000 euros per year. It is not clear from the answers if the benefits were paid from students' home countries or from Finland, in which case they would represent a cost for Finland. Students who are in Finland on a temporary student residence permit cannot receive student grant in Finland.

Students from EU/EEA spent somewhat more than those coming from elsewhere. Their salaries were also somewhat bigger, out of which they paid tax. On the other hand, they also received benefits either from their home countries or from Finland.

The public sector gets income from international students through taxes relating to their spending and salaries.

⁴ A total of 3,620 HE students took part in the online survey. The survey did not ask respondents' nationality but we identify as international students those 492 respondents who were born outside Finland, whose parents were born outside Finland and who had completed their previous education outside Finland.

⁵ According to the statistics by KELA (the Social Insurance Institution of Finland), over 2,400 foreign nationals received student grants for their studies in higher education during the academic year 2013-2014 (Kela statistics about student benefits 2013/14. Social benefits 2014. Official Finnish statistics. Table 24, page 60). These are often foreign nationals who have originally come to Finland for another reason than to study.



The most common countries of origin of international higher education degree students in Finland:
Russia (2,816 students / year 2013), China (2,147),
Vietnam (1,378), Nepal (1,180) and Estonia (817).

What can we say about the economic impact of international students during their time of studies?

THE BELOW TABLE lists costs and benefits described above, according to which we can roughly estimate the economic impact of the international students on Finland during the time of their studies.

If we assume that an international student receives a salary in Finland but that his or her public sector benefits come from abroad, the costs and ben-

efits to Finland during their study time break more or less even. In this example, we have included the cost of the provision of education and the student's salary as costs (total of 10,700 euros/year) and their spending and income tax as benefits (about 10,800 euros/year).

With the same premise, the net cost to the public sector in Finland is just over 5,600 euros per year per student. The cost of provision of education is included as a public sector cost and the taxes paid by students as benefits.

These figures are problematic in many ways. The student survey used

as the source of data about students' income does not tell us which country the salaries and benefits come from. If study time spending is covered solely by funding from abroad, it is income that increases Finnish gross national product. If a part of the spending is paid for by the salary received in Finland and by public sector benefits, the economic net benefit to Finland will be smaller.

The cost of producing the services and goods consumed by international students will also reduce the net benefit, but these were not estimated in the study. Neither were the potential benefits of students' work in Finland considered, apart from the income tax taken from salaries.

Different calculation methods produce different estimates for the cost of the provision of education; we use average costs in the attached table. This method may result in figures that are higher than in reality because it does not take into account fixed costs, which do not automatically rise by each student.

	On average per international student, euros/year
Cost of provision of education*	- 7 400
Public sector benefits to student	- 2 000
Salary paid to student	- 3 300
Student spending	+ 10 100
VAT on student spending **	+ 1 000
Income tax paid by student	+ 740

Table. Estimate of the study time costs and benefits of an international student to the society and the public sector

*The mean value of the average expenses of sector units of higher education institutions, weighted by the number of international students.

**Included in the value of student spending.

Will international students marginalise Finnish students?

International students may cause some unexpected side-effects. One of these might be marginalisation of Finnish students in higher education if increased recruitment of students from abroad will leave fewer study places for Finnish applicants. The results can be regarded as a cost to the society although difficult to estimate in euros.

The VATT study looked at this issue by using a fixed effects regression model, explaining the change in the number of Finnish students, and by using data about the numbers of Finnish and international students from the KOTA and Vipunen databases.

In general, the marginalisation effect does not seem to apply in Finnish higher education institutions. In the traditional universities, and, in particular, in the fields of medicine, health care and sports sciences, an increase in the number of international students seemed to increase the number of Finnish students, too.

In universities of applied sciences, it appeared that two international students in the field of natural sciences and five international students in the fields of tourism, catering and home economics take a place from one Finnish student. These results are preliminary, however, and should be treated with caution.

It is essential – also for the economic impact – that international students who graduate from Finnish higher education institutions will remain in Finland and become integrated in the society and the labour market.



To get the full picture of economic impact we also need to look at the time after completion of studies

The study conducted by VATT for CIMO only looked at the study time of students. Higher education is always an investment in the future and it is not surprising that calculations restricted to the time of studying will emphasise costs. This goes for Finnish students, too. The biggest economic benefits from studying will only become realised after graduation, if a student stays and becomes employed in Finland.

It is essential – also for the economic impact – to make sure that international students who graduate from Finnish higher education institutions will remain in Finland and become integrated in the society and the labour market.

So far, there have not been studies in Finland that look at the economic impact of international students over a longer period. Following the study conducted by VATT, there is now a clear need to study the subject on a longer term, taking into account the time after graduation, too.

Education before a higher education degree also costs money

Estimating the cost of education that precedes higher education will provide a further perspective to the assessment of economic impact of international students. Students entering higher education will have a long education behind them, education that somebody has paid for.

	Cost per degree, euros
Basic education (9 years)*	64 800
General upper secondary education (3 years)*	17 700
Tertiary education preceding Master's studies (3 years)**	19 900

Table. The average cost of education preceding higher education in Finland

*Statistics Finland: Koulutuksen talous 2012 (financing of education 2012)

**Average unit costs of higher education. Ministry of Education and Culture. Vipunen database.

The cost of education preceding Bachelor degree studies in a university of applied sciences is, on average, about 80,000 euros, and that preceding a Master's degree about 100,000 euros. Finland will pay for the basic education of people who have lived in the country for some time but for those who come to Finland directly for higher education it has been paid for by somebody else. This education received from elsewhere will only become a benefit for the Finnish economy if students will stay in Finland after their graduation.