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Student Debt in Selected Countries

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Executive summary (English)

Increasing costs of higher education and the expansion of access, together with greater cost-sharing by students and their families, have led to higher indebtedness of former students in many countries. This report reviews the extent of this burden, as well as the available evidence on the impact of graduate indebtedness in selected countries.

Two main types of student loan systems exist. Mortgage type loans require repayments in the form of predetermined fixed monthly instalments. In contrast, income contingent loans tie repayments to earnings. Thus, one problem of the former type of loan is that it can impose high burdens on graduates with lowest incomes. To reduce the burden on low income groups, some countries, like Finland or the Netherlands, where most loans are of the mortgage type, allow some graduates to benefit from reductions in the amounts due. In Finland, loan reductions can also be obtained if the degree is completed on time. In Norway, low-income students with good academic progress can convert a portion of the loan into a non-repayable grant. Under the system in place until 2015 in the Netherlands, the amount owed could be turned into a grant if the student graduated in less than ten years. Thus, funding schemes incorporate incentives for good academic progress in some countries.

Unlike mortgage type loans, income-contingent loans tie repayments to earnings during a given period. These types of loans have become widespread and are increasingly adopted around the world (e.g. the Netherlands as of September 2015). Because debtors only pay a given proportion of their incomes, and obligations usually expire after 15 to 30 years of graduation, income-contingent arrangements transfer part of the repayment burden to the funding institution and, often, ultimately to the taxpayer. In Australia and England there are some concerns about the sustainability of the system over the medium run. By contrast, in other countries, like the U.S. and Hungary, the student loan programs are profitable.

Irrespective of type, student loans may also affect incentives in unanticipated ways. Studies carried out in Australia and the United States, two of the countries with the largest uptake and longest tradition of student loans, have shown that student debt is correlated with delaying marriage and/or children, lower likelihood of homeownership and lower wealth accumulation. In Australia, which pioneered income-contingent loans, there is also evidence of income concentration below the minimum repayment thresholds. This evidence indicates that the repayment schedule may give incentives to work in low paid, or part-time jobs and suggests such perverse effects should be taken into account in the design of the income-contingent loan schemes.

While present in many developed economies, student loans are by no means universal. For example, France and Germany, two of the largest economies in the EU, with spending per student similar to that of Australia, Finland, or the UK, do not have broadly based student loan programs. How does this affect access to higher education in these countries? Although there is evidence that parental contributions to student income are significant in France and Germany, the percentage of 25 to 34 year olds having a tertiary education diploma and the degree of upward educational mobility largely differ between these two countries. Thus one cannot draw general conclusions regarding the link between the absence of loans and equality of opportunity. Many factors interact to generate such outcomes including, among others, the quality of pre-college education, redistributive policies or the productive structure of each country. A more systematic analysis would be required in order to identify the links between student support policies and educational opportunity.

Executive summary (German)

Ein Anstieg der Kosten im höheren Bildungswesen und die Ausweitung des Zugangs zu höherer Bildung, welche mit einer höherer Kostenbeteiligung der Studierenden und auch ihrer Familien zusammenfallen, haben in vielen Ländern zu einer höheren Verschuldung von ehemaligen Studierenden geführt. Dieser Bericht betrachtet das Ausmaß dieser Verschuldung und ihre Auswirkungen in ausgewählten Ländern.

Es existieren zwei unterschiedliche Arten von Studienkreditsystemen. Hypothekenartige Kredite erfordern die Zurückzahlung des Kredits in Form einer vorher festgesetzten monatlichen Rate. Im Gegensatz dazu sind bei einkommensabhängigen Krediten die Zurückzahlungen an spätere Gehälter gebunden. Deshalb ist ein Problem der hypothekenartigen Kredite, dass sie Graduierten mit niedrigen Einkommen eine hohe Last auferlegen. Um diese Belastung zu reduzieren, gestehen Länder wie Finnland und die Niederlande, in denen die meisten Kredite hypothekenartig sind, manchen Graduierten einen reduzierten Rückzahlungsbetrag zu. In Finnland können diese Verminderungen auch eingestanden werden, wenn der Studienabschluss in Regelstudienzeit erlangt wurde. In Norwegen können Studierende mit einem niedrigen Einkommen und einer guten akademischen Entwicklung einen Teil ihres Kredites in ein nicht-zurückzuzahlendes Stipendium umwandeln. In dem System, das bis 2015 in den Niederlanden angewandt wurde, konnte der Betrag in ein Stipendium umgewandelt werden, wenn Studierende in weniger als 10 Jahren ihren Studienabschluss erlangten. Somit gibt es in manchen Ländern Finanzierungsmechanismen, die Anreize für eine gute akademische Entwicklung beinhalten.

Im Gegensatz zu hypothekenartigen Krediten sind die Zurückzahlungen von einkommensabhängigen Krediten vom Einkommen in einer bestimmten Periode abhängig. Diese Art von Krediten hat sich immer weiter ausgebreitet (so z.B. seit September 2015 in den Niederlanden). Da die Schuldner nur einen Teil ihres Einkommens zurückzahlen und die Verpflichtungen normalerweise 15 bis 30 Jahre nach Studienabschluss auslaufen, übertragen einkommensabhängige Lösungen einen Teil der Zurückzahlungsgemeinkosten auf die kreditgebende Institution und somit letztendlich oft an den Steuerzahler. In Australien und England gibt es Bedenken zu der Nachhaltigkeit dieses Systems in der mittleren Frist. Im Gegensatz dazu sind Studienkreditprogramme in anderen Ländern wie in den USA und Ungarn rentabel.

Unabhängig von der Art des Kredits können Studienkredite auch nicht antizipierte Anreize setzen. Studien, die in Australien und den USA und somit in zwei der Länder mit der größten Inanspruchnahmen und der längsten Tradition von Studierendenkrediten, durchgeführt wurden, haben gezeigt, dass die Inanspruchnahme eines Studienkredits mit einer späteren Eheschließung und/oder Kindern, einer niedrigeren Wahrscheinlichkeit von Hausbesitz und einer niedrigeren Akkumulation von Wohlstand korreliert. In Australien als Pionier einkommensabhängiger Kredite gibt es auch Evidenz über die Konzentration von Einkommen genau unter der minimalen Zurückzahlungsgrenze. Die Evidenz deutet darauf hin, dass das Design der Zurückzahlungen Anreize geben kann, in niedrig bezahlten oder Teilzeitjobs zu arbeiten und regt dazu an, solche verdrehten Effekte bei der Ausgestaltung von einkommensabhängigen Kreditplänen zu berücksichtigen.

Während es in vielen entwickelten Ländern Studienkredite gibt, ist ihre Verbreitung keinesfalls universell. In Frankreich und Deutschland zum Beispiel, zwei der größten Volkswirtschaften der EU, wo Ausgaben für Studieren ähnlich hoch sind wie in Australien, Finnland oder dem Vereinigten Königreich, sind Studienkreditprogramme nicht weit verbreitet. Welchen Einfluss hat das auf den Zugang zu höherer Bildung in diesen Ländern? Obwohl es Evidenz dazu gibt, dass der elterliche Beitrag zum Einkommen von Studierenden in Frankreich und Deutschland signifikant ist,

unterscheidet sich der Anteil der 25- bis 34-Jährigen, die einen Universitätsabschluss haben und der Grad der Bildungsmobilität stark zwischen den beiden Ländern. Deshalb kann man keine allgemeinen Schlussfolgerungen zum Zusammenhang zwischen fehlenden Studienkrediten und Chancengleichheit ziehen. Es gibt viele Faktoren, die zusammenspielen um solche Ergebnisse zu erzeugen, wie etwa die Qualität der Bildung vor der tertiären Bildung, umverteilende Politikmaßnahmen oder die Produktivität jedes Landes. Um die Zusammenhänge zwischen Studienförderpolitik und Chancengerechtigkeit zu identifizieren wäre eine systematischere Analyse notwendig.

Executive summary (French)

On assiste dans plusieurs pays à de grands changements dans la pratique de l'enseignement supérieur. Si les études supérieures sont plus chères et ouvertes à un public plus large, il existe également un partage des coûts de l'éducation plus important entre les étudiants et leur famille. Ces différents phénomènes entrainent une hausse de l'endettement étudiant, et ce même après que ces derniers aient quitté l'enseignement supérieur. Cette étude analyse donc l'importance de l'endettement des jeunes diplômés, ainsi que son impact dans plusieurs pays.

