

“THE EFFECT OF STUDENT AID SYSTEM ON
EQUALITY OF OPPORTUNITIES AND GRADUATION
TIMES IN HIGHER EDUCATION IN THE NORDIC
COUNTRIES”

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Abstract

This thesis studies the effect of student aid system on equality of opportunities and graduation times in higher education in the Nordic countries based on the existing literature and empirical research. The topic is relevant and current issue especially in Finland due to recent cuts made by the government to the student aid system which have raised many critical opinions regarding these cuts. The purpose of this thesis is to make an objective evaluation on the effect of the past reforms made to student allowance and student loan in the Nordic countries in the past decades.

The main observations are that loan based incentives have had the biggest positive effect on decreasing graduation times in higher education. The studies also show that there isn't enough evidence to support the claim that students with lower income families would be more risk averse regarding taking up student loans. Also there seems to be no evidence backing the statement that increasing student allowance increases the equality of opportunities. If the goal of the policymaker is to create incentives for decreased graduation times through student aid system, then a loan based system with loan refund based incentives for students graduating on time seems to be a much better instrument comparing to increasing the proportion of student allowance. I also conclude that there are no simple answers or single truths regarding a perfect student aid system which leads to the point that the goodness of the outcome of the system is dependent on the goals of the policy makers and every student aid system is a compromise made to optimize the goals of the policy makers.

Introduction

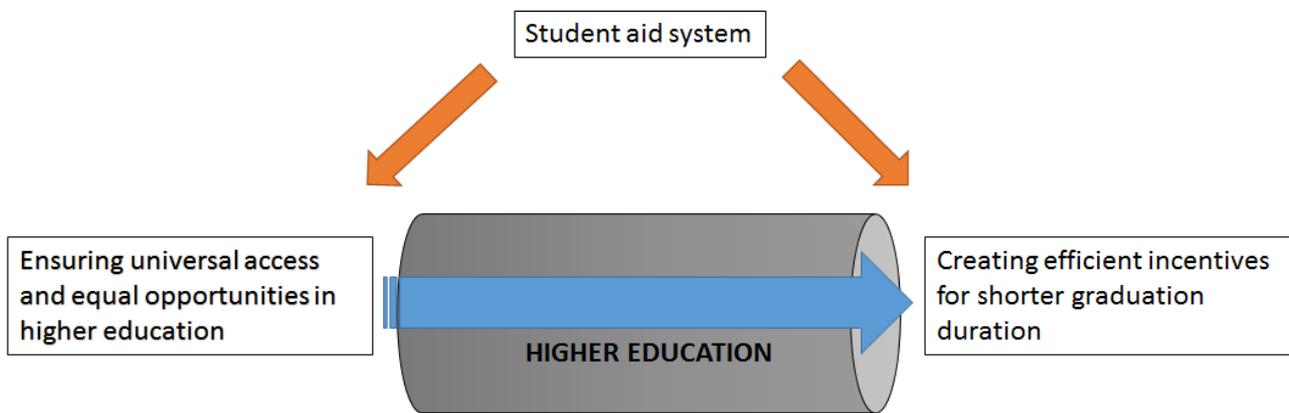
The student aid system has generated a lively public discussion in the recent years in Finland. Recent reforms made by the Finnish government to the aid system has raised questions about the level of student aid system and the incentives created by the system. This paper focuses on the topics regarding the effects of student aid system on equality and graduation times. This perspective gives us a picture of how the aid system affects the possibilities getting into university and out of university. The main focus is on the student aid system in Finland, but also covers some examples from other Nordic countries. Since the Nordic countries are fairly similar in means of higher education systems and student aid systems, this comparison gives us a better holistic picture of the effects of different student aid systems and the reforms that have been made to these systems throughout the years.

Because education is believed to have positive externalities and to promote equality of opportunity, higher education is subsidized in many countries (Gunnes 2012). Student aid systems is believed to decrease the cost for students to acquire higher education, create incentives for shorter graduation times and positively affects the equality of possibilities to acquire higher education.

The prolonged duration of the university studies has been a topic of discussion in Finland for years. Critics argue that the current system is inefficient and that completing university education takes far too long. One of main reasons of worry is that long study times delay the entry to the labor market. A highly educated labor force is key to sustain economic development, innovation, and growth (Mattana 2014). Another worry about higher education is ensuring universal access and equal opportunities in higher education. Worry is that without student aid, the possibility to apply for higher education would be more dependent on the ability of one's family's capability to help finance their studies.

My thesis evaluates the effects of different student aid systems in the Nordic countries and the previous reforms on graduation times and equality of opportunities. I want to make a holistic view on the system rather than focusing too much on a single instrument.

The following picture emphasizes my approach, meaning that I am interested in evaluating the effects that a student aid system has on the both sides of the “tube” which represents higher education studies.



