



Eidgenössische Technische Hochschule Zürich
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Are U.S. Student Loans the «Next Bubble»?

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1 April 2013



A thesis submitted for the degree of

**Master of Science in Management, Technology
and Economics**

Accepted by Prof. Didier Sornette / Supervised by Dr. Peter Caunwels

ACKNOWLEDGMENTS

I thank Prof. Didier Sornette for the opportunity of writing this thesis under the supervision of the Chair of Entrepreneurial Risks at ETH Zurich. Moreover, I thank Dr. Peter Cauwels for suggesting the very interesting, yet challenging topic and supervising the thesis; without his support for my ideas, his prompt availability for discussion and the flexibility he gave me, this work would have been much more difficult to conduct. Furthermore, I thank Mr. Rafael Martinez and Ms. Sabrina Marchal from BNP Paribas Fortis in Brussels for the valuable discussion input in our phone conference and the frequent supply of new material regarding the topic which would have been very difficult to acquire otherwise. Last but not least, I thank Ms. Donna Bellflower and Mr. Daniel Pollard from the Operations Performance Division of the U.S. Department of Education in Washington for their detailed answers to my questions regarding Federal student loans.

DECLARATION

I hereby declare that this written work is original work that I alone have authored and written in my own words. With the signature I declare that I have been informed regarding normal academic citation rules and that I have read and understood the information on “Citation Etiquette”. The citation conventions usual to the discipline in question here have been respected. The work may be tested electronically for plagiarism.

Omar Abdel Rahman



Mendoza, 12 April 2013

REMARK

The abbreviation *n.d.* used in many references stands for *no date* and is used mainly for websites and online data sources that do not have explicit publication dates. This is in accordance with the APA Style Guide Version 6, as explained at <http://www.apastyle.org/learn/faqs/cite-website-material.aspx>

ABSTRACT

The question of this thesis is the sustainability and potential adverse effects of the rapidly growing U.S. student loan debt that surpassed \$1 trillion in outstanding debt in 2012. This is addressed through several sub-questions: (a) A broad overview of the U.S. higher education system shows how trends such as enrolment growth and tuition increases at universities, inter alia, have led to the recently strongly increasing student loan borrowing. (b) A literature review and own calculations regarding the “return on investment in education” show that higher education does pay off on average but that the heterogeneity of labour market outcomes renders returns negative for some groups. Consequently, student loan borrowing is highly risky, e.g. for those pursuing certain degree majors. (c) A comprehensive overview of the financial aid system for higher education and the outstanding loan portfolio, both of Federal and private student loans, concludes that the vast majority of the student loan credit risk is borne by the government and that the private sector influence on student loans is diminishing due to a slowdown in private lending and a switch from guaranteed to direct Federal student loan lending. Therefore, the private market for securities backed by student loans is shrinking. (d) While different risk indicators all highlight a rising number of distressed borrowers, contrarian developments such as a lower general household indebtedness, the recent availability of income-based repayment and falling enrolments at risky for-profit institutions make predictions about future default rates very difficult. (e) A comparison between the current student loan and the pre-2008 mortgage markets along features such as lending procedures, government influence and market size concludes that student loans do not pose a systemic risk for the broader economy in the same way mortgages did. Overall, the thesis concludes that a (hard to quantify) part of recent student loan borrowing was unsustainable given the labour market outlook for many graduates, but large losses on the lender side are very unlikely and developments on the borrower side (income based repayment, public scrutiny of for-profit education, a possible private student loan dischargeability etc.) suggest a trend reversal for current and future distressed borrowers.

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MOTIVATION

As of Q4 2012, the total student loan debt outstanding in the United States was US\$966 bn. according to one estimate; therewith constituting 8.5% of overall consumer debt and the second largest outstanding component after mortgages (see Figure 1). The nominal amount has more than quadrupled from an outstanding US\$241 bn. in Q1 2003, a staggering *annualised growth* rate of 15.6%, outpacing the growth of all other major components of consumer credit. This growth continued unstopped even as most other outstanding consumer credit has been flat or declining since the financial crisis of 2008 (see Figure 2) – 37 million individuals owed student loan debt in 2012 (New York Fed, n.d.).

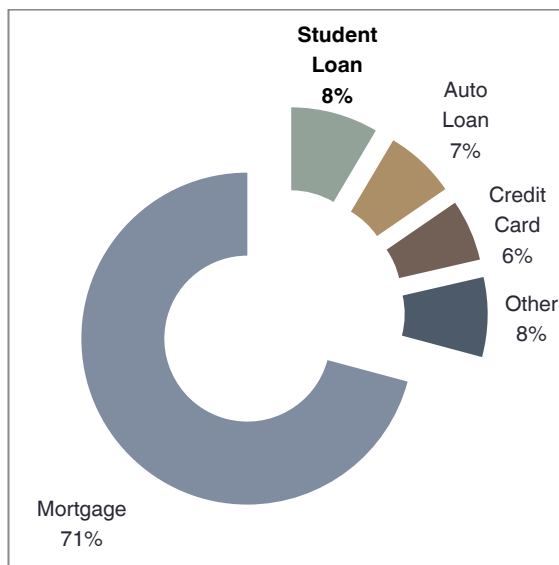


Figure 1: Major components of outstanding consumer credit in the U.S. (New York Fed, 2013)

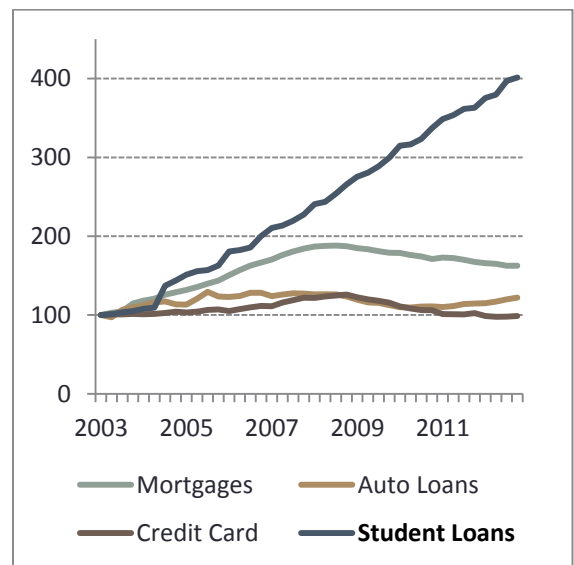


Figure 2: Growth of major consumer credit components between 2003 and 2012 (Q1 2003=100) (New York Fed, 2013)

At the same time, both anecdotal evidence as well as default and delinquency statistics for student loans, suggest that more and more debtors are struggling to repay their loans, and job market perspectives for many recent college and university graduates are worse than in the past: While unemployment in the age group of 25 to 29 years was 5.1% in 2006, it now stands at over 9% (Bureau of Labor Statistics, 2013).

This has raised concerns about whether these levels of student loan debt are sustainable and current students will be able to repay their loans in the future. Given the simultaneously skyrocketing costs of higher education, speculations about a *Higher Education Bubble* are circulating since 2011 (The Economist, 2011) and comparisons to the U.S. housing market crisis – whose bursting in 2007 triggered a global financial crisis – are made (Zero Hedge, 2013).

This thesis will give an overview of the main aspects of the student loan debate and argue that, although there are some parallels between the mortgage and student loan markets (such as a

strong government involvement), a whole series of factors make a crisis on a similar scale very unlikely.

The scope of this thesis was intentionally set very broad to give an overview as comprehensive as possible – hence the level of detail had to be restricted to some extent. The structure is defined by chapters, sections and subsections: **Chapter I** describes the institutional and financial setup of higher education in the United States which forms the background for the existence of student loans on the observed scale. **Chapter II** reviews the literature as well as labour market statistics regarding the monetary “return on investment” that college graduates derive from their education and conducts some own calculations to argue that such returns do exist on average, but vary substantially across different groups of students. **Chapter III** presents the complex system of student financial aid of which student loans are a significant part. It describes in detail the mechanics of both Federal and private student lending. Furthermore, it describes the composition of the total outstanding portfolio and how the largest lender by far, the Department of Education, manages its portfolio. Finally it gives an overview over the student loan ABS market, the most important source of re-financing for private student loan lenders. **Chapter IV** first reviews trends in the most prominent high-level risk indicators regarding student loans and then takes the micro perspective to describe fundamental factors driving individual defaults risk and presents developments in the for-profit college sector where student loans are facing particularly high default rates. **Chapter V** will look at the student loan market from the perspective of systemic risk by drawing a comparison with the mortgage market in the run-up to the crisis of 2007-08. **Chapter VI** will review the effect the developments regarding student loans are already having on individual student decisions as well as on a public discussion regarding the sensibility of higher education. It will then present some recent developments that might re-shape the student loan landscape in the medium term. The **Final Remarks** conclude and suggests a few ideas for further research.

I – HIGHER EDUCATION IN THE UNITED STATES

In order to describe the context in which the U.S. student loans exist, this section takes a look at the historical development and current setup of post-secondary education institutions in the U.S. and at the types of programmes students pursue. Several trends are discussed, especially regarding enrolment figures and financing of educational institutions.

A Brief History

Before describing the complex higher education landscape that exists today in the U.S., this section very briefly describes some developments that have helped create it.

The oldest institution of higher education in the U.S., *Harvard University*, was founded by English settlers in the Massachusetts Bay Colony as *New College* in 1636 and soon renamed *Harvard College* after its first benefactor, John Harvard. He was, along with a number of other settlers, a graduate of Emmanuel College, a constituent college of Cambridge University in Britain – and since the new institution was small at the beginning – it was designated as *college* and not as *university*. Even as institutions grew much larger over time, added more undergraduate and graduate courses and started to engage in academic research (Dep. Education, 2011a), the early terminology is still reflected today in the fact that the terms “college” and “university” are often used interchangeably. This thesis will hence sometimes use *college* as a synonym for *undergraduate education*¹.

In their early days, colleges such as *Harvard*, *William and Mary* or *Yale* were mainly focussed on training young men for the office of religious ministry, and also most colleges in the 18th century had strong religious affiliations. Hence, these early schools were small, with a limited undergraduate curriculum and little science or liberal arts instruction (the classical disciplines of grammar, rhetoric, logic, geometry, arithmetic, music and astronomy). Also, tuition was very low and scholarships were few (Rudolph, 1990). Philanthropy of wealthy citizens was the financial backbone of this form of higher education: Although the early colleges also received financial support from the colonies in the form of land donations, tax exemptions or special tax revenues, this financial support could be easily repelled. At the same time, tuition constituted only a small part of the revenues, schools had little money at their disposal, faculty were poorly paid (if at all), and many institutions survived from year to year (Cohen & Kisker, 2009).

¹ Meanwhile there is a difference: the term college is usually applied to small universities or degree-granting educational institutions (such as liberal arts colleges or community colleges) while the name university is given chiefly to a few of the larger institutions with various faculties, more resembling the universities of Europe (“College,” 2013)

Meanwhile, many of those who survived these days are today world renowned institutions – for instance the *Ivy League* universities.

The first *Federal* support for education was laid out in the Northwest Ordinance of 1785 which granted 1/36th of the land allocated to each township for the maintenance of public schools in the wake of the western expansion of the U.S. into what is today the Midwest (N.Y. State Dep. Education, n.d.). And although the law remained to be of little relevance, by the middle of the 19th century the constitutions of most existing States provided for state-supported institutions of higher education as a means to further social and economic progress and as a legal mechanism for securing the Federal land grants for education (Douglass, 2007). Even so, as late as 1860 only 17 of the 246 colleges existing were state institutions and more than 90 per cent of all college and university graduates came from institutions founded by the church (Dannelly, 1931). The Annual Report of Harvard College 1859-1860 still views private donations as more reliable than public funding:

The New England Colleges must, for the most part, look to the enlightened generosity of private citizens; and it is not desirable that the highest institutions of learning should depend on legislative appropriations (Felton, 1860)

It was only around this time, with the Industrial Revolution fully underway, that Congress passed the Morrill Land Grant Act of 1862, dedicating proceeds from Federal land sales specifically to the foundation, endowment or maintenance of technical and agricultural colleges

where the leading object shall be, without excluding other scientific and classical studies and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts [...] in order to promote the liberal and practical education of the industrial classes (7 U.S.C. § 304, n.d.).

The main intention of this legislation was to strengthen the states' economies by fostering the most labour-market-relevant skills at the time (Simkovic, 2013). In 1876, *Johns Hopkins University* was founded, which has the credible claim of being the first modern university in the U.S. since it was the first to adopt the German university model of a specialist research institution simultaneously offering graduate education and doctorate degrees (Arizona State U., 2002). In 1890, a second Morrill Land Grant Act was passed, aimed at the former Confederate States, requiring explicitly that race be no admission criterion at land grant colleges and that the States otherwise establish colleges specifically for students of colour; this is the origin of the 105 *Historically Black Colleges and Universities* that exist today (7 U.S.C. § 323, n.d.; Dep. Education, n.d.-a)

As time went by, amid changing skill demands in the economy and a larger number of students attending college, most land-grant colleges turned into full-fledged universities. Some of today's largest public universities such as *Ohio State University* or the *University of California at Berkeley* are land-grant institutions (National Research Council, 1995). Also, as the economy grew rapidly

around the turn of the 20th century, the tax base of the states expanded rapidly, and fast growing public universities were obtaining a significant proportion of their income from state appropriations: between 1870 and 1920 the number of degree-granting institutions doubled and enrolment grew tenfold to 600'000. By 1948, 48 of the then 49 States had established a *State University System* which often was the result of the merger of many smaller formerly unaffiliated institutions in order to create economies of scale in administration (State University of New York, n.d.). By that time, over 1800 institutions existed with a total enrolment of 2,4 million students (Dep. Education, 2011a, Table 197).

In the meantime, in 1901, another development had started with the foundation of *Joliet Junior College*, the first public two-year institution (community college) in the U.S. While focussing on liberal arts education in their beginnings, these colleges started offering job training programmes as a way of easing widespread unemployment during the Great Depression of the 1930s. The rapid economic growth with its need for more skilled labour, combined with the baby boom after World War II, led to a rapid expansion of two-year institutions, especially during the 1960s that witnessed a the number of community colleges more than double to a total of just over 900 (American Association of Community Colleges, 2013).

The Current U.S. Education System

Today, as in most countries, the education system in the U.S. has three levels of formal education, beginning with five or six years of primary education in elementary schools, followed by six or seven years of secondary education in middle schools and high schools. The sum of primary and secondary education is also referred to as K-12, since it normally adds up to 12 years of schooling (without counting pre-school or kindergarten). The third level of education is referred to as *post-secondary*, *tertiary*, or *higher* education. Institutionally, education is mainly in the responsibility of State and local governments according to the Tenth Amendment of the U.S. Constitution which determines that *powers not delegated to the United States by the Constitution [...] are reserved to the States respectively, or to the people* (N.Y. State Dep. Education, n.d.).

School attendance is compulsory for all children from the age of 6 or 7 up to an age between 16 and 18. The precise age bracket is defined by each State individually but at the end of compulsory school attendance, the vast majority of students have completed the 12 years of schooling up the end of high-school. The exact requirements for obtaining a high school diploma again depend on the state, e.g., beside the obtainment of a certain number of *credits* for specified coursework, several states also require sitting a final high school graduation exam².

² See e.g. (Diploma Guide, n.d.) or (Center on Education Policy, n.d.)

Between January and October 2011, 3.1 million students between the ages of 16 and 24 graduated from high school and 89% of the population between the ages of 20 and 24 had obtained a high school diploma by the end of the year.

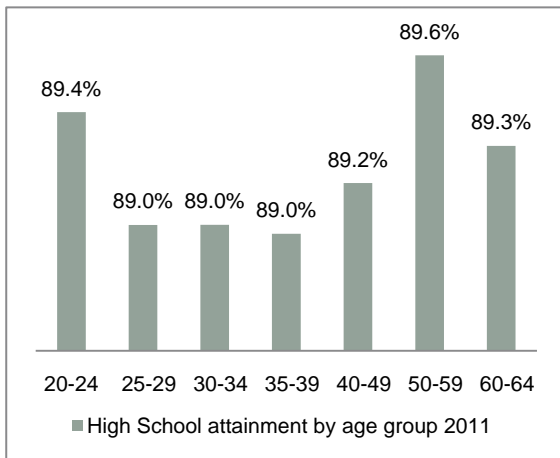


Figure 3: Percent of US population with high-school diploma by age group (Dep. Education, 2011a, Table 9)

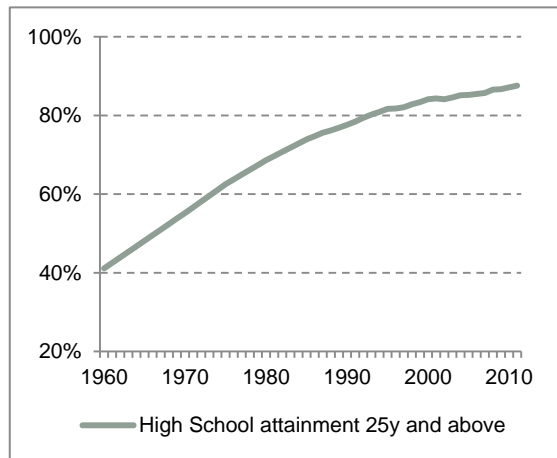


Figure 4: Percent of U.S. population above the age of 25 with at least a high school diploma (Dep. Education, 2011a, Table 8)

This *high school attainment level* was very much uniform across all age groups up to age 64 (see Figure 3) in line with the attainment figure of 88% for the entire population above age 25 in 2011. During most of the 20th century, however, high school attainment was rising with every subsequent generation but has now levelled off at this high rate (see Figure 4); the remaining 12% of the population are referred to as *high school dropouts*.

Postsecondary Education

The term *post-secondary education* can refer to many different types of education pursued after finishing high school, as defined by the Integrated Postsecondary Education Data System (IPEDS):

[Postsecondary education is] the provision of a formal instructional program whose curriculum is designed primarily for students who are beyond the compulsory age for high school. This includes programs whose purpose is academic, vocational, and continuing professional education, and excludes avocational and adult basic education programs (NCES, n.d.).

Upon successful completion of such an instructional programme, students are normally awarded a document: In the case of academic programmes this is usually referred to as *degree* whereas it is more likely to be a *certificate* or a *diploma* in the case of vocational programmes; however the distinction is not clear-cut. Also, the terms *higher education* (which usually only refers to academic programmes) and *post-secondary education* (which includes vocational education as well) are often

confused (Carey, 2012). A somewhat clearer distinction is possible between vocational and academic programmes and is presented below.

Vocational Education

While originally the word *vocation* stems from a religious context (“Vocation,” 2013), the *Organisation for Economic and Cultural Development* (OECD) defines vocational education and training (VET) as:

Programmes of one year or more, beyond upper secondary level, leading to a recognised qualification and a specific career or type of job (OECD, n.d.)

More generally, VET can refer to any kind of education or training (also at the secondary level) that intends to qualify its recipient for a specific occupation. In the United States, the term VET has been recently replaced with Career and Technical Education (CTE) in official contexts – at the post-secondary level, vocational education is also often called *occupational education* (Dep. Education, n.d.-b). The system of postsecondary CTE in the U.S. is quite fragmented but three main ways of pursuing it are prevalent: (a) *two-year colleges*, often community colleges, where education is mainly classroom based; (b) *on-the-job training* where the education is entirely work-based; or (c) *registered apprenticeships* that offer a combination of classroom and work-based education but are not very common in the U.S. (Kreysing, 2001). Students usually don’t pay fees and earn a salary when pursuing on-the-job-training or an apprenticeship, often allowing them to avoid educational debt altogether (Dep. Labor, 2012). On the other hand, students at purely classroom-based programmes usually have to pay varying tuition fees depending on the type of institution and many of them have to take up student loans to finance their education (see Chapter IV). Classroom-based occupational programmes may award one of the following (Dep. Education, 2008):

- *1 year certificate*: Postsecondary award, certificate, or diploma requiring the completion of an organised programme (below the associate degree) in at least 1 but less than 2 full-time equivalent academic years
- *2-3 year certificate*: Postsecondary award, certificate, or diploma requiring the completion of an organised programme (below the bachelor’s degree) in at least 2 but less than 4 full-time equivalent academic years

At *Title IV Institutions* (those eligible for Federal student financial aid programmes), currently the most popular field of postsecondary career-oriented certificates is healthcare, representing almost 40% of the 1.1 million certificates awarded in the academic year 2009-10 in the U.S. (see Figure 5).

In addition, many *associate degrees* have an occupational orientation: Out of the 8 most popular associate degrees in 2009, only one (liberal arts) did not have an occupational orientation (see Figure 6). These programmes usually require the completion of an organised programme of study of at least 2 but less than 4 years of full-time *academic* study.

But since associate degrees are also recognised higher education degrees (unlike certificates) they also exist as *transfer degrees* that prepare students to continue their studies in 4 year bachelor degree programmes (Dep. Education, 2008). In this case students typically pursue the single most popular associate degree: liberal arts or general studies, with coursework in writing, mathematics or science (Crosby, n.d.).

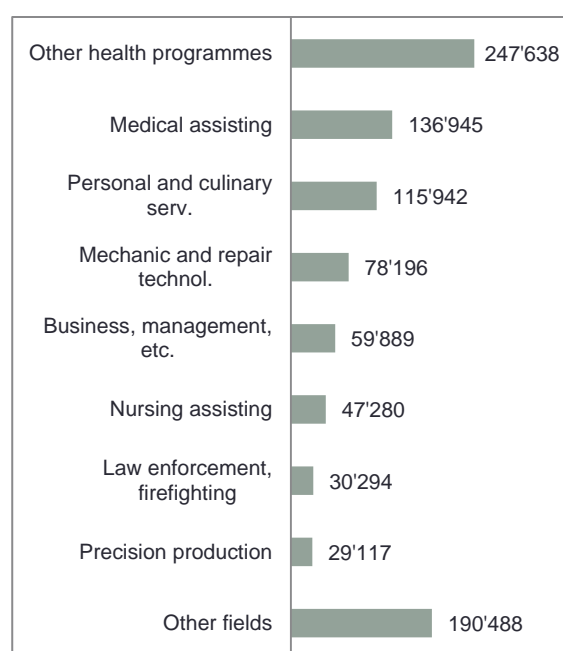


Figure 5: Number of *certificates* conferred by Title IV institutions in the academic year 2009-2010 by field. Includes both 1-year and 2-to-3-year certificates (Dep. Education, 2011a, Table 284)

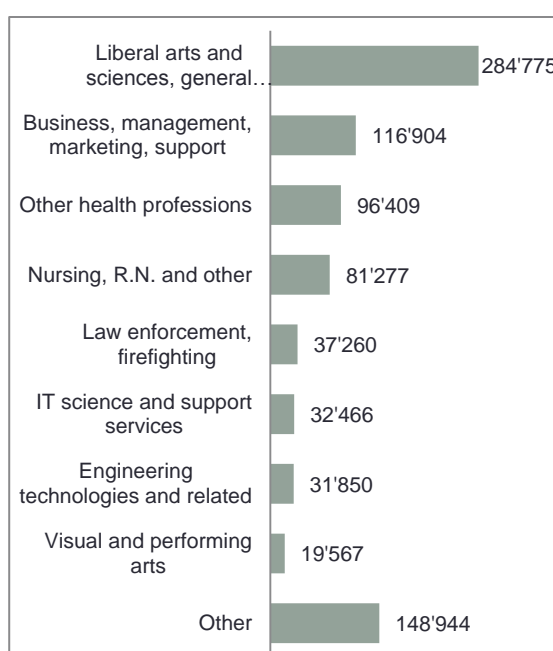


Figure 6: Number of *associate degrees* conferred by degree-granting, Title IV institutions in the academic year 2009-2010, by field (Dep. Education, 2011a, Table 285)

Academic Degrees

The *National Center for Education Statistics* (NCES) defines an academic degree as *an award conferred by a college, university, or other postsecondary education institution as official recognition for the successful completion of a program of studies* (NCES, n.d.). The majority of degrees under this definition fall into one of the following categories: associate's degrees (as discussed in the previous section); bachelor's, master's, first-professional degrees and research doctorate degrees. Furthermore, a range of qualifications beyond the master's degree but less than a research doctorate exists and is classified as intermediate graduate degree (Dep. Education, 2008).

Bachelor's degree programmes offer the most common form of *undergraduate degree* in the U.S., i.e. the most common first post-secondary academic degree. The programmes are usually designed to take 4 academic years of full-time study and are awarded in the broadest range of

fields, ranging from the very academic fields, such as arts and sciences to the more professional fields such as architecture or business. For the latter, the main difference to occupational education programmes is the breadth and depth of the 4 year programme compared to the shorter vocational programmes. Indeed, beside the concentration on one subject, the *major*, undergraduate students have to fulfil so called *liberal or general studies* requirements for introductory knowledge in several subjects (Dep. Education, 2008)

All other academic degrees referred to are *graduate degrees* in that they require prior obtainment of a bachelor's degree. Master's degrees take at least one and typically two years to complete while research doctorates (known in the U.S. as *Ph.D.*) are the highest academic degree, take between four and eight years beyond the bachelor degree and involve both graduate coursework and individual academic research. Master degrees can sometimes also be awarded *en route* upon completion of a certain amount of credits in a Ph.D. programme.

First professional degrees are a pre-requisite for exercising certain professions and are called *professional doctorates* in many cases (e.g. *Medical Doctor* for medical and *Juris Doctor* for legal professions) – they are *graduate degrees* since they require a bachelor's degree for admission but not comparable to research doctorates since the academic research component is not present. *Intermediate graduate qualifications* are studies leading to an advanced professional standing in a certain field, beyond the master's degree but less than a Ph.D. (Dep. Education, 2008).

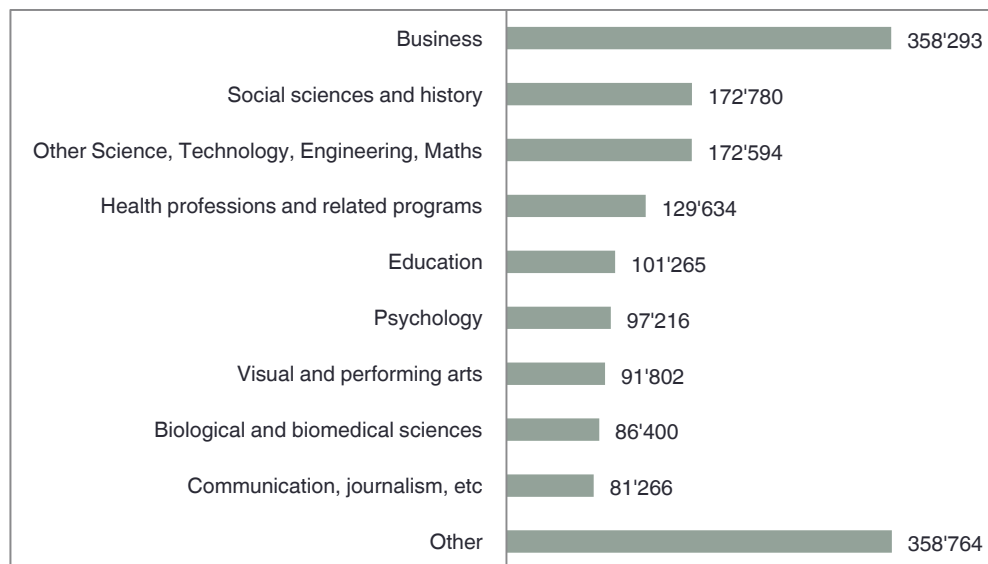


Figure 7: Number of *bachelor degrees* conferred by degree-granting, Title IV institutions in the academic year 2009-10, by field (Dep. Education, 2011a, Table 285)

Postsecondary Institutions

According to the principal of Federalism, the Federal *Department of Education* (ED) has mainly the task to collect information on schools and teaching that would help the States establish effective school systems, and there is no *centralized authority exercising single national control over postsec-*

ondary educational institutions. The states assume varying degrees of control over education, but, in general, institutions of higher education are permitted to operate with considerable independence and autonomy. As a consequence, American educational institutions can vary widely in the character and quality of their programs (Dep. Education, n.d.-c). To ensure minimal quality standards amid this heterogeneity, recognised institutions and programmes of higher education need to be accredited by a non-governmental accreditation agency, recognised in turn by the ED (Dep. Education, n.d.-c). The latter maintains an accreditation database, containing all institutions and specific programmes accredited by these recognised accreditation agencies. As of September 2012, the database contained 7'365 active, currently accredited postsecondary institutions, as identified by their institutional ID code (Dep. Education, n.d.-d). The vast majority of these accredited institutions (7'207 in the academic year 2011-2012) were also classified as Title IV institutions and thus eligible for participation in Federal student loan programmes (Dep. Education, 2011a).

Admission

Graduation from secondary school (high school) is a pre-condition for access to colleges and universities³. Besides this, more than 50% of all postsecondary institutions have some additional admission requirements such as documentation of the curriculum attended and the grades obtained in high school, and 75% of all 4-year institutions require prospective students to sit standardised college admissions test such as the *SAT* or *ACT* (Dep. Education, 2011a, Table 342; Petersons, n.d.)⁴. These are designed to provide an additional measure of students' college preparedness, independent of high school grades, especially in terms of writing, mathematics and critical reading skills (College Board, 2013). It is understood to be a better predictor of students' performance at college based on the rationale that high school grades do not purely measure educational achievement and reasoning ability but also reflect non-cognitive factors such as effort, attendance and conformity. Several studies indicate that admission test scores are a better predictor of first-year college grades than high-school grades alone (Kobrin & Michel, 2006). In the school year 2010-2011, 53% of all final-year high school students took the *SAT*, making it the most popular admissions test (College Board, 2011). It is owned by *College Board*, a non-profit membership association of schools, colleges and universities. However, this testing culture is also criticised by some: *Standardized tests serve the perceived economic interests of colleges and universities, particularly their need for prestige, which is often the main asset they have to market to potential "customers."* [...] *Harvard would not be Harvard if those math or verbal SAT scores averaging 750 or so didn't leap from the page at readers of U.S. News and World Report* (Sacks, 2001).

³ Alternatively, high school dropouts can take *General Educational Development* (GED) tests.

⁴ SAT used to stand for *Scholastic Aptitude Test*, but the acronym is the official name today; ACT stands for *American College Test*

Enrolment

Pursuing some form of higher education is now increasingly popular: By October 2011, 68% of all recent⁵ high school graduates of age 18 to 24 were enrolled in college, 2.1 million students (Bureau of Labor Statistics, 2011). Among *all* individuals in the said age group (including high-school dropouts and college dropouts) the enrolment rate still stood at 42% in 2010, a figure that has been steadily increasing since the 1970's (see Figure 8). Consequently, the population between the ages of 25 and 29 witnessed an increasing share of college attainment, slightly exceeding 30% for the first time in 2011 (see Figure 9).