Il existe deux grands types de prêts destinés aux étudiants. Les prêts « classiques », type prêts immobiliers, exigent un paiement sous forme de prélèvements mensuels dont le montant est prédéterminé et fixe. Au contraire, d'autres prêts sont indexés sur le revenu : les mensualités dépendent du salaire perçu par la personne diplômée. Un des problèmes du des prêts classiques est en effet qu'il peut imposer une charge importante sur les diplômés connaissant des premiers salaires peu élevés. Afin de réduire cette pression sur les bas salaires, certains pays, tels que la Finlande ou encore les Pays-Bas, où la majorité des prêts ne permettent pas la modulation des mensualités, octroient à certains étudiants des réductions des montants à rembourser. En Finlande, cette réduction des dettes peut être obtenue si le diplôme est obtenu sans retard. En Norvège, les étudiants à faible revenus ont la possibilité, s'ils obtiennent de bons résultats, de couvrir une partie de ces dettes par l'obtention d'une bourse. Le système mis en place jusqu'en 2015 aux Pays-Bas prévoyait également la possibilité d'un remboursement d'une partie de la dette par l'obtention d'une bourse si l'étudiant obtient son diplôme dans un temps imparti. Ainsi, plusieurs pays organisent des incitations financières à obtenir de bons résultats académiques.

Contrairement à ce premier type de prêts, les prêts indexés sur le revenu font varier le montant de remboursement en fonction du salaire perçu pendant une période donnée. Ce type de prêt s'est rapidement répandu, et ce dans le monde entier (par exemple aux Pays-Bas à partir de 2015). Les personnes endettées ne remboursent qu'une part déterminée de leurs revenus, pendant une période qui s'étend jusqu'à 15 à 30 ans après la diplomation. Ainsi, ce type de prêt transfère une partie de la charge à l'organisme de financement, et donc souvent en dernier ressort, au contribuable. En Australie et en Angleterre, des inquiétudes grandissantes se font d'ailleurs entendre sur la soutenabilité d'un tel système à moyen terme. Au contraire, dans d'autres pays, comme aux Etats-Unis ou en Hongrie, le système de prêts étudiants apparaît rentable.

Quel que soit le type de prêt, l'endettement des étudiants de l'enseignement supérieur peut également avoir des effets non anticipés. Des études menées en Australie et aux Etats-Unis - deux des pays où l'utilisation des prêts étudiants est parmi les plus larges et les plus anciennes - ont montré que l'importance de cette dette est corrélée avec un décalage de l'âge du mariage ou du premier enfant, un accès à la propriété plus difficile et une moindre accumulation de capital. Par ailleurs, en Australie, pays pionnier en termes de mise en place de prêts indexés sur le revenu, il existe des phénomènes de concentration des revenus en dessous du seuil minimum de remboursement. Ceci semble indiquer que le prêt indexé sur le salaire peut encourager les personnes endettées à travailler pour un faible salaire, ou à temps partiel. Ces effets pervers doivent donc être pris en compte dans l'élaboration de tels mécanismes de prêt.

Même si les prêts pour étudiants sont fréquents dans les économies développées, ils ne sont en aucun cas un phénomène universel. Par exemple, la France et l'Allemagne, deux des plus grandes économies de l'Union Européenne, qui connaissent une dépense par étudiant similaire à celle de l'Australie, de la Finlande ou du Royaume-Uni, n'ont pas de programmes de prêts étudiants si larges. Quelles en sont les conséquences sur l'enseignement supérieur dans ces pays ? Bien que les aides des

parents aux étudiants soient importantes en France et en Allemagne, le pourcentage de jeunes de 25 à 34 ans diplômés de l'enseignement supérieur et le degré de mobilité éducative diffèrent grandement entre ces deux pays. Il est ainsi difficile de tirer des conclusions générales sur le lien entre l'absence de prêts étudiants et l'égalité des chances. De nombreux facteurs doivent être pris en considération, tels que la qualité de l'enseignement primaire et secondaire, les politiques redistributives ou encore la structure de chaque économie. Une analyse plus systématique serait par conséquent nécessaire afin d'identifier le lien entre les politiques d'aide aux étudiants et les réelles opportunités éducatives qu'elles leur offrent.

Introduction

As a consequence of increased cost-sharing in higher education around the world, higher education students are taking on an increasingly large amount of debt, not only to pay fees but also to cover living expenses while studying. In theory, higher debt should not be a problem as long as the increase in the student's return of investment is commensurate. But higher education is a risky and increasingly costly investment. Although the average lifetime college premium has been rising over time in both developed and developing economies, there is a lot of heterogeneity in returns across students. Moreover, labour market uncertainty has increased considerably in recent decades (see, for example, Lochner and Shin, 2014), while increased access to higher education has led to relatively poorer and less able students joining the pool of borrowers. Coupled with higher education costs, this could generate higher student debt and higher default rates. The combination of increasing debt and less predictable access to well-paid employment have generated concerns in a number of countries about the short and long-term impact of student debt.

Different types of student loans exist. Mortgage type loans have predetermined fixed monthly payments and the repayment obligation is not extinguished until the debt is paid in full. Depending on the type of contract involved, and the penalties associated with delinquent loans, the risk of investment in higher education is borne by the borrower and/or the lender. Private loans are most often of this type. Income contingent loans, in contrast, explicitly account for the fact that some graduates will not be able to repay the amount owed in full. The burden of these unpaid amounts usually falls on the taxpayer, and so the risk of investment in higher education is shared within the population at large. In other cases, relatively successful graduates effectively pay a surcharge that covers non-payments of some members of their cohort. Then the investment risk is shared within the cohort. Different arrangements thus imply different types of problems, as discussed in this report. Finally, although student debt contracts are spreading around the world, some countries buck this trend, relying instead on direct subsidies to students, families or institutions to support the investments in higher education.

The aim of this report is to document the main issues arising from student debt across different countries. We focus on the following questions:

- How much funding in terms of student loans is available for higher education students in different countries?
- What is the size of graduate debt in different countries? What are the established conditions of repayment? To what extent are graduate debt levels problematic for graduates or society?

Whenever possible, we provide information about the cost of student loan programs for the public budget and summarize existing research on students' reaction to financial incentives of different funding schemes.

We look at selected countries that are well known for having broadly based loan programs for students: Australia, England, Finland and Norway (as representative of the Nordic countries), the Netherlands, Hungary, the USA and Canada. In all these countries, except Hungary, total (public and private) expenditure per student by institution in higher education is higher than average in the OECD (Table 1). Together with the UK, France and Germany are the largest economies in the EU. Although the spending per student is similar to that of Australia, Finland, or the UK, there are no broadly based student loan programs in these countries. A number of questions naturally arise: Is more or less public funding available for students when no loans are offered? Do parents bear a higher share of the higher education cost? Is access to higher education limited to the comparatively wealthier students? Although a precise

answer would require a more thorough analysis, beyond the scope of this report, we provide an overview of the situation in France and Germany in order to put the issue of student debt in perspective.

The rest of the report is organized as follows. Section 2 reports the evidence on graduate debt in the aforementioned selected countries. Section 3 refers to the countries without extensive student loan programs, trying to explore the causes and consequences of their different approach to student funding. Section 4 concludes.

Table 1: Tertiary education spending, attainment and loan uptake in selected countries

Country	Government expenditure on higher education as % of GDP[(i)]	Public support for households and private entities, % of GDP [(ii)]	Expenditure per student by institution[(iii)]	Percentage of students who have a loan[(iv)]	Average amount of loan[(v)]	% of 25-34 year olds with tertiary education[(vi)]
Australia	1.18	0.39	10,711	77.1	3,507	47
Canada	1.88	0.38	11,585	-	4,421	57
Finland	2.08	0.30	10,905	27.7	1,200	40
France	1.26	0.10	10,454	-	-	43
Germany	1.35	0.31	10,904	-	-	29
Hungary	1.09	0.14	7,153	17	3,876	30
Netherlands	1.61	0.50	11,701	33.4	2,646	43
Norway	1.96	0.99	14,288	70	9,381	45
UK	1.27	0.99	10,412	83.9	10,070 (England)	48
USA	1.36	0.39	15,345	71	15,510	44

[(i)] UIS/ISU: http://data.uis.unesco.org/ Year 2011, data extracted on 06 Jul 2015. Includes research expenditure.
[(ii)] OECD, 2014. Includes scholarships, grants and loans. Table B5.4. 2011.Table B5.4
[(iii)] OECD, 2014. Annual expenditure per student by educational institutions for all services (2011). In equivalent USD converted using PPPs for GDP, by level of education, based on full-time equivalents. Table B1.1a
[(iv)] OECD, 2014. Academic year 2010/11. Table B5.3
[(v)] OECD, 2014. Average annual gross amount of loan available to each student (in USD). National students, in USD converted using PPPs. Table B5.3
[(vi)] OECD, 2014. Percentage of adults who have attained tertiary education, by type of program and age group (2012). Table A1.3a
Empty spaces mean that no data is available.