By the author (2017)

This thesis is a literature review, evaluating the subject through existing literature and empirical research. A lot of economic research has been conducted in Finland and the Nordic countries regarding the student aid systems' in the past and in the recent years. Main empirical research reviewed in this thesis are made by Uusitalo in Finland, Joensen, Mattana, Advic and Gartell in Sweden, Gunnes, Kirkeboen and Ronning in Norway just to mention few. In addition to empirical research in the Nordic Countries, this thesis includes review of empirical research made by economists outside Nordic Countries, Susan Dynarski as the most well-known of these in the field of economics of education.

Theoretical framework

First in this thesis I will introduce the basic theoretical framework for this topic. There are no specific economic theories covering student aid system directly, but we can perceive student aid as a pigouvian subsidy meant to decrease a good's price to take into account the external marginal benefits, therefore increasing the amount of university degrees. First I will cover the concept of human capital in education and secondly I will go through the concept of externalities, and go more into detail regarding positive externalities created by higher education.

Human Capital of Education & student aid

Since student aid's objective is to incetify higher education, therefore to increase the amount of human capital achieved through university degree, I will first go briefly through the idea behind human capital and education.

Human capital is the stock of skills that the labor force possesses. The standard approach in labor economics views human capital as a set of skills or characteristics that increase a worker's productivity (Goldin 2014). According to Joensen and Mattana (2014), a highly educated labor force is key to sustain economic development, innovation and growth. We can perceive that education increases individuals' and society's human capital. It would then make sense to maximize this effect by introducing a student aid system which would decrease the cost of education for individuals and therefore increase the attendance to higher education. Then again, Gunnes et. al. (2012) state that the presence of subsidies to education may not only increase students' attainment level but also influence the level of effort provided by students. As students are generally subsidized for each unit of time spent studying, and not for the degree attained, there may be incentives to spend too much time in the educational system.

Education as human capital is a lifetime investment that needs to be evaluated using data over the entire working life (Koerselman & Uusitalo 2013). If education did not have an impact on person's employment, productivity or human capital, increasing the amount of education would be a waste of resources. Uusitalo (2016) states that when talking about the equality of student allowance it doesn't matter whether the differences in income are caused by education or some other factor

correlating with education.

There are many mathematical interpretations linking lifetime earnings and student aid. I will shortly introduce one model by Susan Dynarski. Dynarski (1999) explains that in the classic human capital model an individual maximizes his or hers discounted stream of lifetime earnings net of the cost of University degree:

$$\text{Max}_{S_i} \int_{t=0}^{t=S_i} -Ce^{-rt} dt + \int_{t=S_i}^{t=\infty} f(S_i)e^{-rt} dt$$

In this formulation, the earnings associated with schooling level S_i are denoted $f(S_i)$ while r is the cost of borrowing. C denotes tuition costs. Maximizing this function over S_i and introducing student aid into the analysis yields the following first-order condition where $C - AID_i$ is the direct cost while $f(S_i)$ is the opportunity cost:

$$f(S_i) + (C - AID_i) = \frac{f(S_i)}{r}$$

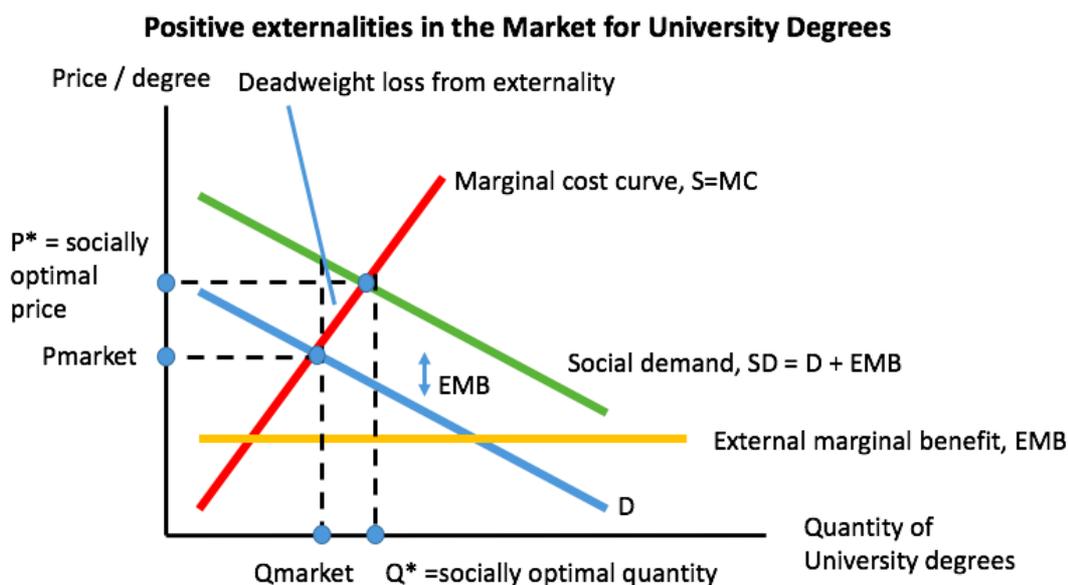
Dynarski's model is based on the American higher education system where the education is more or less tuition based. When we introduce this same model into the Finnish education system, the term $C - AID_i$ acts differently due to the free higher education offered in Finland and the student aid system established by the government.