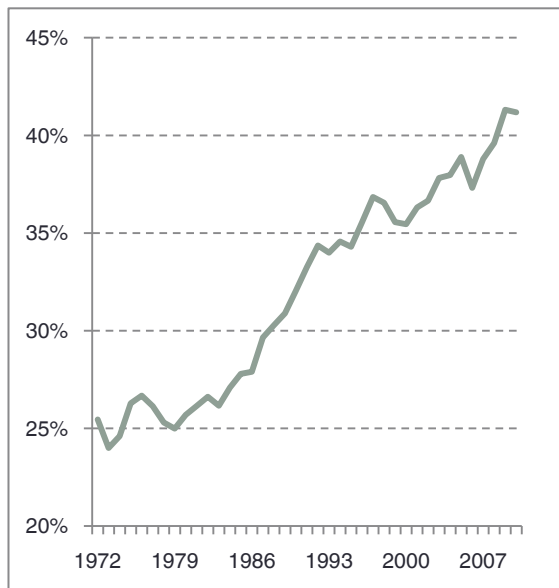


Figure 8: Percentage of 18 to 24 year old population enrolled in college (Dep. Education, 2011a, Table 213)

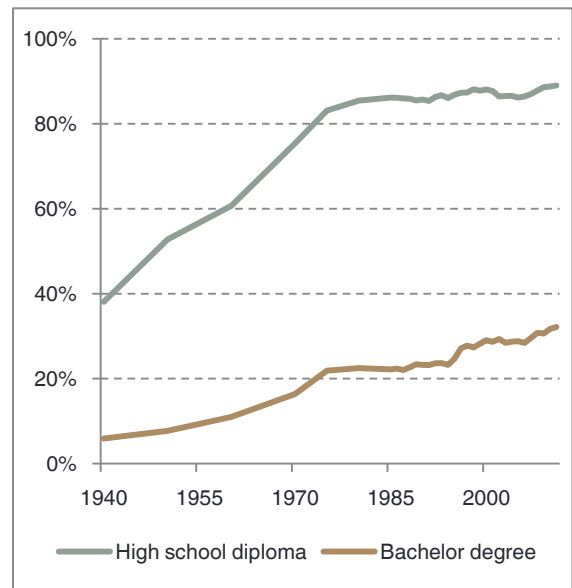


Figure 9: Educational attainment of 25 to 29 year old population (Dep. Education, 2011a; U.S. Census Bureau, n.d.)

When analysing enrolment figures, caution needs to be applied since 38% of all students are part-time students who take fewer credits per semester, longer to complete their degrees, and often work at least part-time beside their studies. To make enrolment more comparable, the NCES calculates *full-time equivalent* (FTE) headcounts where part-time student headcounts are multiplied with a factor in the range of 0.35 to 0.60 (depending on the type of institution) and then added to the full-time students (NCES, n.d.). Even with the FTE correction, enrolment has doubled since the mid-1970s and risen by 41% between 2000 and 2010 at degree-granting institutions (see Figure 10). As a consequence, the share of enrolled population in the age bracket 16 to 24 years has risen while the labour force participation in this group has declined significantly, notably since the beginning of the 2000s (see Figure 11).

⁵ In the previous 12 months

Obviously, this strong increase in college attendance is the first central driver of the increase in outstanding student loans over the past two decades, especially as less students work full-time now.

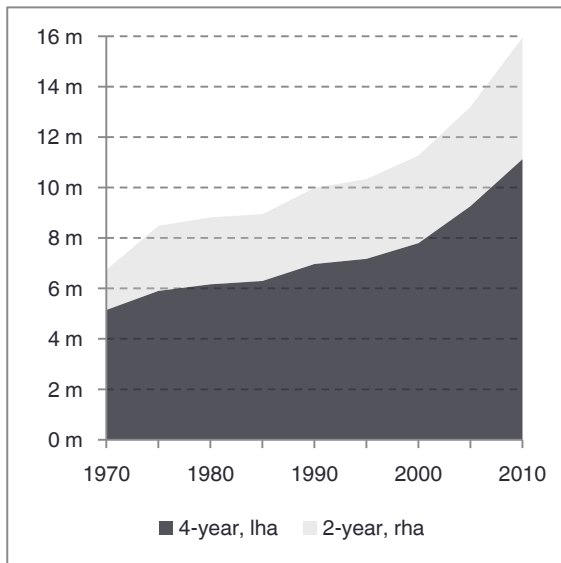


Figure 10: FTE fall enrolment at 2- and 4-year degree-granting institutions in the U.S., from (Dep. Education, 2011a, Table 227)

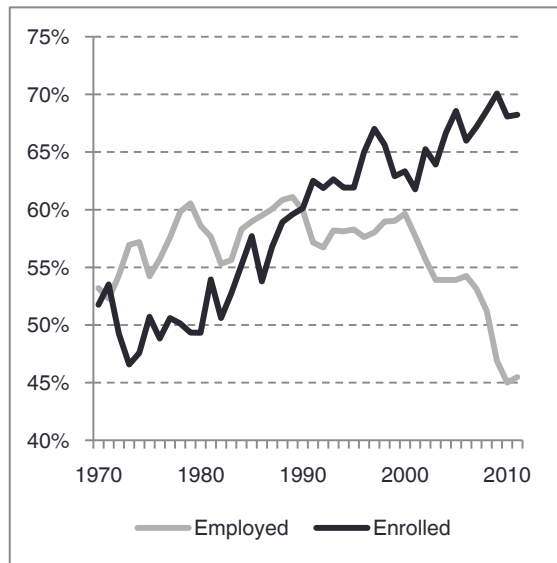


Figure 11: Age group 16 to 24 years, share of employed population and share of recent (previous 12 months) high school graduates enrolled in higher education by the month of October (Bureau of Labor Statistics, 2013; Dep. Education, 2011a)

Institution Level and Control

Two of the most frequently used categories along which educational metrics⁶ are reported in official statistics are institution *level* and *control*.

Institution Level. Out of the 7207 Title IV institutions, 4'698 could award academic degrees and 2'509 could not. Yet, only 3% of the 21 million students enrolled in autumn 2009 were attending non-degree-granting institutions, implying that these are, on average, small schools with 223 students compared to the average degree-granting institution with 4'442 students. Furthermore, degree-granting institutions are classified as 2-year institutions, which award associate's degrees at most (the typical community or career college) or 4-year institutions which award at least a bachelor's degree.

Institution Control. In addition, the NCES further differentiates among degree-granting institutions by their controlling entities: public institutions, private not-for-profit institutions (subsequently called *private*) and private for-profit-institutions (also called *proprietary*). The 4'599 degree-granting institutions were roughly equally distributed across the three categories but in terms of enrolment, 72% of all students were enrolled at public institutions and only 10% were

⁶ Such as enrolment, graduation rates, college cost and student loan default rates, etc.

enrolled at proprietary institutions (see Figure 12). In terms of degrees, the most prevalent degree type conferred at public and private institutions was the bachelor's degree, whereas the associate's degree was the most prevalent at proprietary institutions (see Figure 13) – this points at the more occupational orientation of many proprietary institutions. Meanwhile, around 40% of the degrees awarded at private institutions were master's or doctor's (including professional doctor's), suggesting a much more academic orientation of these institutions. This is supported, e.g., by the observation that many of the oldest and most prestigious institutions of higher education and 13 out of the 20 most highly ranked U.S. universities were such private not-for-profit institutions (TSL Education, 2012).

Part-time students are most common at public 2-year institutions (59%) and least common at proprietary 2-year institutions (9%) – overall, part-time students were more than twice as common at 2-year institutions than at 4-year institutions (56% and 27% respectively).

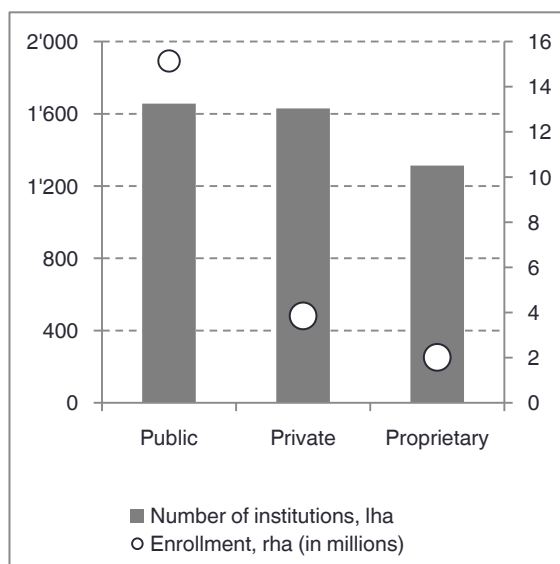


Figure 12: Number of institutions and total enrolment by control type of institution 2010-11 (Dep. Education, 2011a)

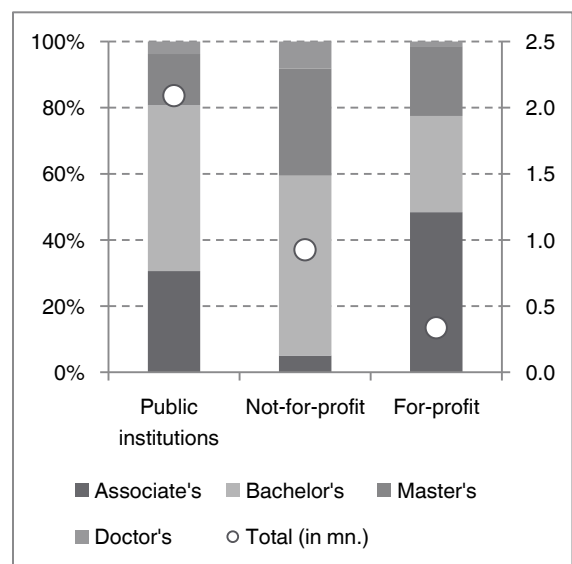


Figure 13: Degree type shares and total number of degrees conferred in 2009-10 by institution control type (Dep. Education, 2011a)

It has to be noted, though, that the above categories do not perfectly represent all of their students' characteristics: For instance, only 37% of non-degree certificates in 2009-10 were awarded by institutions in the non-degree-granting category, the rest at institutions that also award academic degrees. Therefore inferences such as: "non-degree granting institutions witness high default rates hence all certificate-level students face high default rates" would be invalid. The often quoted student loan analyst Mark Kantrowitz highlighted this problem and proposed to report various metrics such as cohort default rates (see Chapter IV) by programme type as this would represent student characteristics better than institution level and control (Kantrowitz, 2010).

With this in mind, the *Carnegie Classification* further differentiates institutions by the highest degree awarded, their research intensity, the communities they serve and puts special focus institutions such as law or medical schools in their own categories (Carnegie Foundation, 2005). Yet, while this classification does help to better understand basic characteristics of the student majority at a given institution, the general problem mentioned in the previous paragraph remains.

Revenues and Expenditures

In the academic year 2009-10, the total revenues of postsecondary education institutions in the U.S. stood at \$461 billion or about \$31'150 per FTE student (Dep. Education, 2011a). However, this differed a lot across different types of institutions: Whereas private institutions had revenues of almost \$52'000 per FTE student, this figure was just about \$15'000 at proprietary institutions (see Figure 14). The sources of these revenues were diverse, and their importance varied a lot depending on the control type of the institution. Where Federal, State and local appropriations contributed about a third to the revenue of public institutions, they were much less important at private and proprietary institutions⁷ (see Figure 17 - Figure 19). A strong variation is also visible in the importance of tuition: Whereas public and private institutions relied only partially on them (19% and 33% of revenues respectively), proprietary institutions were almost entirely dependent on them (91% of revenues). In turn, independent operations such as hospitals contributed around 20% to public and private institutions' budgets but were completely absent in the revenue stream of proprietary institutions.

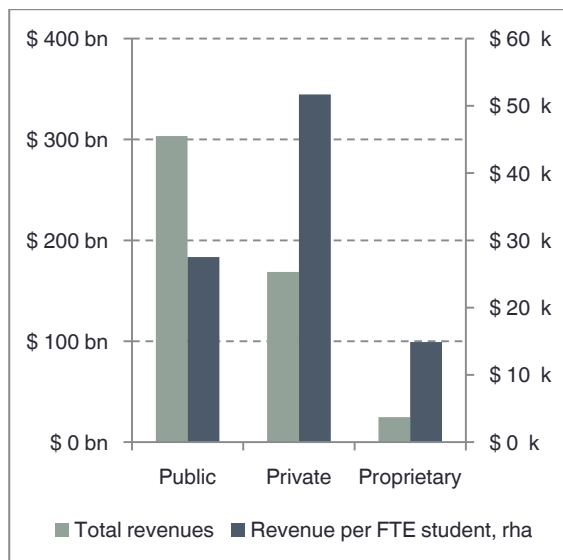


Figure 14: Total revenues and revenue per FTE student by control type of institution for the academic year 2009-10 (Dep. Education, 2011a)

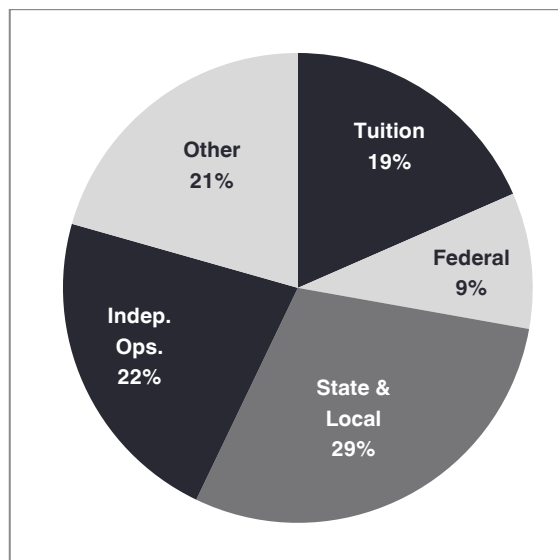


Figure 15: Revenue sources of public institutions for the academic year 2009-10 (Dep. Education, 2011a)

⁷ Private and proprietary institutions do not profit from appropriations but they still receive sizeable funds through grant aid and subsidies on student loans

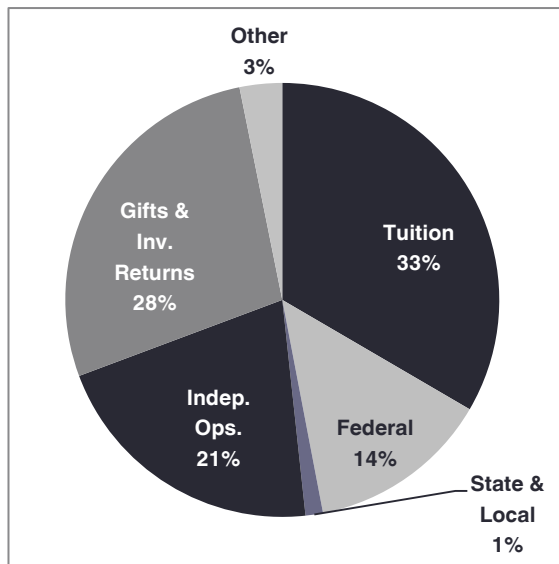


Figure 16: Revenue sources of private non-profit institutions for the academic year 2009-10 (Dep. Education, 2011a)

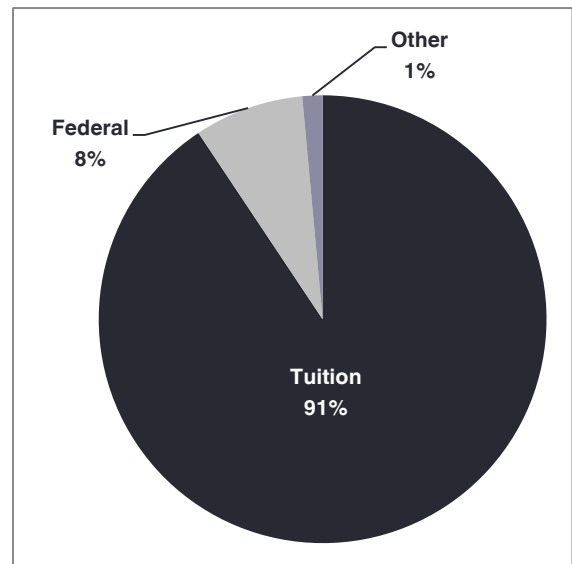


Figure 17: Revenue sources of proprietary institutions for the academic year 2009-10 (Dep. Education, 2011a)

The different revenue levels also translated into spending levels: Private non-profit 4-year institutions spent more than five times as many dollars per FTE student on instruction as proprietary 4-year institutions. And while this difference was less extreme at 2-year institutions, it was still remarkable (see Table 1). Total spending at 2-year institutions is generally lower than at 4-year institutions reflecting the exclusive focus of community colleges on teaching compared to the extensive research at large institutions that needs a more trained staff, equipment, etc. The very low spend per student at 4-year proprietary institutions, meanwhile, reflects that many students at such colleges enrol in purely online courses which are less cost-intensive than conventional classroom-based education: In autumn 2011, for instance, 308'000 students were enrolled in the *University of Phoenix Online Campus*, representing 17% of the total enrolment at proprietary institutions at the time (Dep. Education, 2011a). Some developments in the proprietary sector will be discussed more in detail in Chapter IV.

Institution Level	Public	Private	Proprietary
4-year	\$ 8'780	\$ 14'624	\$ 2'599
of total spend	25%	33%	21%
2-year	\$ 4'111	\$ 6'155	\$ 3'675
of total spend	35%	34%	32%

Table 1: Absolute and relative spending on instruction per FTE student by institution level and control in the academic year 2009-10 (Dep. Education, 2011a)

Cost of Attendance

For students, the most visible costs of university are the tuition fees and other *out-of-pocket* expenses such as rent, food, books etc. But while students cannot influence the cost of living a lot (unless they stay in their parents' home) tuition and fees differ widely by institution type and, in addition, have risen significantly *in real terms* in the last 30 years (see Figure 18).

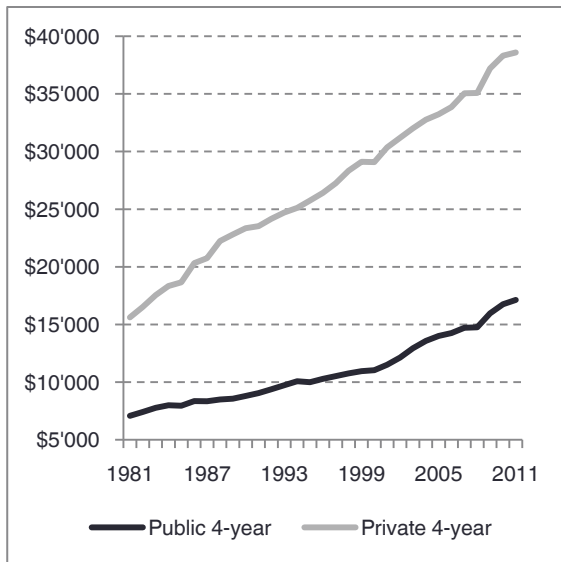


Figure 18: Enrolment-weighted average published tuition, fee, room and board costs at four year institutions *in constant 2011 dollars* by institution control (College Board, 2012a)

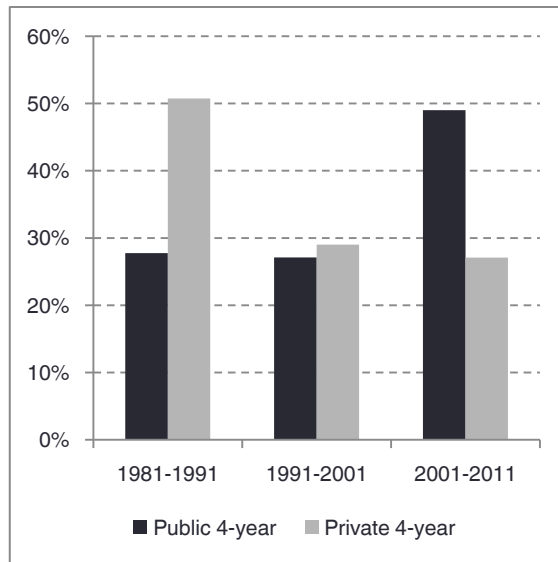


Figure 19: *Real cost increase* at four year institutions (based on Figure 18) for three 10-year periods by institution control (College Board, 2012a)

While private institutions were leading in tuition hikes during the 1980s with total fee increases of 50% in that decade, their tuition growth slowed down somewhat since then (see Figure 19). On the other hand, public institutions have experienced a fierce real increase in tuition over the past decade which might be partially explained by noticeable drop in state appropriations to public institutions since the mid-2000s (see Figure 20).

(Hacker & Dreifus, 2010) list a host of factors that have driven up college costs, particularly at private colleges since the 1980s: (a) Salaries, particularly for tenured professors increased by 55% to 65% in real terms amid a fierce competition for attracting the most prestigious names that most boost an institution's ranking; (b) Colleges increasingly compete for good students with a spending binge on campus amenities, ranging from over-dimensioned sports facilities to luxury dormitories and other recreational spaces; (c) As a consequence, administrative staff per student has doubled since the 1970s; (d) The compensation of university presidents has more than doubled in real terms at many institutions between 1992 and 2008. This is consistent with what has been referred to as Bowen's Rule: The dominant goals of institutions are educational excellence, prestige and influence, and in the quest for these attributes there is no limit to what

a university can spend, in fact it will raise all the funds it can and spend them immediately which inevitably leads to ever increasing spending (Bowen, 1980) ⁸.

But how could the colleges get away with these price increases without suffering massive declines in enrolment or a strong migration to more affordable institutions? One hypothesis to answer this question is the *Bennett Hypothesis* named after a former Secretary of Education who stated that *financial aid in recent years has enabled colleges and universities blithely to raise their tuitions, confident that Federal loan subsidies would help cushion the increase* (Bennett, 1987). The simple logic that most colleges would succumb to the temptation of raising tuition whenever financial aid is increased is compelling and would imply a vicious cycle of aid increases followed by tuition hikes followed, in turn, by a public demand and a political push for college affordability (Gillen, 2012). Indeed, some support to this hypothesis can be derived from the fact that the cost of attending college net of grant aid has risen nowhere nearly as much as the *sticker price*⁹ (see Figure 21). However, (Gillen, 2012) concludes that the empirical literature examining the hypothesis is not unambiguous: Many studies find evidence that aid increases lead to tuition hikes in some segment of the college universe (e.g. in the highest ranked private universities), while many studies find no evidence for the proposition in other segments. As a conclusion, it is probably safe to say that financial aid does not *cause* any increases of tuition but does certainly facilitate it.

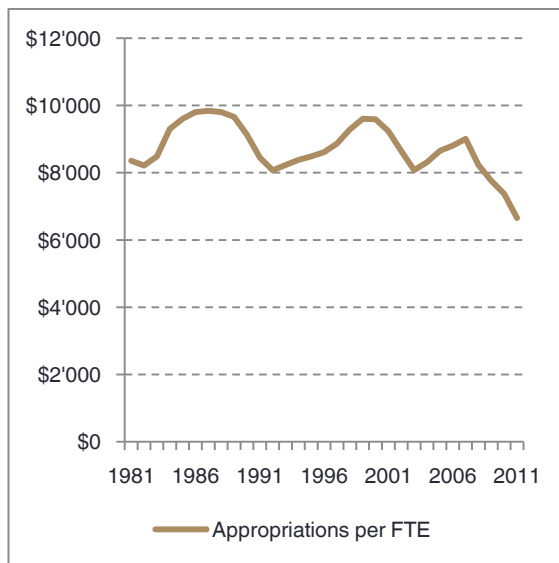


Figure 20: Total state appropriations per FTE student at public institutions in constant 2012 dollars over time (College Board, 2012a)

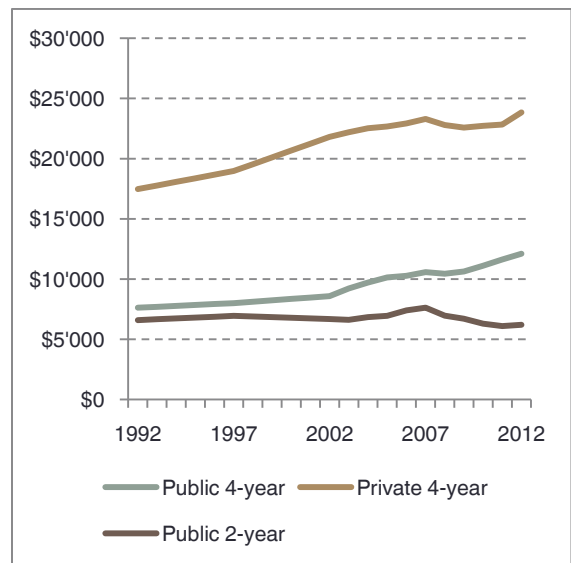


Figure 21: Total cost of tuition, fees, room and board for different institution types in 2012 dollars over time (College Board, 2012a)

A further driver of costs, particularly at private non-profit universities seems to be the relation between sticker price tuition and the perception of quality. Colleges compare their sticker price with that of institutions they regard as direct competitors and adjust them upwards if they find

⁸ The New York Times has referred to this as *Taj Mahal Syndrome* or *The Law of More* (Martin, 2012b)

⁹ Nominal tuition and fees before any Federal, State or institutional financial aid

that their peers charge more. (Glater & Finder, 2006) present the example of Ursinus College, a small liberal arts college that raised its tuition by almost 18% in 2000 and yet managed to *increase* the size of its freshman class by 35% within 4 years. The price hike, as in other cases, coincided with a significant increase of institutional financial aid in order to absorb the tuition shock for students from middle and low-income backgrounds. However, colleges also use this increased financial aid as an additional carrot to attract high-potential students with generous merit-based scholarships regardless of their background. On the contrary, the authors quote a case where a college reduced its tuition and lost many students, particularly better off ones, with the potential explanation that wealthier students were deterred by the perception of low value emanating from a low tuition figure. This hypothesis is backed up by research in marketing indicating that there is a positive relationship between price and perceived quality, e.g. (Rao & Monroe, 1989).

Finally, and strikingly, many universities could still not cover their costs in the last decade despite the increases in tuition. In fact, Moody's rates 500 higher education institutions who issue bonds in order to finance their spending on buildings, sports teams and other status symbols; total debt outstanding in this area stood at \$205 billion in 2011 (Martin, 2012b). Debt service payments on this amount certainly also play a role in the cost structure of institutions, especially as they take priority over any other expenses.

In summary, it can be said that not one but many factors, such as the fierce competition for excellent students and professors, a moral hazard posed by the availability of student aid and the perception of quality emanating from high tuition charges, have, over the last 30 years, lead to ballooning spending by the higher education industry. The development was pioneered by the private sector and later followed by the public institutions, thus forming the second major driver of the growth in student loans besides the rising enrolment.

II – RETURNS TO HIGHER EDUCATION

The third U.S. president, Thomas Jefferson, emphasised the benefits of broader education in enabling democracy and citizenship for all people at a time where this was not common and especially higher education was the privilege of a few:

The less wealthy people, [...] by the bill for a general education, would be qualified to understand their rights, to maintain them, and to exercise with intelligence their parts in self-government
(Jefferson, 1821)

Throughout the 19th century, amid the slow growth in higher education described in Chapter I, this view largely prevailed although it may be formulated much more negatively, referring to higher education as *a training for the financially secure children of the upper class that emphasized cultural refinement and social grace over technical skill* (Simkovic, 2013). However, starting with the land grant acts (see Chapter I), continuing with the GI bills during WW II and finally with legislation expanding higher education driven by concerns about national security during the Cold War (see Chapter III), higher education came to be seen more and more as a means of furthering economic and technical progress rather than democracy and civic virtues. This view persisted, and for most youngsters, today, the aim of college is “getting a good job” or “making more money” as around 75% of beginning college students indicated in a national survey in 1991 compared to 50% twenty years earlier (Astin, 1998). Since this pecuniary motivation is also the primary justification for student loan borrowing, I will discuss the labour market benefits of higher education, give an introduction to the theory of human capital and a few other aspects such as income inequality which is closely related to the *college premium*.

Labour Market Outcomes

Education was the gateway to opportunity for me. It was the gateway for Michelle. It was the gateway for most of you. And now, more than ever, it is the gateway to a middle-class life.
(Obama, 2012)

The two most frequently analysed and quoted economic benefits of education are the better employment situation and higher earnings which I will briefly present below.

More education is consistently associated with lower unemployment rates, and although unemployment has strongly trended upwards for all demographic groups during the recent recession, the inter-group differences remained quite stable, measured in unemployment percentage points (see Figure 22). The differences become clearer when comparing the share of employed individuals in each group: A college graduate is almost twice as likely to be employed as a high school drop-out (see Figure 23). This implies that among the less educated, not only are there

more people searching for a job in vain but also significantly more who have given up the hope for employment altogether.

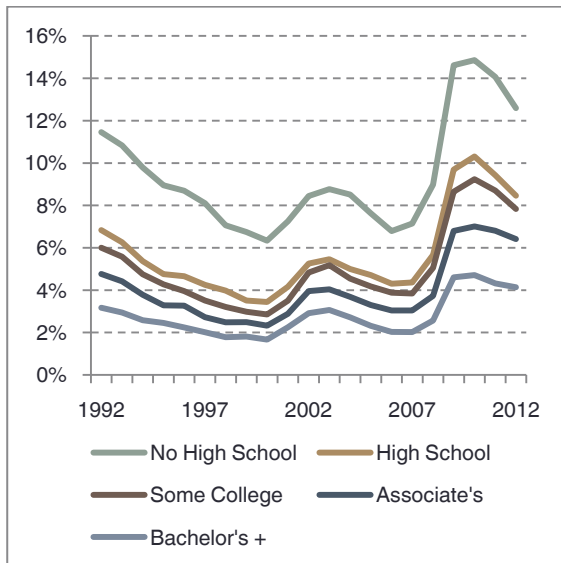


Figure 22: Unemployment rate by highest educational attainment for civilian population above 25 years (Bureau of Labor Statistics, 2013)

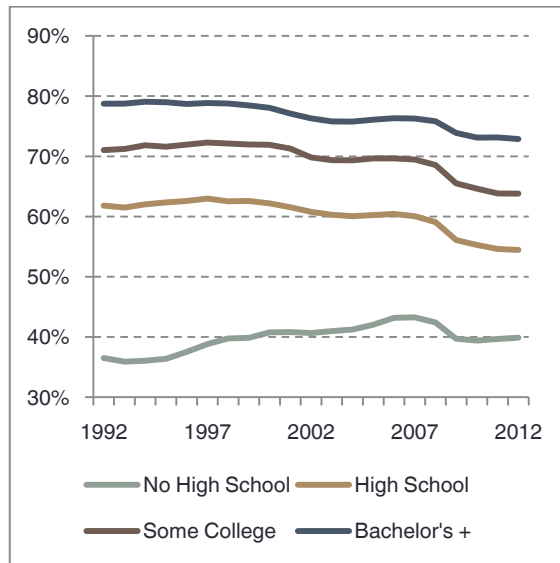


Figure 23: Share of population over the age 25 with employment by educational attainment (Bureau of Labor Statistics, 2013)

Furthermore, among those who have work, education yields a significant earnings premium. In 2011, mean earnings for bachelor degree holders were almost twice as high as those of high school graduates with no further education (see Figure 24), and this premium has increased significantly in the last 30 years (see Figure 25).

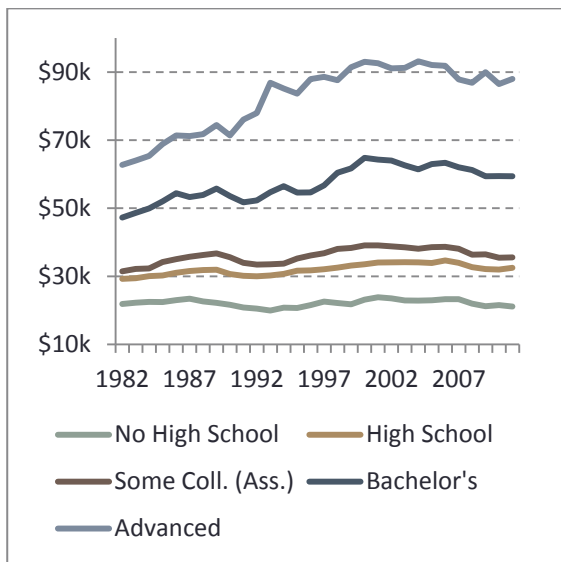


Figure 24: Mean annual income of workers above the age of 18 by highest level of educational attainment, in 2011 dollars (U.S. Census Bureau, n.d.)

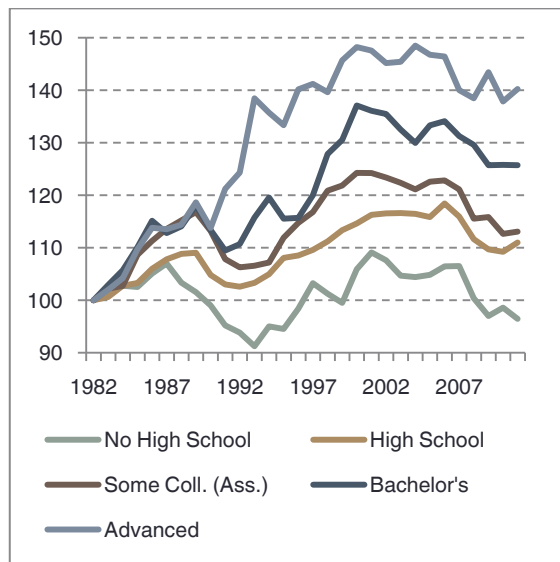


Figure 25: Earnings development by highest level of educational attainment; 1982=100 (U.S. Census Bureau, n.d.)