Student debt in selected countries

In this section we provide an overview of student debt in different countries in connection with developments in the overall student funding and the higher education landscape. We include information, when available, about the size and distribution of that debt and try to assess whether it constitutes a problem and for whom. We also devote some attention to the issue of incentives generated, purposely or not, by different loan schemes. We focus on Australia, England, Finland and Norway as representatives of the Nordic countries, the Netherlands, Hungary, the USA and Canada.

Australia

Australia was the first country to introduce, in 1989, an income-contingent loan program for the payment of university fees, the Higher Education Contribution Scheme (HECS henceforth). The program has been known since 2005 as the Higher Education Loan Program (HELP). Administered by the government, the loans bear no real interest, but are indexed to the Consumer Price Index. By 2010-11, 77.1 percent of students had a loan (OECD, 2014).

The Australian Taxation Office (ATO) calculates the individual HELP repayment income (HRI) and publishes regularly the income thresholds and corresponding repayment rates (see Table 2 for 2012-13). Below AUSD 51,309 (EUR 39,261), no payment is due. This provides incentives to work on low paid jobs, or to work part-time. According to Chapman and Leigh (2009) there is evidence of a small, but significant, degree of concentration of earnings (bunching) below the minimum repayment threshold, but the economic effect, in terms of budgetary cost and loss of pre-tax earnings is small.

Table 2: HECS HELP income thresholds and repayment rates 2012-13

HECS-HELP 2012 – 2013 Repayment income	Repayment % rate (proportion of earnings)
Below $ 51,309 (39,261€)	Nil
$51,309 (39,261€)- $57,153 (43,733€)	4.0%
$57,154 (43,734€) - $62,997 (48,205€)	4.5%
$62,998 (48,206€) - $66,308 (50,738€)	5.0%
$66,309 (50,739€) - $71,277 (54,541€)	5.5%
$71,278 (54,542€) - $77,194 (59,068€)	6.0%
$77,195 (59,069€) - $81,256 (62,177€)	6.5%
$81,257 (62,178€) - $89,421 (68,424€)	7.0%
$89,422 (68,425€) - $95,287 (72,913€)	7.5%
$95,288 (72,914€) and above	8.0%

Source: Australian Taxation Office Tax Calculator (http://atotaxcalculator.com.au/help-debt)[1]

The maximum yearly payment is 8 percent of HRI. Based on 2011 Census data, Go8 (a coalition of leading Australian universities) reports that more than one fifth of graduates in full time employment earned incomes less than the HELP repayment threshold.[2] This group consists mainly of graduates in the early stages of their careers, since most graduates do not begin to make repayments until their third year of full time work. The same source reveals that, on average, graduates working full time will earn around AUSD 84,000 a year. The ATO estimates that it takes an average of 8.1 years to fully repay HELP debts. However, about 17 percent of new lending is now classified as doubtful due to low earnings, emigration or death, and it is not expected to ever be fully repaid (Norton, 2014). Although the program is specifically designed to allow this to happen, doubtful debt is quite unevenly distributed.

Indeed, expected repayment levels differ greatly across types of bachelor degrees: while 95 percent of graduates in medicine repay their loan in full, 50 percent of graduates in Visual Arts and Crafts never make any payment. This is all the more surprising when we take into account that, in Australia, the size of fees for each

[1] Currency conversion based on average annual quotations EUR-AUSD in 2012 and 2013 from CREA.

[2] Go8 is the Group of Eight leading universities in Australia (https://go8.edu.au).

course is determined based precisely upon expected earnings following graduation, and not the cost of providing the course. The large rates of non-repayment in some areas of study may hence reflect a large degree of wage dispersion in those areas.

The differences in expected repayment rates by men and women are also important. While 100 per cent of male doctors and dentists are expected to repay in full, 10 per cent of female doctors and 20 percent of female dentists are not able to repay the debt in full. In fact, 10 percent of female lawyers and engineers are not expected to repay at all (Norton, 2014, Figure 4). Of course, maternity and child rearing are at the basis of these differences. It could be argued that these differences in repayment are not a negative feature of the program, since the income contingent nature of repayment encourages women to study and access high pay part-time jobs. In their study about the access implications of income-contingent charges for higher education, Chapman and Ryan (2005) conclude that the introduction of the income-contingent loan program did not discourage university participation in general or among individuals from low income groups, and that participation grew more strongly for women than it did for men.

Coming back to the reasons for non-repayment, we need not forget that not everyone who starts a degree finishes it, and that graduates may leave the country. These also explain the existence of doubtful debt. Since the ATO has no international jurisdiction, this second issue implies that an unintended consequence of the scheme's design is that loans are impossible to be collected from debtors who leave Australia. Chapman and Higgins (2013) provide estimates of the cost of unpaid debts from graduates going overseas and make some proposals of how this issue should be addressed. For example, the government could arrange bilateral agreements with other countries so that they would use their internal revenue services to collect the debts under the same income contingent parameters in operation in the country of origin. Barr (2001) acknowledges that this may be difficult, and proposes instead to convert income contingent loan debt into mortgage-type debt for borrowers who go overseas to simplify collection (this is the approach adopted in England, Sweden and New Zealand). Of course, it is required that borrowers leaving the country leave contact details to allow the authorities to keep in touch with debtors. Ideally, in the long run, Barr (2001) argues, an international agency with the capacity to collect loans in all countries on an income contingent basis should be established.

Norton (2014) also points out the fact that debt is written off in case of death. He argues that few people die early and that HELP doubtful debt is principally driven by people expected to die at the age of 60 and above. This is a consequence of the fact that more individuals are pursuing higher education later in life, since constant scientific and technological innovation have led to increasing life-long learning.

In the end, the cost of unpaid student loans falls back on the Australian taxpayer. In addition, the fact that no real interest rate is applied on the loans implies that the government is losing a potential real return on the funds devoted to loans. Because they involve long time periods and the estimation of opportunity costs, it is very difficult to calculate the size of these costs.

Regarding the effects of loans on student behaviour, Andrews (1999) argued that the introduction of HECS had a minor influence on the limited participation in higher education of individuals from low socio-economic groups. Birch and Miller (2006) (cited in Vossensteyn et al, 2013) studied the effects of HECS on performance, comparing the grades of first-year students that paid their HECS liabilities with those that deferred them. They find a positive correlation between debt deferral and performance for students with lower university entrance scores, suggesting that the presence of debt might increase student motivation. However, the correlation is negative for students with higher entrance scores. This result might reflect the lower

socio-economic background of those students who defer payments, an effect that is not offset by increased motivation within this particular student group. Interestingly, these results do not extend to students beyond the first year, indicating that senior students with debt have similar academic performance to their peers without debt. Using standard econometric methods to control for selection, Houssard, Sastro and Hardy (2010) show that graduates with HECS debt are less likely to own a home and hold a high socio-economic status than their counterparts without debt.

Finally, Australian students also benefit from means-tested scholarships and grants (the amounts depend on the recipient's income). First, there are a number of subsidised student places (Commonwealth supported places). Also, low income individuals of age 16 to 24 who are studying full time, in apprenticeship or training, looking for a job, or sick are entitled to a Youth Allowance. Depending on circumstances, the fortnightly payments range from $233.60 to $725.40.[3] In addition, students receiving a Youth Allowance are entitled to a student start-up scholarship of $1,025 twice a year, at the beginning of each semester to buy textbooks and specialized material. In 2009-10, around 12% of students received Youth Allowance.[4]

England

Income contingent loans collected through the tax system were introduced in England in the early 90s. Reforms to the basic mechanism followed in 1997 and 2005, when tuition fees were raised. A significant reform was again introduced in 2012-13 when universities were allowed to charge up to GBP 9,000 a year for tuition.