Education also produces utility for stakeholders other than the student. According to Kruger and Lindahl (2001) education increases innovations and economic growth. In economics these effects are called positive externalities.

Positive externalities of higher education

Goolsbee, Levitt & Syverson (2013) define that externalities exist whenever economic transactions impact third parties not directly involved in the transaction. Externalities create inefficient outcomes because society's overall benefit or cost from a transaction is different from the private benefit or cost to the consumer and producer involved in the same transaction. When there are externalities the social benefit, the benefit to society as a whole, is the private benefit plus the external benefit.

Goolsbee, Levitt & Syverson (2013) also explain that a positive externality exists when economic activity has a spillover benefit enjoyed by third parties who are not directly involved in the activity. Positive externalities create a gap between the private benefit and the social benefit. The social benefit is represented by the social demand curve, which is the sum of the buyers' private benefit and the external marginal benefit.



By the author, 2017

Because education is believed to have positive externalities and to promote equality of opportunity, higher education is subsidized in many countries (Gunnes 2012). When there is a positive externality, a Pigouvian subsidy can be used to decrease a good's price to take into account the external marginal benefits (Goolsbee, Levitt, Syverson 2013). Student aid can be perceived as a Pigouvian subsidy established by the government to reduce the cost of higher education to the

students, thus increasing the participation into higher education. Goolsbee, Levitt, Syverson (2013) state that it is realistically difficult to estimate the exact eternal marginal benefit from more university degrees so setting the correct rate for the Pigouvian subsidy is also difficult.

The development of student aid system in Finland

To be able to estimate the effects of student aid system to the duration of studies and the equality of the system, I will first introduce the reforms and changes made in the system in the past in Finland. These reforms and changes help us to evaluate the effects that the reforms have had to students' decisions.

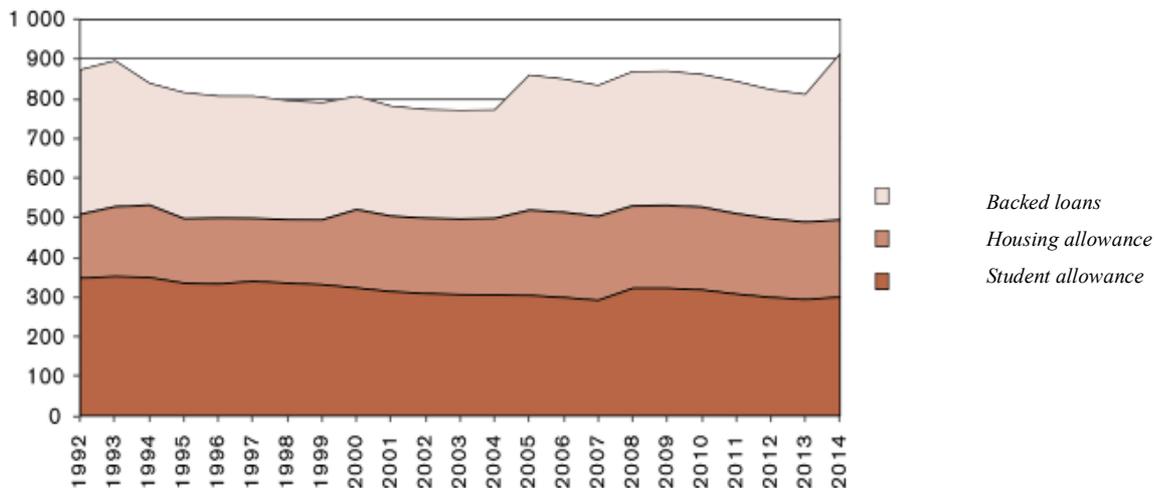
The current, mostly on student allowance based student aid system was established in the early 1990's. Before 1990's the main bulk of the student aid was based on government backed student loans and the proportion of allowance in the system was relatively small (Lahtinen 2014). The following chart describes the development of the components in the student aid system in Finland.

1969	Government backed student loans
1972	Student allowance
1977	Housing allowance
1979	Student meal support
1983	interest rate aid
2005	Student loan deduction for University students graduating in expected time
2011	Two step student aid: separate for undergraduate and graduate studies
2014	Student loan refund, increase in student allowance, shorter maximum amount of aid months

History of student aid system in Finland, author 2017

In the year 1992 the amount of student allowance was increased from 107 euros to 264 euros (Lahtinen 2014). The main reason for the reform was the demand from the banks to shift to a market-based student loans system, according to Finnish government (HE 167/1991). Uusitalo (2016) states in his report that a system based on student loans was considered problematic because the system did not lead to more efficient studies and therefore the length of studies was prolonged.

