

Buried in debt? Student loans, social inequalities and study delays in the post-Bologna system of Norway

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Abstract

The paper studies the variance in student loan debt among candidates who have completed a bachelor's or a master's degree after the implementation of the Bologna process in Norway. Although the Norwegian higher education system is characterised with low direct costs for the student, international studies show a significant higher level of student loan uptake among Norwegian students compared to students in other countries. The paper presents and discusses central macro and micro level aspects contributing to this apparent paradox. Using a national survey on Norwegian bachelor's and master's degree candidates in 2007, the paper analyses the level of total student loan debt among different groups of candidates. Factors included in the analytical model are: Socio-economic and immigrant background, age, gender, study progression, type and level of academic diploma, academic performance in upper secondary and higher education (grades), and prior education and work experiences. Analyses are conducted using linear regression models. Results indicate that total student debt is strongly correlated with time spent in the educational system. Graduates' socio-economic backgrounds and other demographic characteristics seem to have little impact on the total student debt. This implies that graduates' who have been delayed in their studies, have taken one or several prior educations, or part of the education abroad, are the ones who are most likely to find themselves 'buried in debt' after graduation.

Introduction

Offering financial assistance to students is an important means for ensuring sufficient and equal access to higher education. There are many ways in which financial aid is provided to students – for instance as loans and grants directly to students, as tax refund for parents of students, or as subsidy of housing, transportation and other students' costs. During the last decades several European countries have increased the share of support offered as repayable loans to students (Johnstone, 2006; Teixeira, Johnstone, Rosa, & Vossensteyn, 2008; Vossensteyn, 2004). Thus, today a substantial share of students is financing their higher education through student loans. However, there are great differences in the student support systems in Europe, both regarding level and type of support offered to students. While the Bologna process has reduced the differences in the higher education structure across the European countries by introducing easily comparable degrees organised in a three-cycle structure (e.g. bachelor-master-doctorate), the Bologna process yet so far not involved any efforts to reduce the differences in the student support systems across Europe. The overarching aim of the Bologna Process is to create a European Higher Education Area (EHEA) based on international cooperation and academic exchange that is attractive to European students and staff as well as to students and staff from other parts of the world. In this respect, increasing the information and knowledge about the various types of student support offered within this area are essential. This implies gaining knowledge on the effect of offering student loans to students and comparing the size of total student debt among different groups of graduates.

The central aim of this paper is to study the level of student debt among different groups of bachelor's and master graduates who have completed their studies after the implementation of the Bologna process in Norway. A main focus is on recognising factors associated with high student loan burdens among the newly graduates. This may be structural factors, such as type of study programmes, whether or not the student has had a delayed study progression, or if part of the degree has been completed abroad instead of at a Norwegian university. Factors associated with risk of ending up with a high student loan may also be individual characteristics, such as students' socio-economic backgrounds, or factors associated with increased costs of education. In other words: Are some groups of student more at risk than others to end up buried in debt after graduation? What is the impact of study delays, students' socio-economic background and other factors on level of student debt?

A second aim is to study to what extent student loan uptake may be related to the students' (perceived or real) benefits of higher education. Are some groups of students more willing than others to take up a high student loan to finance their studies? To what extent are the graduates' total student debt correlated with the expected benefits of education?

The analyses conducted in this paper are based on a sample of Norwegian graduates who have completed a bachelor's or master's degree program. Norway has a long tradition of offering repayable loans to students. Student finance in Norway is distributed through the Norwegian State Educational Loan Fund (NSELF). With a non-targeted student aid system, *all* students enrolled in a higher education study program are eligible for student loans (Opheim, 2006). Compared to other countries, the loan uptake among Norwegian students is high (Schwarzenberger, 2008). Thus, the paper will focus on factors influencing student loan uptake within a context with no social targeting of this form of public support. The Norwegian higher education sector and system of student support is presented in the next section.