That year, the average fee charged was GBP 8,385. Eligible full-time undergraduate (first cycle) students are however not expected to pay these tuition costs up front. [5,6] Instead, they get a loan. Under both the old and the new system, repayments are income-contingent and made at the rate of 9 percent of income above a certain threshold of earnings. This threshold has been raised in the last reform and will be GBP 21,000 (EUR 29,286) in 2016 prices, adjusted each year for inflation in line with the retail price index (RPI) (Eurydice, 2013-14). The reform introduced in 2012-13 also raised the interest rate of the loan. Before, graduates were charged an interest rate equivalent to inflation as measured by the RPI. The loan now bears a real interest rate of 3 percent per year (that is, 3 percent plus inflation measured by the RPI) while students are studying (i.e., from the point at which loans are issued until the April after graduation). After this point, the interest rate will depend on the graduate's income in each financial year (Crawford and Jin, 2014).

Graduates with income below GBP 21,000 will face a 0 percent real interest in 2016.[7] The real interest rate will then increase linearly with income, reaching a maximum of 3 percent for graduates with income of GBP 41,000 or more. Interestingly, the interest

[3] See http://www.humanservices.gov.au/customer/services/centrelink/youth-allowance, retrieved July 2015.

[4] In addition, around 3% of students receive AUSTUDY, targeted to students older than 25 (http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4102.0Main+Features20July+2013). Higgins (2011) argues that student income support is largely insufficient and that and income contingent loan for living expenses should be introduced in Australia.

[5] In Euros, the maximum tuition fee amounts to 10,843€, the average tuition being 10,102€ (using the average exchange rate for May 2015).

[6] These fees apply to students from all parts of the UK and from the EU but for students from Wales can be offset by a fee grant from the Welsh Government.

[7] Note that the earliest date for repayment for all post-2012 (Plan 2) borrowers will be April 2016.

rate does not affect the size of the repayment made by the graduate each year, which is fixed at 9 percent of gross income over the repayment threshold. Instead, the interest rate applied affects the overall size of the loan and, hence, the length of the period over which it is to be repaid. The interest rate affects also the size of the debt potentially written off at the end of the repayment period. Indeed, any outstanding debt will be written off 30 years after the individual becomes liable to make repayments (April after graduation).

There are also loans for living costs for all students, and they are subject to the same terms of repayment that apply for tuition fee loans. Students living in the family home can borrow a maximum of GBP 4,375 for living costs. For students living away from the family home the maximum is larger, of GBP 5,500 outside London and GBP 7,675 in London. Students who receive a need based grant can borrow lower amounts.

Crawford and Jin (2014) estimate that graduates will leave university with GBP 44,035 of debt on average in 2014 prices. In nominal terms, they will repay on average GBP 66,897. The Student Loans Company reports lower average debt levels for the 2014 repayment cohort, of GBP 20,100. However, this figure refers to graduates who enrolled under the previous student loan plan, when university fees where capped at GBP 3,000. Crawford and Jin's estimates, on the other hand, can be interpreted to provide an upper bound for estimated debt levels since they focus on students studying full-time and assume that everyone takes out a loan and that there is no dropout from university.

Because repayment is income contingent, the estimated dispersion of repayments is large: the 10 percent lowest lifetime earners are expected to pay on average GBP 6,460, while the 10 percent highest lifetime earners are expected to pay GBP 103,691. As in Australia, gender differences in expected repayments are large.

According always to Crawford and Jin's estimates, the majority of graduates will not repay their loan in full. As many as 73 percent of graduates will have some debt written off at the end of the repayment period with the new system. On average, the amount written off will be GBP 30,000. The cost to the government will therefore be large. Crawford, Crawford and Jin (2014) estimate that for each pound lent out to cover tuition and maintenance, the long run cost to the government is 43.3p. This subsidy varies considerably across the distribution of graduate earnings: while the lowest earning 10 percent receives a subsidy of 93 percent, the highest earning 10 percent receive a subsidy of only 1 percent. It is worth emphasizing that even the highest earners receive a subsidy, however small. This is due to the fact that the interest rate at which the government borrows to lend to students is higher than the interest rate that it gets from loan repayment. Thus, even though student loans bear a real interest rate, interest rates are subsidized. Still, with respect to the situation prior to the 2012 reforms, the introduction of the real interest rate generated important savings for government, mainly from those individuals in the middle and upper earning deciles who were to pay more under the new conditions (Johnston and Barr, 2013). As stated by the same authors, those savings were offset by the increase in the income threshold at which repayments start. In turn, the cost of the student loans naturally increased with the introduction of the real interest rate, by approximately GBP 4,400 per graduate according to their estimates.

In England there are no financial benefits for families of university students, but the financial position of the family affects the amount of financial support available to students in the form of grants and bursaries (Eurydice, 2013-14). From 2016-17, however, maintenance grants will be abolished and replaced by increased maintenance loans (Hubble and Bolton, 2015).

Nordic Countries

The principle of free education (guaranteed by law in Finland, Denmark, Norway and Sweden) is implemented by means of generous student aid and loans guaranteed by the government in addition to zero university fees for home and European Economic Area students (Ahola et al., 2014). These countries usually share the view that students should be financially independent from parents. For this reason, aid is not means-tested according to parental income and parents do not benefit from tax benefits or family allowances. In contrast, the presence of a spouse, or children, is frequently accounted for. Universities charge no fees and financial aid is generous, but requires academic achievement. The combination of zero tuition and considerable financial aid is made possible by large public spending.[8] These countries actually spend the largest proportions of GDP in public subsidies to tertiary education (see Table 1). And yet, families (be it parents or partners) still provide more than 20 percent of the monthly income of students who do not live with their parents. Although, as shown on Table 3, this is a low contribution relative to other countries, it shows that students are not totally independent from their families.

Finland

Like in the other Nordic countries, no tuition fees are charged in Finnish universities. Student financial aid is generous and consists of a study grant, a housing supplement and a government-guaranteed student loan. The study grant is an allowance paid by the government on a monthly basis. Students are usually required to make adequate progress in their studies in order to be eligible for payment. Amounts range from EUR 55 to 298 per month, and are lower for students living with parents. The housing supplement is an allowance paid by the government and it is considered to be non-taxable income. It covers 80 percent of the rent for students living independently. The maximum amount is EUR 201.60 per month. Students with yearly income larger than EUR 11,850 per year are not eligible for financial aid. There are no family allowances or tax benefits for parents.

About 40 percent of students in higher education take up loans in addition to the aforementioned grants (Eurydice, 2013-14). A typical amount to borrow is EUR 300 per month during 9 months, or EUR 2,700 a year. These study loans are government guaranteed. Once a student has been granted the government guarantee for a student loan, she needs to apply for the loan at a bank of her choice. No other collateral is needed as security for these loans. A government guarantee is valid for a maximum period of 30 years from the moment the first instalment was drawn. Unlike in countries with public income contingent loan programs, students negotiate some of the loan terms, such as the interest rate and repayment schedule (typically of a mortgage type), directly with their respective banks. Graduates generally start paying off their loans within about two years of the end of their studies. It usually takes about twice the time of duration of studies to pay back student loans (Ministry of Education and Culture). Default rates have traditionally been small, although they did increase from 0.2-0.3 percent in the 80s to 1.1-1.4 percent by the end of the 90s. Nowadays, default on student loans does not seem to be perceived as a problem in Finland.

[8] These conditions apply to all students enrolled in higher education, including foreigners who comply with the requirements. In particular, they usually need to speak Norwegian.

Table 3: Composition of monthly income of students not living with parents in selected European countries

Composition of monthly income for students not living with parents:	FI	FR	DE	NL	NO
Family/partner contribution for all students, in %	22	54	48	30	21
Contribution of public support for all students, in %	15	20	18	18	27
Job contribution for all students, in %	54	22	28	32	45
Other income, in %*	9	4	6	20	7

Source: eurostudent.eu, retrieved July 2015
*"Other income" includes income from either private or public sources that are not assigned to one of the other categories mentioned above, e.g.: grants and loans from private companies, housing benefits or child benefits.

