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Student Debt and Entrepreneurship in the Netherlands

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Abstract

This study aims to answer how student debt and entrepreneurship are related in the Netherlands. Using cross-sectional data from the Dutch *Studentenmonitor* survey for the years 2015-2018, I find a heterogenous relationship between student debt and entrepreneurship for students from different income groups. Student debt is negatively related to the desire to become an entrepreneur for students whose parents earn modal incomes. In multiple robustness checks I find support for this relationship. I also find cautious evidence for U-shaped differences in effects for different income groups, where the outer parts of the income spectrum have more positive coefficients than the modal income group, but this result is not as robust. Finally, I find that on average, the modal income group receives the least net financial support when income from either a supplementary grant or parental contributions is combined. Given the significant rise in student debt levels since the introduction of the Dutch loan system in 2015, this knowledge will be increasingly relevant for policymakers. A limitation of this study is that is does not control for risk aversion.

JEL codes: C31, I28, H52.

Keywords: Entrepreneurship, Student debt, Risk aversion, Cross-sectional data.

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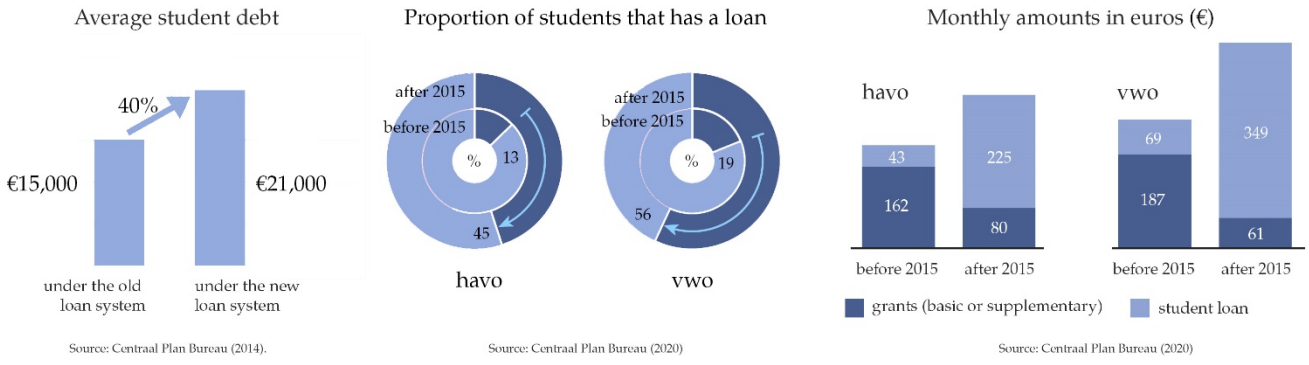
Introduction

On 20 January 2015, the Dutch Senate approved the legislative proposal '*Wet studievoorschot hoger onderwijs*', whereby students no longer receive a grant but need to finance their studies with a loan. The Dutch Bureau for Economic Policy Analysis (Dutch: CPB) predicts that the average student debt would therefore increase from €15,000 to €21,000, an increase of 40% (Centraal Plan Bureau, 2014). Since then, the effects of the student loan system are studied extensively. However, most research focuses on the consequences of the loan system for the accessibility of higher education in the Netherlands, while consequences of rising student debt levels after students graduate are only recently getting attention. On the other hand, in the United States, where student debt levels are currently at an all-time high, more and more research is being done on this topic. In general, there are rising concerns about the effects of student debts on the housing market, job- and career choices and entrepreneurship. This study will focus on the last topic for the case of the Netherlands. How does student debt relate to entrepreneurship and post-graduation choices of Dutch students? Should the rising debt level be a concern for this matter or are consequences less severe in the Netherlands?

At a moment when the student loan system has come under pressure and is being revaluated by parties around the political spectrum, this study could add important insights to the debate about the post-graduation effects of the Dutch loan system. A better understanding of this matter is still needed in the Netherlands, and this study aims to contribute to that. The research question that will be addressed is as follows:

How is student debt related to entrepreneurship after graduation in the Netherlands?

Figure 1: Differences in loans and debts under the old and new loan system (Centraal Plan Bureau, 2014; Centraal Plan Bureau, 2020)



Given the significant growth in student debts after the implementation of the student loan system (see Figure 1), given that students' concerns about their debts are rising (Van Vreden & Thijssen, 2019) and given that stimulating entrepreneurship is an important ambition of the current Rutte III cabinet (Keijzer, 2018), this question is becoming increasingly relevant to academicians and policymakers.

The remainder of this paper is structured as follows: Chapter 1 provides a review of existing literature. I find that most studies indicate a negative relationship between student debts and entrepreneurship. Chapter 2 describes the theoretical framework and mechanisms that could explain these findings. Chapter 3 focuses on how the institutional context in the Netherlands could affect these mechanisms. In chapter 4, I formulate my hypothesis. Chapter 5 presents my research method. I answer my research question by performing cross-sectional regressions with data from the Dutch *Studentenmonitor* survey for the years 2015-2018. In chapter 6, I present descriptive statistics, main results and several robustness checks. I find a heterogenous relationship for different income groups, where student debt is negatively related to the desire to become an entrepreneur for students whose parents earn modal incomes. Chapter 7 concludes. In chapter 8, I discuss my findings and give suggestions for future research.