One important observation regarding both employment and earnings differentials is the relatively small advantage associate degree holders and workers with “some college” but no degree have compared to bachelor degree holders. While the former had an earnings premium of around 10% over high school graduates this figure was 82% for the latter. This difference is

slightly less pronounced, yet still whopping (23% vs. 75%) when comparing median earnings instead of mean earnings (Dep. Education, 2011a, Table 395). The disproportionately high earnings premium of a 4-year degree compared to “some college” is not surprising since *graduating* indicates success in higher education. Meanwhile the equally large advantage of 4-year over 2-year degrees is much less clear, especially as human capital theory often measured the wage premium in relation to years of schooling and not in relation to degrees attained (see below).

Theories

Human Capital Theory

Today, the description of the labour market benefits of education is most often presented in the context of the *Human Capital Theory*. Although the term was not yet used at the time, this idea dates back as far as Adam Smith:

The acquisition of such talents, by the maintenance of the acquirer during his education, study, or apprenticeship, always costs a real expense, which is a capital fixed and realized [...] in his person [...]. The improved dexterity of a workman may be considered in the same light as a machine or instrument of trade which facilitates and abridges labour, and which, though it costs a certain expense, repays that expense with a profit (Smith, 1776)

This view of Smith's, namely that education increases the productive capabilities embodied in the individual, thus enabling him to be more productive and to eventually pay back the cost of their education at a profit, effectively defines education as an investment similar to investments in capital goods. However, the concept of investing in human productive capability in a similar way as in machines was rejected for a long time since it reminded of slavery, as laid out in a seminal paper on human capital theory:

We are not unaffected by the long struggle to rid society of indentured service and to evolve political and legal institutions to keep men free from bondage. [...] Hence, to treat human beings as wealth that can be augmented by investment runs counter to deeply held values. It seems to reduce man once again to a mere material component, to something akin to property. And for man to look upon himself as a capital good, even if it did not impair his freedom, may seem to debase him (Schultz, 1961).

The term *Human Capital* was explicitly coined in the 1950s by Jacob Mincer who is regarded as the father of modern Labour Economics and can be understood as the *broad set of capabilities, including health, knowledge and intelligence, attitude, social aptitude, and empathy that make a person a productive member of society* in forming which formal education plays a central role (Rajan, 2010). Mincer developed two models explaining wage differences between individuals with different educational attainment (and working experience) but who are assumed to be otherwise identical

and free in their choice of education required for subsequent occupation. On the cost side, rather than focussing on the direct cost of education, Mincer focussed on *opportunity cost* of the forgone earnings students incur by choosing education over joining the labour force. Since these models are the basis for a large body of literature on the wage effects of education I will briefly present them here¹⁰.

(a) In the *compensating differences model* (Mincer, 1958) wages are constant within every occupational group and differ across occupational groups but not by working experience. The wage differential is viewed precisely as compensation for the *opportunity costs* of obtaining the education required to pursue the occupations.

Mincer assumes that a worker with s years of schooling will earn the annual wage $w(s)$ over a working life of $T-s$ years while a worker with no education earns $w(0)$ over a working life of T years. Earnings in any future year t are discounted with an interest rate r . Finally, the earnings of both groups are summed over the working life, yielding the lifetime earnings $V(s)$ for the educated and $V(0)$ for the uneducated which should be equal if every individual chose rationally and freely between the two options.

$$V(s) = w(s) \int_s^T e^{-rt} dt \stackrel{!}{=} w(0) \int_0^T e^{-rt} dt = V(0) \quad (1)$$

Integrating on the left hand side, taking logarithms on both sides and re-arranging yields

$$\ln w(s) = \ln[w(0)] + rs + \underbrace{\ln [(1 - e^{-rT})/(1 - e^{-r(T-s)})]}_{<1} \quad (2)$$

The interpretation of this equation is that log wages are linear in years of schooling, i.e. every additional year of education increases wages by the same percentage amount – subject to a negative correction that tends towards zero the longer the working life becomes. When using the equation as specification for a regression analysis, the coefficient on years of schooling is interpreted as the internal rate of *return to schooling* which, in this model, equals the discount rate r that equates the earnings streams of both occupational groups over their lifetimes. Moreover the model yields conclusions that appear logical, such as: (i) The difference between earnings levels of people with different years of schooling is increasing with the length of the working life; (ii) The ratio of earnings for persons with education levels differing by a fixed number of years is roughly constant across schooling levels, i.e. the benefit of a 4-year degree compared to a 2-year degree should be similar to the benefit of a 2-year degree over a high school diploma.

(b) The *accounting identity model* (Mincer, 1974) follows a different approach as wage differences are explained as direct return to past investment in human capital, taking into account when in the life of an individual they occur. The model uses the concept of potential earnings E_t at time

¹⁰ For a detailed derivation see (Heckman et al., 2003)

t which depend on the potential earnings in a previous period plus the return $\rho_t C_t$ of any investments in education. Further, it is assumed that the individual re-invests the share k_t of their income in education.

$$E_{t+1} = E_t + C_t \rho_t = E_t (1 + k_t \rho_t) \quad (3)$$

Furthermore, during periods of education at the beginning of the working life the model has $k_t = 1$, indicating that individuals invest all their potential income in education – hence the return to education is, again, explained as the opportunity cost of forgone earnings times some rate of return. Also it is assumed that the rate of return to education during school (or college) ρ_s is different from the rate ρ_0 later in life.

$$E_t = E_0 \cdot \underbrace{(1 + \rho_s)^s}_{\text{School}} \cdot \underbrace{\prod_{j=s+1}^{t-1} (1 + k_j \rho_0)}_{\text{On-the-job}} \quad (4)$$

Finally a decreasing rate of investment is assumed over the life of the individual

$$k_{s+x} = \kappa \left(1 - \frac{x}{T} \right) \quad (5)$$

Plugging (5) into (4), taking logarithms, approximating $\ln(1 + \rho_s) \approx \rho_s$ and setting actual wages $w(s, t)$ as potential wages minus investments in education eventually yields a specification for logarithmic wages which is linear in years of education s and quadratic in the years of experience x (see Equation 6) – it is also referred to as the *human capital earnings function* (Card, 1999).

$$\ln w(s, t) = \alpha_0 + \rho_s s + \beta_0 x + \beta_1 x^2 \quad (6)$$

Although including working experience in a model of wages makes intuitive sense, (Heckman, Lochner, & Todd, 2003) note that the quadratic earnings-experience profile predicted by the model cannot be confirmed using data from the decennial U.S. censuses of 1970, 1980 and 1990. As (Bloom, Hartley, Rosovsky, Forest, & Altbach, 2006) note, a further weakness is that the models measure the benefits of education without taking into account out-of-pocket educational costs or public subsidies. Moreover, returns are assumed equal at every level of schooling and across all individuals which is very unlikely¹¹. But even though much more sophisticated models with more control variables may be used, Mincer's models remain the basis of most analyses of the return to education, and in fact, the rates of return in these models is often referred to as *Mincer rate of return*.

For instance, (Bloom et al., 2006) estimate such a Mincer rate of return using Census data from 1964 to 2004 and conclude that in the given time frame it increased from 7% to 12% per year

¹¹ The latter assumption can be relaxed under a random coefficients model (Heckman et al., 2003)

of education (see Figure 26) implying, for instance, that a 4-year bachelor degree was worth a 57% wage premium compared to high school in 2004.

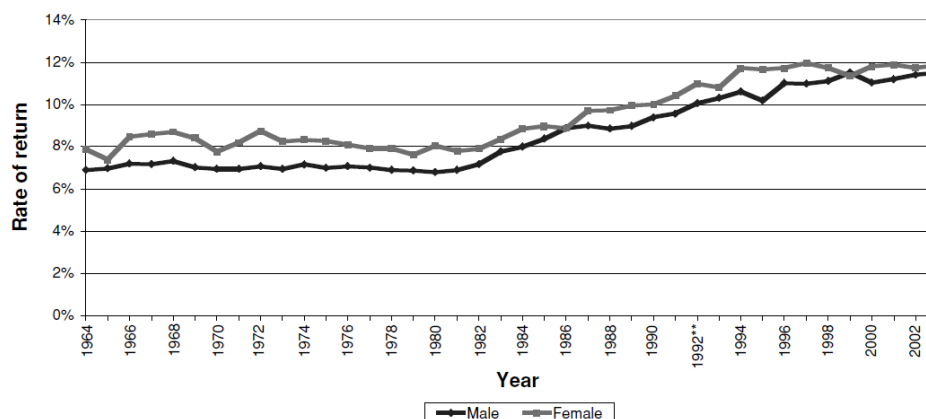


Figure 26: Rate of return to investment in education in the U.S. according a Mincer-type regression (Bloom *et al.*, 2006)

One step further, (Psacharopoulos & Patrinos, 2004) present a review of the literature calculating Mincer returns to education for 98 countries and discuss interesting conclusions: (a) Returns to schooling are higher for women than for men; (b) The highest returns are observed in Latin America, the Caribbean and Sub-Saharan Africa while the returns in OECD countries are below the world average. This finding suggests that returns to education might be diminishing in GDP per capita¹²; and (c) Returns to primary education are higher than those to secondary and higher education has the lowest return, suggesting diminishing returns to every further year in education.

However, besides the problem of data comparability across countries, a major problem that haunts all studies on returns to education is the missing counterfactual: It is not clear that those with more education earn more *because* of the education or because of unobserved ability that would make them earn more even without education, especially given the hypothesis that more able students self-select into a higher level of education while less able ones do not (Willis & Rosen, 1979). But since real individuals are not Schrödinger's cat, the closest studies can get to a counterfactual are based on natural experiments such as described in (Ashenfelter & Krueger, 1994) who compare wages of genetically identical twins, grown up in the same family background in order to reduce the effect of unobservable ability variables and measurement error. But even they find a return in the range of 12 to 16% per year of education.

¹² But then again, this observation might be due to the fact that income inequality in Latin America and Africa is significantly higher than, e.g., in most European OECD countries. For example, the *Gini Coefficient* of Mexico was 52 compared to 45 in the U.S. and 27 for Germany in 2007 – higher coefficients indicate more inequality (C.I.A., 2013).

Education Premium and Income Inequality

The monetary return on investment in college is closely related to income inequality: (Lemieux, 2006) argues that most of the growth in overall income inequality between the mid 1970's and 2005 in the U.S. can be attributed to a growth in educational wage differentials, especially at the upper end of the income distribution. Indeed, as shown in Figure 27, the higher ranks of the income distribution have witnessed a proportionately much stronger real wage growth up to the recession that started in 2007 and lesser wage decreases since. In a different measure, the 80/20 ratio of household incomes at the 80th percentile compared to those at the 20th percentile of the income distribution has steadily increased, regardless of the recession (see Figure 28).

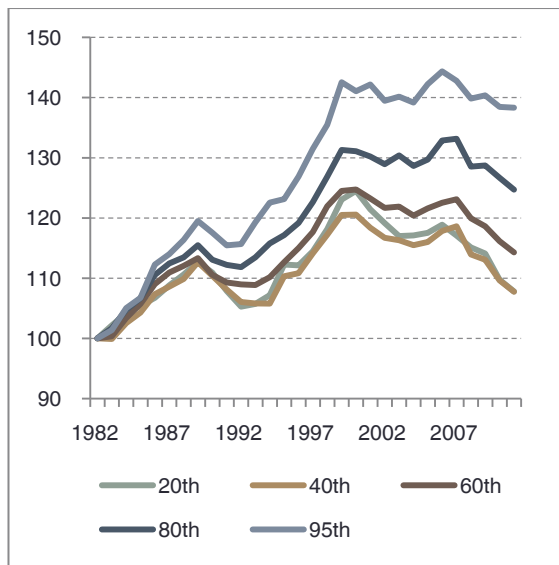


Figure 27: *Relative real household income development for households at different percentiles of the income distribution, 1982=100 (U.S. Census Bureau, n.d.)*

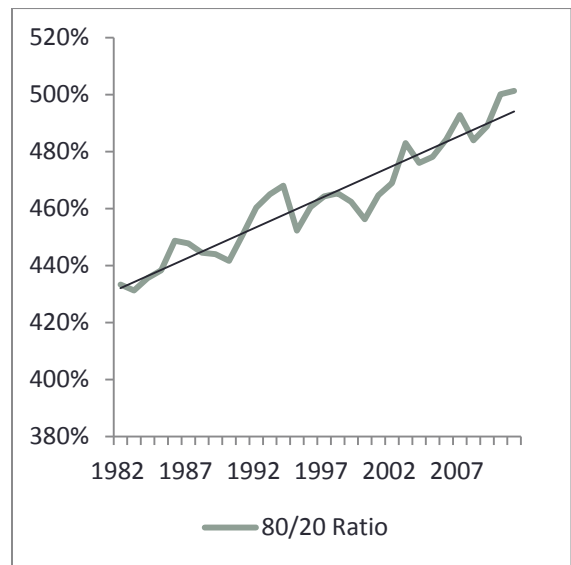


Figure 28: *Ratio of household income of 80th percentile relative to the 20th percentile of the income distribution (U.S. Census Bureau, n.d.)*

Along the same lines, (Goldin & Katz, 2007) find that average returns to college have been consistently rising since the 1950s and are now as high as they were in 1915, at a time where income inequality was extreme. The explanation they give is based on the estimation of a simple supply and demand model for skilled labour indicating that the demand for skilled labour has been rising faster than its supply for most of the time since the 1950s with a particular leap in the 1980s.

This, in turn, may be explained by the rapid expansion of the importance of information technology that needs a higher level of skill than traditional well-paid blue collar jobs, a development the literature often refers to a *skill-biased technical change*. The authors argue, however, that it was not the technical change itself that caused the premium to grow but a slowdown in the expansion of higher education so that the supply of skilled workers did not keep up with the growing demand.

This is also supported by (Harmon, Oosterbeek, & Walker, 2003) who conduct a quantile regression analysis of the education premium in the U.K. between 1980 and 1995 and find that returns to education differed across the wage distribution, suggesting that the returns are higher for the top decile of the income distribution, perhaps due to a *complementarity* between ability and education as individuals with higher-ability are more likely to benefit even more from education and hence end up in a high income percentile – finding further supported by (Tobias, 2003) who used U.S. data from the period 1979 – 1994. Also along the same line of thought, (Lindley & Machin, 2011) conclude that the wage premium of students with postgraduate degrees compared to bachelor's degree holders in the U.S. and the U.K., increased despite an increase in the number of postgraduate degree holders because of the surge in information technology and the associated demand for skill.

Finally, (Rajan, 2010)¹³ discusses further factors contributing to the rise in income inequality in which he sees one central cause leading to the 2008 financial crisis: (a) a long period of deregulation contributing to stronger demand for skilled labour; (b) an increase in immigration to the U.S.; and (c) the increase in free trade with low-wage countries, all of which put pressure on the wages of blue collar workers compared to better educated workers in the U.S.¹⁴

Lifetime Degree Value

Besides determining an earnings premium in regression models, a second frequently applied approach to calculating the returns to education is comparing the net present value of the earnings of individuals with different educations over their lifetimes, similar to the standard procedure for calculating returns of investment projects. In this context, however, it faces the problem that no sufficient longitudinal datasets exist that follow the working life of individuals over the course of 40 years to determine their earnings as (Barrow & Rouse, 2005) point out. Instead, the authors calculate synthetic lifetime earnings, e.g., for a bachelor's degree recipient who lives through all age brackets from age 25 to 64 (and the corresponding median earnings) using cross-sectional census data of a single year. Further, the earnings for every hypothetical additional year of age are discounted to a time value and finally summed up yielding a net present value (NPV) figure. This discount rate for an individual's future income represents an assumed time preference favouring current income over future income. The two most recent papers determining lifetime degree values choose discount rates close to prevailing long-term market rates: 5% in (Barrow & Rouse, 2005) and 3% in (Avery & Turner, 2012). While the magnitude of time preference discount rates is subject of another stream of literature¹⁵ this dis-

¹³ Raghuram Rajan, chief economist of the IMF 2003-2007

¹⁴ For an even more in-depth theoretical analysis of the changes in the income distribution of advanced economies and its relation to technological change and free trade, see (Acemoglu & Autor, 2011)

¹⁵ See for instance (Harrison, Lau, & Williams, 2002)

cussion is beyond the scope of the current analysis. I will follow the lifetime degree value approach using median earnings for full-time full-year workers from the CPS data of 2011 and a baseline discount rate of 5% to calculate an NPV of lifetime earnings for different degree levels (see Figure 29). I then calculate the lifetime premium a degree holder earns compared to a mere high school graduate: this represents the gross monetary value of the degree.

On the cost side, there is, first, the opportunity cost of forgone earnings that college students (with a high school diploma) could earn during the years in college. Second, I add the average costs for tuition, fees, room and board (net of average grant aid) as reported by the College Board to get total costs and a *Net Degree Value*. Finally, the return on investment in the degree is the ratio between the Net Degree Value and the total costs of attaining it. Figure 30 shows this exemplary for a bachelor's degree obtained at a public 4-year college in-state which yields a return on investment of 95% under the 5% discount rate. The sensitivity of this figure to the discount rate is evident: At 3% the ROI would jump to 180%, at 7% it would plummet to 42%.

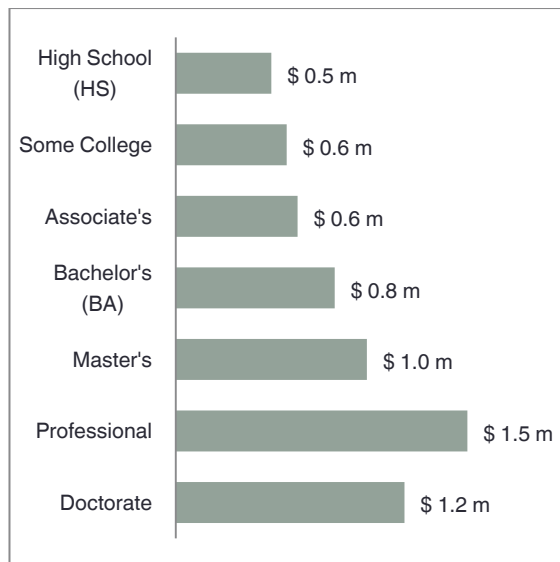


Figure 29: Net present value of median lifetime earnings for different educational attainments using a 5% time preference discount rate (U.S. Census Bureau, n.d., own calculation)

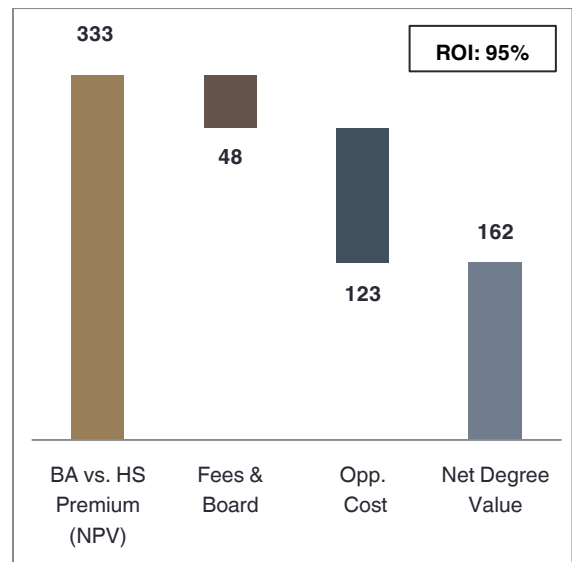


Figure 30: Calculation of the net return on investment of bachelor's degree at a public 4-year institution, figures in thousands of dollars (College Board, 2012a; U.S. Census Bureau, own calculation)

The same calculation for a bachelor's degree at a private 4-year institution yields a much lower but still considerable ROI of 53% due to the significantly higher tuition costs (the ROIs are 122% and 11% for the alternative discount rates). And while the absolute Net Degree Value of an associate's degree is much lower than that of a bachelor's, both tuition and opportunity costs are much lower as well, leading to a ROI of 80% (160% and 30% in the alternative scenarios).

These calculations have to be complemented with a series of comments: First, they assume that economy-wide real wages are constant during an individual's lifetime; i.e. that future salary increases for any age group are compensated by inflation. This might hold true but is not a cer-

tain scenario. Second, the approach disregards interest expenses that arise for a majority of students from borrowing for education (see Chapter III). For example, a student who borrowed \$25'000 in Federal loans for their education and repays them over 10 years at an interest rate of 6.8% faces total interest expenses of \$9'424. For the median student in the rate-of-return calculation in Figure 35 this would reduce the ROI from 42% to 36% in the high discount rate scenario. While this is a significant deviation, it is unlikely to change the qualitative outcome of the following discussion; however it would need to be included in a more rigorous cash flow model of education benefits. Third, the calculations assume that individuals work full-time for 40 years without deviations from the median earnings path. This assumption is not very realistic since many people do work part-time, lose their jobs for some time or become ill. Also earnings still differ across genders and ethnicities. Most importantly, however, they differ across occupations: (a) Within the same occupation, people with lower qualifications might obtain more senior positions thus earning higher incomes; and (b) People with the same education end up in different occupations that yield very different incomes (Carnevale, Rose, & Cheah, 2011). The authors call this observation *overlap* and note, based on data from the ACS 2009-2010 (see Appendix) that, e.g., 28% of all associate degree holders earned more than the median bachelor degree holder while 44% of all bachelor degree holders earned more than the median graduates of doctoral or professional degree programmes in 2009. A further example for this variance: A bachelor degree holder working as computer software developer earns \$3.6 million in a working life compared to a middle school teacher with the same degree level but “only” \$1.8 million over a lifetime¹⁶. All these factors re-emphasise that any return on investment calculation is heavily dependent on assumptions and absolute values can be indicative, at best. However, they can help to make relative comparisons between different types of education as discussed below.

While the ultimate reason for earnings differences among individuals are the different jobs they pursue and the salaries these occupations command in the labour market, there are also significant differences across degree major groups: Arts majors had median *entry-level* salaries of around \$30.000 in 2009-10 compared to \$55.000 for engineering majors (Carnevale, Cheah, & Strohl, 2012). Also based on the ACS 2009-10, the authors report *mid-career* earnings levels for individuals in between 30 and 54 years of age which can be used to compare the NPV of incremental earnings across degree major groups. It becomes clear that over a lifetime the financial differences between degree major groups are amplified, especially when considering the incremental earnings compared to high school graduates. Indicative calculations (see Table 2) show that this increment might be as much as 8 to 9 times higher for engineers compared to arts or education majors.

¹⁶ The study does not discount future earnings so the numbers are not comparable to my earlier calculations.

II – RETURNS TO HIGHER EDUCATION

Major	Entry Level	Mid- Career	Net Degree Value (BA v. HS)	ROI (public)	ROI (private)
Engineering	55	81	514	201%	137%
Health (e.g. Nursing)	43	63	289	69%	33%
Business	39	63	264	54%	21%
Architecture	36	64	252	48%	16%
Social Science ¹⁷	37	60	226	32%	4%
Science (Life/Physical)	32	60	194	13%	-11%
Communications, Journalism, etc.	33	54	151	-11%	-30%
Arts	30	46	67	-61%	-69%
Psychology/Social Work	30	45	62	-64%	-71%
Education	33	43	59	-66%	-73%

Table 2: Entry-level and mid-career median earnings for popular undergraduate major programmes from ACS 2009-10 (in thousands of dollars). The Net Degree Value compared to high school graduates is an NPV assuming a 5% discount over the working life¹⁸. This divided by the opportunity cost and net cost of attendance for public and private institutions respectively determines the ROI.

Although the increments are positive for all majors considered, once all costs of education are taken into account, one can conclude a *negative* financial return on investment for majors such as arts, education or psychology. These figures have to be considered with caution since the cost of education and grant availability may vary significantly across major fields and loan forgiveness programmes, e.g. for teachers, further influence the actual cost students incur for their education. Also, as discussed before, the ROI depends significantly on the applied discount rate. Nonetheless, these numbers show clearly that the positive average returns to education do not imply that education necessarily has positive returns for every student, and assigning a precise monetary value for a degree is not an easy task – even more so since the presented approach only produces estimates for individuals working full-time full-year without career gaps while ignoring the unemployment risk that is unevenly distributed across degree programmes.

An interesting perspective on the nature of the lifetime value derived from the increased earnings potential (particularly in the case of lucrative professional degrees such as medicine) emerges from U.S. family law, notably from the division of property in divorce cases. Ex-spouses have frequently put forward claims on future earnings of their former partners from such a license, arguing that it was obtained during the relationship with their (financial) support. The courts, however, have been mostly reluctant to treat degrees and licences as assets subject to division for two main reasons: (a) The valuation of a degree (as presented above) has

¹⁷ Includes Economics

¹⁸ I assume an earnings profile that rises linearly from the entry level at age 25 to the mid-career level at age 45 and then drops by 10% until age 65, as observed both in the ACS for bachelor degree holders. Since data on earnings and college costs are from different sources, and due to the big variance in earnings levels and profile within each degree major group, these calculations should only be understood indicatively.

to depend on statistics and remain speculative on the individual level. Hence, putting a concrete monetary value on the license may either result in a windfall for its holder (in case individual earnings turn out to be much higher than calculated) or in a disproportionate burden in case earnings turn out to be lower than expected. (b) The value of a degree is much too inseparable from the individual talent, skill and effort to be comfortably classified as common property of the former couple (Mullenix, 1983). This legal practice highlights once more how problematic it is to value investment in education in a similar way as an investment in physical capital.

Signalling

Human Capital Theory is the most endorsed, yet not only concept explaining the labour market benefits of education: In the 1970s, the concept of *Signalling* was developed. It states, in its strong form, that rather than making graduates more productive, education serves primarily as a sorting mechanism in which students with higher ability complete more schooling and achieve better grades than those with lower ability, thus providing employers with reliable information on their ability that would be otherwise inaccessible (Stiglitz, 1975). While this view regards higher education essentially as useless for fostering the productivity of an individual (which it sees as inherent to them) it sees value in matching individuals with the jobs where they have the highest marginal productivity thus increasing overall output. Moreover, workers with higher ability would not have reliable information on their abilities in the absence of higher education which would, in turn, force them to earn an average wage rather than a higher one determined by the market bidding for their productivity. – a mechanism that increases the private benefit of some workers at the cost of a higher inequality in society. Indeed, a recent empirical study concludes that college in its current form has a very high capacity in exactly predicting a worker's productivity (Arcidiacono, Bayer, & Hizmo, 2010).

As a consequence, one could argue that if the signalling theory in its pure form were right, the annual spending of over \$30'000 (see Chapter I) per student on higher education would be extremely inefficient and could be replaced by some cheaper ability-testing mechanism. But while for very generalist majors such as business or liberal arts, this can be credible to some extent, it is harder to dispute that majors such as engineering or medicine convey skills directly relevant to well-paying occupations and cannot be only a mere ability sorting mechanism. Also, in a pure signalling world, returns to higher education should be much lower after controlling for ability differences, and high-ability non-students should find other ways to signal their ability. But this is not the case as, e.g., the twin studies show returns to education after controlling for ability and even family background (Ashenfelter & Krueger, 1994).

Conclusion

How and why do education benefits differ across individuals? Is increased productivity through education the main reason for the benefits or is it signalling? These and other questions remain incompletely answered by the literature but for the purposes of this thesis the most important conclusions are consistent with common sense: (a) *on average* the monetary return to education is considerable and persistent even after taking the costs of attendance and the opportunity cost of going to college into account; and (b) the returns differ significantly, e.g., by degree major but even more so depending on the occupational group graduates end up in, an outcome that is difficult to predict on an individual level.

Broader Benefits of Higher Education

Despite the necessary focus of this thesis on the *monetary* benefits of education which determine the reasonability of student loans to the individual I would like to give a brief glimpse into some research regarding the broader benefits of higher education which can be easily overlooked in the student loan debate but which may justify what is sometimes a quite risky investment.

Private Benefits

On the one side, there are the economic benefits related to an individual's working life, such as such as a lower unemployment probability, higher wages and job satisfaction (which are not necessarily correlated) as well as occupational prestige, some of which I already discussed.

On the other side, higher education also has a certain consumption value derived from the joy of learning, moving to a new city, meeting new people and participating in campus activities etc. (Alstadsaeter, 2009). Further, it can be a means to change one's self-image or even identity, e.g. by pursuing a degree that goes with a certain perception in society, e.g. a law school degree (Akerlof & Kranton, 2000). There is also a host of other social indicators, such as smoking habits, trust in personal relationships or teenage pregnancy, that are observed to be more favourable among the more educated – even after controlling for the individuals' income (Oreopoulos & Salvanes, 2011).

Positive Externalities

While many benefits of higher education are chiefly *private* benefits affecting only the individual, some *public* benefits, i.e. positive externalities, of higher education, economic or non-pecuniary in nature, may exist and, in fact do, provide the main motivation for public subsidies to higher education. (Venniker, 2001) reviews the literature on the positive economic externalities of human capital such as a higher GDP or higher economic growth rates and concludes

that the evidence in that regard is mixed: while there is a correlation between the level of education and GDP per capita, the causality between the two is not clear. This is also consistent with the conclusion of (Psacharopoulos & Patrinos, 2004) who assert that although, at the micro level, measurable financial returns to education for the individual are empirically well established, no consistent evidence is available on the society or macro level in that regard and further research in that regard is needed. Finally, (Bloom et al., 2006) point out that this is the case despite the fact that, historically, the main motive for the foundation of both public and private universities has been the *broad public benefits and civic virtue*. Notwithstanding, (Venniker, 2001) concludes that some observable benefits such as lower crime rates and better health have a positive (possibly even economic) contribution to society, and (Dee, 2004) finds a significant positive relationship between educational attainment and election participation, civic knowledge and the support of free speech – all of which are very important for a functioning democracy. Finally, for an overview these and more potential benefits of higher education, please refer to Table 3.

	Public	Private
Economic	<ul style="list-style-type: none"> ▪ Increased Tax Revenues ▪ Greater Productivity ▪ Increased Consumption ▪ Higher Economic Growth Rate ▪ Increased Workforce Flexibility ▪ Decreased Reliance on Government Financial Support 	<ul style="list-style-type: none"> ▪ Higher Salaries and Benefits ▪ Employment ▪ Higher Savings Levels ▪ Improved Working Conditions ▪ Personal/Professional Mobility
Social	<ul style="list-style-type: none"> ▪ Reduced Crime Rates ▪ Increased Charitable Giving/Community Service ▪ Increased Quality of Civic Life ▪ Social Cohesion/Appreciation of Diversity ▪ Improved Ability to Adapt to and Use Technology 	<ul style="list-style-type: none"> ▪ Improved Health/Life Expectancy ▪ Improved Quality of Life for Offspring ▪ Better Consumer Decision Making ▪ Increased Personal Status ▪ More Hobbies, Leisure Activities

Table 3: Overview of presumed benefits of higher education (Institute for Higher Education Policy, 1998)

III – STUDENT AID MECHANICS

As student loans are closely linked to other forms of student financial aid and are usually part of a *financial aid package* students receive from their universities, this chapter describes the student aid mechanics. Furthermore, it gives a detailed overview of the mechanics of both Federal and private student loans and reviews the outstanding portfolio of Federal loans as well as the student loan ABS market as an important source of financing.

Government Financial Aid Programmes

The U.S. system of student financial aid consisting of various loans and grants has evolved over many decades and is, therefore, very complex. It is funded partly by the Federal government, State governments and the educational institutions themselves. In the award year 2010-11, a total of \$250 billion in financial aid was available to students, thus accounting for almost 55% of the revenues of all higher education institutions (see Figure 31).