The social insurance institution of Finland (Kela) provides interest payment assistance in case of need. If the higher education degree is completed within the target time, graduates can also benefit from student loan compensations and/or tax deductions. These reductions in the payments due can amount to as much as one third of the student loan amount.

In particular, higher education students admitted from August 2005 and until August 2014 who graduate in the normative time are entitled to a tax deduction for study loans of 30 per cent of the qualifying debt exceeding EUR 2,500. Students who have started their first higher education studies after 1 August 2014 can benefit from a student loan compensation of 40 percent of the qualifying debt exceeding EUR 2,500. Kela will usually pay these compensations directly to the bank as an extra repayment on the student loan. Both tax deductions and student loan compensations are generally granted without application, but there are some exceptions to this.

Table 4 reports the number of graduates in debt and the average amount they owe since the academic year 2010-11 (source: Statistical database Kelasto, retrieved June 2015). Taking inflation into account, these amounts are fairly stable.[9] Numbers of people with outstanding debt seem by contrast to have been sensitive to the economic downturns from 2007-08 to 2011-12 approximately. In 2013-14 a total of 309,917 people had outstanding student debt, and the average amount of debt held was EUR 5,421. Interest allowances were granted that year to 1,879 people, with a global cost to the social insurance institution of EUR 230,109, i.e., EUR 122.46 per beneficiary (source: Kela statistics).

[9] The annual inflation rate from 2006 to 2014 in Finland was 2.20, 2.64, 3.43, -0.55, 2.85, 2.9, 2.36, 1.61 and 0.47 per cent respectively (http://www.inflation.eu/inflation-rates/finland/historic-inflation/cpi-inflation-finland.aspx).

Table 4: Debt characteristics in Finland

Year	Persons with outstanding student debt	Average amount of debt
2013-14	309,917	5,421
2012-13	298,416	5,281
2011-12	289,076	5,150
2010-11	281,055	5,011
2009-10	278,005	4,887
2008-09	276,142	4,799
2007-08	280,233	4,657
2006-07	292,096	4,484
2005-06	301,892	4,329

Source: Statistical database Kelasto, retrieved August 2015

Norway

Norway has a long tradition of student loans, and uptake of loans by students is among the largest in the world. In 2010-11, 70 percent of students had a loan and the average debt at graduation was, according to the OECD, USD 25,188 (EUR 18,530)[10]. As in the other Nordic countries, universities do not charge tuition fees and everyone, including foreign students can get student loans. For the academic year 2015-16, the maximum amount one student could borrow was NOK 100,920 or EUR 12,000.[11]

The most remarkable feature of Norwegian student loans is that up to 40 percent of these loans can be converted into non-repayable grants provided that some conditions, related to academic progress as well as income and wealth of the student are met. In particular the borrower must not live with her parents, must pass all exams, and earn less than NOK 162,769 (EUR 19,354) in 2015 and/or less than NOK 168,059 (EUR 19,983) in 2016. Assets must not exceed NOK 370,304 in 2015 and NOK 382,339 in 2016. In Euros these amounts are, respectively 44,031 and 45,462 using the average exchange rate in May 2015.[12] However, if the annual income and/or assets of graduates exceed a certain level, the grant is converted back into a loan (Opheim, 2010). The support also remains a loan if students live at home with their parents, even if they pass their exams.

The normal repayment time is 20 years and all graduates can apply for delayed repayment for up to 3 years (during that time of deferment, however, interest still accumulates). In cases of low income, unemployment, illness, childbirth or care of small children, repayments may be postponed for a period and the interest can be waived. In some cases all or parts of the loan will be cancelled (Eurydice, 2015).[13] Overall, the system is designed to protect low wage earners. It is however quite

[10] Currency conversion using average annual quotations Euro-USD in 2010 and 2011: http://www.crea.es/economia.nsf/a424eb3ddf92f02ec1256aa1002d763e/f130e3e28017efc5c12574440044371f?OpenDocument

[11] Currency conversion using average monthly quotations Euro-NOK in May 2015: http://www.datosdelanzarote.com/itemDetalles.asp?idFamilia=10&idItem=4496. The description of the grant and loan amounts and conditions can be found in the webapge of the Norwegian State Educational Loan Fund -Lanekassen-2015.

[12] These amounts vary when the student is married and/or has children.

[13] This applies for instance if the person lives and works in certain parts of Northern Norway, as part of the package of fiscal incentives to favour residence in this area.

difficult to estimate the global cost of these measures to the government (consequently, the taxpayer).

The Netherlands

Holland has two main types of educational institutions: research universities, currently enrolling some 240.000 students, and universities of applied science (UAS) enrolling about 446.000 students.[14] Dutch students pay fees to attend both types of institution and these fees have been gradually increasing in the last 20 years. If they need to, students can apply for a tuition fee loan that is a monthly loan equivalent to the amount of the tuition fees. The loan bears the same interest rate that the Dutch government pays to the National Bank plus a small administrative surcharge. During the last decade, this implied and average of 3.5 per cent. For 2010-11 the OECD (2014) reports an interest rate of 1.5 per cent and, in 2012-13, it was only 0.6 percent (Vossensteyn, 2014). There is a grace period of two years after graduation during which students do not have to make repayments. After that, a mortgage-style repayment schedule with fixed monthly instalments is applied over a period of 15 years. The minimum monthly amount is EUR 45. Graduates can apply for a temporary reduction of payments in case of need and all debt remaining after 15 years is cancelled. Vossensteyn (2014) records that, in 2012, about 3 percent of total debt was not repaid, but the most recent figures provided by Dutch Ministry of Education, Culture and Science reveal a repayment rate of 90 percent only. After the reform of the system of student aid that is due next September, it is expected that the repayment rate go down to 86.4 percent. The reason is that the new system will increase the amount of debt and make repayments more income contingent, with a maximum of 4 percent of gross income to be spent by graduates on repayment.

Before September 2015 all students were also eligible to a basic grant, a public transportation pass, and a supplementary means-tested grant that, like the loan, needed to be applied for. As of September 2015, the basic grant will be abolished and substituted by a loan. In contrast, the means-tested supplementary grant will be increased.

Grants in the Netherlands are performance-related: they are initially paid out in the form of a loan, but become non-repayable if the student graduates within ten years.[15] Students who fail to graduate have to repay all the finance they have received, with the exception of the first five months of the supplementary grant (Eurydice, 2015).

Vossensteyn (2014) investigates the impact for students of financial incentives embedded in higher education funding. He concludes that the introduction of performance related grants, combined with a more performance oriented general funding of higher education institutions, has been effective in reducing the average time of degree completion. In particular, after 1996, students reduced their time to complete studies from from 6.4 to 5.8 years. Like in Australia, Vossensteyn does not find a negative effect of increased cost sharing on participation. On the contrary, participation has continuously increased. An interesting fact is that, although there is some evidence that students are debt averse, the truth is that higher numbers of students are taking loans and accumulating higher debt. Nowadays, about 50 percent of graduates have debt, and the average debt is about EUR 15,000. This is likely to

[14] According to https://www.studyinholland.nl/education-system/dutch-institutions, retrieved August 2015

[15] Typically, bachelor programs last for 3 years in research universities and 4 years in universities of applied sciences, which can be accessed a year younger.

increase in some additional EUR 6,000 on average after the reform of the system of student aid due next September.[16]

Parents are not eligible for financial assistance. Vossensteyn (2014) explains that this was not the case before the mid 80s. However, during the 70s student unions argued in favour of more financial independence for students, and this led to the approval of the Student Finance Act in 1986 that set the basis for the present scheme.

Hungary

All student-funding schemes presented so far transfer to the taxpayer the cost of non-repayment. In 2001, Hungary introduced a student loan system that was uniquely different in this sense (Barr, 2014). In particular, in addition to income contingent repayment, the Hungarian scheme relied on private funding and self-sustaining operation, without any direct state subsidy (Berlinger, 2009). Still today, the program is managed by a not-for-profit state owned institution, the Hungarian Student Loan Company (Diákhitel). Although the government guarantees all loans to the private investor, the cost of non-repayment falls on the participating cohort of graduates through the application of a cohort risk premium to the interest on the loan (Barr, 2014). Thus the cost of non-repayment by some graduates falls on the more successful graduates in the same cohort, who pay an interest surcharge.[17] In addition to the repayment and pre-payment of the borrowers, Diákhitel obtains resources from the return on investing assets, stand-by liquidity facilities, mid and long term loans from commercial banks, loans from special purpose financing institutions (European Investment Bank EIB, Hungarian Development Bank), and the issue of domestic bonds (Havelda 2010). The company has been successfully operating until now.