The Finnish government also states in the proposal (HE 167/1991) that working during studies was a major factor prolonging the graduation times. During the year 1994 the student aid law was adjusted several times (Lahtinen 2014). The most important changes include the increase in student allowance, the maximum amount of aid months, income levels and housing aid. In the year 2005 student allowance was tied to the national pension index for the first time. The following chart explains the development of market valued student aid system in Finland between years 1992 to 2014.



The development of market valued student aid system in Finland from 1992 to 2014, Uusitalo 2016

According to KELA (2016) the current student aid system consists of student allowance, housing allowance and government backed student loans. The amount of housing allowance is 80 % of rent with a limit of 201,6 euros per month, the maximum amount of student allowance is roughly 340 euros and students are eligible to take 400 euros of student loan per month. The new student aid system (HE 229/2016) proposed in the year 2016 changes these perimeters by decreasing the amount of student allowance to 250 euros per month, increasing the student loan to 650 euros per month and also decreasing the maximum amount of grant months from 64 to 54.

According to Uusitalo (2016), the main purpose for most of the changes in the system has been to set incentives for the students to graduate faster. Uusitalo also states in his report of 2016 that the purpose of income level restrictions has been to focus the allowance to those who need it the most and also to encourage full time studies and to graduate in time. These statements set up a good framework for our next sections which cover the effects of student aid system on equality of opportunities and graduation times.

The effect of student aid system on equality of opportunities in higher education

“Elite” university system changed in Finland to a mass education system in the 1990’s with the establishment of universities of applied sciences, and with the university attendance level raising above 15 % (Kivinen, Hedman, Kaipainen 2012). In the Nordic countries it is commonly perceived that the welfare state should equalize the possibilities to apply to higher education regardless of one’s wealth, gender or place of living. This section assesses the effect of different student aid system on equality of possibilities in higher education. Since the Finnish student aid system is composed of student allowance and student loans, the question of equality of student aid system in this section is reviewed through the student loan system. This is due to the fact that loan has to be paid back, individuals make their own decisions to or not to take loan and it includes risk whereas the student allowance is zero risk free money.

Student aid system affects the possibility to finance studies. According Dynarski (2002), student aid increases the demand for higher education and increases the proportion of people attending higher education and in addition according to Dynarski (2002), 1000-dollar increase in student aid increases the attendance to higher education about four percent. Increasing student loans proportion in the aid system means that the role of the payer shifts from the government to the student. Decreasing the proportion of allowance in the system increases emphasis on student’s parents’ ability to finance their children's studies.

Raivola, Zechner & Vehviläinen (2000) introduce an investment model perspective which emphasizes the student's own responsibility in funding their studies. According to Raivola, Zechner & Vehviläinen (2000), through an investment model the need for loans should focus on the students that gain the largest benefit from their investment. This should lead to increase of proportion of students loans compared to allowance in higher education. In this perspective all students can study as long as they require if they pay their student loans back. In their second model, the citizen salary model, the role of the payer is shifted more to the society and the society also has a right to make demands regarding students progress and working. The ability for society to control students’ study efficiency, progress and working while studying would be more justified in this model. The

properties and demands for these two models are summarized in the following table.

Model	Structure	Demands for students	Demands for the aid system
Investment model	Loan based	Own risk, freedom of studying, payback for loans	No demands for progress of studies. No limits to working while studying
Citizen salary model	Allowance based	Focusing on studies, efficient studies, graduating on time	Right to control students study pace. Right to limit working while studying

Investment and citizen salary model, by author 2017

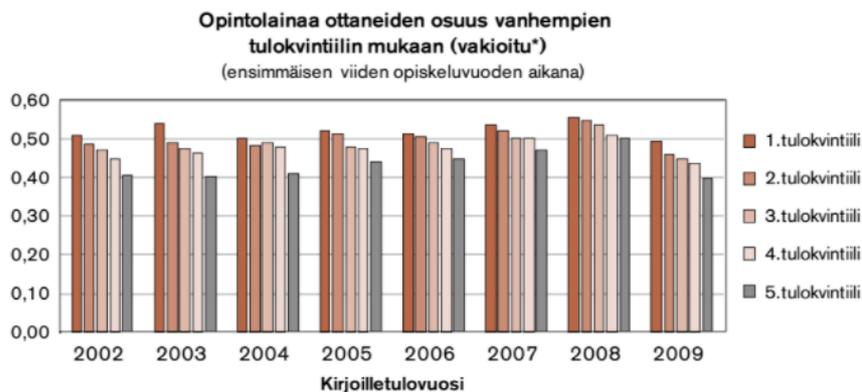
Student aid systems composition, whether it is allowance or student loan based, could affect the equality of possibilities. Common worry in increasing the relative portion of loans in the student aid system is that one's ability to apply for higher education would be more dependent on the applicant's parents' ability to financially support their studies. Even though education increases one's future income, the cost of this investment has to be paid years before the education has an impact on graduate's income level. Risk averse behavior can also be more common amongst applicants from lower income families decreasing their willingness to apply for higher education. Finnish government has tackled this question with the government backed student loans which make it possible for more people to apply for higher education through lessening the effect of one's family background.