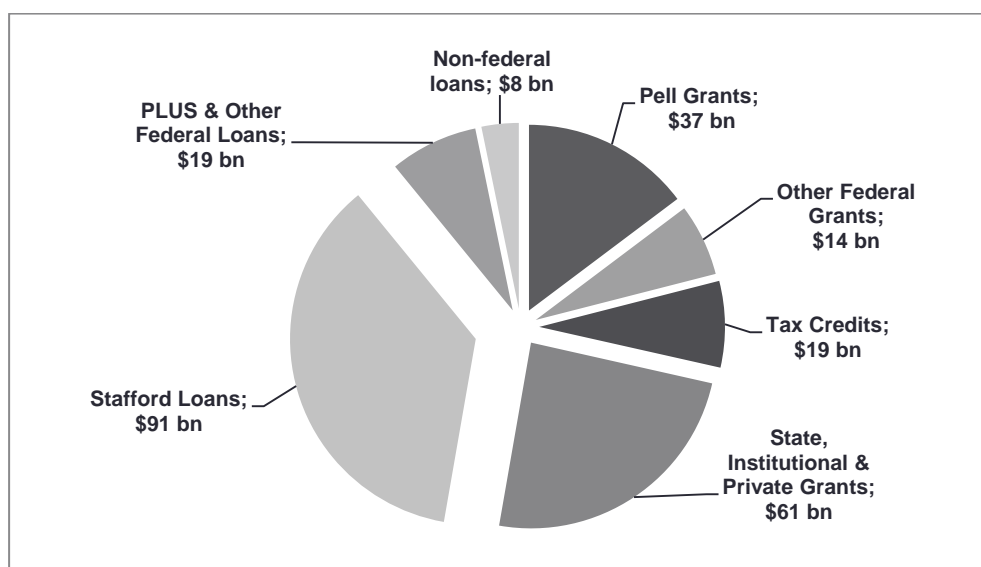


Figure 31: Overview of total financial aid to students in the academic year 2010-11 in constant 2011 dollars (College Board, 2012b)

The first federal student loan programme was initiated upon a recommendation from Milton Friedman, an economist, with the *National Defense Education Act* in 1958 at the time of the Sputnik Crisis and widespread concern about the U.S. falling behind in the technological race with the cold-war enemy, the Soviet Union. Hence, the intention was to support more students in pursuing higher education, especially in technical and scientific fields. The loans were direct loans, capitalised by the U.S. Treasury and faced the problem that they had to be booked as losses in the years they were disbursed in (even though repaid subsequently) according to the prevailing accounting standards. Together with budget control rules this limited the growth of the programme at the time (New America Foundation, 2012).

To circumvent this limitation, the loan programme was extended by the *Higher Education Act* (HEA) in 1965 with the *Federal Family Education Loan* (FFEL) programme which introduced a Federal guarantee for student loans made by private sector banks or non-profit organisations. Since banks were reluctant to lend to students at first, in 1972 the *Student Loan Marketing Association* (“Sallie Mae”) was chartered by the Congress as a private company serving a public purpose (therefore also known as government-sponsored enterprise, GSE), namely to address the shortage of funds available for educational loans by providing liquidity to the secondary market for student loans; it was not allowed to lend directly to students. As GSE, Sallie Mae was allowed to make profits exempt from taxation – effectively a government subsidy for private profits (Dep. Treasury, 2006). Sallie Mae was listed on the New York Stock Exchange since 1984 but its formal ties to the Government through a Federal charter only ended in 2004 and the name changed to SLM Corporation. It is today the largest private student loan lender in the U.S. (Dep. Treasury, 2006).

Meanwhile, in 1993, the Omnibus Budget Reconciliation Act (OBRA) established the Federal Direct Student Loan (FDSL) programme allowing the Education Department, once again, to originate student loans directly. For almost 20 years, direct and guaranteed student loans co-existed until the *Student Aid and Fiscal Responsibility Act* (SAFRA)¹⁹ determined that no new guaranteed loans would be made after the 30 June 2010. According to the Education Department detailed budget proposal for the fiscal year 2013, \$899 billion in guaranteed loans (FFEL) and \$526 billion in direct loans had been disbursed over the lifetimes of the respective programmes as of October 2012 (Office of Management and Budget, 2012a).

Aid Application and Financial Need

Until today, all Federal student financial aid programmes are decreed by the HEA of 1965 as amended²⁰. From the student perspective, the application procedure for Federal aid is integrated: students generally apply through their college or university’s financial aid office by filling out the *Free Application for Federal Student Aid* (FAFSA), a standard form issued by the Education Department including around 100 questions about the students’ enrolment status, their financial situation and the financial situation of their parents (Dep. Education, 2011b). Based on the answered questions, the Education Department determines the *Expected Family Contribution* (EFC), a theoretical dollar amount calculated according to a formula established by the HEA²¹. This dollar amount is then compared to the *Cost of Attendance* (COA) of the institution the applicant intends to enrol at; this includes tuition and fees, room and board as well as supplemen-

¹⁹ This bill was later included in the *Health Care and Education Reconciliation Act of 2010*

²⁰ It is today codified under Title 20, Chapter 28 of the United States Code; Subchapter IV (“Title IV”) regulates Federal student loans and grants. Hence institutions able to offer Federal aid to their students are referred to as *Title IV Institutions*.

²¹ The EFC is not a payment obligation for the student’s family.

tary costs such as books and material needed for the course of studies. Now the student's financial need is established according to

$$\text{FinancialNeed} = \text{COA} - \text{EFC} - \text{OtherFinancialAid}$$

where other financial aid includes, e.g., scholarships and institutional grants. The financial need is the upper limit the student may receive in need-based loans. The FAFSA was filed by 81% of student families in 2012 indicating the large need for financial aid, even among high-income families (Sallie Mae & Ipsos Public Affairs, 2012).

Dependent vs. Independent Students

In calculating the EFC and determining the amount of financial aid a student may get, an important distinction is made between students for whom a financial contribution by the parents may be expected (*dependent student*) and those whose parents' income and assets don't influence the computation of the financial aid (*independent student*). Notable criteria rendering a student *independent* are (a) enrolment in a post-graduate degree programme; (b) being 24 years or older at the time of the aid application; (c) being married or separated, but not divorced; (d) having children or other dependents living in the same household (e) serving on active duty in or being a veteran of the U.S. armed forces; and (f) being an orphan. Due to the first criterion on the list, the distinction only applies to undergraduate students as graduate students are automatically independent (Dep. Education, 2012a).

Pell Grants

The Pell grants programme was also launched with the HEA in 1965 and is the largest educational grant programme in the U.S. disbursing a total of \$37 billion to 9.3 million students in the academic year 2010-11 while maintaining an annual grant limit per student of \$5'500 for full-time students; the loan limit will be increased proportional to inflation until 2017 (College Board, 2012b; Dep. Education, n.d.-e). The programme is need-based and aimed at particularly low-income families: In the academic year 2007-08, two thirds of all Pell Grants recipients had a family income at or below of 150% of the poverty line – an adjusted gross income of \$16'505 per year at the time – and 95% of all recipients fell below 250% of that line (Fastweb LLC., 2011).

Other Grants and Tax Credits

Other Federal grants exist, most notably tuition and housing support for individuals who served in the armed forces after the 11 September 2001 (Dep. Veterans Affairs, 2013). On the non-federal side, \$63 billion in state, institutional and private grants were available for higher education (College Board, 2012b). Meanwhile, the \$18 billion in tax benefits included tax cred-

its for the student's family and deductions from taxable income for tuition fee expenses, material as well as interest payments on student loans – all subject to certain upper limits.²²

Stafford Loans

The Stafford loans programme is named after a former senator, Robert Stafford, and is the biggest source of Federal student loans. Once eligibility is established, Stafford loans are disbursed in the name of the student and don't require a credit score from the applicant – in this sense they are an entitlement. In the academic year 2010-11, \$91 billion were disbursed in one of two forms:

1. *Subsidised Stafford Loans* which are available for students with financial need and are subsidised in that interest does not accrue on them while the students are in school. Formerly, the interest subsidy was also extended during the six-months *grace period* after graduation (see next section) but for loans disbursed after 30 June 2012 this is no longer the case. Also, since the 1 July 2012, the Subsidised Loans are only available to undergraduate students.

2. *Unsubsidised Stafford Loans* which never had an interest subsidy and are available to all students at Title IV institutions regardless of financial need. All Stafford Loans are subject to both annual and cumulative borrowing limits, depending on the student's financial need, dependency status, enrolment status (full-time or part-time) and course level (undergraduate or graduate).

Under either programme, students may not borrow more than the difference between the COA and all other aid they already receive but differences exist: Cumulative Stafford Loan borrowing limits for independent undergraduate students are almost twice as high as for dependents and the total borrowing limit for graduate students (including their undergraduate borrowing) is four times as high as for dependent undergraduates (see Figure 32). Dependent undergraduate students whose parents do not qualify for PLUS loans (see below) are subject to the borrowing limits of independent students.

Stafford loans disbursed after the 30 June 2006 carry a fixed borrower interest rate during repayment (as well as while in school for unsubsidised loans) which currently stands at 3.4% and 6.8% for newly disbursed subsidised and unsubsidised loans respectively. For earlier loans, the 91-day Treasury bill rate plus a spread of 230 basis points is charged (De Doncker & Marchal, 2012). These variable repayment interest rates are currently significantly lower than the fixed unsubsidised and slightly lower than the fixed subsidised rates (see Figure 33).

²² With Federal expenses of \$14.3 bn in 2012, currently the single largest tax benefit programme is the *American Opportunity Tax Credit* introduced as part of the economic stimulus package of 2009; despite criticism it has been extended to 2017 (Abrams, 2013; Robinson, 2012).

which is due to the currently very low interest rate on Treasury bills of below 0,1% compared to Treasury bill rates just short of 5% at the time of the introduction of the fixed rates in July 2006 (Federal Reserve Board, 2013a).

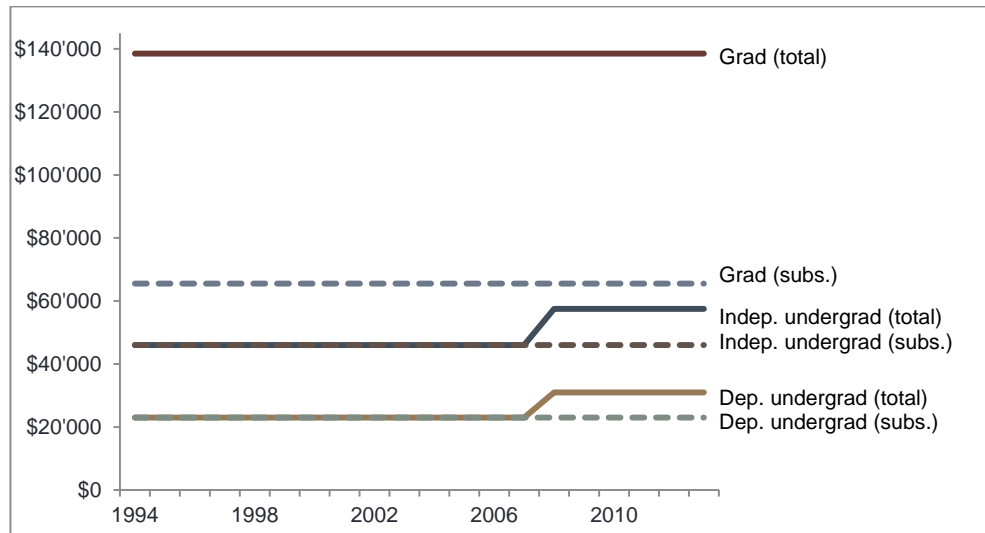


Figure 32: Cumulative Stafford Loan limits over time (Kantrowitz, 2013a)

PLUS Loans

Parent Loans for Undergraduate Students (PLUS) are an additional means of paying for education: They are paid out to the parents of dependent undergraduate students (parent PLUS loans) or directly to the students if they are graduate students (grad PLUS loans). A total of \$17 billion were disbursed in the academic year 2010-11 (College Board, 2012b) but unlike in the Stafford programme, borrowers are required to not have an *adverse credit history*²³. However, even if they have one, the loan may still be underwritten if they find an endorser with a good credit history. PLUS loans have no nominal borrowing limits but annual borrowing is limited to the difference between the cost of attendance and any other financial aid the student receives. Thus, they are a popular way to fill the gap between Stafford loans and the total COA. They carry a fixed interest rate which is higher than for Stafford loans (currently 7.9%) and parents have to start repayment two months after the loan is disbursed, reflecting the intention that students first exhaust other sources of financial aid before turning to PLUS loans (Dep. Education, n.d.-e). As with Stafford, PLUS loans disbursed before July 2006 carry a variable interest rate being linked to the 91-day Treasury bill rate.

²³ This check does *not* include a credit score – adverse credit history is defined as being 90 or more days delinquent on any debt or having been subject to a default determination, bankruptcy discharge, foreclosure, write-off etc. in the previous 5 years (Dep. Education, n.d.-e)

Other Federal Loans

Apart from Stafford and PLUS, a few smaller Federal student loan programmes exist, such as Perkins Loans (aimed at *students with exceptional need*) or TEACH grants for students intending a career in teaching which are converted into loans if the recipients, after graduation, fail to fulfil their commitment to serve as teachers for a certain time (Dep. Education, n.d.-e). However, since the dollar amounts disbursed under these loan programmes are dwarfed by Stafford and PLUS loans, they will not be given further attention.

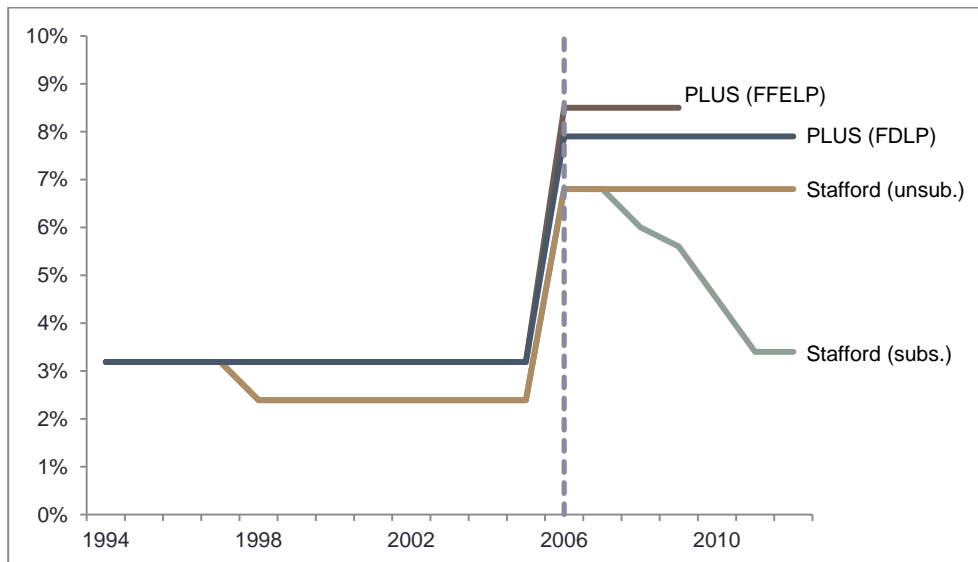


Figure 33: Borrower interest rates during repayment for Federal student loans as of 2013 by disbursement year; loans disbursed prior to July 2006 carry a variable rate indexed to the 91-day Treasury bill rate (Smole, 2012; *The Project on Student Debt*, 2012).

Consolidation Loans

Students in repayment often have more than one Federal student loan, making several separate monthly payments necessary, possibly to different servicers, which may lead to a loss of overview. Loan consolidation, effectively a sort of refinancing, is an option that allows the debtors to combine all outstanding Federal loans into one single *consolidation loan* which is always a direct loan (see below) and carries the weighted average interest rate (rounded to the nearest 1/8 of a percent) of its component loans (Dep. Education, n.d.-e).

Trends

Partly as a consequence of the enrolment growth and the cost explosion in higher education and partly for other reasons there have been two major trends in Federal student on-going since the 1970s²⁴, both influencing the current situation in student loans:

(a) Federal financial aid has been growing exponentially in real terms since the 1970s together with a gradual shift of emphasis from grants to loans as a means to support students with financial need (see Figure 34). While the total amount of student loans disbursed in 1970 equalled 157% of the grant amount disbursed (excluding veterans' grants), this ratio has been hovering around 400% for much of the last decade. Only the increase in Pell grant limits and a surge in enrolment of eligible students brought it back to 270% (New America Foundation, 2012).

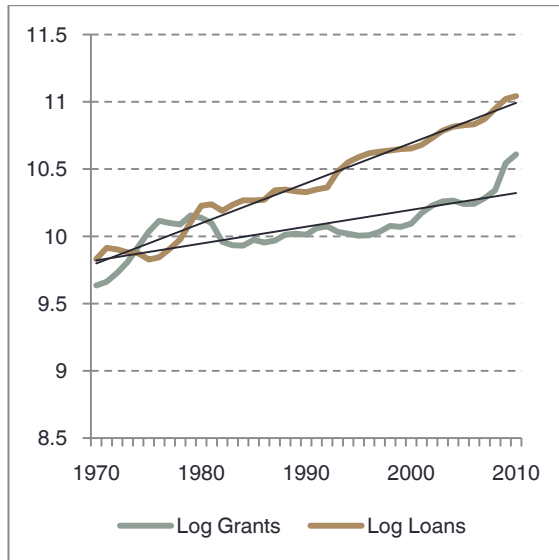


Figure 34: Decadic logarithm of the total Federal student aid (College Board, 2012b)

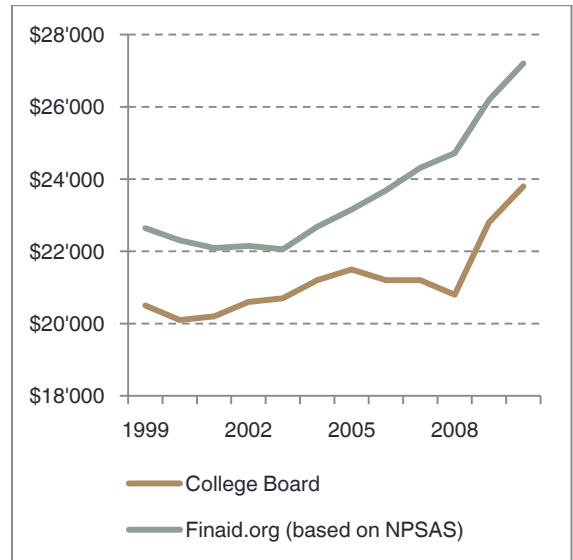


Figure 35: Average total debt (Federal and PSL) at graduation for bachelor graduates graduating with debt, based on the annual College Board survey and NPSAS with interpolation. In 2011 dollars (College Board, 2012b; Kantrowitz, 2013b)

(b) The number of students in need of financial aid, and specifically student loans, has been constantly rising: In 1993, 45% of all bachelor degree holders graduated with debt – in 2008 it was 65% (NPSAS, n.d.) Moreover, those graduating with debt owed ever more in real terms; although available data on the exact amounts differed, the trend is beyond reasonable doubt (see Figure 35). While some of the surge in borrowing need might be attributed to the recent recession and parents facing financial difficulties, this development is part of a longer-term trend, most probably due to a mix of factors, again including the rise of the cost of attendance

²⁴ More recent trends related to delinquencies, defaults and the re-payment burden of student loans are discussed in Chapter IV.

and the proportional decrease in grant aid as discussed before. Since private student loan issuance has slowed down significantly since 2008 (see later section), it is clear that this increase in borrowing levels is occurring first and foremost through the Federal borrowing programmes.

Federal Student Loan Operations

Although there are few differences in the loan conditions between loans under the FFEL and under the FDSL programme from a borrower's perspective, their cash-flows and operations differ significantly since, in the former, the ED guarantees the loans while it acts as lender in its own right in the latter.

Grace and Repayment Plans

For all Federal loans made directly to students (e.g. Stafford loans) no repayments have to be made while the student is in school, given that they are enrolled at least as half-time students; however, interest accrues in this time except for Subsidised Stafford and Perkins Loans. After leaving school (through graduation, dropping out or dropping below half-time enrolment) most loan programmes offer a *grace period* of six months in which loan repayments do not start yet so the student can become financially settled; in this period, interest accrues on all types of loans. Once repayment starts, Federal loan debtors can choose between several different *repayment plans*. Direct Loan borrowers may switch repayment plans at any time while guaranteed loan borrowers may switch at least once a year (Dep. Education, n.d.-e).

Standard Repayment is the most common option as of 2012: Loans are repaid over a period of ten years with constant monthly payments.

Graduated Repayment is similar to standard repayment: The repayment term is 10 years but loan payments are lower at the beginning and increase over time, usually every two years.

Extended Repayment offers constant or graduated monthly rates over a repayment term of 25 years.

Income-Contingent Repayment (ICR) also offers the repayment term of 25 years. Monthly payments are variable, based on discretionary income and capped at 20% of the latter. ICR is only available for direct loans.

For legacy FFEL loans, *Income-Sensitive Repayment* (ISR) is available: The repayment term is 10 years and monthly payments may increase or decrease. No financial hardship has to be proven but in turn, no loan forgiveness is stipulated.

Income-Based Repayment (IBR) became available on the 1 July 2009 through the *College Cost Reduction and Access Act* (CCRAA) for all direct loans including consolidation loans (but excluding parent PLUS loans). Monthly payments are capped at 15% of the difference between adjusted

gross income and 150% of the poverty line depending on the debtor's State and family size. In 2012, this corresponded to 15% of all income above \$16'665 for a single adult, on average.

In order to be eligible for IBR, the debtors must prove every year that their monthly payment under standard repayment would exceed the IBR cap. Remaining loan balances at the end of the 25 year repayment term are forgiven. More recently, as of December 2012, IBR is available in a modified version known as *Pay As You Earn* (PAYE) where the monthly payment cap and qualification criterion was reduced to 10% of the difference between gross earnings 150% of the poverty line; also the repayment term was shortened to 20 years (Dep. Education, 2012j). The main intention behind these modification is to further ease the burden of high monthly payments from low-income borrowers; while initially intended to enter into force in 2014 that date was brought forward by President Obama, probably a tactical move in the election year 2012 (The White House Blog, 2012).

In 2011 the Standard Repayment still accounted for the big majority repayments in dollar terms (see Figure 36) but with the modifications in income-based repayment, the Education Department expects up to 1.6 million borrowers to switch to PAYE on top of the 1.3 million who are already using IBR (Dep. Education, 2012j). So far, IBR had also not been promoted significantly as a repayment option, neither by the ED nor by guaranteed loan lenders or servicers. Hence many borrowers so far did not know about the option or wrongly believed to be ineligible. This is, however, likely to change soon as the ED is working on making the programme better known and easier to apply for (Webley, 2012b). Since this option is only available for Direct Loans, it will not impact the cash flows to FFELP lenders.

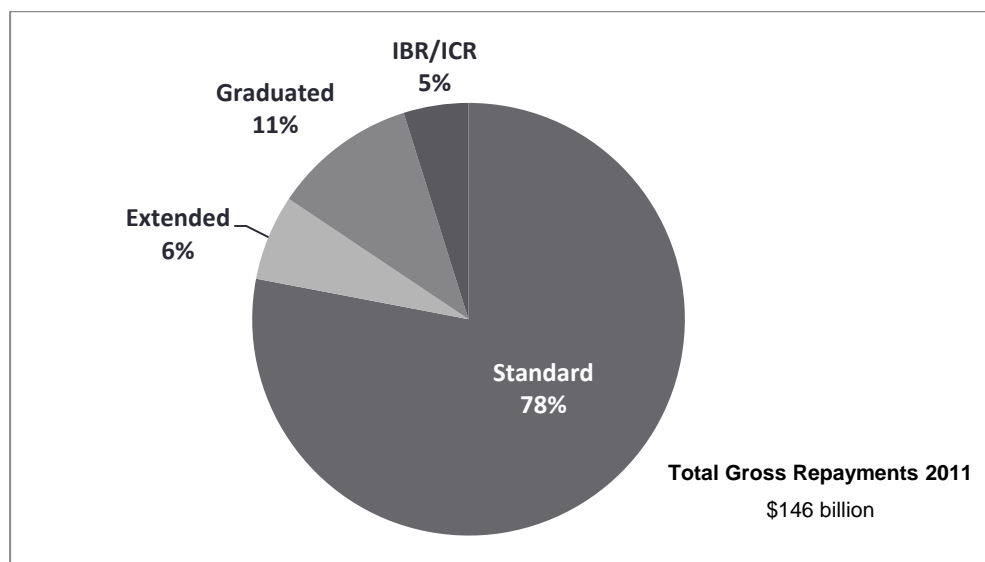


Figure 36: Use of repayment options on Stafford, PLUS and Consolidation Loans in the direct loan programme in 2011 (Office of Management and Budget, 2012a)

Deferment and Forbearance

In *deferment periods*, principal and interest repayments are postponed while interest fully accrues, (and interest payments are subsidised for subsidised Stafford loans and Perkins loans). Student loan debtors may apply for a deferment of up to 3 years in situations such as

- Studying in a graduate fellowship programme
- Active military service and a 13 months period directly afterwards
- Unemployment or inability to find a job (for up to 3 years)

If debtors are not able or willing to make the monthly repayments and do not qualify for deferment, they may still apply for *forbearance* which halts monthly payments for the duration of 12 months at most; interest accrues to the principal balance in all cases. There are two types

- Discretionary forbearance (at the discretion of the lender / loan servicer) in cases such as illness or financial hardship
- Mandatory forbearance where the lender / servicer have to grant forbearance upon request. This is applied in some restricted cases, most notably when the monthly loan payments would constitute more than 20% of the debtor's monthly gross income.

It has to be noted that deferment and especially forbearance do not classify a loan as non-performing or defaulted. This has to be taken into account when comparing default or delinquency rates of student loans with other types of credit, e.g. credit cards, where such repayment facilitations do not exist (Brown, Haughwout, Lee, & Van der Klaauw, 2012).

Loan Forgiveness

Federal Student Loans borrowers have several yet limited possibilities of being completely exempt from repaying the debt: When a borrower dies, the school they attend closes during the education, or if a loan has been made based on false certifications of eligibility (on part of the financial aid office) the debt is forgiven. Further forgiveness options exist for military personnel, volunteer work and most notably within two further programmes:

(a) The *Teacher Loan Forgiveness Program* was established in 1998 and allows graduates who work as primary or secondary teachers at designated schools in low or middle income neighbourhoods to discharge Stafford loans up to a total amount of \$17'500.

(b) The *Public Service Loan Forgiveness Program* introduced by the CCRAA of 2007 which entitles debtors who made orderly payments on their student loans for a period of at least 120 months since October 2007 while employed full-time in any kind of public sector position to having their remaining loan balance forgiven. This benefit only applies to direct student loans or to consolidated FFEL loans. (Dep. Education, n.d.-e)

Finally, in very limited cases, student loan debt may be discharged in bankruptcy procedures (see Chapter IV).

Delinquency, Collection, Default, Rehabilitation

As soon as borrowers miss a scheduled monthly payment they become *delinquent* and collection procedures start, including telephone calls, demand letters and “skiptracing” techniques (locating the debtors’ whereabouts) reminding them to make payments (SLM Corporation, 2012). Once a borrower is delinquent for 90 days, this is reported to the three major *credit bureaus* that keep consumer credit information on most U.S. citizens, resulting in a worsened credit score and making any type of future borrowing much more difficult. The ED strongly recommends delinquent borrowers to consult their loan servicers at this point to work out a new repayment plan in order to prevent outright default.

After 270 days of delinquency, the loan is classified as defaulted which excludes the borrower from any further student loan borrowing as long as the loan is in default (Dep. Education, n.d.-e). Also, as soon as a loan is in default, the entire outstanding principal and accrued interest becomes due immediately. In this situation, borrowers basically still have three options to get out of default: (a) they may repay their loans in full; (b) they may take out a consolidation loan to pay down the defaulted loans while choosing a more affordable repayment option for the new loan; or (c) they may *rehabilitate* the loan(s): If a borrower manages to make 9 orderly monthly payments in the 10 months following the default, the loan goes back into normal repayment mode, although with higher monthly payments due to the interest accrued during delinquency. While option (a) is quite unrealistic for struggling borrowers, (b) and (c) offer a good way of repairing a damaged credit score, given that the borrower can afford the monthly payments.

If none of the above is pursued, loans are often handed over to private *debt collection agencies*, further increasing the debt since collection fees are added and can be as high as 20% of the outstanding. While not pursuing a generally uncommon activity, collection agencies have been subject to a large number of consumer complaints for their use of aggressive “boiler room tactics”, pressuring struggling debtors in default to sign up for repayment plans with high monthly payments while frequently failing to inform about the most affordable way out of default (i.e. the one with the lowest monthly payments, generally the IBR). This can be attributed to the fact that the collectors are only entitled to the collection fees if the borrowers resume monthly payments over a certain threshold, usually 0.75% to 1,25% of the outstanding balance. Since, on the other hand, the financial rewards of preventing default are only a fraction of the collection rewards on defaulted loans, collectors have little incentive to inform eligible borrowers about the more affordable options, a fact that translates into an employee compensation sys-

tem where collection agents are often only paid minimum hourly wages but big bonuses for signing up as many borrowers as possible for high monthly payments (Hechinger, 2012b).

Finally, the ED extends to the collection agencies the authority to collect money from defaulted borrowers by withholding Federal tax refunds or garnishing wages and Social Security payments to the borrower (e.g. retirement payments), which are authorities not granted to collection companies for any other type of consumer debt.

With rapidly growing outstanding student debt and rising defaults rates, the private collection business has boomed in the last few years: Profits from collection activities for the ED, either by subcontracted agencies (direct loans) or guaranty agencies working as debt collectors (guaranteed loans), totalled over \$1 billion in the fiscal year 2011, and student loans have been dubbed a “new oil well” for the accounts receivable management (ARM) business, another name for private debt collectors (Martin, 2012a). Meanwhile reports of collection agents earning bonuses as high as \$450’000 a year at *non-profit agencies* on the back of individual hardships fostered criticism that the current system enables big private profits at the expense of struggling borrowers (Hechinger, 2012a).

FFEL Programme Specifics

Under the FFELP, loans were underwritten by private lenders with approved eligibility and who have to adhere to HEA regulations at every step of the loan origination and servicing process. Since lenders regularly securitise portfolios of student loans and sell the resulting Asset Backed Securities (ABS) to investors in order to refinance the loans, FFELP loan holders and loan servicers can often be different entities (see below). The main tasks of loan servicers include billing, repayment scheduling, conducting collection procedures for delinquent loans and being the first point of contact for borrowers.

While students are in school, grace period or deferment, loan holders either receive an interest subsidy from the ED for subsidised loans, or the accruing interest is capitalised. Once borrowers enter repayment, lenders receive principal and interest payments according to the borrower interest rates discussed in the previous section. On the other hand, lenders need to re-finance the loans in the capital markets which is a risk since market rates might be above loan repayment rates. To alleviate this risk, the ED effectively enters an interest rate swap with the lender, where it receives whatever rate the borrowers pay on their loans and pays out a market-indexed floating rate to the lender (e.g. the 3-month commercial paper rate + 1.94% for Stafford Loans in repayment originated after October 2007²⁵) – this swap is called *Special Allowance Payment* (SAP). For loans originated before October 2006, however, the SAP functions merely as an

²⁵ Since the 1 April 2012, holders of FFELP loans disbursed since 1 January 2000 can index their SAP to the 1-month LIBOR rate rather than the 3-months commercial paper rate (Dep. Education, 2012i).

interest rate floor, i.e. lenders don't have to pay anything to ED if borrower rates are above the SAP floating rate (De Doncker & Marchal, 2012)²⁶.

Additionally, all FFELP loans are insured against default by the *guaranty agency* responsible for the student: Upon a request of the lender, loans in default are reviewed and bought by the guarantee agencies within 90 days of the claim at a discount of 2% (for loans disbursed from October 1993 to June 2006) and 3% (for newer loans); if a default is due to the death of the borrower or a discharge of the loan in bankruptcy no discounts apply.