Best performing students in Hungary are offered full scholarships to cover university fees. Those students who miss the grade requirement by little are awarded a scholarship that amounts to 50 percent of the tuition fee. The rest of the students are required to pay full tuition. For first cycle (bachelor's) degrees, lasting 3 or 4 years, tuition fees are approximately EUR 1,000 per academic year on average.[18]

Until 2012, loans were not available for the payment of tuition fees, but only for other, general maintenance expenses (this program is referred to as Student Loan 1). The OECD reports that 27.6 percent of graduates held some debt in the academic year 2010-11. The average debt at graduation for these individuals is 9,263 USD (EUR 6,630).[19] The Hungarian Student Loan Company reports that repayment was larger than expected and allowed in 2013 to reduce the interest rate from 7.75 to 7.5 percent. In particular, during the fiscal year 2013, payments were 164 percent of all repayments expected for the calendar year (Diákhitel, 2013). From the beginning of the program, clients have repaid 1.75 times more than the prescribed obligation.

Since 2012-13, when the number of state funded places was cut, the program Student Loan 2 was introduced for the payment of tuition fees of students with partial or no scholarship (Eurydice, 2015). Unlike Student Loan 1, the interest of Student loan 2 is subsidized by the state, and graduates only pay an interest of 2 percent (Diákhitel,

[16] We thank Marc van der Steeg and Hans Vossensteyn for providing us with updated information on the figures in this section.
[17] This of course might generate adverse selection effects, as students with better prospects will be less interested in taking up the loan. However, this adverse selection can be limited by the lack of other sources of finance for students.
[18] In addition, registration fees range from EUR 40 EUR to up to EUR 800 depending on the course (http://www.studyineurope.eu/study-in-hungary).
[19] The average quotation for 2010 and 2011 is 1 Euro =1.397 USD.

2013). In 2012-13, the maintenance loan (Student Loan 1) amounted to a maximum of 250 thousand HUF per semester (795 Euro) for a maximum of 10 semesters.[20]

Loan repayment starts only four months after the termination of studies and usually lasts for 10-15 years. At the latest, graduates are expected to terminate their legal relationship with the company after they turn 35. Advanced payments are not penalized. The Student Loan Centre is required to terminate the loan contract with debtors whose overdue debt exceeds the instalments payable for 6 months (or 12 months with certain older contracts). The handling of these debts is then transferred to the tax authority. In 2013, the ratio of cases transferred to the National Tax and Customs Administration constituted 2.9 percent.

It has to be noted that repayment of Student loan 2 has not started yet. Students in this program will be graduating this summer at best. They will end up holding larger debt levels than their predecessors, but they will only pay a 2 percent interest rate. The rest of the interest due, including the cohort risk premium will be subsidized.

USA

In the U.S., student loans are an important source of college education funding, apart from grants, work-study and tax benefits. Student loan programs have been in place for decades (the first federal student loan program was introduced in 1958). In 2013-14, the fraction of federal and non-federal loans in total student aid was 42.7 percent (College Board, 2014).[21]

During the last decades, both the fraction of college graduates with education-related debt and the average student debt per graduating borrowers have grown significantly. The percentage of Bachelor degree recipients with debt increased from 55 percent in 1989-90 to 71 percent in 2011-12. Over the same period, the average cumulative student loan debt per borrower rose from 7,300 to 21,200 (Hershbein and Hollenbeck, 2014a, 2014b). There are significant changes in the distribution of cumulative loan amounts. For instance, the fraction of college graduates who borrowed more than USD 30,000 was 4 percent in 1989-1990. In 2011-12 it went up to 30 percent.

Two notable key factors underpin these trends. One is the substantial rise in the cost of college education. Taking into account the changes in student aid, the net tuition, fees, room and board (TFRB) cost has increased by 67 at public four-year colleges and 24 per cent at private non-profit four-year colleges between 1990-91 to 2014-15. Over the same period the net TFRB at public two-year institutions declined by 7 percent (due to a stronger increase in grant and tax benefits than the published TFRB). Second, the enrolment in higher education has expanded. Expansion brought in the system relatively poorer students who are likely to get lower parental support and have to rely more on debt in order to fund their studies.[22]

Most of the student lending in the US is done through federal student loan programs, although there is also a market for private student loans. The size of the private market is estimated to be USD 91.0 billion, or 7.2 percent of the USD 1.27 trillion in outstanding balances for the entire student loan market (Arvidson et al., 2013). While the share of private loans in total new loans disbursed peaked at 23 percent in 2007-

[20] 1 Euro=314.5 HUF as of July 1st 2015. According to the OECD Better life Index, Hungarians earn USD 20,948 per year on average (18,879.73 Euro).

[21] The amounts borrowed by parents under the ParentPLUS program are included. They represent around 10 percent of total federal loans.

[22] The share of high school graduates from low income families who enrolled in college grew from 34.7 percent in 1975, peaked at 56.1 per cent in 2008, and declined to 48.8 in 2013 (National Center for Education Statistics, Digest of Education Statistics 2013, Table 302.30).

08, after the Great Recession it declined to 7 percent in 2012-13 (source: authors' calculations based on College Board, 2014, Table 1).

The largest federal student loan program is the Stafford Loan, which can be subsidized or unsubsidized.[23] In the case of subsidized loans, the government pays the interest while the student is in school. The Stafford Loan accounts for 75 percent of total student-loan volume, followed by PLUS loans to parents (8.7 percent), and PLUS loans to graduate students (6.8 percent).

Under the Stafford program the undergraduate cumulative borrowing limit is USD 31,000 for dependent students[24] and USD 57,500 for the independent ones. Graduate students can borrow up to USD 20,500 per year. The cumulative loan limit is USD 138,500 (including both undergraduate and graduate loans).[25] The interest rate on Stafford loans is variable but capped to 8.25 per cent for undergraduate and 9.5 per cent for graduate students. All federal student loans can be consolidated into a single Direct Consolidation Loan. The interest rate is fixed for the life of the loan and is calculated as a weighted average of the interest rates on the consolidated loans.

The borrowers with Stafford loans have four basic repayment options: standard, graduated, extended and income-contingent. The repayment plans involve a fixed monthly payment (Standard Repayment Plan and Extended Repayment Plan) or can vary over the lifetime of the loan (the Graduated Repayment Plan and the income dependent schemes). Under the Graduated Repayment Plan, payments increase gradually over the life of the loan, usually every two years, and are not income adjusted. The repayment periods vary between 10 and 30 years. For instance, in the case of consolidated loans, the repayment period is maximum 10 years if the amount of student debt is less than USD 7,500, 20 years if debt is lower than USD 40,000, and 30 years if the amount of outstanding loans is higher than USD 60,000 (Lochner and Monge Naranjo, 2014b). The payments of the consolidated loans can be fixed or increase over the life of the loan.

Discharging student debt through bankruptcy is very difficult. In case of economic hardship, the borrower can be granted a deferment or forbearance, which makes possible a temporary suspension of payments or a reduction in the monthly payments. Borrowers experiencing difficulties in repaying their debt can switch to an income-contingent plan where the monthly payments are calculated based on current income. For example, under the Pay As You Earn Repayment Plan (PAYE), introduced in 2012, the maximum monthly payment cannot exceed 10 percent of discretionary income. This is calculated as the difference between the adjusted gross income and 150 percent of the poverty guideline, which varies with the relevant family size and state of residence.[26] The outstanding balances at the end of the repayment period are forgiven. The eligibility for PAYE has been expanded in June 2014.

In case of default, up to15 percent of the borrower's disposable earnings can be seized without a court order. Federal tax refunds or Social Security payments can be also be

[23] Until 1994-95, federal student loans were disbursed through private lenders but were guaranteed by the federal government. However, this program was eliminated and since 2009-10 all new federal loans have been Direct Loans. Stafford Loans are now called Direct Subsidized and Direct Unsubsidized Loans.