Background and context

The Norwegian higher education sector consists of seven universities, nine specialized university institutions, 22 university colleges, two national colleges of the arts, and several private institutions of higher education. The sector may be described as a dual system divided in universities and university colleges. While the majority of students in Norway attend public higher education approximately 14 per cent attend private institutions (Statistics Norway, 2007). Norwegian public higher education institutions do not charge tuition fees.

Since it was first established in 1947, the rules and structure of NSELF have undergone several changes. The last major changes took place in August 2002, as part of The Quality Reform in Higher Education in Norway (2003). The main goals of the Quality reform were to provide improved quality in higher education and research, to reduce drop-out rates, and to follow up the outcomes of the Bologna Process and Norway's obligations in that respect. The most important change was the introduction of a new 3 + 2+ 3 degree structure (bachelor-master-PhD) for all higher education with the exception for some professional studies like medicine and teaching (Ministry of Education and Research, 2002; St.meld. nr. 27, 2000-

2001). The main changes in the student finance system included an increase in the general level of support, increasing the students' income threshold levels before the students grant were reduced, and introducing progression dependent grants. Before August 2002 the support was distributed as a combination of repayable loans and non-repayable grants (Opheim, 2006).

Different from many other countries the system of student support in Norway is constructed as a universal support system, with no means testing according to parental income. Means testing of the parents' income was removed in 1972 (Opheim, 2008). Today student support relates only to the students' own income and assets (or assets of the students' spouse). The policy is based on the view of students as financially independent of their parents. Thus, instead of being means tested according to parental income, the student support is means tested according to the student's own income and assets. One exception is when the student is living with his/her parents. It is then expected that the parents will cover accommodation and living expenses. Those living with parents may take up a student loan but they are not eligible for student grants. Student loans are interest free and they do not have to be repaid whilst the student is enrolled, but must then be repaid over a maximum period of 20 years after graduation. According to national statistics, about 90 per cent of Norwegian students take up a student loan from NSELF during their studies and only 7 per cent live with their parents (Ugreninov & Vaage, 2006).

All students enrolled in a higher education study program may apply for a student loan. In the academic year 2006-2007 (the last year the graduates in the analyses were students) the annual student loan was NOK 81 400 (equals € 10 175)¹. Portions of that student loan may be converted into non-repayable grants depending on two factors: 1) academic progress and 2) the student's own income and assets. Students who follow 'normal' study progression will get 40 per cent of their annual loan converted into a non-repayable grant. However, if their annual income (from part-time employment) and/or assets exceed a certain level (in 2006 the level was NOK 113 027), the grant is converted back into a loan.

¹ Based on current exchange rates € 1 roughly equals NOK 8 (April 2010).

Policy, previous research and relevant theories

Having a universal system of student support and no tuition fees in public higher education is part of a public policy where the goal is to reduce the economic barriers and increase equity in education. The policy of regarding students as financially independent of their parents implies that the students' socio-economic backgrounds would not be expected to have any impact on student loan uptake. Instead, the size of the total student loan a student would accumulate should mainly be determined by the total *time* spent in the educational system. Thus, graduates with a master's degree are expected to have accumulated more student debt than graduates with a bachelor's degree. Those who have completed an education prior to the bachelor's or master's degree completed in spring 2007 are expected to have accumulated more student debt than those who do not have any prior education. Students who have been delayed in their studies are expected to have accumulated more student debt than those who have followed normal study progression. In addition, the size of the total student loan a student has accumulated would be affected by the total *costs* of education. Students who have attended private higher education or have completed part of their education abroad, and have been paying tuition fees, would be expected to have accumulated a higher total student debt. However, an individual are only allowed taking up a limited amount of student loans within a maximum period of eight academic years. Thus, the rules of the student support system put limits on the individual's total student debt.

The policy goal of the student support system is not only to cover the students' living expenses, but also to contribute to ensuring students' academic progress and reducing study delays. By receiving student support students are expected to spend more time on studies and less time on paid employment outside their studies. In this respect, the student support system is used as a policy instrument for influence student behaviour through economic incentives. The effects of different forms of economic incentives have been well documented, and discussed in relation to both general price theory and human capital theory (i.e. Vossensteyn, 2005).