Literature Review

With the acceptance of the '*Wet studievoorschot hoger onderwijs*' by the Dutch parliament, students no longer receive a grant for following higher education. Instead, they are required to take out a loan with the government which they must pay back within 35 years (instead of 15 years in the old system). The necessity of taking out a loan at a young age for most students could have effects before, during and after they follow higher education.

The Dutch Bureau for Economic Policy Analysis shows that the accessibility of higher education is not affected by the introduction of the new loan system, although students are borrowing more than they lost on their basic grants (Centraal Plan Bureau, 2020). This is largely confirmed by Van den Berg & Van Gaalen (2018). However, they find that among one specific group, students that come from the 'havo' with parents on social assistance, there is a decrease in participation in higher education. Callender & Mason (2017) find similar results in the United Kingdom. They show that fear of debt deters students from higher education, especially lower-class students. And although debt aversion among upper-class students was less severe in 2015 than in 2002, lower-class students were by then even more likely to deter.

Furthermore, Van den Berg & Van Gaalen (2018) find that Dutch students are less likely to leave their parents' home while studying after the introduction of the new loan system. So, the Dutch loan system seems to have consequences for students before and during their studies. However, less is known about the effects after graduation in the Netherlands. Therefore, one should dive into literature from the United States, where some are currently speaking of a nationwide 'student debt crisis'. Although the American education system, economy and society are in some ways fundamentally different from the Dutch, this could give insights and direction in formulating my hypothesis.

Job Choice and Debt Aversion

Before diving into the effects of student debts on entrepreneurship, it is worth exploring literature about student debt and postgraduate job choices.

A number of U.S. studies find that student debt could influence job choices after graduation. Insofar 'choosing' a job is a process independent of economic conditions, evidence suggests that in general, student debt causes graduates to choose jobs with higher wages. Luo & Mongey (2019) find that individuals with higher student debts are more likely to take jobs that they like less but pay more. Minicozzi (2005) finds that students who have higher student debts have higher initial wages the year after finishing school. She explains this by arguing that students who took larger loans during college are subject to higher borrowing interest rates after graduation and therefore prefer jobs with higher initial earnings (sacrificing future income growth), compared to students with smaller debts. This could indicate that graduates with higher student debts make more risk-averse decisions.

Rothstein & Rouse (2011) find that having a debt reduces the likelihood of choosing 'public interest' jobs (as these are generally associated with lower salaries) and their explanation is that "recent college graduates are averse to holding debt or they face constraints on their ability to borrow against future earnings" (p. 34). Field (2009) finds evidence from a lottery experiment that suggests that differences in career choices can be attributed to debt aversion. He finds that the recipients of tuition assistance (as opposed to those who get a loan that should be paid back in the future) are twice as likely to enrol in public interest jobs. At last, an earlier study by Chambers (1992) finds that the 'burden of high debts' affects the job choices people make after graduation. The higher their debt, the more likely law graduates are to choose jobs in larger private firms and the less likely they are to choose jobs in government services. According to Chambers, this suggests that "the prospects of high loan payments may be driving some students away from jobs in government, legal services, and public interest work" (p. 224).

These studies all point in the direction that students with (high) debts make less risky choices after they graduate. This could suggest that student debt could also influence entrepreneurship, since starting your own business is generally a risky business.

Small Business Formation and Entrepreneurship

Literature from the United States suggests that student debts could negatively affect small business formation and discourage entrepreneurship. Ambrose, Cordell & Ma (2015) find that there is a significant negative correlation between changes in student debt and small business formation because these businesses rely heavily on personal debt. Their results indicate that a one standard deviation increase in total student debt reduced the number of small businesses by 14 percent on average between 2000 and 2010.

This is in line with Krishnan & Wang (2019), who find a significant negative relationship between student debt and the propensity to start a firm, using two natural experiments in the 1990s in the United States. They find that this relationship is stronger for households in lower income or asset quintiles. They conclude that this "indicates that student debt inhibits entrepreneurship by exacerbating the effect of negative business outcomes on the individual" (p. 4550).

Robertson, Collins, Medeira & Slater (2003) find in a qualitive study that student debt could be a potential barrier for starting a business, as self-reported by students in the United Kingdom. They show that over 50 percent of students in their sample specify financial risk as a barrier to start-up, because of "the need for security once they graduate", and over 20 percent mention "their student loans and concerns about not being able to pay them back" (p. 314).

Greene & Saridakis (2008) find opposite results that having a student debt does not reduce the chance that someone who graduates becomes self-employed. They include a dummy indicating "whether or not an individual had a repayable student

debt at the time they completed their studies" as a control variable in their model, finding no significant relationship (p. 662).

Based on this chapter, I expect to find a negative relationship between student debt and entrepreneurship. The mechanisms that could explain these results are explained in the next section.

Theoretical Framework

Baum (2015) argues that rising student debts could harm entrepreneurship in three ways: (i) those with a student debt are more dependent on current income to pay back their loan, (ii) those with a student debt have limited access to credit markets to finance their business and (iii) those with a student debt might be less willing to take risks.