[24] The dependency status is determined by a number of federal criteria that include student's age, marital status, parents' situation, etc.

[25] The loan limits for medical school students are higher.

[26] See https://studentaid.ed.gov/sa/repay-loans/understand/plans for more details about various repayment options.

seized and used to pay the outstanding debt.[27] Lochner and Monge Naranjo (2014b) report that default rates on federal student loans declined during the 90s and stabilized during the 2000s. However, they rose after the Great Recession, from 4.6 percent in 2005 to 10 percent in 2011. The default rates are larger at private for-profit colleges and 2-year public institutions (13-15 percent) compared to private non-profit and 4-year public institutions (less than 8 per cent). Although for-profit colleges enrolled 10 per cent of full time students in 2009, they accounted for 44 percent of defaults (College Board, 2014).

The research on student loan repayment behaviour suggests that differences in default/non-payment rates across institution types are attributable to the composition of their student bodies (see Gross et al., 2009 for a review of the literature). For-profit or less-than-four-year colleges typically attract students from lower income families and/or minority group, and tend to borrow larger amounts. They are less prepared academically and thus more likely to have lower returns from college education. These characteristics are usually associated with a higher likelihood of experiencing difficulties in debt repayment. More recent studies such as Lochner and Monge-Naranjo (2014a) and Gervais, Kochar, and Lochner (2014) reach similar conclusions.

Despite the rise in default rates, the overall estimated revenues associated with the federal loan programs were higher than the costs in recent years.[28] Between 2013-15 the average weighted subsidy rates – the cost as a percentage of initial amount disbursed – of all federal loans were negative, indicating that overall cash inflows are larger than outflows. For example, the average subsidy rate in FY2013 was -8.82 percent, meaning that the Federal government was earning almost 9 percent on each dollar loaned (Department of Education Fiscal Year 2013 Budget Request). Direct Subsidized Stafford Loans and Direct Consolidation Loans had positive subsidy rates in the FY2014 and FY2015 but they were more than compensated by large negative subsidy rates of the other federal loan types. For example, between 2013 and 2015 the Direct Unsubsidized Stafford Loan and Direct PLUS Loan programs for graduates had average subsidy rates of -20.84 percent and -32.65 percent, respectively. Estimates for older cohorts of Federal Direct Loans yielded positive subsidy rates until 2008 and negative thereafter.[29] According to the Congressional Budget Office the projected subsidy rates are also negative for coming years.[30]

While concerns about student debt have been recently voiced out in the media, recent research argues that increased borrowing should not necessarily translate into higher debt burden as most students borrow moderate amounts compared with the expected payoff from higher education (Akers and Chingos, 2014; Dynarski, S., 2014). Akers and Chingos (2014) discuss the decline in the interest rates on federal student loans and the increase in their amortization periods, as well as the fact that average income of households with student debt is growing faster than debt.

However, an upward trend in the average college premium might hide substantial heterogeneity in college education returns across students. As discussed above, students from lower quality institutions might have substantially lower returns than

[27] However, wage garnishment cannot be applied under some circumstances, such as self-employment or a (post garnishment) weekly-take home pay of less than 30 times the federal minimum wage (Lochner and Monge Naranjo, 2014b).
[28] Under the terms of the Federal Credit Reform Act (FCRA) of 1990, the present value of costs and revenues associated with a loan are calculated for the life of the loan using Treasury interest rates.
[29] https://www.whitehouse.gov/omb/budget/Supplemental, Federal Credit Supplement Spreadsheets, Direct Loans: Subsidy Re-estimates.
[30] https://www.cbo.gov/sites/default/files/43054_StudentLoanPellGrantPrograms.pdf, Table 2.

the average graduate. Recent research also concludes that increased risk exposure due to higher debt levels may be a concern. In particular, there is evidence of increased labor market uncertainty over the last decades (e.g. variability of earnings).[31] Moreover, as pointed out by Dynarski (2014), repayments of student loans are made when borrowers are most vulnerable to income shocks.

Student debt might have broader repercussions that are worth considering. Importantly, higher student debt is associated with a lower likelihood of homeownership (Brown and Caldwell, 2013; Brown et al, 2014; Cooper and Wang, 2014), lower accumulated wealth (Cooper and Wang, 2014; Fry, 2014), a lower probability of attending graduate school (Rothstein and Rouse, 2007; Akers, 2013) and delaying of marriage and children (Baum and O'Malley, 2003).[32]

Canada

Like in the U.S., loans are a frequently used option for funding higher education studies in Canada. The Canadian Student Loan Program has similar features to the American one. Student loans are available to all students in public and private colleges but the amount that can be borrowed depends on financial need and is capped. From 2000 onwards all loans are directly financed by the government. The government pays interest on the loans while the students are in school. Students begin repayment after a six-month grace period following graduation. The interest rate can be fixed or floating and the repayment period can last for up to 15 years. Normally, student loans cannot be discharged through bankruptcy. In 2009 the government introduced the Repayment Assistance Plan (RAP) that, like PAYE in the U.S., is an income-based repayment scheme offered to borrowers in financial hardship. Under this scheme payments cannot exceed 20 percent of gross family income. No payments are made if borrower income is below a minimum threshold. Outstanding debts are forgiven after 15 years. Over time there has been an increase in the number of borrowers enrolled in the Repayment Assistance Plan (see CSLP Statistical Review 2012-2013, Table 5.2).

Student borrowing has been increasing from the mid90s. Luong (2010) reports that the fraction of graduates with loans from any source rose from 49 per cent to 57 per cent over the period 1995-2005. The increase in borrowing seems to follow the trend in tuition fees. During the 70s and 80s average tuition fees for full-time undergraduates were stable or declining. However, they started to rise in the 1990s when provincial governments reduced their support to universities (Vossensteyn et al., 2013). The average tuition fees for full-time undergraduate university students rose from around CAD 2,000 in 1989-90 to more than CAD 4,000 in 2008-09 (see Luong, 2010, Chart A, the figures are in expressed in constant 2007 dollars).

Average student debt (from all sources) at graduation also rose from CAD 15,200 in 1995 to CAD 18,800 in 2005. The distribution of the amounts became more lopsided. The fraction of graduates with outstanding debts higher than CAD 25,000 or more rose from 17 percent in 1995 to 27 percent in 2005. The percentage of students owing more than CAD 50,000 or more at graduation went up from 2 percent to 6 percent (Luong, 2010).

Despite the increase in borrowing, the default rate has declined substantially since 2003-04, from 29 percent to 13 percent in 2011-12 (CSLP Statistical Review, 2005-06, 2010-11, 2012-3, Three Year Cohort Default Rates for Direct Loans). Borrowers at private institutions have the highest default rates, 22 percent in 2011-12, compared

[31] See Heathcote, Storesletten, and Violante (2010); Mofitt and Gottschalk (2012), and Lochner and Shin (2014).

[32] Some of the contributions listed above attempt to establish causal relationships (e.g. Rothstein and Rouse, 2007; Akers, 2013).

to 8 and 16 percent at universities and colleges, respectively. Results from Lochner, Stinebrickner, and Suleymanoglu (2013) indicate that a higher probability of default is linked to lower income and family support. Educational attainment also plays a role, as borrowers with a university education or higher are less likely to default. According to the study, repayment problems are also more common among students enrolled in private institutions.

The government costs of student loan programs have exceeded the revenues between 2003-04 and 2012-13 and the net costs of the program have increased over the period. Also, projections show that despite expectations of lower future enrollment, the net costs of the system are likely to increase. However, it is important to note that the net cost includes non-repayable assistance disbursed under the Canada Student Grants Program (CSGP). Implemented in 2009 to help students in financial need, the program grew in importance over time. The total amount disbursed grew from 66.8 million CAD in 2003-04 to 680.2 in 2012-13, which represents 54 percent of the net cost in that year (CSLP Annual Reports). However, a significant part of student aid is still indirect in the form of tax benefits, which in AY2010-2011 were almost 2.5 times larger than grants under CSGP (Burley and Awad, 2015). Tax credits have been criticized for not helping enough the students in need (see Fry, L., 2007).