The human capital theory is based on the idea of education as an investment in human capital. Education increases an individual's productivity which, in turns, leads to an increase in labour market earnings (Becker, 1975). Based on this theory, one might expect that students in general are positive to take up a student loan to finance their university education. Taking the

human capital theory a little further, one might expect that students with the prospect of high future earnings and/or low risk of unemployment would be even more positive to take up a student loan than students with lesser expectations for their future earnings potential. Thus, the human capital theory could be used to explain differences in student loan uptake among students in different study programs which qualify for positions in different parts of the labour market. It might even be used as an argument for expecting gender differences in total student debt, or effects of grades on students' loan uptake.

Different from the economic theories, sociological theories have had a stronger focus on how non-economic factors, and in particular the students' socio-economic backgrounds, may influence students' loan uptake. Previous sociological studies have found social differences in student loan uptake (Fekjær, 2000; Hansen & Rogg, 1991; Opheim, 2002). A common finding is that students from higher socio-economic backgrounds take up most student loans. This is contrary to the general assumption of student support as mainly being an economic assistance for students from lower socio-economic backgrounds. Some of these differences have been explained by the fact that students from higher socio-economic backgrounds on average enter longer study programs and spend more time in the educational system compared to students from lower socio-economic backgrounds. As a result of longer time in the educational system they accumulate a higher total student debt. However, even when comparing student loan uptake rates among groups with similar education levels and time spent in the educational system, some social differences still remain (Opheim, 2002). Studies from other countries (UK and USA) have indicated that students from lower socio-economic backgrounds are more averse to taking up (student) loans (Callender, 2003; McPherson & Schapiro, 1988). Thus, previous research suggests that the student loan uptake not only is determined by the financial sources *available* to the students, but also is affected by the students' *attitudes* towards taking up a loan. According to these studies, one might expect to find social differences in student loan uptake even among the Norwegian graduates from the post Bologna system of higher education. We will return to this theory, as well as the other theories mentioned, when discussing the findings.

Data and methodology

The analyses are based on the Norwegian Graduate Survey 2007. The survey was conducted during October-November 2007 with a selection of Norwegian students who graduated spring

2007 (six months earlier). The response rate was 57 percent for master degree graduates and 53 percent for bachelor degree graduates (Arnesen & Waagene, 2008). It contains information about the graduates' employment status, background factors, economic situation (student loan size etc.), and educational progression. A total number of 3899 graduates are included in the analyses.

The analyses focus on factors influencing level of student loans among Norwegian bachelor's and master graduates. A central factor is students' socio-economic backgrounds, measured as parental level of education. Other factors include age, gender, immigrant background, study progression, type and level of academic diploma, having studied abroad, academic performance in upper secondary and higher education (grades), and prior education and work experiences. Analyses will be conducted using OLS (ordinary least squares) linear regression. The distribution of variables included in the analytical model is presented in table 1. Frequencies and mean distribution of variables are shown for the total sample and for master and bachelor degree graduates separately. The two groups will be treated separately in the analyses.

[Table 1 approximately here.]

The variables are constructed as follows. The depending variable is total student debt. The variable is continuous and it is based on graduates' self reported total student debt shortly after graduation. Total variety ranges from NOK 0 to 600 000 (equals €75 000), with the mean being about NOK 220 000 (equals €27 500). Those with missing information on student debt are excluded from the analyses.² Most students take up a student loan, only about 6 per cent of the graduates included in the analyses are registered with 0 or almost 0 (less than NOK 100) in total student debt (see table 1).

The variable 'parents' level of education' is based on information of both fathers' and mothers' level of education and takes on three values: 1) Graduates who have no parents with higher education, 2) Graduates with one parent with higher education, and 3) Graduates with two parents with higher education. A few graduates with missing information are excluded from the analyses.³ Age is treated as a continuous variable with the lowest point at age 22

² A total of 358 graduates are excluded from analyses due to missing information on total student debt.

³ A total of 83 graduates are excluded from analyses due to missing information on parental level of education.