The loan purchase by the guaranty agency is financed out of a tightly regulated *reserve fund* which earns a one-time 1% insurance fee on all guaranteed principal balances as well as re-insurance payments by the ED of 75 to 100 per cent of the defaulted balances acquired by the guaranty agency, depending on the loan origination date and the agency's portfolio default rate (*trigger rates*). The defaulted loans then remain on the guaranty agency's books for up to four years during which it takes over the collection responsibility; balances still outstanding afterwards are turned over to the ED (Dep. Education, 2012b). Collected payments on the defaulted loans first go to the reserve fund up to the complement of the re-insurance payment (0 – 25 per cent of owed balance), a further 16% of the owed total may be retained to finance the agencies operations, and further collections are passed on to the ED (SLM Corporation, 2012).

Further responsibilities of the guaranty agencies include keeping records of all loans they guarantee (*account maintenance*), audit the origination and servicing practices of the respective lenders, assist the lenders in preventing default (*default aversion*).

Guaranty Agency	Outstanding Loans (in millions)	Control	States Covered
United Student Aid Funds, Inc. (USA Funds)	69'584	private non-profit	AK, AZ, HI, IN, KN, MD, MS, NV, WY
American Education Services / PHEEA	41'799	public	DE, PA, WV
American Student Assistance (ASA)	36'716	private non-profit	MA, DC
Great Lakes Higher Education Corp.	36'445	private non-profit	MN, OH, PR, VI, WI
Education Credit Management Corp. (ECMC)	31'774	private non-profit	VA, OR, CA, CT
All Servicers	323'817		

Table 4: Top 5 FFELP loan servicers as of 30/09/2011 by outstanding loan balance in repayment (Dep. Education, 2012c)

²⁶ The fact that the SAP constitutes a public subsidy for private lenders whenever borrower interest rates are lower than market interest rates was an important factor in the decision to phase out the FFELP in favour of the Direct Loan programme.

The HEA determines that there be a single guarantee agency responsible for the loans of all students affiliated with a State, either through residency or through the location of their school. Currently, there are 35 active private, non-profit guaranty agencies since several of them take over the responsibility for more than one state; the five largest covered around two thirds of the outstanding FFEL loans in repayment as of September 2011 (see Table 4). The structure of the loan guaranty has been criticised since the financial rewards the agencies earn for working on default prevention are much lower than those earned from collecting defaulted loans (Higher Ed Watch, 2009).

FDSL Programme Specifics

FDSL is the only currently available Federal student loan programme: all loans are disbursed by the ED directly to the school, usually in two instalments per academic year, so that the loans cannot be used for any other purpose²⁷. Once a borrower enters repayment, ED assigns a loan servicing company with similar tasks as under FFELP. In fact, some of the abovementioned FFELP guaranty agencies whose guaranty function will become obsolete in the long run, already entered the field of loan servicing²⁸.

Temporary Loan Purchase Authority

In May of 2008, Congress passed the *Ensuring Continued Access to Student Loans Act* (ECASLA) in response to concerns that credit market conditions could disrupt Federal student loan availability. The law gave the ED temporary authority to purchase FFEL loans made by private lenders and participating interests in these loans, effectively providing a secondary market for the loans (Delisle, 2009).

This was based on the concerns that FFEL lenders who, at the time, held 75% of Federal student loans would have problems raising sufficient affordable capital in the environment of the credit market crunch to finance the loans. The Temporary Loan Purchase Authority expired on 30 September 2010; by then the ED had created and run three loan purchase arrangements:

- **Loan purchase commitment** programme, effectively a put option by which the Education Department gave all lenders and holders of FFELP loans issued for the academic years 2007-08, 2008-09 and 2009-10 the right but not the obligation to sell the loans directly to the Department. The loans are serviced by private servicers hired by the Department.

²⁷ Except in the case of PLUS loans where loan funds in excess of the school costs are disbursed to the students' parents.

²⁸ E.g. Great Lakes Education Services and Pennsylvania Higher Education Assistance Agency (PHEAA)

- **Loan participation purchase** programme under which the lenders transferred pools of loans for the academic years 2008-09 and 2009-10 to a custodian who issued participation certificates in exchange. The lenders could then sell these participation certificates entirely to the Department while continuing to service the loans and paying an interest rate equal to the 91-day commercial paper rate + 50 bp to the Department.
- **Asset-backed commercial paper conduit** program: the conduit buys student loans and issues short-term commercial paper to ensure liquidity in the market; lenders selling loans to the conduit had to make new loans with at least a part of the proceeds. The conduit is meant to refinance itself on the market, but if pledged loans become more than 210 days delinquent, the Department buys the default loans.

Through these programmes, around \$100 billion in principal balances originally underwritten as FFELP loans effectively became Direct Loans. These receivables are also referred to as ECASLA loans and remain in the ED's holdings (Dep. Education, 2011c).

Federal Loan Portfolio

There are two public sources that give some detail about the composition of the outstanding Federal student loan portfolio: first, the annual reports of the *Federal Student Aid* (FSA) office, the unit of the ED operating the programmes, and second, the detailed annex to the budget request that the ED files to Congress every year. But before presenting the figures, I give a short overview of some accounting mechanisms that help put the numbers in context.

Federal Loan Funding

In the FFELP, the capital for student loans was raised by private lenders in the capital markets, e.g. through ABS as described later. Meanwhile, Direct Loans are covered by the ED borrowing from the U.S. Department of the Treasury which, in turn, re-finances the loans as part of the general Federal borrowing. This borrowing is unlimited for unsubsidised loans, and the funds are disbursed to the ED at the beginning of a fiscal year based on the estimated demand for student loans in the given year (Office of Management and Budget, 2012b, Section 185.32). However, principal amounts borrowed from the Treasury and loans disbursed to students are not recorded as outlays in the ED's operating budget; rather they are recorded on a *cash basis* in a separate account, the *Financing Account* (see Figure 37)²⁹.

²⁹ Although FFELP loans are funded by private lenders, the ED's budget also contains records of the outstanding FFELP principle balances in the same way.

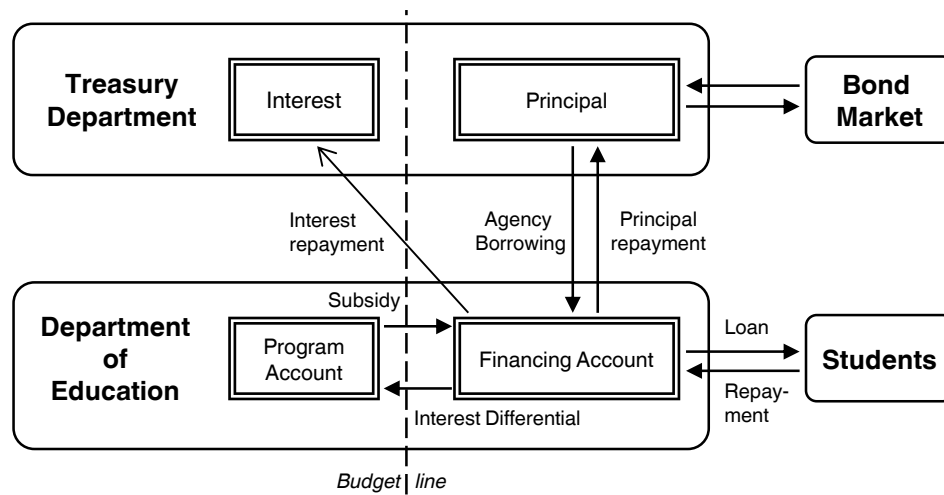


Figure 37: Direct Student Loan Programme mechanism (simplified); cash flows to and from the left of the “budget line” count towards the ED’s budget while cash flows only on the right of it do not. Based on (Curtis & Lyberg, 2007)

Thus, the ED’s borrowing contributes to the public debt but not to the budget deficit of the U.S. government. At the end of the fiscal year 2012 (on the 30 September), the liabilities ED owed to the Treasury in relation to the various student loan programmes stood at \$714’324 million which was equivalent to 4.4% of the total U.S. public debt outstanding. Due to the shift from loan guaranties to direct lending this debt has ballooned since the fiscal year 2008 when it was just \$128’300 million (Dep. Education, 2012b).

The interest rate the ED pays to the Treasury is coupled to the rate on Treasury securities in the disbursement year, yet the exact rates are only disclosed internally by the Treasury to the ED (Office of Management and Budget, 2012b). That said, comparing the interest expense of \$20’643 million in the fiscal year 2012 to the programme liabilities yields a “back-of-the-envelope” estimated average interest rate of 2.9% which is in the range of the yield on 30-year Treasury bonds which fluctuated between 2.5% and 3.5% in 2012 (Dep. Education, 2012b, Bloomberg). However, it has to be noted that for every cohort year, the interest rate is set anew by the Treasury so that my estimate should represent a weighted average of the rates for the different loan vintages in the ED portfolio (Treasury Financial Management Service, 2009).

Subsidy Estimates

A common feature of FFELP and FDSLP is that the ED is required by the *Federal Credit Reform Act of 1990* (FCRA) to project all future cash flows associated with the loans disbursed or loan guaranties given in a cohort year over the expected lifetime of the loans. They are then discounted with interest rates on marketable Treasury securities of similar maturity to an NPV which is recorded as an asset on the ED’s balance sheet if it owns the loans. Expected revenue

shortfalls are budgeted as *subsidy costs*³⁰ in the *Program Account* in the year of disbursement (Dep. Education, 2012d) which is, effectively, a provision for future loan losses. However, the NPV of the projected future loan cash flows may exceed initial outlays, e.g. when borrower interest rates are much higher than the rate ED pays to the Treasury. In such case, the *profit* is transferred back to the program account as *saving*, and the subsidy cost becomes negative.

Subsidy cost projections are influenced, on the one hand, by the foreseeable interest subsidies for borrowers in school. On the other hand, other drivers of future cash flows such as the disbursed loan volume, Treasury interest rates, repayment patterns, default rates and discharge have to be predicted based on assumptions. Since minor adjustments of these might have *significant impact on the financial statements* the subsidy cost estimates are updated every fiscal year for every cohort of outstanding loans, and the estimation methodology is reviewed (Dep. Education, 2012b). Adjustments to subsidy cost estimates are, hence, included as costs (for net upward re-estimates) or revenues (for net downward re-estimates) in any given year.

The annual report of the FSA indicates that the cash flow projection model uses a probabilistic scenario analysis of future interest rates based on macro-economic projections. A further input to the model are the *Budget Lifetime Default Rates* (BLDR) which predict the percentage of the dollar amount disbursed in any given year which will default over the lifetime of the loan. In an e-mailed statement, a representative of the *Operations Performance Division* of the FSA³¹ further indicated that the BLDR are estimated using a regression model based on a sample of 4% of all Federal student loan borrowers as recorded in the NSLDS (see Appendix). The ED published the rates grouped into *risk categories* for Direct Loans cohort years in (see Table 5).

Furthermore, the ED projects the recovery rates on defaulted loans, net of collection costs, in order to project the net losses on the portfolio. Given the discussed, wide-ranging authorities in collecting the student loan debt, it is not surprising that the ED predicts very high net

Cohort Year	2005	2006	2007	2008	2009
2-yr Public & Private	31.0%	32.8%	32.1%	31.6%	31.1%
2-yr Proprietary	47.3%	47.4%	47.3%	48.6%	49.0%
4-yr Freshmen & Sophomores	24.9%	25.9%	24.7%	24.0%	23.6%
4-yr Juniors & Seniors	10.6%	11.9%	12.4%	12.3%	12.1%
Graduate Students	4.8%	6.0%	6.2%	6.2%	6.1%
Overall	14.5%	15.7%	15.9%	16.5%	17.3%

Table 5: *Budget Lifetime Default Rates* (Dep. Education, 2012e)

³⁰ These estimates are also called *Credit Reform Estimates*

³¹ Ms. Donna Bellflower: Donna.Bellflower@ed.gov

recovery rates ranging from 77% (Consolidation loans) to 105% (Subsidised Stafford Loans) for loans disbursed in 2013 (Office of Management and Budget, 2012c).

Finally, by comparing the subsidy cost estimate with the amount disbursed (or guaranteed), an expected *subsidy rate* is determined for every cohort and, through weighted averaging, for entire loan programmes.

$$1 - \frac{\text{Exp. Cashflows} * \text{DiscountFactor}}{\text{Disbursement}} = \text{Subsidy Rate}$$

Figure 38 shows an example of the composition of the subsidy rate estimate, making clear that the interest rate differential³² between borrower rates and the rate at which the loans are re-financed is currently by far the most important component of the subsidy rate – the negative rate in this case indicates that the ED is expecting to turn a profit over the lifetime of every loan dollar disbursed in 2012.

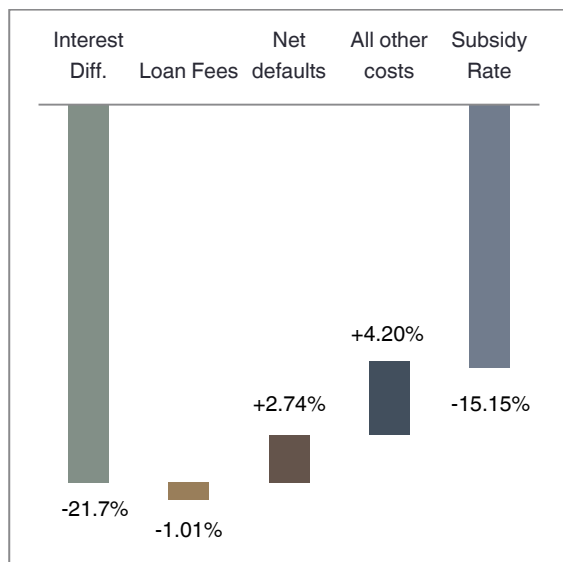


Figure 38 : Composition of the subsidy cost estimate of the Direct Loan cohort year 2012 (Office of Management and Budget, 2012c)

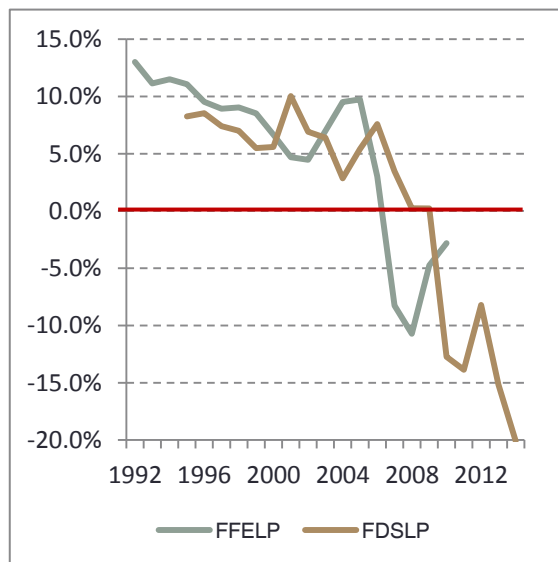


Figure 39: Current subsidy rate estimates for outstanding Federal student loans by disbursement cohort year (Office of Management and Budget, 2012c)

The influence of the interest rate can also be well observed in the current subsidy rate estimates across the outstanding loan cohorts: Around the 2007 cohort, subsidy rates turned from significantly positive to significantly negative exactly coinciding with the year in which the ED switched from floating to fixed borrower rates (see Figure 39). Together with a sharp drop in Treasury rates since 2008, this helps to strengthen the hypothesis that the large interest differential (e.g. 6.8% on Unsubsidised Stafford Loans compared with 2% on 10-year Treasury bonds) is driving loan programme subsidy costs. Using the ABS terminology (see below), one can say that Federal loans enjoy a very large excess spread under current market conditions.

³² Compounded over the entire lifetime of the loan

Meanwhile caution has to be applied with inferring loan programme performance solely from subsidy rates since most administrative costs of the programmes are not included in these long-term cost calculations but budgeted every year on a cash basis³³.

Outstanding Loans

Table 6 shows the last publicly available³⁴ figures of the distribution of outstanding loan *principal* balances on the different loan programmes, making clear that already back in 2011, outstanding direct loans had overtaken FFELP loans in volume while total volume had already surpassed \$800 billion. Two further observations are: (a) PLUS loans outstanding are much higher as proportion of total Direct Loans than as proportion of guaranteed loans, reflecting a recent surge in PLUS borrowing³⁵, and (b) consolidation loans are proportionately much larger in FFELP loans which is probably due to the fact that a much higher proportion of FFELP loans is already in repayment compared to Direct Loans.

	Direct Loans	FFELP	Defaulted FFELP
Stafford	96'590	55'818	6'557
Unsub. Stafford	105'150	58'593	7'820
PLUS	35'531	13'885	909
Consolidation	104'552	198'540	14'067
ECASLA Loans	98'068		
Legacy FFEL (pre-1992)	6'990		
Teach Grants	278		
Totals	447'159	326'836	29'353

Table 6: Breakdown of the outstanding principal balances of Federal loan programmes as of 30 September 2011, in millions of dollars. Defaulted FFELP refers to loans purchased by ED from guaranty agencies (Office of Management and Budget, 2012a)

Finally, Figure 40 shows an overview of the most important private lenders holding outstanding FFELP loans, together accounting for up to 72% of the market in 2011. SLM Corp. alone held 35% making it, by far, the most important private player in the student loan market.

³³This issue has led to controversy when the FFELP and Direct Loan programmes were compared for efficiency in the run-up of the discontinuation of the FFELP programme. FFELP proponents argued that the historically higher subsidy rates of the FFELP programme were based by the fact that administrative costs borne by private lenders are indirectly included in the *budgetary cost* calculation while the administrative cost of the ED is not included in the Direct Loan cost calculation and resulting subsidy rate. Direct Loan proponents argued, however, that Direct Loans were more cost-efficient even with *fair-value* cost accounting. Furthermore, Direct Loans were deemed more cost efficient since they are re-financed by simple Treasury borrowing rather than complex ABS structures with higher spreads and the need for expensive investment banking services at underwriting (CBO, 2010a).

³⁴ As of 15 February 2013

³⁵See (Wang, Supiano, & Fuller, 2012)

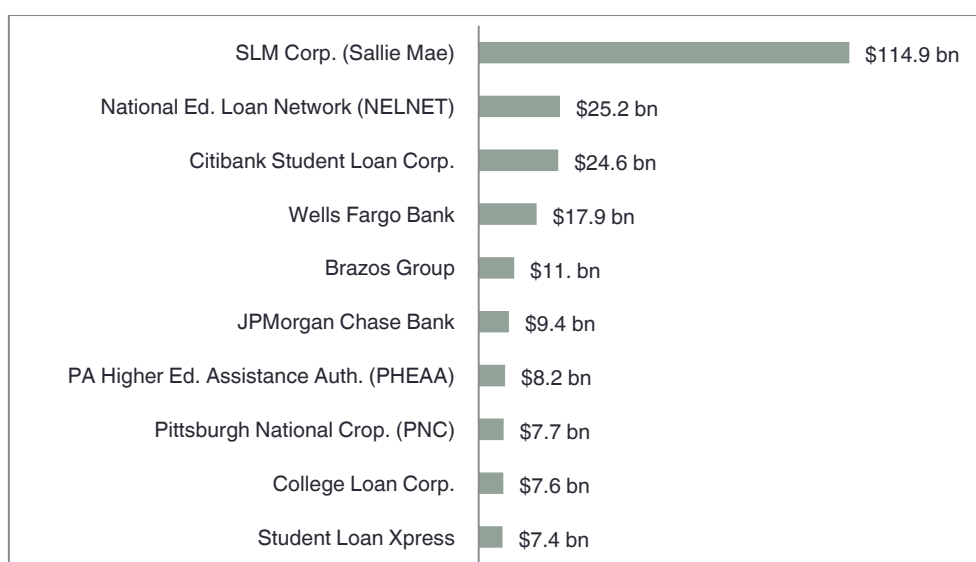


Figure 40: Top 10 private sector FFELP loan holders as of 30 Sep 2011 (Dep. Education, 2011d)

Private Student Loan Specifics

Private Student Loans (PSLs) are all non-federal student loans provided by financial institutions (banks), non-profit lenders and some schools who offer loans directly to their students. As an additional loan option for students, they are mainly intended to bridge the gap between the grants and Federal loans a student receives and the actual cost of attendance³⁶. Especially for graduate students facing high costs of attendance, easily beyond \$80'000 for a single academic year (e.g. at Harvard Medical School) compared to annual Stafford Loan limits of \$20'500, these additional loans are frequently part of financial aid packages.

Although PSLs made up only 7% of the \$118 billion in student loans disbursed in the award year 2010-11 (College Board, 2012b), they were one subject of concern for the *Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010* (Dodd-Frank Act) that charged the newly created *Consumer Financial Protection Bureau* (CFPB) with the establishment of an in-depth report on Private Student Loans (H.R. 4173, 2010). The report was published in July 2012 and forms the basis for much of the following section. Much of the report is based on data provided to the CFPB by 9 major PSL lenders, representing more than 90% of the currently outstanding PSL volume (see Table 7). Along with Federal loans, PSLs had witnessed a strong growth until 2007; after that private lenders tightened lending conditions which led to a strong and persistent fall in new issuance; although the academic year 2011-2012 saw a small uptick (see Figure 41). This is also reflected in the stagnation of the total outstanding PSL volume of the largest lenders (see Figure 42).

³⁶ This corresponds to the EFC

- | | | |
|-------------------------|----------------------|------------------------|
| • RBS Citizens | • Discover Financial | • The First Marblehead |
| • J.P.Morgan Chase Bank | Services | Corporation |
| • SunTrust Banks, Inc. | • PNC Bank | • Sallie Mae, Inc. |
| | • U.S. Bank National | • Wells Fargo Bank |
| | Association | |

Table 7: PSL lenders represented in the Sample Lender Portfolio of the CFPB report, managing over 90% of the outstanding volume, as estimated (CFPB, 2012)

Lending

Many PSL lenders now follow the model of *school certified lending*. The student first files a FAFSA, then the school financial aid offices award grants and Federal loans depending on need and eligibility. Only if this does not suffice to cover the entire cost of attendance, either the school office directly offers a PSL as part of the aid package (e.g. an institutional loan), or the student may apply for a PSL from any lender they wish. The private lender that the student chooses then requests certification from the school to make sure that the PSL does not exceed the cost of attendance minus all other aid already awarded. PSLs handled in this way are a complement to Federal loans, and total borrowing is capped at the cost of attendance³⁷.

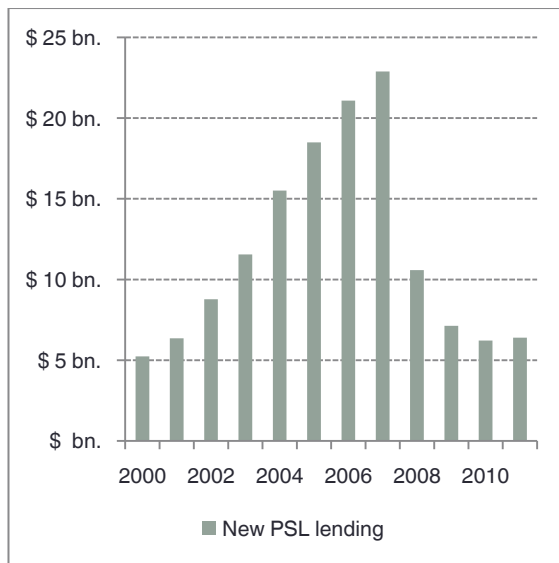


Figure 41: New private student loans by academic year (College Board, 2012b)

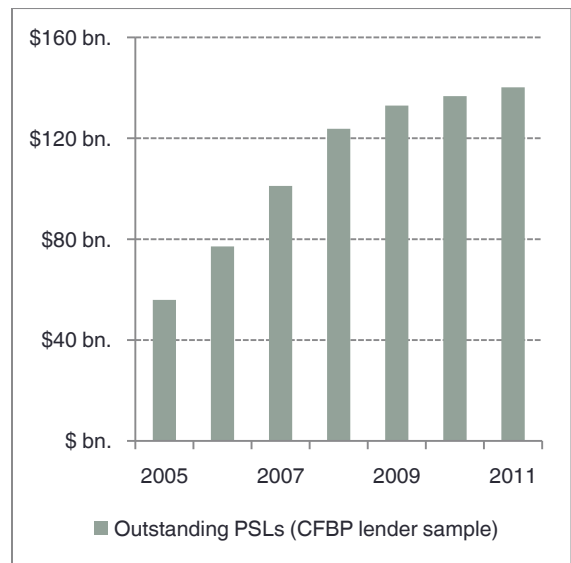


Figure 42: Lower bound estimate for the stock of outstanding private student loan debt (CFPB, 2012)

A different case are *direct-to-consumer* (DTC) loans which are extended to enrolled students without school certification of their financial need, circumventing the school's financial aid office. Although the loans are normally still capped at the total cost of attendance, the funds are dis-

³⁷ Besides, lenders also often impose cumulative borrowing limits, e.g. \$120'000 for loans to undergraduate students at both Chase and Wells Fargo. Compared to the respective Unsubsidised Stafford Loan limit of \$31'500 this does not appear very restrictive.

bursed directly to the students, so that there is *more risk that the borrowed funds will not be used for education or that students will take on excessive or unnecessarily expensive debt* (Moody's, 2009). As a result, it can be possible to borrow more than the EFC which, in turn, can forfeit partially or totally the student's eligibility for other financial aid if the DTC loan is taken out before applying for aid through the school office. To limit these negative effects, Title X of the *Higher Education Opportunity Act of 2008* (HEOA) determines that lenders have to obtain at least a self-certification containing the expected cost of attendance and other financial aid awards from the student before disbursing any loan. Besides, while almost 75% of all undergraduate PSLs disbursed in 2008 were direct-to-consumer, this figure had fallen to around 10% by 2011 (CFPB, 2012) and as of January 2013, all major lenders³⁸ explicitly require a school certification of the amount needed to cover the cost of attendance. It is, thus, relatively safe to infer that DTC lending is largely a phenomenon of the past, and only plays a role in some legacy PSL portfolios.

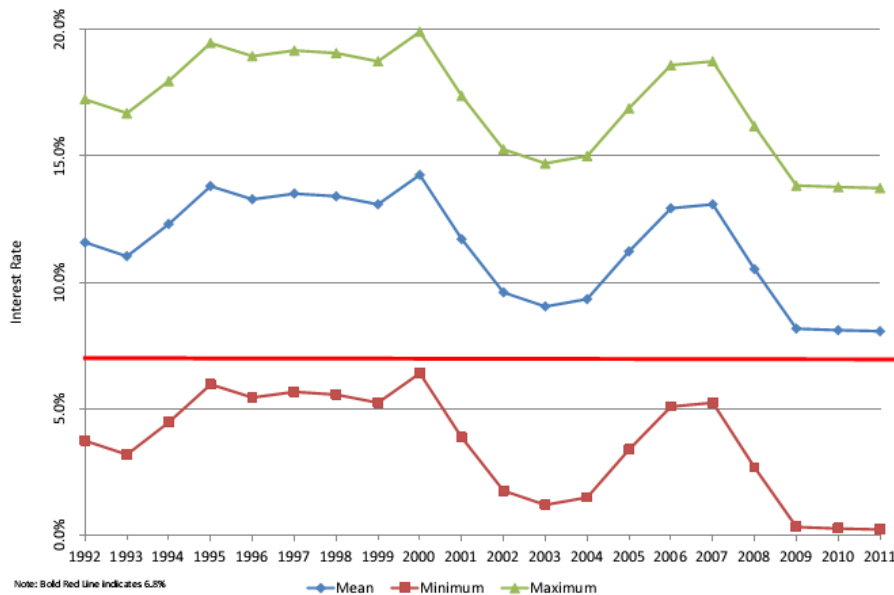


Figure 43: Hypothetical interest rates PSL borrowers at the 2011 spreads would have faced over the period 1992-2011 for loans indexed to 1-month Libor. The red line indicates 6.8%, the IR on Unsubsidised Stafford since 2006 (CFPB, 2012)

Apart from the risk of over-borrowing, students have to consider interest rates: While today, all new Federal loans have fixed interest rates, PSL rates are often indexed to a market rate, most commonly to the 1-month or 3-months Libor rate. Also, unlike Federal loans, PSL lending involves a credit check that significantly influences the interest rate. Borrowers deemed very creditworthy are granted better rates (as low as 3%) while less creditworthy faced rates as high as 19% at the end of 2011. So although PSLs may offer better rates than unsubsidised Stafford Loans for some borrowers under the current low-interest-rate market conditions, this advantage is neither available to the average borrower nor certain to prevail in the long run if in-

³⁸ Sallie Mae, Wells Fargo, PNC, inter alia, as stated on their respective websites

terest rates rise again. Indeed, an average individual borrowing a PSL at the 2011 spread to 1m-Libor would have always paid more than 6,8% (the Unsubsidised Stafford rate) between 1992 and 2011 (see Figure 43).

Now, some PSLs offer fixed rates, but also here, the fixed rates only come close to Stafford rates for the most creditworthy borrowers. Altogether this suggests that PSLs are the more expensive loan option for the vast majority of students (CFPB, 2012).

Co-Signing

Since many borrowers are too young to have an extensive credit history, lenders often demand that borrowers have a *co-signer* on their loan who takes over the responsibility of repayment should they become unable to repay by themselves. Lenders then perform a traditional credit check (see Chapter V) on the co-signer, and the higher their creditworthiness the better the terms of the PSL. The co-signing requirement is now very common with 90% of the new private loan volume in 2011 being co-signed compared to just 55% in 2005, a trend that is attributed to a *flight to quality* since the 2007-08 credit crunch. Ultimately this makes the co-signers rather than the borrowers the main driver of PSL pricing.

Grace, Repayment, Deferment, Forbearance

While in school and shortly afterwards, PSLs are similar to Unsubsidised Stafford Loans: No repayments have to be made while in school, but accrued interest is capitalised. Also, after graduation, borrowers enjoy a further 6 months grace period, and repayment can be further deferred for 2 to 3 years if the borrowers go on pursuing a graduate degree.

On the contrary, much less flexibility is granted, once repayment starts: Typically only a standard 10 to 20 year repayment term is offered with no income based or graduated repayment plan are available. A justification for this is that, in theory, the co-signing requirement on most loans should make defaults less likely as the ability to repay of at least one signer on the loan is already established at the time of lending. The argument goes that if the main borrower becomes unemployed or faces difficulties making monthly payments for any other reason, the co-signer should be able to cover for them.

Until 2008-09, many PSL lenders offered forbearance of up to one year in the case of economic difficulties or medical conditions. But since, the practice has been criticised by the *Office of the Comptroller of the Currency* (OCC), the U.S. bank regulating agency, for the fact that loans in forbearance would be reported as performing loans despite not being in active repayment. Now, most lenders only offer short-term forbearance options of typically not more than 2 or 3 months at a time and under the condition of longer active repayment periods in between. Con-

sequently, the share of repaying PSLs in forbearance has dropped from 17% in 2007 to 3% in 2011.

An issue that is still not handled consistently among lenders is what happens to outstanding balances in the case of a student's death, as currently most PSLs lenders still do not discharge co-signed loans in the cases of death or severe disability³⁹. Media reports show that lawsuits of families that co-signed on loans of now deceased children in order to have the debt forgiven can be successful (Safdar, 2012) but not so much in others (Wang, 2012). The case of one dead student whose parents fought in court for years to have the loan forgiven gave the name to the *Christopher Bryski Student Loan Protection Act* that would have required lenders to clearly state at the time of loan issuance the obligations of borrowers and co-signers in case either of them dies or become severely disabled. The bill was approved in the House but not in the Senate in 2010 (H.R. 5458, 2010) and further legislation in that matter is currently not on the agenda.

Default and Consolidation

PSLs are classified as defaulted after 120 days in delinquency (compared to 270 for Federal loans). Once in default, it is also much more difficult for debtors to repair their credit score as no rehabilitation option exists. Combined with the lack of a longer forbearance option, an income based repayment or any loan forgiveness programme this makes default a more likely scenario and a harder one to get out of in the case of PSLs compared to Federal loans.