Using of student loan between students from different family backgrounds in Finland

If government backed student loans make it possible for people to apply for higher education regardless of their family background, we want to examine the effects of previous student loan reforms on this phenomenon. Opiskelijatutkimus (2014) made a questionnaire amongst students to find out the proportion of students using student loan. According to the study, 18,3% of the actively studying students (n=3010) answered that they had taken student loan during the current semester. The proportion of students who took student loan during the semester and whose parents' had university degree was slightly larger than the average, 19,2 % but the difference between different student groups differing in their parents' level of education was not statistically significant

(Uusitalo 2016).

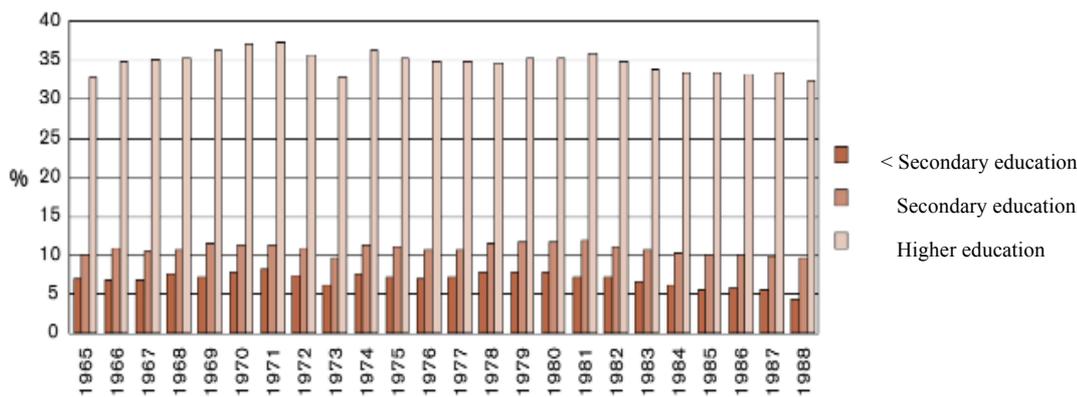
Uusitalo (2016) in his study utilized data from the Statistics Finland and he found that the proportion of students using student loans was largest in the first quintile and smallest the fifth quintile, which means that the students from lower income families used more loans compared to students from higher income families. He states that if you control students age, gender and field of study, the usage of student loan is negatively correlated with the student's family's income.



According to Uusitalo (2016), the average age of students from lower income families is higher when starting their studies compared to other students. These results indicate that student loan is less used by those students who receive financial aid from their parents and they are less prone to getting a student loan. On the other hand, he does state that the data does not support the claim that students from low income families would be too risk averse to get student loan, and hence does not support the claim that increasing the proportion of student loans in student aid would automatically make the aid system less equal.

Kerr, Pekkarinen, Sarvimäki and Uusitalo (2015) conducted a survey to Finnish high school seniors asking their preferences regarding taking up student loan. According to the study, 40-50 percentage of the participants answered they would be willing to finance their studies with loans. The proportion of students whose parents' had university degree was slightly larger than those without degree, but the result was not statistically significant.

Since there is little direct research and empirical data in Finland regarding the equality of student aid system, one way to evaluate the effect of student aid system to equality of opportunities is to observe the effects of previous reforms. As showed in the previous section, the biggest reform was made in the 1990's when the system shifted from loan based system to a system with larger emphasis on the allowance. If the equality of opportunities is linked with the proportion of loan in the system, we should see a clear result after the reform comparing to time before the reform. Kivinen et. al. (2012) studied this matter by comparing the probability of people from different family backgrounds to obtain university degree. According to their results, the gap between the proportion of students whose parents have university degree and those whose parents don't have a degree has narrowed significantly between years 1970 and 2010. Uusitalo (2016) made a similar experiment and made the same conclusion. He also states that if increasing student allowance increases equality of opportunities, we should see a clear drop in the proportion of students with highly educated parents, born in the early 1970's. As the chart below shows, no such progress can be seen.