(including 5 graduates aged 21). A variable for age squared is included in the multivariate analyses to allow for non-linearity. Study delay is treated as a binary variable based on students' self reported information on whether or not the degree is completed on normal study time or more. In addition, the analyses include a binary variable for graduates who have completed part of their education abroad.⁴

A binary variable on graduates' immigrant background is constructed by separating between graduates with both parents born abroad and other graduates (with one or both parents born in Norway). Due to the limited size of graduates with an immigrant background, the analyses does not allow for a more detailed categorization of their parents' country of origin. The data contains no direct information on the number of graduates who have come to Norway as exchange students. Some of the graduates in this group may only have been eligible to apply for a student loan during part of their education. This would lead to lower average total student debt due to different student support rules among this group of graduates. It is therefore necessary for the analyses to separate this group from other graduates. Information on place of living at age 17 and parents' country of birth are used as indicators. The variable on exchange student status singles out graduates with both parents born outside Norway and who did not live in Norway at age 17.

Educational field is divided into four groups: 1) Humanities and arts, 2) Social sciences, 3) Natural sciences, and 4) Other (business administration, health and social work, and pedagogical studies). Performance is measured as self reported grades, both in higher education and as mean grades from upper secondary education. While mean grades from upper secondary education are reported for most students, grades from higher education are missing for about 23 per cent of the students. A binary variable for missing information on grades is therefore included in the analyses (see table 1). The data on self-reported grades have some limitations. Some might have reported the mean grade of all exams included in the educational degree instead of their final exam grade. Some grades are reported as numbers (1-6) and some as letters (A-E). In order to include grades as a continuous variable in the analyses, grades reported as letters has been transformed into numbers. Grades are not reported for those who have followed a study programme which does not provide detailed

⁴ The survey only includes graduates from Norwegian tertiary education institutions. Thus, graduates who have completed their whole degree abroad are not included in the data material.

grades, only a distinction between passed or failed exams (i.e. graduates from specialised university institutions in arts).

Monthly salary is defined as gross monthly salary excluding extra income. All graduates are included in the analyses, also those who are self-employed or are working part-time and even those who reported not having paid employment. The analytical model also includes three binary variables describing the graduates' prior work and educational experience. Table 1 shows that more than half of the graduates have work experience prior to their education, and many have engaged in part-time employment during their studies. Almost a quarter of the graduates have taken a study break to engage in paid employment.

As illustrated in table 1, graduates with a bachelor's and master's degree differ with respect to several characteristics. Some of these differences seem to be naturally connected with the different length of the two degrees; the graduates age, and average total student loan. The two groups also differ with respect to their current status. While most of the bachelor's degree graduates are continuing their studies and plan to complete a master's degree, the majority of the master's degree graduates do not have plans for any further studies and have entered the labour market shortly after completing their degree (Arnesen & Waagene, 2008). The higher share of students among the bachelor graduates is one of the explanations for the low average monthly salaries in this group. The high standard deviation also indicates high variability in the monthly salaries in this group. Similarly, the high standard deviation for the master's degree graduates age and mean student loan indicates high variability in this group. Thus, while the mean age for the master's degree graduates are 31.9 this group consists of a relatively wide range of graduates; from those who have followed a (more or less) normal study progression to those who have graduated at quite a high age, possibly after one or more study breaks and study delays. The Norwegian higher education system is flexible and open for students re-entering after a period in the labour market (or elsewhere). However, the year 2007 is special with respect to this latter group. Spring 2007 was the last chance for master students in the pre-Bologna system (who started their studies before 2003) to complete their pre-Bologna degree. This has probably lead to a higher share of 'delayed' graduates this particular year, and thereby more variability in the group of master's degree graduates this year than other years. By including age, study delays, prior educational and prior work experience, the analytical model aims at controlling for the differences between the 'normal progression' and 'delayed' graduates.

Analyses and results

Table 2 shows the results from two linear regression analyses of factors influencing the level of student debt among graduates with a bachelor's and master's degree.

[Table 2 approximately here.]