Since PSLs cannot be included in Federal Consolidation loans, the only way to reduce monthly payments is a private consolidation loan where the borrower takes out a new loan to pay off one or more existing PSLs. This, however, comes at the cost of a longer repayment term and higher total interest expenses, unless borrowers manage to obtain lower interest rates on the consolidation loan – for instance if their credit score improved significantly since the time they took out the initial loan(s). In theory, it is also possible to include Federal loans in a private consolidation but this is strongly advised against (Kantrowitz, 2013b).

Total Outstanding

According to Table 6, the total outstanding *principal* balance of Federal loans as of the 30 September 2011 was \$803 bn. Adding the lower bound estimate for outstanding private student loans of \$140 bn. (see Figure 42) this yields *at least* \$943 bn. in total outstanding. This compares to a figure of \$870 bn. in the Household Debt and Credit report of the New York Fed (New York Fed, 2013), suggesting that the latter underestimates the total outstanding portfolio by around 10%. Applying this discrepancy to the latest figure published by the Federal Reserve in

³⁹With a few notable exceptions such as Sallie Mae, Wells Fargo and New York HESC (Kantrowitz, 2012b)

February 2013 (\$966 bn.), total student loan debt outstanding would now amount to \$1.063 trillion; a figure very close to the estimate of \$1.081 trillion of the *Student Loan Debt Clock* published by Finaid.org as of 1 April 2013 (Kantrowitz, 2012a) .

Student Loan ABS

Asset Backed Securities (ABS) are a central instrument private lenders use to re-finance their student loan transactions, both for FFELP loans as well as for PSLs. The *Securities and Exchange Commission* (SEC) defines ABS as *securities serviced by the cash flows of a discrete pool of receivables [...] plus any rights or other assets designed to assure the servicing or timely distribution of proceeds to the security holders*. When student loans are the receivables, borrower principal and interest payments are the cash flows.

In a typical Student Loan ABS transaction, a lender (the *sponsor*) creates a *special purpose vehicle* (SPV) that is a separate legal entity with the sole purpose of conducting a series of financial transactions: The SPV acquires *pools* of loan receivables from the sponsor in a *true sale* at market values. The goal is to entirely separate the ownership of the receivables from the sponsor so they no longer appear on its balance sheet (*off-balance sheet vehicle*) and remain bankruptcy-remote, i.e. the sponsor's creditors have no claims on the assets if the sponsor goes into bankruptcy. To achieve this, the SPVs are normally set up as particular legal structures⁴⁰ managed by a third party (the *administrator*, typically a company related to the sponsor) that remains tightly limited in its actions by the statutes of the SPV. The servicing of the pool loans is conducted by yet another company and usually a backup servicer is appointed as well to take over that responsibility should the main servicer be unable to fulfil their obligations (e.g. due to bankruptcy).

To finance the asset acquisition, the SPV, on the other hand, issues bonds (the actual asset backed securities or *notes*) that are placed directly with investors or on the open market. As the SPV starts to receive regular repayments on the student loan pool, cash flows are gathered in a collection fund and payments made to the note holders according to the repayment schedule of the notes: They are usually amortising securities where principal is repaid gradually over time and not in one shot at maturity. In addition, they carry a coupon, often a floating interest rate linked to Libor. In some cases, pool principal repayments may be used by the SPV to acquire new receivables instead of making repayments to the note holders; such structures are then referred to as *revolving* or *recycling*. In general, it is important for investors to know what the time

⁴⁰ Popular types include *Delaware Statutory Trusts* incorporated in the U.S. State of Delaware or *Exempted Companies* under the jurisdiction of the Cayman Islands, a British overseas territory without income tax. Main selection criteria include tax conditions, the ease of bureaucratic procedures and the effectiveness of the structures in separating the asset ownership from the sponsor (Gambro & McCormack, 2008).

horizon of the investment will be, an information provided by the *weighted average life* (WAL) of a transaction: The average time until repayments weighted by the amount due on each of the payment dates. The structuring of the transaction and the sale of the notes is usually coordinated by one or several investment banks (called *book runners* in this context) which earn a fee for those services, typically a percentage of the transaction volume. Taking into account all technicalities, up to 10 different legal entities can be part of such a transaction (NorthStar Student Loan Trust I, 2012).

Credit Enhancement

Since the SPV faces the risk that payments on the loan pool fall short of schedule due to delinquencies or defaults so note holders cannot be paid on time, ABS structures always offer some additional buffers to mitigate this risk:

- *Subordination.* Notes are subdivided in 2 or more tranches (often called *Class A*, *Class B*, etc.) where payments on Class A notes take precedence over Class B and so forth should receivable repayments fall short; a principle referred to as payment *waterfall*. The higher credit risk carried by the junior notes is compensated with a higher coupon. The more senior notes usually make up the bulk of the transaction volume and are rated by rating agencies.
- *Over-Collateralisation.* Not all proceeds from the initial note sale are used to acquire loan receivables. Instead, a certain amount is deposited in a *reserve account* that is used to cover payment shortfalls and replenished up to pre-defined levels if excess cash is available after note payments and other costs (e.g. servicing fees) are covered. Additionally, *capitalised interest accounts* often exist, providing liquidity support in the first years of a transaction when many student loans might not yet be in repayment.
- *Excess spread.* SLABS often pay a lower interest rate to investors than borrowers do on the pool loans. The difference is deposited in an excess spread account that can be used to cover for losses on the pool or repay principal at later stages of the transaction.
- *Loan Guaranties.* In the case of FFELP loans, up 97% of all principal and interest on the student loan receivables is insured against by a guaranty agency. Meanwhile, also in the case of PSLs, sponsors sometimes acquire third-party default insurance. Fees are in the range of 3% to 8% of the original principal balances and are capitalised to the outstanding principal.

Taking all this into account, a typical SPV balance sheet could look as in *Table 8*.

Assets	Liabilities
Collection Account	Class A Notes
Capitalised Interest Account	
Reserve Account	
Loan Receivables	Class B Notes
	Equity (owned by sponsor)

Table 8: Typical balance sheet of an ABS special purpose vehicle

ABS Risk Management

The following subsection gives an overview of the most important risks that lead investors to demand an excess return on asset-backed securities over, e.g., Treasury securities assumed to be by and large risk-free.

Default Risk: FFELP loans are not fully re-insured in normal cases to ensure that lenders have an economic interest in preventing defaults in the first place. Nevertheless, lender losses on the portfolio are capped at 3%, and, indeed, the ratings agency Fitch stated recently: *the increase in [cohort] default rates has yet to materially affect performance on FFELP SLABS* (Fitch Ratings, 2013)

Basis Risk: Basis risk is the risk arising to student loan lenders from the fact that the ABS bonds' coupon rate is indexed to a market rate, while student borrowers pay a fixed interest rate on their loans or a rate indexed to different market rate than the ABS (e.g. CP vs. LIBOR).

Servicer (Counterparty) Risk: Since loan servicing agencies control the collection of loan payments, they have control over the cash-flows to the ABS bondholders. In case of a servicer's bankruptcy, timely payments may be interrupted. Also, servicing mistakes may lead to forfeiting the Federal guaranty.

Liquidity Risk : The European Central Bank (ECB) puts all ABS in the lowest liquidity category, far below Treasury securities (ECB, 2011). This implies that they may only be sellable at a much steeper discount in the case of market turmoil compared to, e.g., T-Bills , especially given that the much more complex mechanics of student loan ABS make them much harder to value than government bonds (CBO, 2010a).

Policy / Regulatory Risks: From the private lenders' perspective there is the risk that the government buys back more FFELP loans or encourages students to consolidate their loans into Direct Loans accelerating the shrinkage of the loan pool available for FFELP securitisations. This would jeopardize the business model of, e.g., SLM Corp. which expects on-going cash-flows from the FFELP portfolio over the coming 20 years (SLM Corporation, 2012). Another policy risk rests in a potential repeal of the non-dischargeability of private student loans backing ABS which will be discussed in Chapter IV.

Prepayment Risk, Deferment, Forbearance: Early payments reduce the time during which underlying assets (student loans) generate excess spread (through interest payments) to protect the note holders from losses on the remaining loans. On the contrary, deferment and forbearance increase excess spread because they prolong the time during which a given loan pays interest contributing to excess spread (interest accruing during deferment and forbearance is capitalised). However, excessive levels of deferment and forbearance may increase liquidity stress on a given transaction due to missing cash flows (Moody's, 2012).

Market Overview

According to the latest available figures, \$232 bn. in student loan ABS was outstanding in the fourth quarter of 2012, almost 82% of which was backed entirely by FFLEP loans. The remaining \$42.4 bn. were backed either by private loans or a mix of private and FFELP student loans (SIFMA, 2013a).

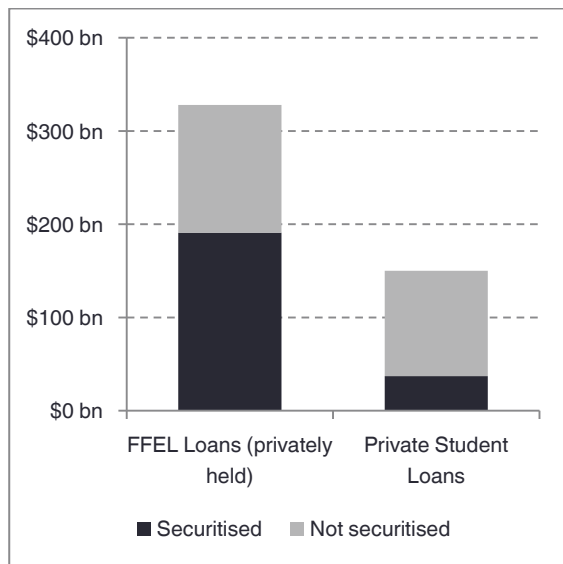


Figure 44: The role of securitisation in the privately held FFEL and PSL markets in 2011 (CFPB, 2012; Dep. Education, 2011c; S & P, 2012; SIFMA, 2013a)

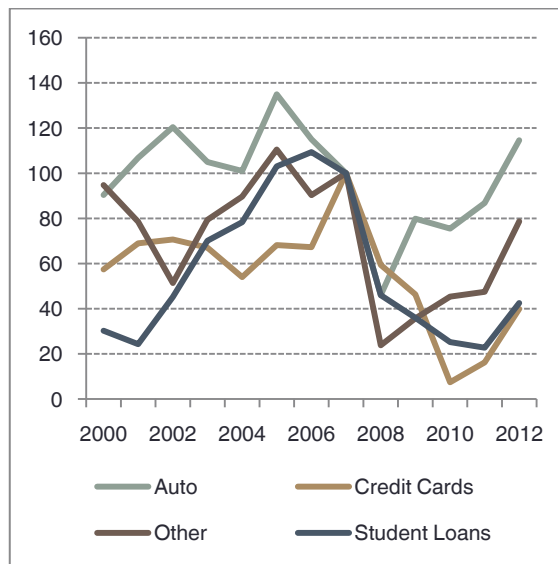


Figure 45: New ABS issuance by type of underlying loans over time, 2007=100 (SIFMA, 2013a)

When comparing this to the approximately \$291 bn. outstanding FFELP loans held by private lenders (Dep. Education, 2012f), this indicates that securitisation plays an important role for

these loans as 65% of the volume is securitised. Comparatively, lenders seem to hold a much bigger share of the PSL market on their books: The securitised volume of around \$40 bn. makes up just 27% of the estimated market size of \$150 bn. (CFPB, 2012). These observations are summarised in Figure 44. The much lower importance of securitisation for PSLs may be due to the fact that they lack the 97% government insurance that FFELP loans enjoy (S & P, 2012). Also, as in the case of auto loan or credit card ABS, most of the outstanding SL ABS stock (84%) is rated AA or AAA (SIFMA, 2013a).

Reflecting an overall market trend, new issuance of student loan ABS plummeted after 2007 on the back of falling investor demand for ABS in general. Since, moreover, no new FFELP loans are underwritten since 2010 this explains why, even after an uptick in 2012, the volume of new issuance remains at around \$26 bn., corresponding to 40% of its 2007 level (see Figure 45). To monitor the liquidity and activity in the student loan market, the *Securities Industry and Financial Markets Association* (SIFMA) publishes average daily trading volumes of student loan ABS since the first quarter of 2011 along with similar data for other ABS categories; the most recent figure suggest that trading volume was relatively stable at around \$300 million per day throughout the first 3 quarters of 2012 (SIFMA, 2013b). However, this figure makes clear that the market is very small and illiquid compared to other major asset classes. Also FFELP portfolios are being wound down over time, and already in 2012, most new FFELP-backed ABS issuance was backed by rehabilitation loans as there are no new loans. Hence it is almost certain that the student loan ABS market will shrink and become even less liquid in the future. Even though the future development of PSLs is difficult to predict, it is very unlikely to grow as much as much as to replace the historic FFELP portfolios.

IV – STUDENT LOAN CREDIT RISK

One of the central concerns about the quickly rising stock of student loan debt is the default risk emanating from it. Therefore, this chapter will, first, review current developments in risk indicators regarding student loans in the context of general consumer debt and the associated credit risk. Second, it will review the literature on student loan default drivers and finally highlight a high-risk segment of the student loan market: for-profit colleges and their frequent use of predatory private loans.

Risk Indicators

While the most frequently cited negative trend indicator regarding student loan debt is perhaps the cohort default rate (CDR) published by the ED every year, it has several shortcomings. Hence, three other indicators of student loan risk will be reviewed in this section, as well.

Cohort Default Rate

The CDR was introduced in the late 1980s after there had been an explosion in private career schools, particularly in cities with large populations of minority and low-income residents, that were seen as *trying to build their enrolments (and profits) by enticing academically under-qualified students to apply for Pell Grants or guaranteed student loans that they were unlikely to be able to repay - especially if they received a substandard education that did not lead to a good job* (Lederman, 2007).

For any fiscal year, the CDR would be calculated as the percentage of former students who had entered repayment on their Federal loans in the given year and defaulted by the end of the following fiscal year (2-year CDR). Guaranty agencies would report loans as defaulted as soon as the lender claimed the insurance payment (initially after 180 days of delinquency). The idea was that a high rate of defaults shortly after entering repayment would single out institutions not meaningfully preparing their students for the job market: If a school's cohort default rate exceeds 25% for three consecutive years or exceeds 40% in any one year, the school loses eligibility for Pell Grants, FFELP or Direct Loans. As a consequence of this measure, hundreds of career schools lost the eligibility for Federal student aid and had to go out of business in the early 1990s. The national CDR dropped from as high as 22% in 1990 to below 6% ten years later (see Figure 46).

In 1998, the delinquency period before classifying loans as defaulted was increased from 180 to the currently applicable 270 days. This modification of the default calculation reduced the meaningfulness of the CDR as it further reduced the time window in which defaults would be counted toward the official default rate. A report by the ED's Inspector General in 2003 pointed to students who cannot make a single loan payment, use deferment or forbearance shortly

after entering repayment and default at the first opportunity. Taking together the deferment, forbearance and delinquency periods, the official default would occur *after* the 2-year window of the CDR. Hence, some of the worst repayment profiles are not counted towards this official default rate (ED Inspector General, 2003).

On the one hand, these later defaults give the borrowers more time to get back on track with payments, potentially saving the ED handling a few claims on guaranteed loans, but on the other hand this raised concerns that schools might be actively encouraging students at risk of default to seek deferment and forbearance as soon as possible to keep their institution's CDR artificially low. Thus the report recommended increasing the time window in which defaults were counted towards the official CDR and to exclude loans in deferment or forbearance from the denominator of the CDR calculation.

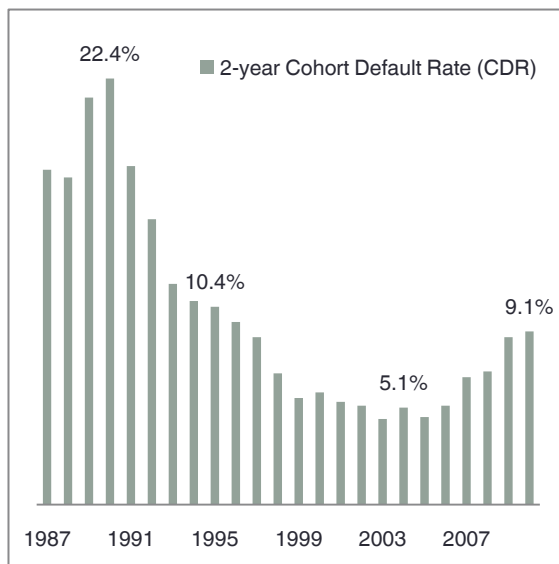


Figure 46: 2-year national Cohort Default Rate (Dep. Education, 2012g)

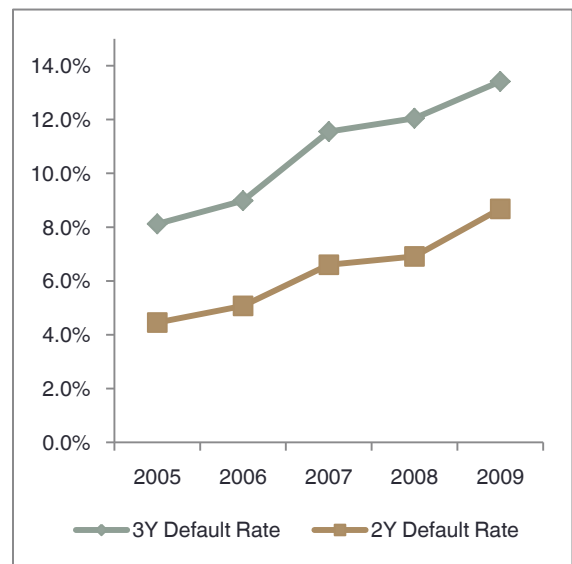


Figure 47: 2-year and 3-year official cohort rate at a set of 5346 Title-IV institutions (Dep. Education, 2012g)

Based on these and other recommendations the HEOA of 2008 changed the definition of the CDR so as to use a 3 year window instead of a 2 year window, and the first preliminary 3-year CDRs were published in 2008 for the cohort that entered repayment in 2005. However, the first official 3-year CDR were published for the repayment cohort of FY2009, and the new CDR will only be used for eligibility sanctions after three years of publication, that is with the FY2011 CDR in 2014 (Kantrowitz, 2013c). It is, nevertheless, already clear that the new methodology will have consequences for many schools since the 3-year CDR has been consistently 4 to 5 percentage points above the 2-year rate (see Figure 47).

Even so, it is important to bear in mind that despite the switch to the longer window, the CDR (unlike the budget lifetime default rate discussed in Chapter III) is unsuitable for a quantifica-

tion of the *financial risk* stemming from outstanding student loans: First, even though a majority of loan defaults tend to occur early in the repayment period⁴¹, a full analysis needs to consider the default rate over the entire lifetime of the loan portfolio. Second, the calculation of the CDR is based on the *number of borrowers* defaulting and not on dollar amounts in default. Nevertheless, the CDR can be used as a rough barometer of general trends regarding the credit quality of outstanding student loans.

Despite its shortcomings, the CDR is useful to make some high-level observations. As CDRs have constantly increased for every single cohort year since 2005, it is clear that more students are now facing problems repaying their loans. Furthermore, the CDRs clearly highlight that all types of schools are not equal: While research-intensive universities awarding master's and doctor's degrees had a 2-year CDR of 7.4% for the 2010 repayment cohort, all other institutions had a figure between 11% and 13% (see Figure 48). In the same cohort, only 5.2% of students leaving private not-for-profit schools had defaulted within 2 years while already 13% of all former students at proprietary for-profit schools had defaulted, for public institutions the figure was somewhere in between (see Figure 49).

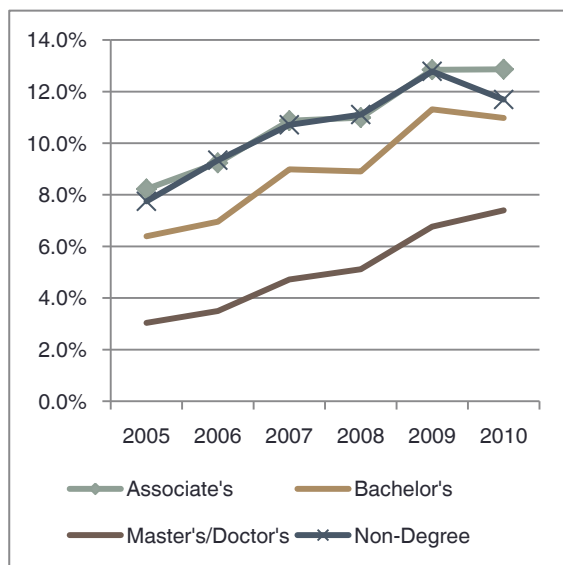


Figure 48: 2-year official cohort rate at a set of 5346 Title-IV institutions, by highest degree awarded at school (Dep. Education, 2012g)

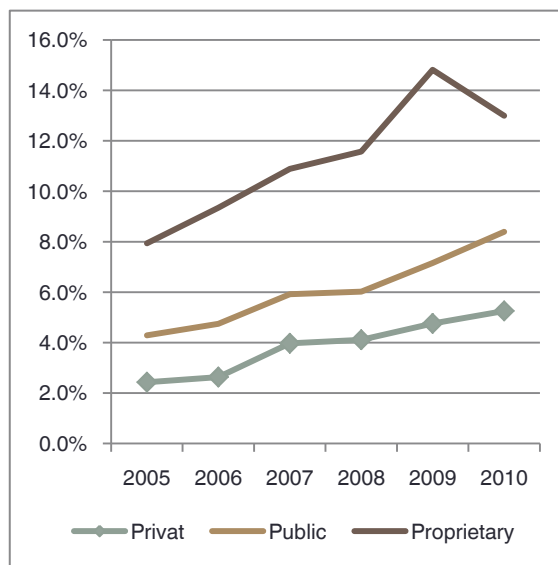


Figure 49: 2-year official cohort rate at a set of 5346 Title-IV institutions, by institution control (Dep. Education, 2012g)

Delinquency Rate

The second frequently cited risk indicator regarding student loans is the delinquency rate. It is usually reported as the percentage of the loan (dollar) balance on which payments are more than 90 days overdue. According to (Rinaldi & Sanchis-Arellano, 2006) changes in delinquency

⁴¹ The rating agency Moody's uses the assumption that all lifetime defaults on a pool of FFELP student loans occur in the first 5 years of repayment with 80% of all defaults occurring in the first 3 years (Moody's, 2012).

rates are *clearly linked with financial problems [...] and a sign of an increased proportion of financially constrained households; therefore, they can be a good proxy for household financial fragility*. Indeed, the delinquency rate on student loans has surpassed equivalent rates for other credit types such as credit card debt for the first time in 2012 and now stands almost 12% (see Figure 51), probably a consequence of the continuing labour market difficulties for recent graduates (see Chapter VI).

Debt Service Payments and Credit Scores

In the case of countries, the World Bank defines debt sustainability as a situation where the borrowing country can service its debt *without resorting to exceptional financing (such as debt relief) or a major future correction in the balance of income and expenditures* (World Bank, 2006). Likewise, in the case of consumer credit, lenders have always performed *credit screening* procedures to predict as good as possible whether loan applicants would be able to repay their debt without making major sacrifices encouraging default. Therefore, lenders use *credit scoring* to determine the maximum they are willing to lend while keeping the potential borrower's predicted default probability just below a pre-determined threshold (Baum & Schwartz, 2005).

Maximum debt-to-income levels have been – besides a verifiable history of residence and employment and a minimum income – one of few additional judgmental criteria frequently used by loan officers to determine creditworthiness and loan limits on top of loan-to-value ratios (Caouette, 2008, pp. 204). A widely used quick indicator is the ratio of monthly debt service payments to gross income which should not exceed 33% for mortgage payments and 41% for all consumer loan service payments together. While they have no rigorous scientific foundation, these figures are based on historical lender experience regarding the debt levels consumers can shoulder without creating an excessive risk of default (Baum & Schwartz, 2005).

Meanwhile, a big expansion in consumer lending ensued: average household debt outstanding more than doubled in real terms between 1989 and 2007 and aggregate household debt-to-income ratios rose from about 70% to almost 130% (Federal Reserve Board, 2010). To enable this development amid strong pressures to reduce costs, consumer lenders speeded up the lending process by relying more and more on statistical models of creditworthiness, trying to reflect the judgmental processes used before. Typically this would be using existing loan data, assigning every loan to a “good” and “bad” category and conducting, e.g., probit regression on factors deemed to influence default risk. And indeed, as discussed in Chapter III, the ED also uses regression-based default models to predict the lifetime losses on its portfolio of student loans.

In such regressions, the explanatory variables can be either based on the information, that borrowers provide in their application (similar to traditional judgmental procedures) or they can be

derived from *behavioural* observations, taking into account the information banks have on their customers' spending and saving patterns⁴². The most widely used credit scoring model is developed by the *Fair Isaac Corporation* (FICO), a third-party vendor of statistical models. It is the basis for the widely used FICO score, largely a behavioural measure based, inter alia, on past credit repayment behaviour and the length of the credit history (Caouette, 2008).

However, one major systemic limitation of all statistical default models is the reliance on historical relationships: the causality of explanatory variables can break down at any time if the external circumstances change. If this is combined with a belief in a superior predictive power of models compared to traditional judgemental factors, unsustainable lending booms can ensue as was the case in the U.S. subprime mortgage market between 1999 and 2007.

Meanwhile, the traditional ratio of monthly payments to income is much easier to measure and can still give a good impression of the overall debt situation of households owing student loans: The difference between the abovementioned limits on mortgage and total monthly debt service-to-income levels (33% and 41%) allows for non-mortgage debt service to consume up to 8% of monthly gross income. This explains that 8% is the figure most often quoted as rule of thumb for a manageable level of student loan debt service payments (Baum & Schwartz, 2005). The authors note, however, that debtors with higher income might be well able to afford paying more than 8% of their income for debt service while this level already puts significant financial pressure on lower-income debtors. Other studies derive thresholds for manageable student loan debt by analysing actual consumer spending data: Expenditures on entertainment, alcoholic beverages and other miscellaneous non-essential items are classified as discretionary and compared to total income; debt service payments should not exceed discretionary spending (Hansen & Rhodes, 1988). Applying this approach to 2012 data from the *Consumer Expenditure Survey* of the BLS, this would again indicate 8% to 10% of pre-tax income as a manageable debt level which is quite constant across income brackets (Bureau of Labor Statistics, 2012a).

Despite the different approaches in determining an appropriate threshold for every type of borrower, the above discussion highlights the importance of considering student loan debt as part of overall household finances when determining its sustainability. In practice, the data indicate that in 2009 almost half of all students repaying student loans devoted 8% or more of their monthly income to debt service payments and a quarter devoted more than 14% (see *Figure 50*). This indicates that a considerable proportion of borrowers are likely to be struggling with monthly payments, re-enforcing the observation made using the delinquency rates. Nevertheless, (Rothstein & Rouse, 2011) do not find direct evidence that student loans crowd out

⁴² Often such models are run by the large credit reporting agencies such as Equifax which has access to a data set containing credit records for more than 200 million consumers. The Federal Reserve, however, explicitly prohibits the use of race, gender, religion, national origin or marital status as explanatory variables to prevent discriminatory lending based on such factors.

other forms of personal borrowing which would be an indicator that student loans are becoming an overall burden for the economy. However, (Chiteji, 2007) find that due to the debt payments, individuals postpone decisions typically associated with fully-fledged adulthood such as purchasing homes or getting married. This further supports the importance of closely monitoring the ratio of debt service payments student loan borrowers are facing as one of the most important risk indicators.

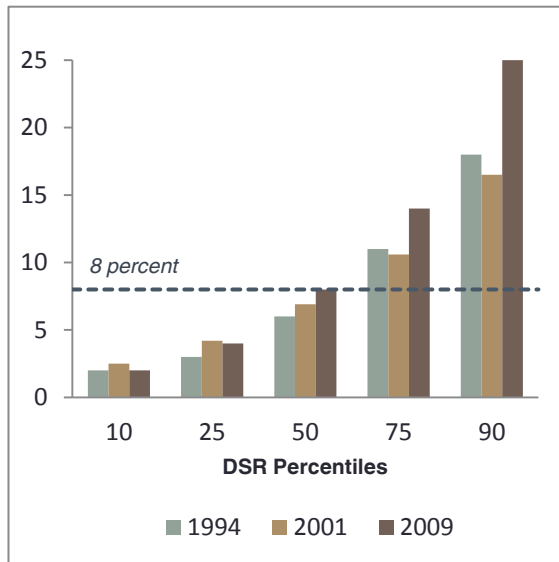


Figure 50: Ratio of debt service payments to monthly income (DSR) at different percentiles of bachelor degree holders in repayment, one year after leaving school in percent (Be&B, 93/94-00/01-08/09)

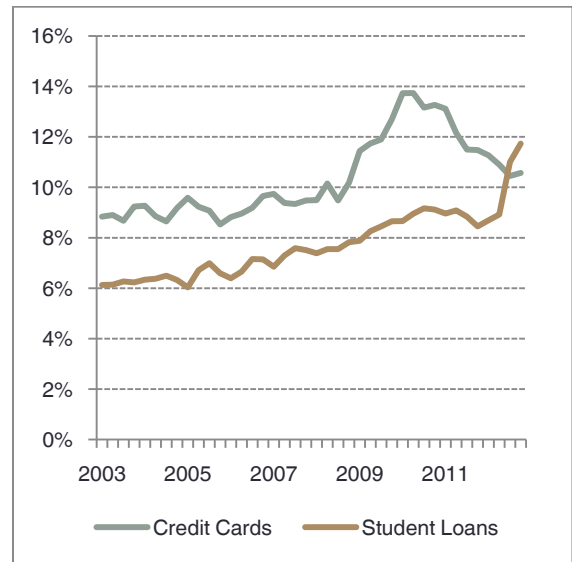


Figure 51: 90 days delinquency rates for student loan and credit card debt (New York Fed, 2013)

Household Indebtedness

While many households owing student loans have to devote a worrying share of their incomes to debt service and delinquency rates are rising, aggregate statistics on household finances also need to be taken into account:

The higher percentage of college graduates in the population and the higher debt at graduation discussed earlier do show in the statistics: In 2010, there were twice as many households owing student loan debt compared to 1989, and the median owing household also owed more than twice as much in real terms (see Figure 52). Furthermore, households interviewed for the 2010 *Survey of Consumer Finances* indicated, on average, that outstanding student loan debt equalled around 5% of all household debt outstanding, twice as much as 20 years earlier. Yet, this level still appears too low to raise concerns on the macro level, especially as overall household indebtedness stands at historically low levels: The average household owing any kind of debt had

to devote 15.7% of its monthly income to debt service payments in the third quarter of 2012, the lowest percentage since 1984 (Federal Reserve Board, 2013b)⁴³.

Summary

Given the contrarian developments of increasing debt loads and repayment problems facing student loan borrowers on the one hand and the overall “de-leveraging” of U.S. households on the other hand, it is very difficult to make predictions about actual future developments of default rates on student loans. This is even more so given the introduction of income-based repayment options for Federal loans and the non-dischargeability clause for student loans that will be discussed in the next subsection.