Findings by Robertson et al. (2003) indicate that the third mechanism might be especially important. Other studies point more in the direction of credit constraints. Ambrose et al. (2015) suggest that the 'debt capacity argument', which argues that small firms are the most dependent on personal debt but are also the most constrained by study loans in raising (debt) capital, is especially important. This corresponds with the second mechanism by Baum. They conclude that "as a result, individuals with significant amounts of student debt may find that they are unable to access the capital markets to finance the startup of new business ventures" (p. 19). Robb & Robinson (2014) find that the reliance on external debt remains an essential source for the growth of startups during their first few years after establishment. This supports the idea that small firms need access to debt to 'kick start' their business and move away from debt once they mature (p. 22).

Another study by Kan & Tsai (2006) defines the interconnectedness between personal wealth and risk aversion as an important determinant for startups and concludes that personal wealth "has a positive effect on business startups even allowing for the confounding effects of risk aversion" (p. 465). However, they also find that the degree of individual risk aversion has a negative impact in itself on the decision to become self-employed (p. 473). This could indicate that all three previously mentioned arguments by Baum (2015) could play a simultaneous role in deterring entrepreneurship.

A study by Krishnan & Wang (2019) that aims to examine the causal relationship between student debt and entrepreneurship at the household level could explain why those with student debts might be less willing to take risks, as the third

argument of Baum (2015) states. Krishnan & Wang conclude that the 'cost of business failure argument' is the main explanation for their findings that there exists a negative relationship between student debt and the propensity to start a firm. Because entrepreneurship is generally characterized by uncertain cash flows and a considerable overall likelihood of failure, entrepreneurs need a financial pad to absorb income shocks[1]. However, having obligations to repay a student loan "can significantly reduce such flexibility" (p. 4524). If income from a business does not 'materialize' in a certain period of time, entrepreneurs with student debts could run into financial difficulties. So, student debts could reduce tolerance for failure by "exacerbating the effect of negative business outcomes on the individual" (p. 4550). Using two experimental designs with external shocks, they claim that their study is the first to find evidence for a causal relation between student debt and entrepreneurship (Krishnan & Wang, 2019). Krishnan & Wang's results also show that risk seekers are more likely to start their own business (although according to them, not changes in risk preferences, but changes in the risk-return trade-off because of increased costs of failure with higher debts is the main explainer for the negative relationship between student debt and entrepreneurship). Thus, risk aversion is an important factor to study, which brings us to the next section.

[1] E.g. Manso (2011) shows that entrepreneurs need to have a certain degree of 'tolerance for early failure', as in general, rewards will only come with long-term success.

Attitudes Towards Risk, Loans and Debts

In order to study the relationship between risk aversion, debt accumulation and entrepreneurship, it is important to understand how the causality works. Research suggests that attitudes towards risk, loans and debts could to a certain extent explain why some people accumulate high debts and others do not. On the other hand, causality could also work the other way around if accumulating (high amounts of) debt changes peoples' attitudes.

Although Brown, Garino & Taylor (2013) focus on U.S. household consumer debt instead of student debt, they find that "attitudes toward risk are an important determinant of the level of debt acquired (…) with risk aversion being inversely related to the level of debt accumulated by households." (p. 283). An older study by Livingstone & Lunt (1992) in the United Kingdom finds that attitudinal factors are important predictors of debt and debt repayments, whereby people with a pro-credit attitude are more in debt than people that hold anti-debt views (Livingstone & Lunt, 1992). Findings by Brown, Ortiz-Nuñez & Taylor (2011) indicate that attitude is also an important determinant for taking out student loans, as they find a positive relationship between individuals' willingness to take financial risks and the probability of taking out a student loan. Furthermore, the size of loans is also higher for individuals that are more willing to take risks (Brown et al., 2011).

But what if causality works the other way around and accumulating student debt subsequently changes peoples' attitudes? Davies & Lea (1995) find that students who have been at university longer accumulate higher level of debts and show more tolerance of debt, and that "the increase in debt occurs earlier in students' careers than the increase in tolerance towards debt" (p. 663)[2]. They interpret this by stating that

[2] Davies & Lea (1995) also find that students are a relatively low-income and high-debt group with relatively tolerant attitudes towards debt.

students perceive their typical low incomes as only temporary and that they accept a certain level of debt in order to sustain their expected lifestyles. Then, as to ensure consistency, they subsequently adjust their attitudes towards greater tolerance of debt. Boddington & Kemp (1999) similarly find that the percentage of New Zealand psychology students with some debt and their total student debt both increase with the level of university study and that their tolerance of debt follows the same pattern.

On the other hand, students could also build increased risk aversion by accumulating debt, as suggested by the third argument of Baum (2015). Bracke, Hilber & Silva (2018) show that "increasing mortgage debt negatively impacts entrepreneurship by increasing an individual's risk aversion." (p. 61). Although this causal link could be different for student debt, findings by Robertson et. al (2003) and literature about job choice (e.g. Field, 2009; Luo & Mongey, 2019; Minicozzi, 2005; Rothstein & Rouse, 2011) point in this direction.