As showed in table 1, table 2 indicate considerable differences in the total student debt among graduates with a bachelor's and master's degree also when controlling for the demographic and educational factors included in the analytical model. Bachelor's graduates with the reference group's characteristics have accumulated an estimated student debt of about NOK 177 000 (about €22 125) during their studies. The total student debt among graduates with a master's degree with the reference group's characteristics is estimated to NOK 298 000 (about €37 250) during their studies. Taken into account the different average length of these two degrees the differences in total student debt seem reasonable.

Several of the variables included in the model are associated with increased level of student debt among graduates with a bachelor's degree. These are mainly; age, study delays, having studied abroad, and having prior educational experience. In addition, the graduates' monthly salaries, gender, and parents' level of education also impact the level of total student debt at a statistically significant level. Those with study delays have on average an estimated total student debt NOK 26 000 (€3250) higher than those who followed normal study progression, graduates who have studied (partly) abroad have almost NOK 22 000 (€27 500) more in total student debt compared to graduates who have completed their whole education in Norway, while graduates with a prior education have an extra student debt of NOK 32 300 (€4000). These results are in line with the expectations that total student debt would be correlated with the total time spent in the educational system, and also that additional costs of education (i.e. paying tuition fees at a university abroad) would increase the total student debt.

Age has a positive impact, suggesting that older bachelor graduates have accumulated a higher total student debt. However, since the age square variable is also significant, and negative, the results indicate a curve-linear relationship between the graduates' age and total student debt. This is illustrated in figure 1.

[Figure 1 approximately here.]

In figure 1 the results from the linear regression analysis on bachelor's degree graduates presented in table 2 are transformed into estimated probabilities in order to make the results more comprehensible. Figure 1 illustrates how total study debt varies by age and parental level of education. The figure displays the estimated probabilities for male bachelor's graduates, with no study delays, and otherwise have the reference groups' characteristics (see table 2)⁵. The figure illustrates the curve-linear relationship between the graduates' age and total student debt. While the total student debt increase slightly from the youngest graduates up to graduates in the early thirties, it then flattens out and starts to decrease among the oldest graduates. Those with no parents with higher education have slightly lower student debt than those with parents with higher education. It is only the difference between those who do not have any parents with a higher education degree and graduates with both parents with a degree at this level that is statistically significant. Still, as showed in table 2, and also illustrated in figure 1, the difference is rather modest and estimated to about NOK 11 000 (€ 1375).

The other factors having an effect on the bachelor graduates' total student debt are gender and monthly salaries. Female graduates have on average about NOK 5000 (€625) less in total student debt than male graduates, all else equal. The effect of monthly salaries is positive but also quite modest.

Among factors with no significant impact on the bachelor's graduates' level of student debt are having an immigrant background, being an exchange student, field of education, grades, and the graduates' prior work experience. Thus, having worked prior, during, or even had a break from studies to work, have not had any effect on the bachelor graduates' total student debt. As for the exchange students, they are estimated to have about NOK 30 000 less in total student debt compared to other bachelor graduates. However, due to a large variability in this group (high standard error), the difference is not statistically significant. Also among

⁵ The reference group consists of males, with parents born in Norway, no study delays, a degree within the educational field humanities and arts, highest grades level (equivalent to A), being employed, low monthly salary (0), and without any prior education or work experience before or during studies.

graduates' with immigrant backgrounds the results show a higher variability than within most other variables.

Turning to the graduates with a master's degree, the results in table 2 show some similarities with the analysis of the bachelor's degree graduates. Also among the master's graduates, study delays, having studied abroad, and having prior educational experience are factors associated with increased level of student debt. Having studied abroad and prior educational experience has slightly less effect on total student debt in this group compared to the bachelors' graduates, although it is still significant. This may be related to the age variability within the group of master's degree graduates, as previously discussed. It could be that some of the graduates already have repaid (part of) the student debt from a prior education. Other factors which did not influence the student debt among the bachelor's graduates are found to have a significant effect among graduates with a master's degree. This includes in particular exchange student status, but also grades and educational field. Those with an exchange student status have on average NOK 95000 (€ 11 875), or one third, less in total student debt compared to other master's degree graduates. Graduates with low tertiary education grades have accumulated a higher total student debt compared to graduates with high grades. While those graduating with a master's degree in social science on average end up with the highest student debt, those graduating with a master's degree in natural science have on average NOK 19 000 (€ 2375) less in total student debt compared to those graduating with a master's degree in humanities and arts.