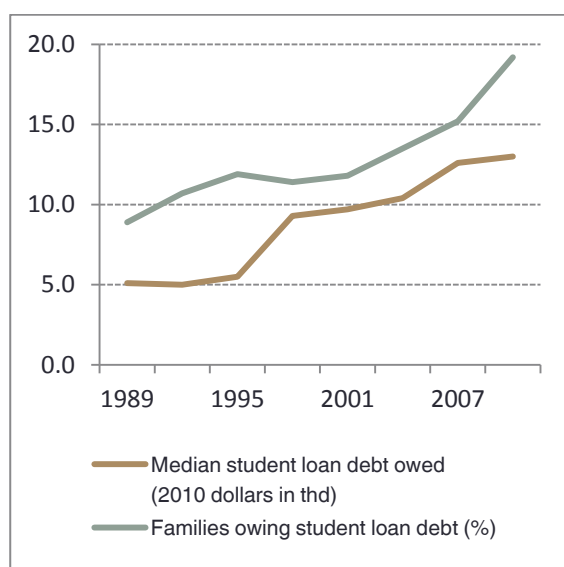


Figure 52: Median student loan debt owed by families (conditional on owing) in constant dollars and percentage of all families owing student loan debt (Federal Reserve Board, 2010)

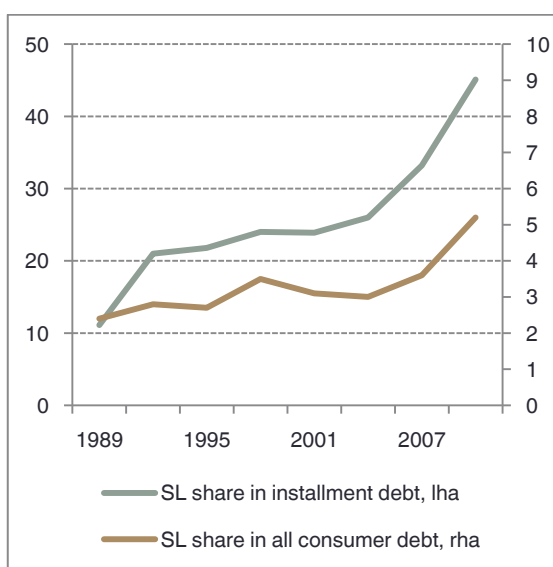


Figure 53: Outstanding student loan debt as percentage of instalment debt and as percentage of all outstanding consumer debt (Federal Reserve Board, 2010)

Student Loan Default Drivers

Since students borrow against the prospect of potentially higher *future* earnings, the direct debt sustainability measures (e.g. the debt service ratio) discussed above can be, at best, *predicted* at the time of borrowing. Also, backward-looking measures such as a credit history and FICO scores are not available as most borrowers are young. As discussed in Chapter III, private student loan lenders largely work around this lack of data by pricing their loans according to the creditworthiness of a co-signer which is assessed in a traditional way (thus restricting the access to credit for students from a low-income background). Most Federal loans, in turn, do not perform any credit checks at all.

⁴³ This is partly due to the current low interest rate environment but also to a significant reduction in outstanding mortgage and consumer credit debt balances since 2008 (New York Fed, 2013).

This section will review the most frequent *fundamental* reasons causing repayment problems and eventually default on student loans. It will furthermore discuss the most significant default driver of the past (college dropout) and review the non-dischargeability clause on student loans which de-couples borrower default and lender losses to a certain extent.

Risk Factors

A body of literature analyses *ex post* factors that statistically predicted student loan defaults in the past which I will review in the following (Gross, Cekic, Hossler, & Hillman, 2009).

Labour Market Success. Not surprisingly, a student's income after leaving college is found to be a very significant predictor of a lower default probability and most student who default do so because their income is not sufficient to cover for monthly payments (Woo, 2002). On the contrary, unemployment and low wages (e.g. due to a recession) are often-cited reasons of default (Postsecondary, 2006).

Race is also a frequently studied determinant of default as African Americans and Hispanics are consistently found to face higher default rates than White or Asian American borrowers (Gross et al., 2009). One econometric study of students loan defaults at the University of Austin, for instance, found that 13% of the variation in default rates could be attributed to race (Herr & Burt, 2005). A typical explanation would be the difficulties racial minorities still face in the labour market in the form of higher unemployment, lower salaries and other forms of discrimination (Bertrand & Mullainathan, 2004) re-linking this factor to labour market success.

Parental Income. As one would expect, the lower the income of a dependent student's parents (and consequently often their educational attainment) the more often they default: On the one hand such students might need to borrow larger sums putting them at a higher risk of default per se and on the other hand they do not have access to the same kind of safety net a better off family provides.

Age and Family Structure. Older students are more likely to have dependent children or similar financial obligations. This implies, first, that they need to borrow more to cover the cost of attendance while in college and, second, that they might have less resources available for debt service after leaving college (Harrast, 2004; Herr & Burt, 2005). On the contrary, being married, as opposed to being divorced, separated or widowed, was found to be a predictor of lower default rates (J. Volkwein, Szelest, & Cabrera, 1998).

College Preparedness, Enrolment Intensity. Students with better high school GPAs and college entrance exam scores as well as students who are continuously enrolled (that is without taking enrolment breaks), complete more credits without failure and ultimately complete their degrees on time are all less likely to default on their loans than otherwise. This may be attributed, again,

to the fact that students who are less prepared for college and spend more time there are likely to need to borrow more and less likely to successfully complete a degree (Harrast, 2004).

Attainment and Performance. In an econometric analysis of a large sample of borrower data from the California student loan guaranty agency, degree completion (or conversely dropout) was found to be the strongest single predictor of defaults (Woo, 2002). On the technical side, dropping out of college without notifying the financial aid office may forfeit the right to the grace period (i.e. repayment immediately begins) and no *exit counselling* regarding debt repayment can be provided – all of which compounds to the risk of default.

College Major. Default rates across different types of undergraduate majors seem to differ but again these differences, as one would expect, were shown to disappear after statistically controlling for income and cumulative student loan debt (Lochner & Monge-Naranjo, 2004).

Institution Type. Indicators such as the cohort default rate suggest that students at certain types of institution have much higher default rates than others (see Chapter V). However, the literature does not consent on the reasons: while some find that the effect disappears once student characteristics and borrowing behaviour are taken into account (J. F. Volkwein & Szelest, 1995), others find an independent effect. If the latter is the case, this may be due to a better quality of instruction, better student support and larger institutional resources at some institution types compared to others.

Conclusions. Being quite intuitive, none of the relationships described above is particularly new knowledge. Indeed, (Dynarski, 1994) already concluded based on an analysis of National Post-secondary Student Aid Survey (NPSAS) data that:

borrowers from low- income households and minority groups, high school dropouts, borrowers who do not complete their postsecondary programs, and borrowers who attend proprietary schools and two-year colleges are more likely to default on their loan payments

However, several factors need to be noted: First, most studies conducted on the topic are based on data from the 1970s to the 1990s. So although the findings still appear sensible today, an analysis based on newer datasets would be beneficial. Second, the number of variables that have to be taken into consideration for explaining default is large and their interaction is complex (see Figure 54 for a simplified summary). Hence it is of no wonder that literature reviews such as (Gross et al., 2009) have to limit themselves to enumerating a long list of factors while multivariate statistical analyses such as (J. Volkwein et al., 1998) cannot take everything into account. Nonetheless, one risk factor stands out: At least two multivariate analyses of large datasets identify *dropout risk* as strong single predictor of default which deserves some more attention (J. Volkwein et al., 1998; Woo, 2002).

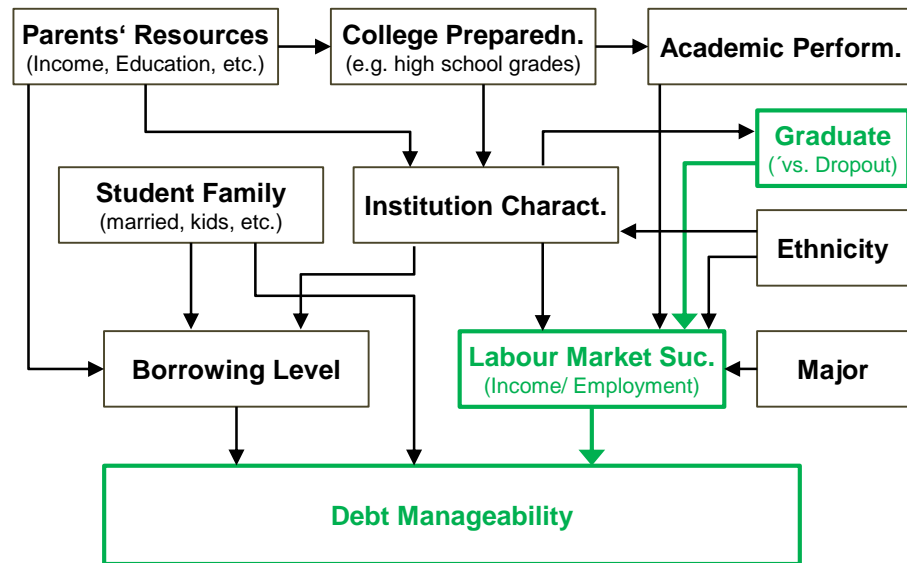


Figure 54: Frequently studied factors affecting student loan debt manageability and probability of default (own graphic, no claim of completeness). Due to its consistent identification as major risk driver, graduation is highlighted.

Dropout Risk

The evidence from econometric studies is backed up by two further observations: First, in 2008, 70% of the borrowers who defaulted on Federal Direct Loans had not attained a degree according to an internal training presentation of the ED (Pierson & Walsh, 2008). Second, among students beginning their undergraduate education in 2004, the share of students who had defaulted by 2009 was 3.7% for those who had graduated but 16.8% for those who had dropped out in the meantime (BPS, 2004:09; Nguyen, 2012).

A simple explanation would be: On the one hand, the median college drop-out had almost 50% less student loan debt than the median college graduate in 2006 (BPS, 2004:09). Meanwhile, the labour market benefits of higher education (better pay, less unemployment) apply to a very small extent to workers with *some college education* as opposed to graduates (see for instance Figure 22 and Figure 29). Hence, the return to education might be even negative for this group. Given the high dropout rates this is worrying: At public 4-year institutions, only 50.6% of the 2004 cohort had graduated six years later, at private non-profit this figure was slightly better (62.9%) while it was much worse at for-profit institutions (25.8%), putting a big question mark over these institutions.

Non-Dischargeability and Recovery

Student loans enjoy a unique status in personal bankruptcy procedures which affects the risk of losses on the loans from the lenders' perspective but constrains some borrowers to a great extent.

Most types of consumer credit can normally be discharged in procedures under Chapter 7 or 13 of the U.S. Bankruptcy Code, on the condition of a means test (Ferriell & Janger, 2007). Contrastingly, *a discharge under [...] this title does not discharge an individual debtor from any [...] educational loan made, insured, or guaranteed by a governmental unit, or made under any program funded in whole or in part by a governmental unit [...] or any other educational loan that is a qualified education loan unless excepting such debt from discharge under this paragraph would impose an undue hardship on the debtor and the debtor's dependents* (11 U.S.C. § 523). Under this definition neither of FFELP and FDSLP nor private student loans can be discharged, as long as their sole purpose was paying for college. The first version of this rule was introduced by Congress in 1976 and excepted government guaranteed loans by non-profit lenders from discharge during the first five years of repayment. It came as a reaction to a sharp increase in the number of student loans liquidated in Chapter 7 bankruptcies shortly after graduation in the 1970s which lead to a high default rate of 17.6% on student loans in 1975 compared to just 3% on credit cards (Vidal, 1976).

There was the perception of a *rising incidence of consumer bankruptcies of former students motivated primarily to avoid payment of educational loan debts*⁴⁴ without losing the benefits of the acquired intellectual asset (their education). Also, since the loans were ultimately insured by the Federal government, there was little incentive for lenders to challenge bankruptcies in court or to make more efforts in preventing defaults in the first place; creating an even stronger alleged moral hazard in favour of choosing the bankruptcy option. On the other hand, many of the bankruptcies at the time were actual hardships due to unemployment amid the difficult economic situation in the U.S. in the 1970s and even the public discussion back then suggested that making student loans outright non-dischargeable would not be fair in many cases (The New York Times, 1976). In further modifications of the Bankruptcy code – the last one in 2005 – the current version was reached (Kantrowitz, 2013d).

As of January 2013, the only exception from non-dischargeability are cases of *undue hardship*, which are not well defined in the Code. However, over the years, most courts have followed a procedure, adopted from the case (Brunner v. New York State Higher Education Services, 1985) by checking three criteria: (a) the debtor cannot maintain, based on current income and expenses, a minimal standard of living if forced to repay the loans; (b) this state of affairs will likely persist for a significant portion of the repayment period; and (c) the debtor has made a good-faith effort to repay the loan.

Passing this *Brunner Test* has been extremely unlikely in past cases; especially point (b) – which is also referred to as establishing a *certainty of hopelessness* – is hard to prove and generally only accepted if the debtor shows *exceptional* circumstances such as an illness, a lack of usable job

⁴⁴ Quote from a 1973 report to Congress of the *Commission on the Bankruptcy Laws of the United States* (H.R. Doc. No. 93-137, pt. 1, at 140 n.14)

skills, or a large number of dependents (Baron, 2007)⁴⁵. That only 0.05% of all individuals filing for bankruptcy with outstanding student loan debt see the debt discharged indicates how unlikely this option is and suggests that this law does provide some additional protection for lenders from losses on borrower defaults (Thomson Reuters Westlaw, 2012).

Given the broad range of repayment options (e.g. Income Based Repayment) and the fact that discharged Federal loans needs to be eventually covered by taxpayer money, this strong restriction on discharge in liquidation does get some credit in the public discussion about Federal student loans (Webley, 2012a). Yet, according to the authors, *there is little in the Congressional record surrounding the 2005 changes to the Bankruptcy Act regarding the rationale for treating private student loans similarly to federal student loans and differently from general consumer loans*. Also, PSLs, do not share either of the two primary characteristics of other non-dischargeable debt (e.g. child support payments, or debt related to tax liens) which are: (a) being debt owed to the public; or (b) the creditor lacking discretion over entering into the debtor-creditor relationship (CFPB, 2012).

Yet, two potential economic benefits of excluding PSLs from discharge have been examined: first, a better credit availability for borrowers with lower (own or co-signer) credit scores, and second, lower borrower interest rates. There is some positive evidence for both hypothesis according to the CFPB based on comparing both average portfolio credit scores and average portfolio interest rates before and after the introduction of the law in 2005. Meanwhile, the report suggests that it is not possible to distinguish whether the extension of more credit at better terms was driven by the change in the law or by the strong market demand for student loan ABS at the time (CFPB, 2012). On the contrary, it is much easier to find evidence for the negative effects that the PSL non-dischargeability has on over-indebted borrowers due to the lack of more manageable repayment, deferment, forbearance and debt-relief programmes for these loans. For this reason, at least two draft bills have been introduced U.S. to the House of Representatives and Senate respectively on this issue that might end the privileged status of PSLs (see Chapter VI).

Focus: For-Profit Colleges

Several risk indicators, most notably the high cohort default rate and the low graduation rates discussed earlier, hint towards proprietary (for-profit) colleges as a high-risk segment of the

⁴⁵ As recently as the 1 October 2012, the U.S. Supreme Court upheld a ruling of the *U.S. Court of Appeals for the Second Circuit* in the case (Travesa vs. Educational Credit Management Corp., No. 10-4811-bk., 2011) which made use of the Brunner Test.

(<http://www.supremecourt.gov/Search.aspx?FileName=/docketfiles/11-1359.htm>)

student loan market. They accounted for 47% of all federal student loan defaults according to the CDR published in the same 2012 while enrolling only 13% of all students (Lewin, 2012a). This led to an inquiry by a committee of the U.S. Senate which issued a report about the sector in July 2012 with over 1000 pages concluding that several practices common in this sector made loans to its students inherently more risky. The following paragraphs will review the main conclusions of the report and the measures taken as a consequence (Senate HELP Committee, 2012).

In principle, the sector is closing a gap in the supply of higher education by public and private non-profit institutions: Many of those enrolled at for-profit schools are *non-traditional students*, e.g. independent students who are often older, study part-time or have dependent family members and hence would not be able to attend full-time programmes at community colleges or regular 4-year institutions. Also, many of those enrolled are first-generation college students. For-profit colleges cater to such students by offering short programmes (often 2 years or less) with very flexible enrolment conditions or programmes in which students do most of the coursework online without the need to physically attend classes. Thus they attracted a growing number of students who would have otherwise probably never sought to attain further education (Senate HELP Committee, 2012). Correspondingly, the full-time equivalent enrolment in such institutions almost sextupled from around 220'000 in the year 2000 to 1.25 million in the year 2010 (Dep. Education, 2011a, Table 227). This high proportion of non-traditional students would, in itself, already help to explain some of the higher default rates at such colleges since, as discussed, they enjoy much less of a support network making them less likely to graduate.

In addition, for-profit colleges typically charge much higher tuition fees than public institutions offering comparable programmes (e.g. 4 times as much for associate degrees). Thus they force a whopping 96% of their students to borrow in order to pay for tuition, compared to just about 12% at community colleges (Lewin, 2012a). Combined with the low graduation rates, this implies that hundreds of thousands of students drop out of these institutions every year with high loan balances but without a degree. The high default rates seem like a natural consequence in the light of the above discussion of default drivers.

This development has been attributed to an incentive misalignment that for-profit institutions face, most notably those owned by publicly traded companies or private equity investors: Since they derive more than 90% of their revenues from tuition (see Figure 17) the institutions' profits depend on a high number of enrolments in any given year and not directly on the success of the enrolled students – at least in the short term. This has encouraged such institutions to spend ten times as much on marketing and the recruitment of new students compared to the amount spent on student services for enrolled students although many students belong to the non-traditional group with a particular need of support. Many for-profit colleges derived an

enormous profitability from this business model with an average profitability of 19.2% in 2009 and paid their chief executives an average compensation of \$7.3 million in 2009, way above common compensation figures for public or private non-profit institutions (Senate HELP Committee, 2012).

The impression that for-profit colleges often sacrificed the success chances of their students for company profits is further strengthened by evidence on aggressive recruiting tactics and misleading information provided to potential students about programme costs, graduation chances and job market prospects thus persuading many to enrol without a real understanding of the risks (Senate HELP Committee, 2012). A particular problem is that although some certificate and associate degree programmes offered at for-profit institutions (e.g. computer/information services) yield high labour market returns (Greenhouse, 2013), statistically such programmes offered at for-profits do not seem to yield measurable benefits after controlling for student characteristics, on the contrary of those at public or non-profit institutions (Lang & Weinstein, 2012). To make matters even worse from the students' perspective, some for-profit institutions forged deals with private student loan lenders to offer low-income students high-interest private student loans despite their high dropout risk: In the wake of a class action suit filed in 2010 (for different reasons) against SLM Corp. it was revealed that SLM Corp. had deals with a number of for-profit colleges to lend to their high risk borrowers in exchange for the profitable status as exclusive lender of FFELP loans to all students at said institutions. In other words, the risky private loans were viewed as loss leaders without consideration of the likely burden they would impose on their "customers" (Burd, 2012). Finally, for-profit schools were also a major target of the problematic direct-to-consumer lending that was popular among PSL lenders until 2008 (CFPB, 2012)

Meanwhile, the combination of high tuition dependence and a high proportion of low-income students made for-profit institutions capture 25% of all Federal student aid (loans and grants) in 2009 although they accounted for only 13% of all enrolments. As a consequence, the institutions analysed for the senate report directly derived 82% of their revenues from Federal student aid funds (Senate HELP Committee, 2012). For-profit institutions received \$96 billion in Federal loans between the year 2000 and 2009, corresponding to 15% of the total Federal loans disbursed in that period (Eisman, 2010). No figures are at my disposition regarding the amount of private student loans disbursed to for-profit institutions over the same period, a figure that would help quantify the overall exposure to this sector. Understandably, however, these developments have led to an initiative by the ED to tighten the regulation of such institutions which will be discussed in the next chapter.

V – SYSTEMIC RISK

In the light of the trends discussed in Chapter IV, it is clear that concerns about the strong growth in student loan borrowing are not unwarranted. However, it is not clear whether this is already a source of *systemic risk* for the financial sector or the economy as whole in a similar way as the subprime mortgages were in the financial crisis of 2008.

For that matter, the current chairman of the Federal Reserve commented:

I don't think student loans are a financial stability issue to the same extent that, say, mortgage debt was in the last crisis because most of it is held not by financial institutions but by the federal government (Bernanke, 2012)

While there are different econometric approaches of establishing the existence of an unsustainable credit boom⁴⁶, I will try to back up Bernanke's statement through presenting two definitions of systemic risk and a, necessarily brief, overview of systematic parallels and differences between the pre-crisis mortgage market on the one hand and today's student loan sector on the other hand.

Definitions

There is no universally accepted definition of systemic risk, and different definitions focus on different aspects. (Kaufmann & Scott, 2003), for instance, provide a very general definition:

[systemic risk is] the risk of breakdown in an entire system, as opposed to breakdowns in individual parts or components, and is evidenced by co-movements among most or all the parts

Meanwhile, (Acharya, Philippon, Richardson, & Roubini, 2009) provide a definition much more focussed on financial sector systemic risk and its implications for the rest of the economy

Systemic risk can be thought of as widespread failures of financial institutions or freezing up of capital markets that can substantially reduce the supply of capital to the real economy.

Despite the differences, a common feature of these and other definitions is the chain reaction: failures (defaults) in a small part of a system lead to severe consequences in other, at first sight unrelated, parts of the system.

Recap of the Mortgage Crisis

The U.S. mortgage market was and is by far the largest private credit market in the U.S.: In the fourth quarter of 2006, just before the outbreak of the subprime crisis, the outstanding mort-

⁴⁶ See, for instance, (Coudert & Pouvelle, 2010)

gage volume totalled \$13'315 bn., almost exactly the total U.S. GDP in that year and around 13 times as much as the student loan volume outstanding today (Federal Reserve Board, 2012). Yet it was still considerably smaller than the U.S. equity market with its market capitalisation of \$19'426 billion in 2006 (World Bank, 2012) and even smaller compared to the total U.S. bond market that totalled \$29'447 billion outstanding in 2006 (SIFMA, 2012).

As in the case of Student Loans, the Federal government had (and has) a significant influence on this market through the two government-sponsored enterprises (GSEs) Fannie Mae and Freddie Mac, also called *the agencies*, which directly owned or backed 32% of the market at the end of 2006 and facilitated the developments that lead to the crisis (Federal Reserve Board, 2012).

Albeit much earlier, the *Federal National Mortgage Association* (Fannie Mae) was founded with a similar motivation as Sallie Mae: to create a secondary market for mortgages that allowed cash-strapped lenders to sell mortgages meeting certain standards to Fannie Mae, freeing up capital for new lending amidst the Great Depression in 1930s. Initially under mixed public and private ownership, it was completely privatised in 1968 to reduce the debt on the Federal government's balance sheet that was financing the Vietnam War. Finally, it was listed in an IPO in 1989 (Pickert, 2008). In 1970, the *Federal Home Loan Mortgage Corporation* (Freddie Mac) was created to extend the government-backed secondary mortgage market, mainly by buying mortgages and issuing mortgage-backed securities (MBS) against them instead of holding them on its balance sheet (Federal Housing Finance Agency, 2010). Although privately owned, the GSEs had a Federal charter, and the government retained influence on their operations and lending policies through the Department of Housing and Urban Development (HUD). From then on, all residential mortgages had to fulfil certain criteria to qualify for purchase and/or securitisation as agency-backed mortgages: These include total loan limits, a minimum borrower FICO score as well as maximum debt-to-income and loan-to-value ratios. Loans fulfilling all criteria enjoyed a full loan guaranty from the GSEs (Acharya et al., 2009). Although the government did not explicitly guaranty the agencies, market participants rightly expected that the government would back the agencies' portfolios in the event of a crisis due to their central role in the market. This implicit guaranty gave the agencies access to a very low financing cost (CBO, 2010b).

On the other hand, loans not conforming to the agency criteria were subdivided into two categories: *Alt-A loans* are mortgages where borrowers just barely missed the agency criteria, (e.g. the minimum credit score) and *subprime mortgages* which are discussed below. Both categories combined are referred to as *non-agency* or *non-prime mortgages*. New issuance in these categories increased from \$180 billion in 2001 to \$1'000 billion in 2006, and in 2007 just the part of the aggregate non-prime mortgage portfolio backing mortgage-related securities totalled \$2'359 billion (SIFMA, 2012). This enormous boom was driven, among other factors, by a combina-

tion of political intervention and a prolonged period of low interest rates encouraging looser lending standards as will be laid out in the following.

Political Influence

In 1992, Congress decided to set *affordable housing goals* requiring that the agencies allocate a higher proportion of their loans to low-income and minority groups under the supervision of the HUD. Moreover, the Clinton administration increased the number of high-risk loans insured by the *Federal Housing Administration* and strengthened enforcement of a law that forced banks to lend certain minimal amounts in their local communities, especially in low-income and minority neighbourhoods. By 2004, the GSEs were mandated to lend 54% of all new loans to low-income borrowers (Rajan, 2010). Estimates indicate that the GSEs were lending \$300 to \$400 billion *per year* of non-prime mortgages in the period 2003 to 2007 and were, together with the FHA, exposed to a total of \$2.7 trillion in such loans by the year 2008 according to some estimates (Pinto, 2010). This makes it clear that the government was a major driving force of the subprime boom as it spread in the private sector, as well.

(Rajan, 2010) argues that the main motive of government-supported housing credit has been alleviating the effects of the rising income inequality already discussed in Chapter II without outright redistribution (e.g. in the form of higher taxes that face strong opposition from the political right). Easier access to credit, meanwhile, would make lower-income families feel wealthier and push up house prices without requiring much explicit public spending. For lenders, the higher interest rates on low-income loans implied higher profits in the good economic climate of the 1990s, and the semi-private GSEs were eager to comply with this political goal.

Here lies a clear parallel between the subprime mortgage and the student loan market: A significant part of the lending is driven by the government and is intended to cater to different voter groups without incurring much direct budget spending. And just as during the subprime mortgage lending frenzy, there are no historical precedents for the risk level that extending ever more credit to ever more students might entail in the long term.

The Subprime Market

Typically subprime loans are such where borrowers had a FICO score below 660, made no down-payments (or had a high loan-to-value ratio), were in bankruptcy or did not document important information regarding their creditworthiness (Pinto, 2010). The most extreme forms included NINJA loans (“no income, job or assets”) for which borrowers had to provide nothing but a credit score or *liar loans* for which borrowers just had to state their income rather than prove it. Clearly, such borrowers were expected to default at much higher rates than those fulfilling traditional credit criteria and lenders priced this in with higher interest rates.

However, one particularity hid much of this risk premium by making the subprime mortgage sector very sensitive to changes in macro-economic conditions: A majority of the subprime mortgages had so called 2/28 or 3/27 hybrid ARM structures with two to three years of low fixed interest payments at the beginning of the term (also called teaser interest rates) and a subsequent switch to adjustable rate interest payments based on a reference rate such as LIBOR plus a significant spread, altogether referred to as *balloon interest payment* (Acharya et al., 2009). Since many subprime borrowers could not afford the adjustable part of the rate from the outset, the only way they could avert default was frequently refinancing the loan before the teaser rates expired. This, in turn, is only possible if the value of the collateral, the house, rises in the meantime.

As a consequence, while normally there is little correlation between the defaults of different borrowers (the risk depends on every borrower's individual situation), hybrid ARM borrowers would simultaneously default in big numbers once house prices stopped rising. Such a turn in the housing market was regarded as unlikely; and investments in subprime mortgages resembled a deeply out-of-the-money put options on the housing market, yielding excess returns most of the time and huge losses in the case of a market turn (Acharya et al., 2009; Rajan, 2010)⁴⁷.

Two major drivers of the strong expansion in the use of these structures prior to 2007 were (a) the fact that they made first-payment defaults by borrowers less likely thus keeping the loans eligible for securitisation pools; and (b) predatory lending practices by mortgage agents who earned higher commissions for selling such complex structures compared to simpler loans and consequently often failed to inform unsophisticated low-income households about the risks of the interest balloon or did not demand full documentation, well knowing that the borrowers could not afford the mortgages once the adjustable rates kicked in (Acharya et al., 2009). Moreover, a strong demand for high yielding fixed-income securities further encouraged the aggressive underwriting of subprime mortgages to supply new mortgage ABS (originate-to-distribute) putting further downward pressure on credit standards.

Meanwhile, up to 80% of the ABS volume that lenders issued against subprime mortgages enjoyed the highest credit rating, AAA, in strong contradiction to the ex post observation that up to 40% of the volume issued in 2007 was expected to default (Shenn, 2009). One explanation is that typical pre-crisis rating models were based on historical default rate and correlation scenarios, thus under-estimating particularly the correlation of defaults described above. Some of the good ratings have also been attributed to the general conflict of interest stemming from the fact that all ratings are paid for by the issuers of the securities and not the investors, thus reduc-

⁴⁷ Such risks are also called *tail risks*.

ing the agencies' incentives to keep strict rating standards: if they did, issuers would always have the option of having their securities rated by another agency with more benign criteria, so the argument goes. Finally, the “re-packaging” of ABS increased the complexity in the system reducing the ratings' transparency to investors. Instead of the simple residential mortgage ABS (RMBS) directly backed by loan pools, lenders created collateralised debt obligations (CDOs) backed by RMBS tranches (see Figure 55). Obviously, the ratings of such second or third-order derivatives were more difficult to retrace, even by sophisticated investors (Acharya et al., 2009).

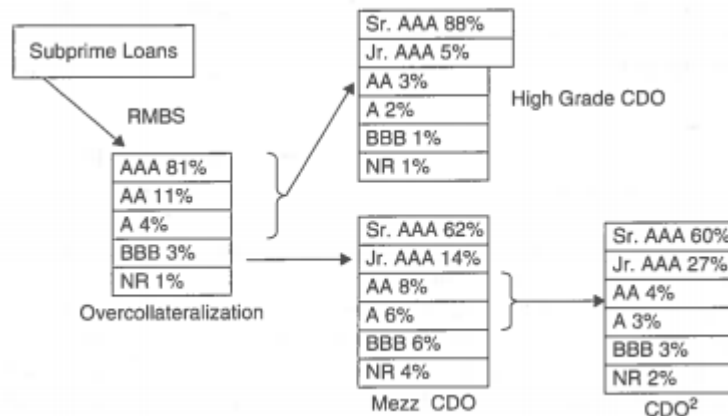


Figure 55: Typical securitisation sequence of subprime mortgages prior to 2007

A straight forward parallel between some subprime loans and (especially Federal) student loans is the lack of effective credit checks, although for very different reasons. While it was clearly a result of predatory lending in the case of subprime loans, a prediction of the future ability to pay of a postsecondary student is neither an established practice at this point nor a political goal (Simkovic, 2013).

While most private student loans and older vintages of Federal loans feature variable interest rates, hybrid loans with balloon interest payments are unheard of in the student loan sector, taking away an important trigger of sudden serial defaults. Finally, with regards to the ratings, although student loan ABS face the same general conflict of interest of any rating paid for by the issuer, most student loan ABS are backed by government-insured loans which makes high ratings much more credible. Also, difficult-to-value higher order derivatives are not common.

Financial Sector Exposure and Crisis Events

By different definitions, the total non-prime mortgage debt outstanding in 2008, constituted between \$1.7 trillion and \$2.4 trillion (Acharya et al., 2009; SIFMA, 2012). If it were isolated, even a big loss on this amount would, by itself, probably not have caused the market turmoil of 2008. Rather, the systemic risk arose from a system-wide exposure to this market:

The *dot-com bubble* centred on young internet companies quickly deflated between March 2000 and March 2001: in this period, the NSDAQ Composite index followed as indicator for U.S. technology companies lost almost 65% of its value (Yahoo Finance, 2013). As a reaction to this crash and the 9/11 attacks soon afterwards, the Federal Reserve quickly lowered short-term interest rates from 6.5% in the middle of the year 2000 to less than 2% at the end of 2001 to avoid recession. Furthermore, Fed chairman Alan Greenspan assured the markets in 2002 that he did not consider higher interest rates as a useful tool in preventing the creation of such asset bubbles as the dot-com bubble and re-emphasised that the Fed would be there to mitigate the *fallout* (Federal Reserve Board, 2002)⁴⁸. Consequently, the Fed kept the federal funds rates at very low levels until mid-2005, although economic growth had quickly picked up (Federal Reserve Board, 2012)⁴⁹. This pre-announced prolonged period of low yields on fixed-income securities, was a strong incentive for the financial sector to *search for yield* elsewhere, and shifting funds from safer assets such as cash or Treasury securities to higher yielding papers such as securities backed by subprime mortgage was an obvious reaction (Rajan, 2010). These offered higher returns, e.g. compared to equally rated corporate bonds, and could still be used to reduce regulatory capital requirements due to their high ratings. This, so (Acharya et al., 2009) argue, induced financial institutions to discard the traditional *business model of securitisation* (passing on the credit risk of ABS to well-capitalised investors such as hedge funds or insurance companies) by holding on to substantial structured product portfolios on their own balance sheets. And indeed: In 2008, banks, broker-dealers and GSEs were exposed to almost \$800 billion in non-agency MBS, around 40% of this market. Many agree that the pressure of typical bank compensation systems which favoured short-term above-average returns at the expense of tail risk consideration encouraged traders across banks to take the subprime exposure on their books betting that if the tail risk materialised, the government would step in to rescue the market (Rajan, 2010).