When we examine effects of risk aversion and debt accumulation, we should also take into account gender differences. A rich palette of studies concludes that women are more risk-averse than men in making financial choices (e.g. Borghans, Heckman, Golsteyn, Meijers, 2009; Croson & Gneezy, 2009; Dwyer, Gilkeson & List, 2002; Sapienza, Zingales & Maestripieri, 2009; Watson & McNaughton, 2007). Davies & Lea (1995) show that male students are more likely to be in debt than female students. Fox (1992) shows that undergraduate debt inhibits only woman from enrolling in graduate school in the United States, but not men. Sena, Scott & Roper (2012) find that women also show different preferences when starting a business. Building on a sample of individuals drawn from the English Household Survey of Entrepreneurship, they find that women are less likely to seek external finance and that this is negatively impacting their willingness to enter self-employment. Clearly, we should take gender differences into consideration in this study.

To sum up, as starting a business is in general a risky venture and risk-takers are more likely to start a business (Krishnan & Wang, 2019), this section might suggest

that risk-averse students are both underrepresented in accumulating student debt and having entrepreneurial plans. This would mean we could expect to find a positive relationship between student debt and entrepreneurship[3]. On the other hand, if risk aversion is amplified by accumulating student debt and other mechanisms as explained in the previous section are present in the Netherlands, we should expect to find a negative relationship. Also, this section showed that we should control for gender differences.

The Importance of Entrepreneurship

Before formulating a hypothesis, it is of significance to explain the importance of entrepreneurship. According to theory, entrepreneurship is a key driver of economic growth. This dates to the famous and influential theory of 'creative destruction', developed by Joseph Schumpeter. Schumpeter describes economic development as an historical process essentially driven by innovation. He places the entrepreneur in the middle of his theory, arguing that innovation always comes from the entrepreneur that sees a potential profit in a new technology or idea (Schumpeter, 1950). Another influential model is the neoclassical growth model, developed by Robert Solow in 1956. Here, technological progress is one the exogenous factors that causes growth (Solow, 1956). According to both models, entrepreneurship is crucial because it ensures that new ideas enter the market, thereby stimulating economic growth. A

[3] One could argue that this relationship would be even stronger if student loans enable certain groups to access higher education that would not been able without the possibility of a loan and if the academic environment encourages those groups to create new ideas, develop useful tools for entrepreneurship and connect with the right people. However, this argument has not yet been subject to an empirical assessment.

striking example is Henry Ford's idea of the assembly line, which greatly increased productivity and initiated the Second Industrial Revolution.

Audretsch (2007) concludes that entrepreneurship is "the missing link between investments in new knowledge and economic growth" (p. 63). Audretsch & Fritsch (2003) conclude that entrepreneurship and startups were a main source of growth in Germany during the 1980's and 1990's, providing empirical evidence for the importance of entrepreneurship in Europe (p. 72). Entrepreneurship could also indirectly impact growth through the creation of employment. Kan (2010) concludes that "job growth is driven, essentially entirely, by startup firms that develop organically" (p. 6). Carlino & Drautzburg (2017) find that startups attract labour migrants, leading to higher local employment levels. Moreover, they find that lower barriers to entry encourage more startups to enter the market (p. 35).

Institutional context

Since most of the literature about student debt and entrepreneurship focuses on the United States, it is useful to see how the institutional context of the Netherlands is different from that of the United States and how that affects the mechanisms described in the previous chapter.

First, there are important differences in student loan conditions between the United States and the Netherlands. This is mainly because student loans in the Netherlands are a public facility, while in the United States loans are more often privately held (Stokes & Wright, 2010). As a result, loan standards for student debts are more favourable in the Netherlands. In addition, students whose parents do not earn enough to contribute financially to their child's study are entitled to a monthly supplementary grant. When the Dutch loan system was introduced in 2015 and the basic grant was abolished, loan standards were also considerably relaxed, and the supplementary grant was expanded. Dutch students can borrow at low interest rates (0% since 2016) and can make use of favourable repayment terms. For example, there is a preliminary phase of two years after graduation during which they do not have to make any repayments, they have 35 years to pay off their student loan, they can use up to 60 'payment free' months without giving any reason, and they never have to pay more than 4 per cent of their income above the ability threshold[4]. Furthermore, if graduates have made the required payments but not fully cleared their loan at the end of the repayment phase after 35 years, their remaining debt is written off (Dienst Uitvoering Onderwijs, 2020). This all reduces the risk of failure when starting a business, possibly dampening the effect of the 'cost of business failure argument', as explained by Krishnan & Wang (2019).

[4] If someone is single with no children, that threshold is 100 per cent of the national minimum wage. In all other cases it is 143 per cent (Dienst Uitvoering Onderwijs, 2020).

Second, student debt is handled relatively smoothly when taking out a business loan in the Netherlands. Although student debts are not BKR-registered, ex-students are obliged to report them when entering a new loan[5]. Nonetheless, credit lenders use a low weighting factor for student debts (reducing the possible monthly loan amount with 0,45% of the original student debt under the new loan system and 0,75% under the old system), which means that ex-students can still incur a certain amount of new debt (Van Engelshoven, 2018). As a result, accessing credit markets is relatively easier in the Netherlands compared to the United States for graduates with a student debt. However, credit constraints for those with a student debt still exist (Stichting BKR, 2020).

But how important is accessing credit when starting a business in the Netherlands? Research by Blauw (2010) commissioned by the Municipality of The Hague shows that that for all types of entrepreneurs having a financial buffer is one of the minimum conditions for success. However, it depends on the type of business to what extent entrepreneurs need start-up capital. Many starters have low start-up costs and do not need (a lot of) financing. Furthermore, many Dutch starters prefer to borrow money from their family rather than from a bank, as "having a loan with family feels less like a burden" (p. 29).