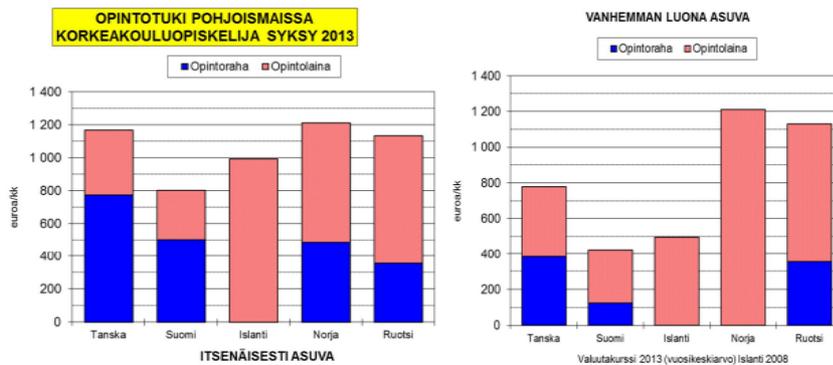
Proportion of university students with year of birth according family background, Uusitalo (2016)

Using of student loan between students from different family backgrounds in Nordic countries

To find out the effect of student loans based system to equality, it would be feasible to compare the results from a country where student loans make up most of the student aid system, to a system which is more student allowance focused. Since there is little research and empirical data in Finland

regarding the equality of student aid system, it would be feasible to compare the effects of student aid system across the Nordic countries. These countries are similar regarding difference in income and the real costs of higher education are low, for example there are no study fees in any of the Nordic countries (Uusitalo 2016).

Lahtinen (2014) made a study for Kela comparing student aid systems and levels between Nordic countries. According to the study, student aid systems in Finland and Denmark are mostly composed of student allowance whereas in Norway and Sweden the system is more loan based. Iceland's system is based solely on student loans. The study also shows significant differences in utilizing the student loans. In Finland and Denmark about 40 % of the students took student loans whereas in Sweden the same number was over 70% and in Norway and Iceland nearly 100%.



Student aid systems in the Nordic countries, Lahtinen 2014

In his report Uusitalo (2016) states that in the Nordic context it appears that children of highly educated parents are more over represented in Finland comparing to Norway or Sweden. Therefore, a student aid system based on student loans has not decreased the equality of getting a university degree in Norway or Sweden comparing to Finland or Denmark.

Conclusion

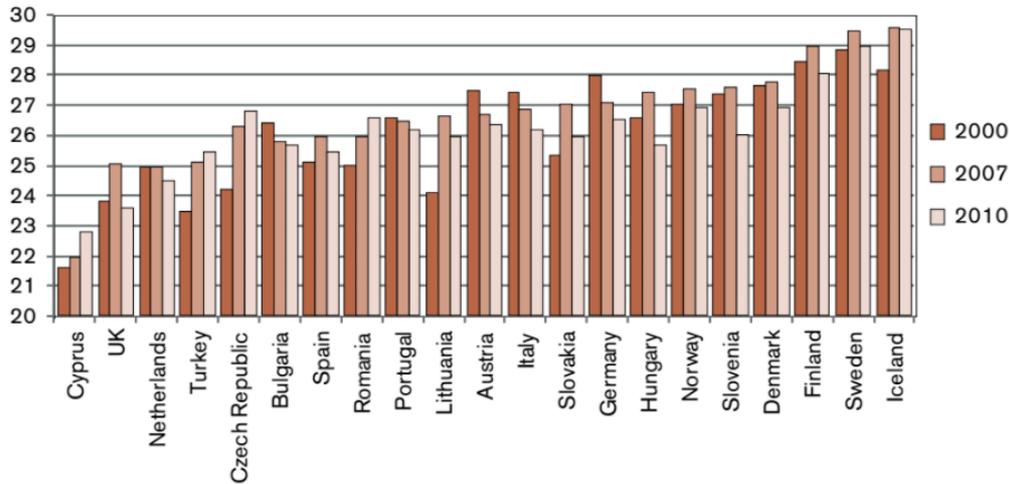
According to the studies reviewed in this section, we can conclude that student loans are more used amongst the students with lower income background. The studies also show that there isn't enough evidence to support the claim that students with lower income families would be more risk averse regarding taking up student loans. Also there seems to be no evidence backing the statement that increasing student allowance increases the equality of opportunities. We can conclude that there are probably different factors than student aid that affects the equality of opportunities and those other factors have contributed more to the equality of opportunities in this data period.

The effect of student aid system on graduation times

This section assesses the effects of student aid system on the duration of university studies. Uusitalo (2016) explains that one of the goals of the Finnish student aid law is to enable the living standards of the students during the studies and also to enable the students to focus primarily on their studies. In addition, Uusitalo states in his report that one of the primary objectives of the recent student aid reforms in Finland has been to restructure the system to better support faster graduation.

There are several incentives for the government to create a student aid system which encourages students to graduate in time. According to the study made by ETLA (2016), prolonged study durations have at least some effect on decreased tax revenues. ETLA made two points emphasizing this effect: firstly, sooner the students graduate, the time spent on working on a higher level of income increases. Secondly, due to progressive taxation on wages, the average tax rate of their lifespan is higher if the students focus on studying and therefore move earlier to full time jobs.