Consistent with a higher number of significantly influential factors, table 2 shows higher explained variance (adjusted R square) in the analyses of the graduates with a master's degree compared to the analyses of the bachelor's graduates; 41 to 12 per cent. This suggests that the analytical model used in the analyses explains a higher share of the variance in student debt among the master's degree students than among the bachelor's graduates. Some of these effects are illustrated in figure 2.

[Figure 2 approximately here.]

Figure 2 illustrates how total study debt varies by age among different groups of graduates with a master's degree. Similar to figure 1, figure 2 displays the estimated probabilities for master degree graduates with the reference groups' characteristics (see table 2). Four groups

are presented in the figure: Graduates with study delays, those who have studied abroad, graduates with normal study progression, and exchange students. For all four groups, the figure illustrates the relationship between total student debt and age. The older graduates have accumulated significantly less student debt than the younger ones. Different from the bachelor's graduates, illustrated in figure 1, the effect of age is not curve-shaped but quite linear with a sharp drop for the older graduates. The figure illustrates higher student debt among master's degree graduates with study delays and among those who have taken part of their education abroad compared to graduates who have followed normal study progression. The figure also illustrates the much lower total student debt among the graduates who have come to Norway as exchange students. As previously discussed, this may be a result of different student support rules/eligibility for exchange students.

Another difference between the bachelor's and master's graduates is the effect of monthly income on their total student debt. While the relationship between the graduates' monthly salaries and total student debt is significant for both groups the effect is positive among the bachelor's graduates and negative among the master's graduates. Although the effect of the graduates' monthly salaries is significant for both groups the impact on the total student debt is relatively modest for both groups. While bachelor's graduates with relatively high monthly salaries tend to have slightly higher student loans compared to those with low salaries, master's graduates with relatively high monthly salaries have lower student loans compared to those with low salaries.

Among the factors that have no significant effect on the master's degree graduates is parent's level of education. Thus, while bachelor's degree graduates from higher socio-economic backgrounds seems to have accumulated a slightly higher student debt compared to those from lower socio-economic backgrounds, no such differences are found among the master's degree graduates.

Discussion

The analyses presented in table 2 demonstrate that several factors influence the level of student debt among graduates with a bachelor's and master's degree. Some similarities are found in factors influencing the total student debt among the two groups of graduates. This is mainly having study delays, having studied abroad, and having prior educational experience.

The graduates' age and monthly salaries also have an impact for both groups, but in different directions. Several other differences between the two groups of graduates are also found.

A large part of the findings seem to be in line with the expectations following the policy goals of the student finance system. How much total *time* the graduate has spent in the educational system seems to play a central role in determining the total size of the graduates' student debt. This implies that it is those who have not taken the 'straight route' through the educational system who, but instead have been delayed in their studies, have taken one or several prior educations, and/or part of the education abroad, that are the ones who are most likely to find themselves 'buried in student debt' after graduation.

Previous studies have found social differences in student loan uptake. The analyses of the bachelor's graduates suggest similar findings, with slightly higher student debt among graduates with two parents with higher education compared to graduates who do not have any parents with higher education. Still, the social differences are small. Alternatively, one could assume that students who spend time on paid employment during their studies do so (partly) in order to reduce their total student loan uptake. However, income from paid employment before, during studies or as a study break, are not found to reduce the graduate's total loan uptake. Thus, no support is found in the analyses for the assumption that work experience prior to, or during studies, is a strategy used by students in order to reduce their total student debt.