[5] When a loan is BKR registered, credit lenders have access to information about the size of that loan and the payment history for that loan (Stichting BKR, 2020).

European Context

In general, European countries have more publicly accessible higher education systems than the United States. However, research by Eurydice (2018) shows that the Dutch higher education system is characterized by relatively high study costs and low student grants compared to other European countries (p. 50)[6]. Publicly subsidized student loans exist in about two thirds of all European higher education systems. However, the proportion of 50 percent of students in the Netherlands that uses a student loan is relatively high compared to many other European countries, where only a small percentage of students uses a student loan (p. 24-25). The study shows that the Netherlands belongs to a group of 8 countries with relatively high study costs (between 1,001 - 3,000 euros annually) for the first study cycle (bachelor), possibly explaining the high proportion of students that uses a loan to finance their study (p. 10)[7]. Furthermore, 32 countries including the Netherlands have 'need based grants', available for students with low socio-economic backgrounds[8]. Again, compared to other European countries, a relatively large share (32 percent) of students use this facility (p. 25)[9].

[6] 38 European countries participate in the study.
[7] In 18 countries, studying usually costs 100 euros or less annually, or even nothing at all, and in 12 countries the study costs are between 101 and 1000 euros. (European Commission/EACEA/Eurydice, 2018).
[8] Commonly evaluated based on parental income, but students' income may also be considered (European Commission/EACEA/Eurydice, 2018).
[9] Only Ireland (43%) and France (33%) have a higher share of beneficiaries (European Commission/EACEA/Eurydice, 2018).

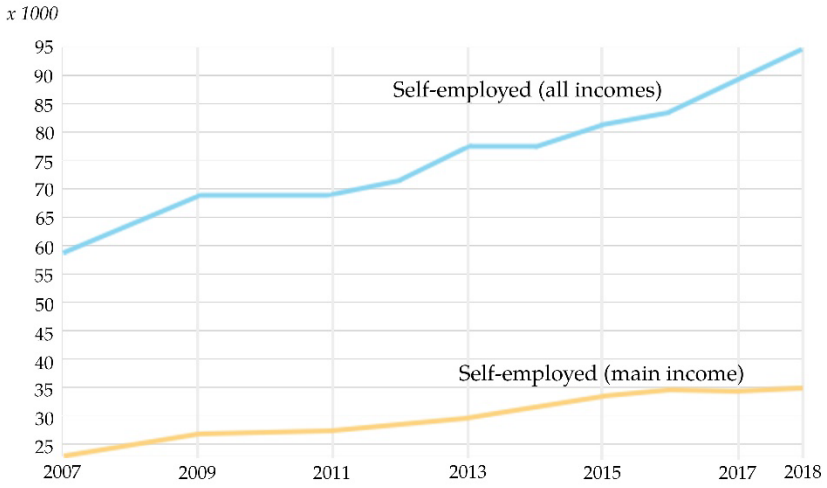
Entrepreneurship in the Netherlands

Seen from an institutional perspective, stimulating entrepreneurship is an important goal of the Dutch government. One of objectives of the Rutte III cabinet is that the Dutch ecosystem for start-ups and scale-ups becomes the strongest in Europe and achieves a top-5 position on the worldwide Genome startup rankings (Keijzer, 2018). According to the State Secretary for Economic Affairs and Climate, "startups play an especially important role in bringing innovations to the market. Therefore, these companies are important for economic growth and employment" (p. 2).

According to data of the Dutch Central Bureau of Statistics, the number of self-employed persons aged under 25 in the Netherlands has been steadily growing between 2007 and 2018, reaching 95,000 persons in 2018 (Centraal Bureau voor de Statistiek, 2020). In 2019 the Dutch Social Economic Council concluded that "more and more young people are seeing opportunities to work as entrepreneurs" (Sociaal-Economische Raad, 2019; p.166). According to the Global Entrepreneurship Monitor, the Netherlands is internationally recognized as one of the best performing countries in terms of government support for entrepreneurship. Therefore, "circumstances to start a business in the Netherlands are relatively good" (Global Entrepreneurship Research Association, 2018; p. 6). In addition, entrepreneurial programs are offered at primary, secondary, vocational and higher education (Jong Ondernemen, 2016)[10].

[10] A survey by StartFlex (2016) conducted among Amsterdam students indicates that differences exist in motivation to start a business between university- and hbo-students. While freedom of choice is the biggest motivation for hbo-students, developing their own product or service is the main reason for university students to start a business. At the same time, hbo-students see personal liability as a barrier, while university students are more concerned about their lack of experience.

Figure 2: Number of self-employed persons aged under 25 in the Netherlands (CBS, 2020)



Source: CBS

Differences in Entrepreneurship

At the same time, an opposite trend can be observed in the United States. Simon & Barr (2015) show that the number of people aged under 30 in the United States that has a stake in or owns a private company reached a 24-year low by dropping from 10.6% in 1989 to 3.6% in 2013; therefore calling young entrepreneurs "an endangered species" (p. 1). The authors explain this decline by pointing at increasing financial hurdles, a relatively low appetite for risk among graduates and increasing fear of failure (Simon & Barr, 2015)[11]. Another study by Giacomin et al. (2011) also shows differences between U.S. and European students in risk preferences and perceived barriers to start-up. They show that risk aversion is more important as a barrier for U.S. students compared to Spanish students (Giacomin et al., 2011). Whether or not this same conclusion holds for Dutch students is yet unknown, however.