This big exposure by highly leveraged banks and money market funds to the subprime mortgages started to become a problem when the housing market, indeed, turned in 2006 and as soon as 2007, many subprime borrowers could not refinance their hybrid ARMs and defaulted in droves. The first consequences were, e.g., runs on two highly levered Bear Stearns managed multi-billion dollar hedge funds invested in mortgage CDOs and the freezing of three BNP Paribas managed money market funds exposed to subprime mortgages in July and August 2007 respectively. As losses on subprime papers continued, these securities became extremely illiquid and new issuance came to a halt. Finally, the government had to take over Fannie Mae and Freddie Mac due to huge losses and three of the five major U.S. investment banks failed in 2008 due to their exposure to the subprime market: *Merrill Lynch* was taken over by Bank of

⁴⁸ (Rajan, 2010) refers to this as the *Greenspan put*.

⁴⁹ The situation the Fed was trying to combat was also described as *jobless recovery*.

America, *Bear Stearns* by J.P. Morgan Chase and *Lehman Brothers* filed for bankruptcy. The complete freeze of the inter-bank lending following Lehman's bankruptcy (the largest in U.S. history) went far beyond the subprime market due to Lehman's central position in many over-the-counter markets. The losses market participants faced as a consequence of exposure to Lehman made them extremely wary of taking on exposure to any counterparty potentially involved in the subprime mortgage market.

It was through the breakdown of an institution with a central position in many different markets that the mortgage crisis eventually caused the widespread financial crisis. Subsequently, researchers and regulators have been searching for measures of what makes some institutions so essential to the system that their failure could jeopardise the functioning of the entire market. According to current definitions by the *Financial Stability Board* (FSB) there were 26 systemically important financial institutions in 2012, two of which (J.P.Morgan Chase and Wells Fargo) are exposed to the U.S. student loan market to some extent. Since FFELP loans are already re-insured by the government, the potentially more risky exposure is to private student loans.

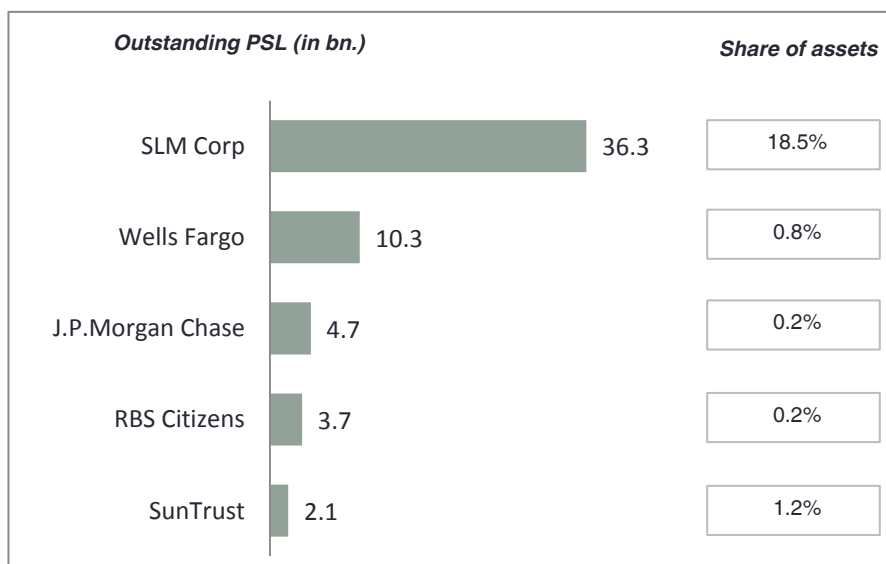


Figure 56: Outstanding private student loan portfolios of SLM Corp and the four major student loan lenders at the end of FY 2011 (JPMorgan Chase & Co., 2011; RBS Group, 2012; SLM Corporation, 2012; Suntrust Banks Inc, 2012; Wells Fargo, 2012)

Lehman's exposure to the mortgage market in 2007 was estimated at \$89 billion, or 12.9% of its total assets (Masood, 2009). In comparison, the exposure of most institutions to private student loans is tiny and even in the case of a total loss on the portfolio, institutional failures seem unlikely (see Figure 56). The notable exception to this is SLM Corp. for which PSLs account for 18.5% of the balance sheet. However, SLM is not classified as systemically important, first because of its (relatively) small balance sheet of \$184 billion, and second because it is not involved in any other markets beside student loans and hence does not have the type of utility function Lehman Brothers had.

Conclusion

In the last crisis, two system-wide breakdowns occurred which had wide-reaching consequences on the economy: (a) serial defaults on mortgages due to a collapse of house prices in many parts of the U.S. wiping out a lot of household wealth; and (b) a dry-up of short-term liquidity in the financial sector leading to a credit crunch. Recapitulating some of the most important factors leading up to that crisis, one can conclude that there are enough differences between the mortgage market in 2007 and the student loan market in 2013 to make a similar crisis in the realm of student loans highly unlikely.

- The student loan market is 13 times smaller than the mortgage market on the eve of its crisis and the private sector exposure is below \$200 billion (PSLs and fractional exposure to FFLP loan credit risk)
- 85% of the market is explicitly guaranteed by the government and 70% is already on its balance sheet, making additional “bailouts” small
- Student loan borrowers are not dependent on re-financing their loans every 2 to 3 years in order to prevent defaults
- No systemically important financial institutions are exposed to un-insured student loan debt to a worrying extent, and the only institution with significant exposure (SLM Corp.) has little influence on the functioning of the overall financial system.
- Student loans, unlike mortgages, only account for a small part of consumer debt service payments in most cases.

A slightly polemic summary of the arguments regarding the comparison of the housing bubble and the situation of student loans is given by CEPR-economist Dean Baker in a blog comment

This is like comparing every atrocity to the Holocaust. There are many horrible atrocities that have occurred in the last sixty five years but few, if any, can rightly be compared to the Holocaust and it is foolish to do so (Baker, 2012)

VI – FURTHER ISSUES

Impact on Student Decisions

As discussed in Chapter IV, the current levels of student loan debt apparently do not significantly influence consumption decisions of households owing debt, at least on average. Nevertheless, the increasing need to borrow for higher education has other effects on the decisions made by students, most notably the decision whether to enrol in higher education in the first place as well as occupational choices after leaving college.

First, the need to borrow large sums for education may deter talented potential students from a weaker socio-economic background. Several statistical studies in the U.S. as well as in the U.K. have shown that especially students from a *working class* background are much more risk averse, even after controlling for a range of factors. (Callender & Jackson, 2005). This would imply a development that further increases inequality and runs counter the declared objective of the U.S. government to increase educational attainment and maintain the country’s economic competitiveness.

Second, the *Baccalaureate and Beyond Survey of 2008/09* (B&B 08/09) shows a significant correlation between the amount of debt students borrowed for their degree and statements they made about the influence the debt had on their employment choices (see Figure 57).

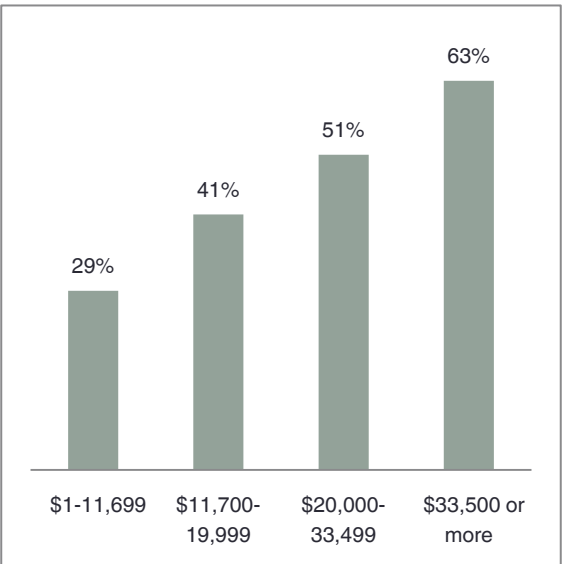


Figure 57: Share of recent bachelor degree graduates reporting that student loan debt influenced their employment decisions in 2009 by cumulative amount borrowed (B&B, 08/09, own tabulation)

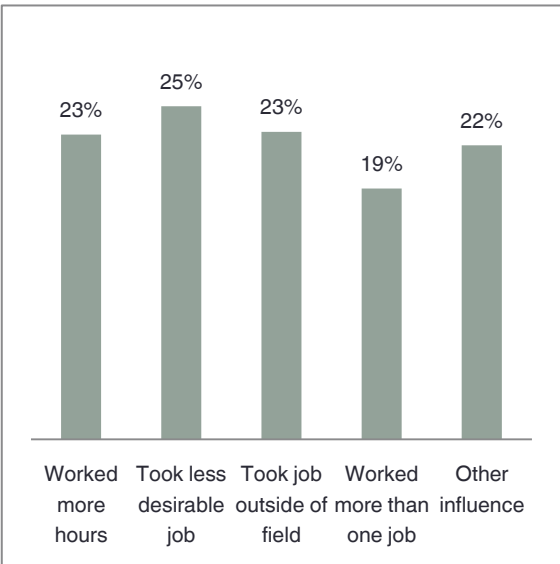


Figure 58: Share of recent bachelor degree graduates owing \$33,500 or more reporting various influences the debt had on their employment decisions in 2009 (B&B, 08/09, own tabulation)

The more a student had borrowed, the more likely they were to report, for instance, taking up less desirable jobs or jobs outside of their fields in order to cope with the debt (see Figure 58).

This is consistent with the results of (Rothstein & Rouse, 2011) who analysed the job-seeking behaviour of the graduates of an elite 4-year college before and after the institution introduced a no-loans policy that substituted all loans with grants in their financial aid packages in 2001. The authors found that while students not receiving any aid didn't change their behaviour, those who received aid pursued more relatively low-income jobs (e.g. teaching jobs as opposed to finance jobs) after the change. They argue further, that this effect should be even more pronounced at average institutions where students typically have to borrow more than at the analysed elite schools where students needed to borrow less in general, even before the change of policy.

Graduate Oversupply Paradox

Two large-scale surveys conducted in 2011 and 2012 showed similar results: around 50% of the recent bachelor-degree graduates held jobs that did not require a degree in the first place, and only 20% indicated that their job was on a career path (The Wallstreet Journal, 2012). Furthermore, anecdotal evidence suggests that 12% of the mail carriers in the U.S. are now college graduates (National Public Radio, 2009). It is clear that working in such occupations and earning the corresponding wages does not justify going to college, let alone borrowing huge sums, (Vedder, Denhart, Denhart, Matgouranis, & Robe, 2010). The authors see this development as clear evidence that the U.S. is already *oversupplied* with college graduates, rather than undersupplied as the official political stance implies.

But how can one reconcile this with the evidence from Chapter II that, on average, college is a very worthwhile investment? The answer might be, again, the heterogeneity within the group of college graduates. (Pryor & Schaffer, 1997) argue that already in the 1990s, a college degree per se had lost its function of reliably indicating its holders as individuals with a high ability or a high *functional literacy*. Conversely, as the overall number of graduates increased, so did the share of students graduating without the level of ability formerly associated with a college education and ultimately ending up in occupations that only need a high school qualification, according to the authors. Combining this with the observation from Chapter II that the college payoff ultimately depends on the occupation an individual eventually works in, provides a possible explanation for the combination of the recently increasing college premium at the same time as more graduates face a difficult labour market. Further evidence pointing in this direction is, first, that there is a wage premium for graduates from more selective colleges associated with higher quality compared to less selective colleges (Dale & Krueger, 2011) and, second, that the wage premium for holders of post-secondary qualifications is increasing despite the recent increase in their relative supply (Lindley & Machin, 2011). The hypothesis of the complementarity between skills and education discussed in Chapter II would be a further hint in this direction.

There are two conclusions to be drawn from these developments: (a) currently, there seem to be not enough jobs on the U.S. labour market requiring a college education *per se* to fulfil the demand of a growing number of graduates; and (b) the demand for individuals with particularly high qualification and/or the associated level of ability is growing much faster than their supply. This creates the paradoxical situation that although higher education is becoming more and more valuable to some it is becoming less and less valuable for others.

The *Occupational Employment Projections* issued by the Bureau of Labour Statistics in 2012 suggest that this development is likely to continue for the next ten years since, on the one hand, the highest relative job growth will be in professions typically requiring an advanced degree (e.g. a master's degree) while, on the other hand, 70% of the overall job openings in absolute terms (new jobs + replacement) until 2020 will continue *not* to require an education beyond high-school (Bureau of Labor Statistics, 2012b). That meanwhile 68.3% of all 2011 high school graduates had enrolled in college or university by October 2011 is perhaps the most worrying observation regarding the future quality of student loans: Many of these students will ultimately either drop out without a degree after incurring some debt or, even worse, complete a degree incurring even more debt and not finding a job with the level of income they need to be able to pay back their loans.

Option Value of Enrolment

A direct conclusion would be for more students not to enrol in the first place. However, it is difficult to predict *ex ante* whether they will be in the group tremendously benefiting from college or not. Moreover, (Stange, 2012) develops a theoretical model and provides empirical estimates of the *option value of college enrolment* supporting the hypothesis that the sequential discovery of information about one's individual aptitude for higher education (e.g. through grades) is, in itself, an important part of the value of enrolling in higher education and the individual choice of dropping out of college or graduating increases overall welfare. The author furthermore finds that this value is individually highest for moderate-ability students who are most uncertain about which education path is best suited for them. Hence, if students who realise that graduating from college will be difficult dropped out early on the post-secondary trajectory (e.g. out of less expensive community colleges) there might be an overall benefit. On the other hand, dropping out late or graduating with bad results can be worse than not enrolling at all due to the polarised labour market discussed above.

The Anti-College-Movement

In a hotly debated article published in the *The Atlantic Magazine* in 2008 an anonymous professor teaching at a community college and a small private college describing his struggle in teaching to mostly non-traditional students who, often in the middle of their working lives and at-

tending college for the first time, lack even basic levels of aptitude for the more academic disciplines (Professor X, 2011).

Although more-widespread college admission is a bonanza for the colleges and nice for the students and makes the entire United States of America feel rather pleased with itself, there is one point of irreconcilable conflict in the system, and that is the moment when the adjunct instructor, who by the nature of his job teaches the worst students, must ink the F on that first writing assignment (Professor X, 2008)

Another prominent group of college critics are successful entrepreneurs from the technology start-up scene. The venture capitalist Peter Thiel, for instance, wrote in the New York Times that *before long, spending four years in a lecture hall with a hangover will be revealed as an antiquated debt-fuelled luxury good* (Thiel, 2011). Instead, so he argues, young people should use technology and the increasing amount of high-quality educational material on the internet to educate themselves on a continuing basis instead of spending enormous sums on a college education with an uncertain payoff. However, although this fundamental debate about the current higher education system has received repeated attention in prominent media (Williams, 2012) it is not clear whether it will have long term effect on enrolment trends. The latest available aggregate data show that the academic year 2011-2012 was the first to see an, albeit small, year-on-year drop in total enrolment since 1995 (Dep. Education, 2011a) – nevertheless, it is much too early to imply a trend change.

Outlook

As soaring college costs, student over-indebtedness and rising default rates have drawn frequent media coverage and attention by lawmakers, particularly since 2011, there are a few developments suggesting that the aggressive growth in the student loan sector might slow down or stop altogether. This section will review five of these developments which are partly underway or have at least been proposed.

Borrower Awareness

Until recently, there were few independent sources of accessible and comprehensive information about the complex financial aid mechanisms (described in Chapter III), and beginning students relied mainly on the information provided by their school's financial aid office. Combined with a common lack of financial education among young, recent high school graduates this made many borrowers see loans just as a convenient way of reducing out-of-pocket expenses for colleges and oblivious to the potential long-term financial burden these loans represented. It also made many prospective students an easy prey to the aggressive marketing tactics of some private student lenders and their allied financial aid officers.

Therefore, in July 2012, the ED launched an online loan counselling tool to provide such comprehensive information and help borrowers calculate their long-term repayment conditions (Dep. Education, n.d.-e). Also, many college financial aid offices, now explicitly warn students from taking out private student loans before completely exhausting their Federal loan limits which nurtures hope that future beginning students will be more cautious in their enrolment and consequent borrowing decisions.

Non-Dischargeability

Two bills that would repeal the non-dischargeability of private student loans have been recently introduced into congress: the *Fairness for Struggling Students Act of 2011* (Senate Bill 1102, 2011) and the *Private Student Loan Bankruptcy Fairness Act of 2011* (H.R. 2028, 2011). After not receiving much attention during the election year 2012, the former of the two bills has been re-introduced in the House of Representatives in January 2013 with better chances of passing during the 2013-14 term of Congress, although it is not foreseeable when exactly (The Huffington Post, 2013). Such a change would possibly give some of the most distressed borrowers a way out of their debt although strong disincentives against a bankruptcy discharge of PSLs would remain: most notably the damaged credit score which makes any kind of future borrowing very difficult. And clearly, the elimination of bankruptcy discharge would increase the loss risk for private student loan lenders.

Regulation of For-Profit Colleges

The combination of bad practices and high dependence on taxpayer money has led to the introduction of the *Gainful Employment Regulation* targeted specifically at private for-profit colleges by the ED in 2011. It would require private for-profit colleges to fulfil one of the following criteria during 3 out of 4 consecutive years in order to remain eligible for Federal student aid: (a) at least 35% of an institution's former students are repaying their loans; (b) a typical graduate does not pay more than 12% of their gross income for student loan debt service; or (c) estimated annual loan payments of a typical graduate do not exceed 30% of their discretionary income (Dep. Education, 2012h). When the first data on the three measures was published in June 2012, it appeared that up to 5% of all institutions could lose aid eligibility, according to the same ED press release. However, the U.S. District Court in Washington D.C., upon a petition and intensive lobbying by the for-profit colleges industry association, overturned this set of criteria because of an insufficient factual justification of criterion (a) in July 2012 (Huckabee, 2012). Although the court upheld the ED's competency to stipulate such criteria, the appeal by the ED to re-instate the criteria was also rejected in March 2013 (DeSantis, 2013). At this point, it is uncertain how a tighter control on the for-profit sector would progress, especially as the

court ruling against the appeal was based on the grounds of privacy concerns regarding the data collection about former students in a central database (Fain, 2013).

Meanwhile, awareness for the problems of the for-profit sector has certainly risen due to legislation attempts. Moreover, public and private non-profits are now increasing their offerings of, e.g., online courses, one of the traditional strong points of for-profit institutions. Consequently, enrolment in the for-profit sector has fallen by 3% between 2010 and 2011 (Dep. Education, 2011a). This development has likely continued in 2012 as, for instance, the University of Phoenix, the largest for-profit college in the U.S. announced in October 2012 the shut-down of a significant number of its campuses all over the country (Lewin, 2012b) and its parent company, Apollo Group suffered a 54% share price decline in 2012 (Bloomberg). This apparent trend reversal in the fortunes of for-profit colleges and the still relatively small share they made up in recent the student lending⁵⁰ are encouraging but total potential losses on loans to such high-risk students have yet to be quantified once better data is available.

General Income Based Repayment

In December 2012, the *Earnings Contingent Education Loans Act of 2012* (ExCEL) was introduced to Congress: it would switch the repayment of Federal loans to an income-based scheme for all borrowers in repayment, regardless of their income level. Up to 15% of wages (after basic living expenses) would be deducted directly by the employer, akin to income taxes, eliminating the need for debt collection agencies and making sure, monthly payments are affordable for borrowers at all times while borrowers with higher wages would automatically pay down their loans quicker. The bill is motivated by similar schemes that have been in place since many years in the U.K., Australia and New Zealand where student loan defaults rarely occur⁵¹.

Meanwhile, the current IBR and PAYE with loan forgiveness after 20 to 25 years have been criticised for benefitting graduate students with high incomes and typically very high loan balances a lot more than low to middle income students with smaller loan balances (Delisle & Holt, 2012). Indeed, in the U.K., for instance, most graduate students are not eligible for public student loans to finance their education (Parker, 2012). Nevertheless, such a system might work if, for instance the repayment rate itself were made income contingent thus taking into account that high-earners generally have a higher percentage of discretionary income. This would prevent, e.g., medical students who need to take out very big loans from earning high salaries as doctors while making relatively small payments and having a big chunk of their loans forgiven after 25 years. It remains to be seen how this topic carries on: As of January 2013,

⁵⁰ . Even assuming that for-profits account for half of all outstanding private student loans, the total outstanding portfolio is unlikely to be beyond \$150 billion.

⁵¹ In the U.K., for instance, students now taking out student loans will make payments of 9% of their annual income above £21'000 over a 30 year period, and loan balances remaining afterwards are cancelled.

shortly after the convention of the new, 113th Congress, the bill is pending in House of Representatives (H.R. 6674, 2012; Hechinger, 2012c).

Risk-Based Student Loans

(Simkovic, 2013) argues that the current student loan system in which borrowers pay the same interest rate across all majors is redistributive: it taxes those pursuing majors with above-average labour market prospects (“safer borrowers”) and subsidises those with below-average prospects (“riskier borrowers”). The author further argues that increasing rates for “low value” majors and reducing rates on “high value” majors would encourage more students to enrol in the latter rather than the former. Through this risk internalisation of groups with higher default rates, the overall risk profile of outstanding student loan portfolios would improve.

The main problem of this proposal is that although the labour median labour market returns for different majors vary widely (see Table 2) even the author suggests further research into default drivers, thus indirectly admitting that there is no direct evidence that default rates vary by degree major. Furthermore, it can be argued that at least some of the majors that yield a lower monetary return on investment in the labour market (e.g. teaching) have higher positive externalities to society than other majors leading to high-paying occupations. Finally, the idea of charging higher interest rates for high-risk borrowers (e.g. non-traditional students) seems politically explosive and runs counter the explicit intention of the Federal student loan programme of opening access to higher education for groups which would otherwise have difficulties in obtaining it. Hence it is no wonder that reform proposals to this end have yet to be introduced to congress but it remains an interesting potential policy tool that could be used someday to steer enrolments according to labour market demands. Effectively it would not even be a completely new idea, taking into consideration historical practices such as the support for Federal land grant universities to further technical progress or the first student loan programme for students in technical fields under the National Defense Education Act.

FINAL REMARKS

This thesis gives an introduction to the complex context in which the current debate on a potential *bubble* in student loan debt is taking place and concludes that – although rising default rates, worsening debt service ratios, an increasing number of distressed borrowers and the outstanding loan volume of more than \$1 trillion warrant concern about the future of student lending – it is still very improbable that this credit sector, if it collapsed at this point, would trigger a financial crisis on the scale of the 2008 subprime mortgage crisis. This rests on a number of arguments, most notably: (a) 93% of new student loans are underwritten as direct government loans and the total private sector exposure to the credit risk of outstanding student loans is below \$200 billion; (b) the only private lender with material exposure to the sector is Sallie Mae, an institution not classified as systemically important; (c) since 2008, the long-term funding costs for the Federal government – that is exposed to a total of least \$850 billion – have been significantly below the fixed interest rates charged on Federal student loans, thus providing enough *excess spread* for the Department of Education to project a net lifetime profit on recent student loan vintages, despite a significant increase in the expected lifetime default rates for these vintages compared to the past; (d) the non-dischargeability and special loan collection privileges that Federal loans (and for the moment also private student loans) enjoy provide for exceptionally high recovery rates on defaulted student loans; (e) the two most worrisome segments of the student loan sector, private student loans and lending to students at private for-profit colleges, are receiving special attention by the Department of Education and several law proposals which is likely to stop violent growth in these sectors (f) the introduction of an income-based repayment option for Federal loans should provide a cushion against serial defaults on student loans even if, for example, the labour market situation significantly deteriorated; (g) overall household indebtedness measured by outstanding consumer credit as well as average monthly debt service payments has significantly decreased since 2008, and since student loans still make up “only” 8% of all outstanding consumer credit the distress they potentially pose to aggregate household finances seems much lower than that for mortgages. This situation might, however, change if interest rates on other consumer credit rise again.

As a corollary from the recent developments in student lending, the thesis has further concluded that, as Federally guaranteed student loan portfolios are being paid down without new issuance and private student lending has significantly slowed down since 2008, the student loan ABS market is shrinking and the private sector’s future role will likely be confined to auxiliary functions such as loan servicing and default collections.

That said, on the fundamental side, the most important factor determining whether borrowing for higher education is a “good risk” on an individual level are the labour market benefits graduates derive from their degrees, especially the increase in expected lifetime earnings. While un-

employment and income statistics continue to suggest that these benefits do exist for a *median student*, the analysis also showed that there is a substantial heterogeneity across students and graduates suggesting that, indeed, for a growing number of students borrowing for college yields negative returns in the long run. This is especially true for those who leave college with debt but no degree: Up to 70% of student loan defaults might be attributed to *college dropouts*. This leads to a rising number of researchers and public figures questioning whether the higher education system is enrolling too many students (or the wrong ones) and whether the \$486 billion that the United States invested in higher education in 2012 are wisely allocated, and clearly the long-term sustainability of student loans ultimately comes back to question whether the “product higher education” is rather an investment in productivity or a luxury consumption good.

Finally, some policy tools that could have a direct effect on the quality of student loans in the medium term have been discussed, in particular: (a) the proposed gainful employment regulation that would force career colleges to make sure their graduates are well prepared for the labour market and earn salaries that stand in a healthy proportion to the loan repayments they have to make on their student loans; and (b) a differentiation in the pricing of student loans discouraging students from enrolling in “low value” majors to the favour of “high value” majors. While the former has been already introduced but could not take effect, the latter remains an idea, for the time being.

Further Research

Due to the intentionally very broad scope of this thesis, it only scratched on many issues playing into the discussion on student loans in the United States – I can only hope to have struck a good balance between depth and breadth. Meanwhile the reader might view this document as an invitation for further research, such as the following: (a) The acquisition of more detailed data from the Department of Education in order to quantify, for example, the outstanding loan volume by institutional characteristics (such as institution control) or student characteristics (such as degree major or graduation status) and link it with expected default rates for such groups in order to derive a more precise estimate of the loan volume expected to default – such data is potentially available upon a *Freedom of Information* request to the ED; (b) a more detailed estimation of the returns on investment for different degree majors and, by using more detailed lifetime earnings curves and their variation within such degree major groups, potentially deriving risk-adjusted rates of return. Such an analysis may be possible based on the micro-data of the *American Community Survey* that, since 2009, records the degree major together with information on age, occupation and income for a representative sample of the U.S. population; (c) a detailed study of student loan default drivers that is based on a newer national data-set than those used in the literature so far in order to get a better impression of what drives de-

faults – a co-operation with *Operations Performance Division* of the ED might be useful in doing so.

A final important suggestion this thesis can give to future research might be that student loans are a topic that is very hard to grasp due to the complexity of the higher education system and the constant political changes influencing it. Many conclusions might therefore be short-lived and need to be revisited on a frequent basis.

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APPENDIX

There is a huge amount of official statistics related in some way to education so this section gives a quick overview of some of the most important, publicly accessible ones.

Data Sources

(a) The *National Center for Education Statistics* (NCES) is located within the U.S. Department of Education and serves as the primary Federal entity for collecting and analysing data related to education in the U.S. For analysing the student loan topic the most relevant datasets are the following:

- The *Integrated Postsecondary Education Data System* (IPEDS) is the main database of institution-level information managed by NCES. Data is gathered every year through a series of surveys among postsecondary institutions, covering areas such as institutional characteristics, enrolments, programme completions and finances. Since participation in the IPEDS surveys is mandatory for all institutions participating in Federal aid programmes, the data are comprehensive in the covered areas.
- The *National Postsecondary Student Aid Study* (NPSAS) is a nationally representative survey among students conducted every 3 to 4 years since the academic year 1986-87 to gather information on how students and their families finance higher education, including those who don't receive any financial aid. The latest available data as of January 2013 were those for the 2007-08 survey which included 114'000 students across all states, institution types and degree levels. However, the data collection for the 2011-12 survey is already concluded; no publication data is known at this time.
- The *Beginning Postsecondary Survey* (BPS) is a longitudinal study of first-time beginning undergraduate students based on sub-sets of NPSAS survey participants. The most recent study identified first-time beginning students in the NPSAS 2003-04 survey and followed them until 2009. BPS is most useful for analysing educational goals, expectations, persistence and outcomes.
- The *Baccalaureate and Beyond* (B&B) study is a longitudinal study of students who are about to complete their Bachelor degrees based on sub-sets of NPSAS survey participants. The most recent edition identified all college seniors in NPSAS 2007-08 and followed up on them in 2009. Further, 4-year and 10-year follow ups are intended. B&B is most useful for analysing life decisions and labour market experiences of former students.

IPEDS data can be either accessed through an online query at the *IPEDS Data Center* or, for trend analysis of IPEDS variables, the IPEDS Delta Cost Project Database provides all IPEDS variables since 1987 in analytical formats (e.g. STATA, SPSS, CSV).

Meanwhile, the data for the three studies based on NPSAS can be best obtained through the *NCES Power Stats* tool which allows custom tabulations and regression analysis with all included variables.

The *Digest of Education Statistics* is an annual publication by NCES which compiles over 400 tables with data based on all the aforementioned sources to make the most important statistics across all levels of education more easily accessible.

(b) The Bureau of Labor Statistics (BLS) is located within the U.S. Department of Labor and is the principal Federal agency responsible for measuring labour market activity, working conditions, and price changes in the economy. Most notably it publishes employment statistics and the consumer price index once every month. The employment statistics are based on the *Current Population Survey* (CPS), a survey of 60'000 conducted by the U.S. Census Bureau.

(c) The American Community Survey (ACS) and the long questionnaire of the decennial U.S. Census until the year 2000 provide detailed information on many population characteristics, linking inter alia employment and income data with information on educational attainment.

(d) The U.S. Federal budget request for the fiscal year beginning on the 1 October has to be submitted to Congress by the President by the first Monday of February. The budget's annex regarding the Department of Education contains detailed figures of the principal balances outstanding in the Federal student loan programmes and can be retrieved at the *Office for Management and Budget* (OMB). At the time of concluding this thesis, unfortunately the president's budget request for the fiscal year 2014 had not yet been transmitted to Congress so the analysis had to rely on the figures compiled in February 2012 for the FY2013 budget.

(e) The annual reports of the *Federal Student Aid* Office (FSA) are a very accessible source of information regarding the outstanding portfolio held by the ED. While they report both principal and interest outstanding as well as current subsidy estimates for loans held by the ED, they lack detail on the remaining outstanding FFELP balances held by private lenders.

(f) The National Student Loan Data System (NSLDS) is the not publicly accessible central database of all Federal student aid in the U.S., operated by ED. Students can log in with a personal identification number to view their loan data. Consequently the database hold detailed information on loan performance and outstanding amounts.

(g) The Federal Reserve Bank of New York (New York Fed) publishes the quarterly *Household Debt and Credit Report*, which is based on a nationally representative sample of households that the Federal Reserve Bank of New York (New York Fed) draws from the credit report data of Equifax, a major credit reporting agency (New York Fed, 2013). This report provides estimates of both the outstanding stock of student loan debt (independent of the ED data) as well as the delinquency rate.