In international comparison (Uusitalo 2011), Finnish university students are particularly old when graduating. The median graduation age is only higher in Sweden and Iceland. The high age of the graduates in the Nordic countries is correlated with the higher age students enrolling in the Universities.



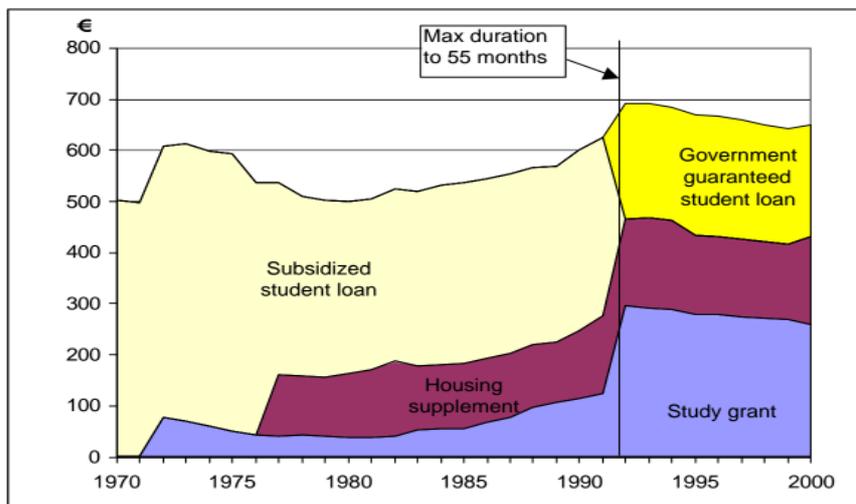
The median ages of graduates in Europe, Uusitalo 2016

Student aid system can have several different kinds of effects on the duration of studies. Jacob Arendt states in his study (2013) that increasing student allowance increases the students' income and therefore increases the demand for higher education. Increasing student allowance also lowers the net costs of studies and therefore decreases the incentives to finish studies. He also states that on the other hand, increasing student allowance makes studying cheaper compared to financing one's studies with full or part time work, which can decrease the level of working while studying and decreases the time it takes to graduate. The conclusion is that the level of student allowance can have both positive and negative effects on graduation times and the overall effect can only be measured with empirical methods.

Joensen and Mattana (2014) state that the effects of student aid system can be dependable on the terms of the subsidy, and whether it is linked to the progress of studies. Student aid which is tied more to the progress of studies can create a more efficient incentives compared to an aid system lacking these conditions. They studied the Swedish aid reform of 2001 and Danish reform of 1988 and found that when there is substantially higher weight on allowance, more students graduate but stay enrolled longer.

Finland reform of 1990's

Student aid reform in Finland in the year 1992 more than doubled the student allowance, compared to the previous system, and also made student allowance taxable (KELA, Lahtinen 2014). At the same time the duration of student allowance was decreased from seven years to 55 months. Study made by Häkkinen and Uusitalo (2003) states that the reform did not have statistically significant effect on the average graduation durations. According to Häkkinen and Uusitalo in their study, the median duration of university studies in Finland exceeds the planned duration by one and a half years. In their study they conclude that the student aid reform of 1992 only had a modest effect on the graduation times. Graduation durations decreased in some fields which had the longest graduation durations before the reform. Häkkinen and Uusitalo state that this is probably due to the new restrictions on the allowance rather than replacing student loans with allowance. They also state that the recession of that time make the evaluation of the effect of the student aid reform difficult and that the results should be read with that in mind.



In 2000 prices (euro) deflated by the cost of living index

Maximum amount of student financial aid in Finland 1970-2000 (€). Häkkinen & Uusitalo 2003

Sweden reform 2001

In the year 2001 in Sweden, the student proportion of student allowance in their student aid system was increased and at the same time the allowed income levels were increased and the loan terms were constricted (Joensen & Mattana 2014). The total aid amount remained unchanged but the allowance proportion was increased from 27.8 % to 34.5 %.

Advic and Gartell (2015) assessed the effects of the reform on yearly accumulation of study credits. According to the results the reform increased level of working while studying and decreased the rate of study progress. Advic and Gartell also found that constricting the terms of the loans and increasing the allowed income levels changed the economic incentives and lead to students replacing loans with income from working. The results of the study made by Joensen & Mattana (2014) indicate that the decreasing the proportion of student loans in the system to 25 % would decrease the dropout rates and increase the probability of graduation, but would increase study times.

Denmark reform 1988

Jacob Arendt (2012) studied the effects of Danish student aid reform of 1988 on student dropout rates and graduation times. The 1988 reform among others raised the student allowance level by up to 57%, corresponding to roughly \$3,000 annually and it raised loan rates by up to 46%. This reform was can be seen as a quite rare and substantial raise in the student aid system, and the goal of the reform was to decrease the the graduation times of university students.