Countries without extensive student loan programs

We now devote some attention to a couple of countries, France and Germany, where student loans are not as widely used to finance higher education. In contrast, in these countries, parents are expected to contribute towards the costs of the education of their children. Table 3 shows that, in effect, family contributions typically represent a much higher percentage of student income than in countries like Finland, Norway or the Netherlands. In contrast with the case of Nordic countries, parents can benefit from financial aid in the form of tax allowances both in France and Germany. Does the fact that families contribute more imply that higher education is available to the relatively wealthier only? Or are loans on the contrary substituted by sufficiently generous grants and family aid? In what follows we will try to give some answers to these questions for each country in turn.

France

In France, fees are determined by the Ministry of Higher Education and Research. In 2013 they were of EUR 183 Euro annually for undergraduate studies, EUR 254 for graduate and EUR 388 for doctoral studies. Some universities add to these fees the costs of providing specific services. In the end, some public universities can charge as much as EUR 2,000 per year.[33] In general, students who receive a grant (almost 35 percent of the student population in 2012-13) are exempted from fee payment. Since 2008, loans of up to EUR 15,000 are also available to French students, but less than 0.1 per cent of students take out such a loan (Eurydice, 2013-14).

[33] *Grandes écoles* and Engineering Schools are different, with fees around EUR 550 per year and reaching up to EUR 10 000 per year, depending on family income. There are also *grandes écoles* which not only deliver education free of charge, but may even pay some students, expected to become civil servants. This is for instance the case in the *Ecole Polytechnique* and the *écoles normales supérieures*.

Table 5: Intergenerational education mobility in selected European countries

	FI	FR	DE	NL	NO	UK*
Students' parents without tertiary education (not ISCED 5-6) in %	37.3	42	31.1	43.3	35.3	49.1
Students' fathers without tertiary education (not ISCED 5-6) in %	55	54.1	37.1	50.9	45.8	-
Students' mothers without tertiary education (not ISCED 5-6) in %	49	53.5	59.6	61.3	49.6	-
Ratio students' fathers without tertiary education to counterparts in total population	0.8	0.7	0.5	-	0.6	-
Ratio students' mothers without tertiary education to counterparts in total population	0.8	0.7	0.8	-	0.8	-

*England and Wales

Source: Eurostudent National profiles http://www.eurostudent.eu/results/profiles, retrieved July 2015

Students are classified into categories based on family income. This classification determines who is eligible for need-based support and for how much. The need based grant can be as large as EUR 5,500. Students on a need-based grant can also get a complimentary merit based grant, based on results in the baccalauréat of as much as EUR 1,800. Parents of students who are financially dependent on them (and less than 25 years old) are eligible for tax relief proportional on their income. Two thirds of the students declare receiving financial aid from their parents (Eurostudent, 2015) and the average contribution to student income by parents is larger than 50 percent for students not living with parents (Table 3). According to the OECD, 31 percent of students in France benefit from grants or scholarships, although only 24 percent receive aid higher than tuition fees and the percentage of global expenditure in higher education devoted to scholarships and grants is below the average of the OECD. This information may be misleading, as support provided by sources other than the Ministry of Education, such as housing allowances and tax reductions, are not included in these figures and they are likely to be quite large. Housing allowances, for instance, represent about 90 percent of scholarships/ grants, and about one-third of students benefit from them (OECD, 2014). On the other hand, annual expenditure levels per student by educational institutions in tertiary education are similar to those of Finland and the UK (see Table 1 above).

In the end, upward education mobility is high, with 34 percent of men and 46 per cent of women achieving a level of education higher than their parents (the average in the OECD is 28 and 36 per cent respectively). And 43 percent of 25 to 34 year olds have a tertiary education degree, a percentage similar to that of the US or Sweden. Thus, we cannot conclude that access is harmed in France by the lack of general funding through students loans that, on the other hand, are available to students, as we have already mentioned.

Germany

Although in principle the Länder may impose fees on students, social pressure against university fees is very large and, at present, none of them charge general study fees. In fact, many Länder experimented with university fees for short periods (less tan 10 years), but they all decided to abolish them. The last to do so were Bavaria, in 2013-14, and Lower Saxony, in 2014-15. While fees were in place, state loans were available to cover fees and living costs.

At the moment, grants and loans are only available for children of low-income families, as parents are required by law to fund their children's education, including higher education. In contrast, non-low income families with children under 25 pursuing studies are entitled to tax allowances (Eurydice, 2015). General public student support (BAföG) is awarded, half as a grant, and half as an interest free loan, and approximately 25 percent of students receive this kind of support. Total amounts range from EUR 10 to EUR 670 per month for 12 months per year. A maximum of EUR 10,000 needs to be paid back. According to Grave and Sinning (2014) this program is largely in deficit, costing the government between 57 and 80 percent of the total issued debt. They argue that it would be less expensive to give out all the aid in the form of a grant due to the large cost of interest subsidies. Moreover, there is evidence that student aid has not been successful in improving access of the less well off in Germany (Baumgartner and Steiner, 2004).

In contrast, the percentage of total public expenditure in higher education devoted to public support in the form of grants or scholarships to households in Germany is above the OECD average (Chart B5.3, OECD 2014). The annual expenditure per student by educational institutions in tertiary education is quite similar in Germany to that of Finland, France, or the UK (see Table 1 above). Still, upward intergenerational education mobility is lower than average (20 percent for men, 18 percent for women as compared to 28 percent for men and 36 for women on average in the OECD), and less than 28 percent of 25 to 34 year olds have a tertiary education degree. Moreover, Orr, Ushel and Wespel (2014) report that the expansion of higher education was achieved in Germany through an increase of enrolments in Fachhochschulen, Universities of Applied Sciences, which are more vocational in nature and less costly to provide, and where the share of students from less well-educated parents is greater than in universities. Although we cannot attribute these facts to the lack of general funding of students through loans, there is some evidence of limited access to higher education and social stratification within higher education in Germany.

Concluding comments

We have reviewed some of the important issues related to student debt in a number of developed countries. Student loans can take the form of mortgage type loans or income contingent loans. Mortgage type loans, with predetermined fixed payments, are used in Nordic countries, where the government guarantees the loans and provides protection to low-income earners, but loans are provided by private banks. Increasingly, however, student aid is made available in the form of loans with income contingent repayments managed by public agencies. Also, for the most part, student loans can be used to pay both fees and general living expenses. Two exceptions are Australia, that restricts public loans to cover fee-payment, and Nordic countries, that provide loans to fund living expenses only because there are no university fees in these countries.

Some student loan programs are used to steer incentives. This is notably the case in Norway and the Netherlands where student aid is given out in the form of a loan and can sometimes be transformed in a grant depending on academic achievement. Student loan schemes can also affect incentives unintentionally. Indeed, studies carried out in Australia and the United States have shown that student debt is associated with delaying marriage or having children, lower likelihood of homeownership and lower accumulation of wealth.

Government finances can also be at stake when the loan scheme is managed by public agencies, as it is typically the case with income contingent schemes. Indeed, in this case, because debtors only pay a given proportion of their incomes, and obligations usually expire after 15 to 30 years of graduation, income-contingent arrangements

transfer part of the repayment burden to the funding institution and, often, ultimately to the taxpayer. In Australia and England there are some concerns about the sustainability of the system over the medium run. By contrast, in other countries, like the U.S. and Hungary, the student loan programs are profitable. It is worth noting that, in spite of the concerns with graduate debt voiced out in the media, recent research shows that in the U.S. most students borrow moderate amounts compared with the expected payoff from higher education. However, the dispersion of realized earnings can be quite large, so the burden of student debt can become significant for some borrowers.

Finally, we have considered France and Germany as examples of countries in which borrowing for college is not widespread. In France, student loans are actually available but demand is low, with parental contributions amounting to more than 50 percent of student income on average. In Germany a student loan scheme available only to students in need is reported to be too costly and, indeed, more costly than it would be to simply give out the equivalent aid in the form of a grant. Although public subsidies are relatively large, parents also contribute nearly 50 per cent of student income in Germany. It is however difficult to draw general conclusions regarding the link between the absence of loans and equality of opportunity, as intergenerational mobility is rather low in Germany but high in France. Many factors interact to generate such outcomes, including, among others, the quality of pre-college education, redistributive policies or the productive structure of each country. A more systematic analysis, beyond the scope of this report, would be required in order to elucidate the role of student support policies on educational opportunity.

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