Previous studies and theories have also suggested that student loan uptake could be influenced by other mechanisms than simply time spent in the educational system and other direct costs of education. According to the human capital theory education may be regarded as an investment, of which the goal is to increase the individual's productivity in the labour market and thereby his or her earnings potential. An assumption based on this theory, would be that students who expect high future earnings and low risk of unemployment would take up more student loans than other students. Thus, interpreted broadly, high grade levels, field of education with high returns to education, male graduates, and high starting salaries could be expected to be positive correlated with the graduates' total student debt. However, the analyses provide limited support for these assumptions. In general, graduates with a degree in natural science would have better prospects for high future earnings compared to the graduates with a degree in humanities and social sciences. Still, master' graduates with a

degree in natural science have a lower student debt than graduates with a degree in humanities and social sciences. It is not likely that these differences reflect any correlation with expected returns to education. The correlation between the master's graduates' grade level and student debt may also indicate that the relationship is opposite; graduates with the best grades also have the lowest student debt. This might be a result of slow study progression (failing exams etc) among poor performance students that are not captured by the study delay variable. The results do indicate gender differences in total student debt; both bachelor's and master's degree male graduates have a slightly higher student debt compared to female graduates. Still, the gender differences are modest and are most likely an effect of the student support rules offering additional grants instead of loans to female students who are in maternity leave.

The positive correlation between the bachelor's graduates monthly salaries and student debt might be in line with the assumption of a correlation between total student debt and returns to education. However, the correlation is opposite for graduates with a master's degree and it is rather minor for both groups. It could be argued that the data and analyses conducted do not offer ample testing of the assumption by not separating between full-time and part-time employment. Thus, the results may be a result of differences in time spent on paid employment and not only differences in level of salary (hourly wages etc). Still, it may provide some indication of a generally weak correlation between total student debt and the economic benefits of education shortly after graduation. Thus, in the post-Bologna student support system of Norway, student loan uptake seems to have low correlation with the graduates' earnings potential.

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Tables and figures

Table 1. Distribution of variables included in the analyses.

	Bachelor's degree	Master's degree	Total sample
Student loan (mean)	186049	244563	220386
(Standard deviation)	(82 527)	(116 966)	(108 029)
Share with student loans NOK 100 or more	95,5	92,2	93,6
Gender (share females)	43,2	58,2	52,0
Age (mean)	26,2	31,9	29,6
(Standard deviation)	(5,3)	(8,2)	(7,7)
Parents' level of education:			
No parents with higher education	33,6	32,6	33,0
One high	39,7	39,8	39,8
Both high	26,6	27,6	27,2
Immigrant background (share)	6,6	6,0	6,3
Exchange student (share)	5,0	4,9	5,0
Studied (partly) abroad	13,8	23,7	19,6
Study delays (share)	22,2	52,8	40,2
Educational field:			
Humanities and arts	22,1	20,7	21,3
Social sciences	24,8	24,3	24,5
Natural sciences	47,7	23,8	33,7
Other	5,4	31,2	20,5
Grades from upper sec. school (mean)	4,6	4,8	4,7
(Standard deviation)	(1,4)	(1,4)	(1,4)
Grades (mean)	1,8	1,7	1,7
(Standard deviation)	(1,1)	(1,2)	(1,2)
Share with registered grades	78,0	76,6	77,2
Monthly salary (mean)	17 421	24 687	21 685
(Standard deviation)	(38 956)	(19 183)	(29 249)
Prior education	20,6	32,6	27,6
Work experience prior to studies	55,6	57,0	56,4
Work during studies	56,1	69,2	63,8
Break from studies to work	11,5	31,2	23,1
Share bachelor's graduates			41,3
Number (N)	1611	2288	3899

Table 2. Estimated coefficients for total student debt. Graduates with a bachelor's and master's degree 2007. Linear regression.