The results of a study made by Arendt (2012) suggest that the reform lowered dropout rates, but had no overall effect on completion rates once student characteristics, parental characteristics and outside labor-market opportunities are taken into account. The biggest positive effect on graduation times was amongst the sixth to eighth year students. Arendt also found that the reform increased the take-up of students grants and lowered work hours while studying. This study indicates that increasing the student allowance has a small but insignificant impact on graduation times, but it is difficult to draw a causality in this matter, Arendt himself states that responsiveness to financial aid depends on time preferences, taste for education and other structural parameters.

Norway Turbo-reform 1990's

In the 1990's the Norwegian government attempted to shorten prolonged graduation times in higher education by decreasing temporarily the then current student aid system through the so called "turbo-reform" (Uusitalo 2016). Students who completed certain graduate education programs between autumn 1990 and autumn 1995 were entitled to restitution, roughly 3000 US dollars, from the Norwegian State Educational Loan fund if they graduated on stipulated time (Gunnes et. al. 2012). The turbo-reform only consisted study fields which had especially long graduation durations.

According to Gunnes, Kirkeboen and Ronning in their study (2013), the amount of students graduating in stipulated time increased due to the incentives. They found that the share of on-time graduation increased by 3.8 % per year treated from pre reform level of about 20 %. In addition, students' income from working decreased which can indicate a decrease in working while studying and an increase in time spent studying. They also suggest that students respond quite strongly to the financial incentive due to their small budget and they are overall financially constrained. This indicates that the 3000-dollar restitution might be powerful enough incentive to promote shorter graduation times and decrease the likelihood of students working while studying.

The new student aid system in Finland & conclusion

As a conclusion to this section, different empirical studies made in the Nordic countries show that student aid system has an effect on graduation times. Uusitalo in his report states that there isn't enough empirical evidence on the effect of the level of student allowance in either prolonging or decreasing graduation times. Instead Uusitalo (2016) says that it is possible to affect the graduation times by different incentives based on graduating on time, study success, and making changes to the time limits on the allowance.

Karhunen et. al. (2016) state in their report that the reforms made by the Finnish government in 2016 to the student aid system will most probably as a whole increase study times but in a relatively small proportion. The government decided to cut the student allowance, decrease the amount of grant months and increase the government guaranteed loans. They estimate the increase in graduation times would be three months.

They also state that tightening the income levels and increasing the government guaranteed loans could have a decreasing effect on graduation times. However, this effect might not happen due to the students' unwillingness to take student loan. Hence we can see that although the new reform might decrease the cost of the aid system for the government, according to these studies the reforms most likely will increase graduation times in most cases. This is a good observation since goodness of the outcome of the reforms depends on the goals of the policymakers, in this case the main motivation for the policymakers was to decrease the amount of money used in the student aid system (Uusitalo 2016).

Conclusion

One of the main observations that I made is that there are no simple answers or single truths regarding a perfect student aid system. The party issuing and maintaining the system, the government, has constraints like budget that create restrictions regarding student aid system. This means that every student aid system is a compromise made to optimize the goals of the policy makers. This leads to the point that the goodness of the outcome of the system is dependant on the goals of the policymakers. The main goal of the most recent reform in Finland seems to have been to cut government spending on student aid, roughly 150 million euros per year on a long term. This sets a problematic basis for any student aid system, since neither the equality of opportunities or graduation times doesn't seem to be the primary reason for optimizing the system, rather a secondary goal.

Another thing I found is that to be able to create a student aid system for a specific country, that government needs to set its goals. This also means setting priorities regarding the primary goal of the system. If the goal of the policymaker is to create incentives for decreased graduation times through student aid system, then a loan based system with loan refund based incentives for students graduating on time seems to be a much better instrument comparing to increasing the proportion of student allowance. Then again if the primary goal is to enable more students from different backgrounds to attend higher education, the student allowance is a good instrument to achieve this goal. Increasing the allowed income levels, therefore enabling students to work more while studying also seems to have a positive effect on equality to obtain university degree.

Observing the previous studies made in the student aid systems in the Nordic countries, I conclude that usually with a positive effect there is a negative or neutral effect. This means that it is hard to achieve two goals at the same time with a single system in a short time period. Increasing the proportion of loans might have a positive effect on graduation times but it might also have a negative effect on equality of opportunities.

According to Arendt (2012) there is limited and uncertain evidence on how financial aid affects the completion of higher education or equality of opportunities. In this thesis I come to this same conclusion, we will definitely need more empirical studies assessing the qualities and outcomes of a past and current systems to be able to create better causalities for different instruments.

My own hypothesis is that conducting further studies to show these causalities would benefit both the government and the students. We would have more empirical data giving us stronger causalities regarding different student aid system allocations. This would lead to a more transparent discussion and decision making since all parties would be able to observe all the possible outcomes of different decisions.

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