[11] According to the authors, "more than 41% of 25-to-34-year-old Americans who saw an opportunity to start a business said fear of failure would keep them from doing so, up from 23.9% in 2001" (Simon & Barr, 2015; p. 1)

Summary

To sum up, there are reasons to expect that student debt could hinder entrepreneurship through several mechanisms. On the other hand, if risk-takers both accumulate more debt and are more likely to start a business, we could expect a positive relationship. Furthermore, this chapter showed that most of the literature focuses on the United States but that the Dutch student loan system is fundamentally different from the United States by providing more favourable repayment terms. Dutch graduates are only required to repay their loan according to their ability to pay and have 35 years for doing so under the new loan system. This 'insurance' provides more security than the U.S. system, possibly dampening the mechanisms that are present in the United States. So, how the mechanisms between student debt and entrepreneurship are expressed in the Netherlands is yet unknown and remains ultimately an empirical question that I try to answer in this study.

Hypothesis

Most of the literature points in the direction that graduates with student debts make less risky choices, have increased costs of failure and face credit constraints. Therefore, I hypothesize that students with higher debts are less likely to become entrepreneurs in the Netherlands compared to students with lower debts or no debts.

Methodology

To measure how student debt is related to entrepreneurship in the Netherlands, I need to compare people at an individual level. Also, I need to control for several background characteristics. Ideally, I would use panel data to compare students over time, but such data is not available. Therefore, I use cross-sectional data as my second-best available alternative.

Data

The most appropriate dataset for this study is the Dutch '*Studentenmonitor*'. The *Studentenmonitor* is an annual online questionnaire commissioned by the Ministry of Education and executed by ResearchNed. All information is self-reported by respondents. I use this dataset because it includes the main variables for my analysis, namely views on and plans for entrepreneurship, as well as information on student debt and loan amounts. Furthermore, the *Studentenmonitor* is an extensive survey that provides information on grants, income, study- and demographic characteristics. Unfortunately, the monitor does not provide information on risk preferences, so I cannot include that in my analyses.

Data is collected annually from a stratified sample of higher education students. Students are surveyed during spring (May or June). The dataset is freely available for academic researchers from the Netherlands after requesting access. Data is available for the years 2001-2018 (except 2010, because the *Studentenmonitor* was not carried out in that year) and around 20,000 respondents participate every year (Van den Broek & Brink, 2015). For my analyses I use data from the years 2015-2018, as student debt is measured since 2015. Because I am studying how entrepreneurship is related to student debt for the Dutch student population, I restrict the sample to include only full-time students and I exclude individuals that were older than 35 years or that already finished their first study more than 10 years before the time of the survey.

An inevitable drawback of this study is that the new Dutch loan system has been implemented in 2015, and since then not many students have graduated yet. Therefore, long-term effects of the new loan system may not yet be visible in the available data. Another drawback is that the dataset is a self-reported questionnaire, so I need to assume that respondents fill in their answers rightfully and truthfully.

A strength of the dataset is its sample size of 20,000 respondents each year, being large enough to infer knowledge about the Dutch student population. Another strength is the dataset's representativity, as it contains a stratified sample of all Dutch higher education students. Deviations from the true proportional population distribution (as registered in the national CROHO-register) can be corrected by means of a weighting procedure[12].

Estimation Strategy

I will use regression analyses to estimate relations between the variables of interest. Entrepreneurship is measured by means of two different response variables, being *Desire to Become Entrepreneur* and *Propensity to Have Plans to Start a Business*. *Desire to Become Entrepreneur* is measured by a question that asks respondents 'what position or place on the labour market they envision after graduation', where they were asked to indicate on a scale from 1-5 how much they desired 13 different professions, 'self-employed' being one of them[13]. The variable is measured for the years 2006-2017.

[12] Weighting takes place on type of higher education (HBO / WO), CROHO component, academic year and gender (Van den Broek & Brink, 2015). The weighting factor is determined by dividing the proportion of a subgroup in the total population by the proportion of the same subgroup in the total response group. For example, if a group of students represents twelve percent of the population and eight percent of the response group, then the weighting factor is: 12/8 = 1.5. This means that the group weights 1,5 times in the results (Van den Broek & Brink, 2015).

[13] To be specific, the value equals 1 if a student if a student answers the question with "This does not apply to me at all" and 5 if a student answers the question with "This totally applies to me".

Propensity to Have Plans to Start a Business is a dummy variable based on the question 'What are you planning to do in the first year after graduation?' that is only asked to students that indicate that they do not want to continue studying. The question contains five possible answers, 'starting my own business' being one of them[14]. The corresponding dummy variable equals 1 if a student answers to have plans to start a business the first year after graduation, and 0 if not. The variable is measured for the years 2013-2018.