	Bachelor's degree		Master's degree	
	Coefficients	Std. Error	Coefficients	Std. Error
Constant	177 291***	13 083	297 525***	12 848
Gender (females)	-5 383*	4 454	-8 469*	3 945
Age	6 712***	969	-3 990***	957
Age squared	-344***	36	-140***	26
Parents' level of education:				
(ref: No parents with higher ed.)				
One higher education	5 875	4 685	-2 031	4 609
Both higher education	10 614*	5 267	-3 426	5 128
Immigrant background	-12 479	11 008	-10 573	12 962
Exchange student	-29 770	15 298	-95 000***	16 165
Studied (partly) abroad	21 546***	5 841	13 574**	4 617
Study delays	26 152***	5 096	22 638***	4 473
Educational field:				
(ref: Humanities and arts)				
Social sciences	-10 605	5 712	12 951*	5 691
Natural sciences	-7 703	5 535	-18 731**	6 033
Other	-3 657	9 354	-25 858***	5 474
Grades from upper sec. school	-2 573	1 536	-27	1 443
Grades	-368	3 161	6 933**	2 667
No registered grades	-5 862	8 660	23 861***	7 360
Monthly salary	0,14**	0,05	-0,26**	0,10
Prior education	32 303***	5 124	13 725***	4 308
Work experience prior to studies	1 887	4 856	7 339	4 481
Work during studies	-4 485	4 745	-4 492	4 736
Break from studies to work	-8 851	6 549	-4 951	4 734
Adjusted R Square	0,120		0,411	
Number of observations	1611		2288	

* = p<0.05, ** = p<0.01, *** = p<0.001.

Figure 1. Estimated total student debt by parental level of education among graduates with a bachelor's degree 2007. Based on coefficients in table 2.

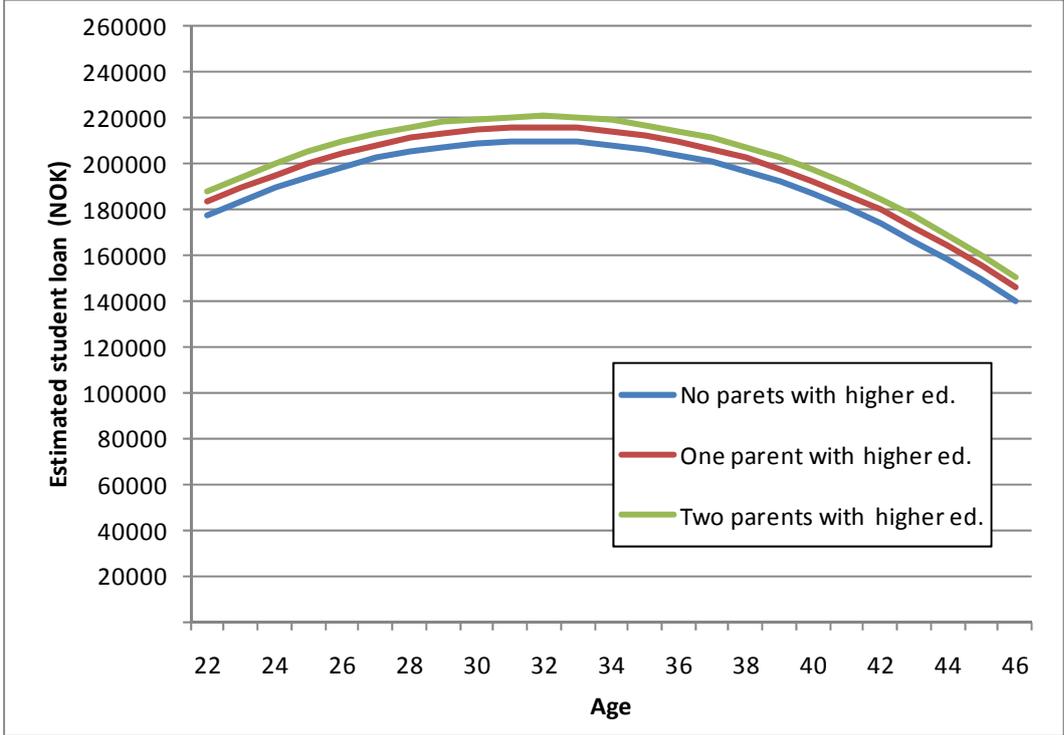


Figure 2. Estimated total student debt among graduates with a master's degree 2007. Graduates with study delays, studied (partly) abroad, normal study progression, and exchange student status. Based on coefficients in table 2.