It should be noted that both response variables are based on a question that asks what students are desiring or planning to do after graduation, instead of measuring what graduates truly do. As such, both response variables serve as proxies for entrepreneurship. Although it is not a far-reaching or implausible assumption, I must assume that self-reported plans are a good proxy for indicating what people truly do in this context. At the same time, an advantage of this way of measuring is that I can already infer something about entrepreneurship for those who are yet to graduate. This makes it easier to investigate potential effects of the loan system even though certain cohorts have not yet graduated.

The two main explanatory variables are *Current student debt* and *Total expected student debt*, which are both self-reported amounts in euros. *Current student debt* is measured for the years 2015-2018 and *Total expected student debt* is measured for the years 2016-2018. I also include explanatory dummy variables indicating whether someone has a student loan or receives a basic grant or supplementary grant during the year or survey. As a variation to these variables I run separate regressions with someone's monthly amount of student loan, basic grant and combined amount of supplementary grant and parental contributions in euros.

[14] To be specific, the possible answers are (1) Continue working at my current (side)job, (2) Looking for a (different) job, (3) Starting my own business, (4) Something else, namely..., and (5) I don't know yet.

To address possible endogeneity issues that could arise because student debt and entrepreneurship might be related to the socio-economic background of students' parents, I include a measure of parental income in my model (*parental income*), which is a self-reported scale from 1 (far below modal) to 5 (far above modal). Hereby, I am able to control for the possibility that students from wealthier families both accumulate lower debts and start their own business more often due to ample financial resources (which would result in a downward bias) or that students from wealthier families accumulate higher debts as they can rely on the financial 'insurance' that their parents provide and therefore also start their own business more often (which would result in an upward bias).

For the same reason, I also control for other background variables like the field of study, education level and type, age, gender, migration background and living situation. I include a number of dummies on *study sector* for each sector, a dummy that equals 0 if someone follows hbo and 1 if someone follows *university*, a dummy that equals 0 if someone follows a bachelor and 1 if someone follows a *master's*, a dummy that equals 0 if someone is female and 1 if *male*, a dummy that that equals 0 if someone is living with parents and 1 when *living in rooms* and a dummy that equals 0 if someone is native Dutch and 1 if someone is defined as a *migrant*.

Unfortunately, I cannot control for risk aversion. Building upon the literature this could act as an omitted variable in my regression analyses. Although risk aversion does not affect possible credit constraints that graduates face, it could be related to how students evaluate the risks of accumulating debt as well as starting a business. Therefore, risk aversion could be correlated with one or more of the explanatory variables and some of the variation of the response variables could be explained by risk aversion instead of student debts. Since the *Studentenmonitor* does not contain a question about risk aversion, this remains an open question, however.

In order to perform my statistical analyses, I combine and merge surveys for all available years using Stata. I run an Ordered Logistic regression for the model with

Desire to Become Entrepreneur and an Ordinary Least Squares (OLS) regression for the model with *Propensity to Have Plans to Start a Business.* For robustness checks, I also perform regressions with Ordered Probit and Logit estimates.

I should note that this research design does not enable me to conclude anything about causality. However, the design enables me to answer my research question. Furthermore, finding or not finding a relationship between student debt and entrepreneurship could provide a foundation for further research.

Data Analysis & Results

Descriptive Statistics

Appendix 1 reports detailed summary statistics of my sample. Figure 3 and 4 report how the means of my response variables have evolved over time. It is hard to observe a general pattern, but the average desire to become an entrepreneur remained between 2.63 and 2.84, while the average propensity to have plans to start a business has decreased from 4,2% in 2013 to 2,9% in 2016 to increase again to 3,7% in 2018. This trend differs from numbers by CBS (2020) about self-employed persons aged under 25 which reveal a gradual increase since 2007. Figure 4 shows that student debts have been increasing steadily since 2015. This is expected given the introduction of the new loan system. Figure 6 reports the proportion of students who has a student debt, the proportion of students who receives a basic grant or a supplementary grant and the proportion of students who fall under the new loan system. Since the introduction of the new loan system the percentage of students who receives a basic grant declined sharply while the proportion with a student debt increased reversely. Figure 7 shows that this is mainly explained by an increase in the number of regular borrowers instead of incidental borrowers. These numbers are similar to CPB (2020). Finally, Figure 8 shows that the average monthly amounts of student loan and basic grant follow respectively the same pattern as the percentages in Figure 6. Again, this is expected given the introduction of the new loan system.

Figure 3: Average desire to become an entrepreneur

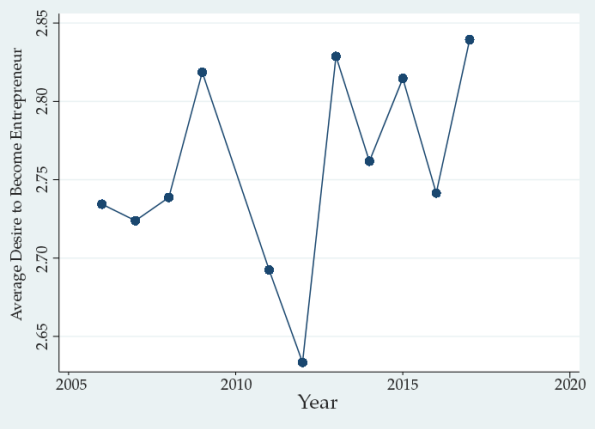


Figure 4: Average propensity to have plans to start a business

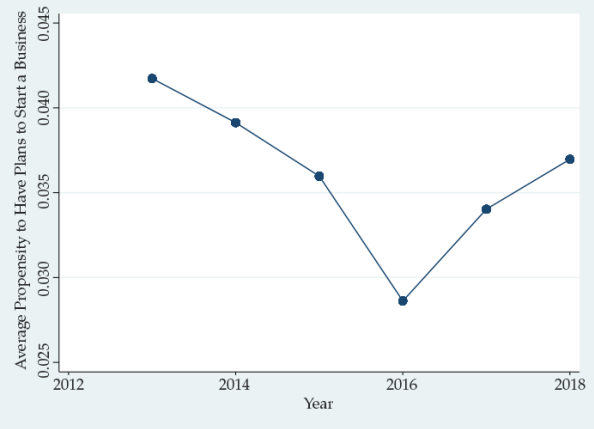


Figure 5: Average current student debt and total expected student debt

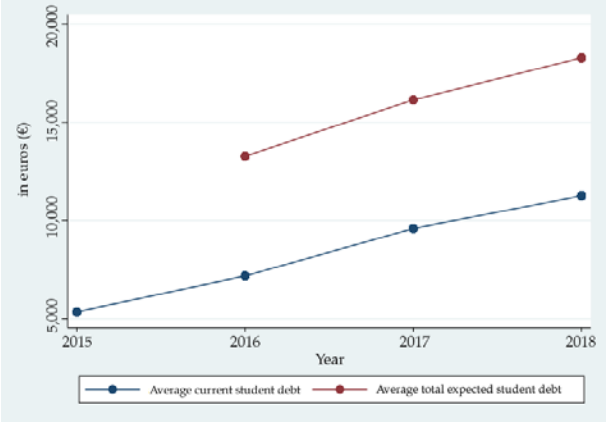


Figure 6: Percentages of students with debt, basic grant & supplementary grant

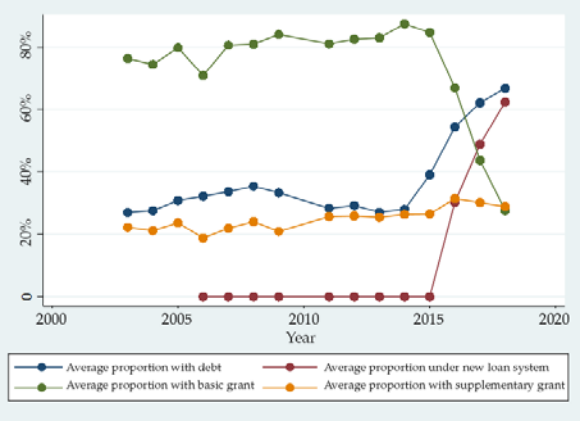


Figure 7: Percentages of students with a student loan

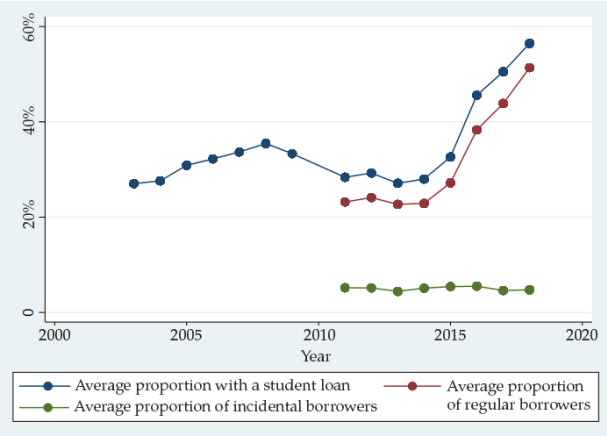


Figure 8: Average monthly- student loan, basic grant & supplementary grant

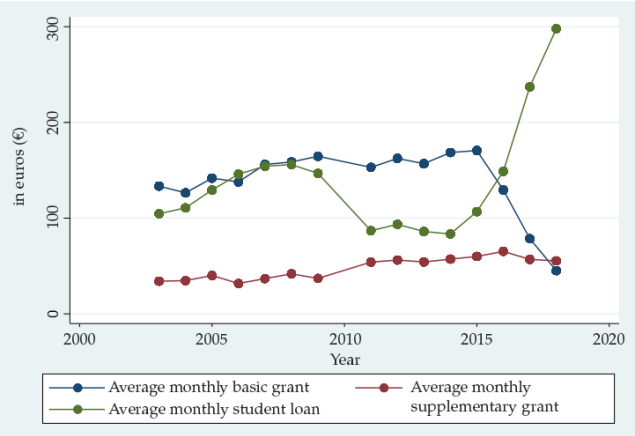


Table 1 reports the weighted shares of students with or without plans to start a business and with a high or low desire to become an entrepreneur for different student categories. I observe that male students, students that live in rooms and hbo-students are overly represented in the group that plans to start a business or has high desires to become an entrepreneur. I conduct simple t-tests to compare the means of these variables for all categories and all differences are significant at the 1%-level. Also, I observe that the percentage of students with parents that have incomes far below or far above modal are overly represented in the group that has a high desire to become an entrepreneur (to a lesser extent for having plans to start a business) and that modal incomes are underly represented. Conducting a one-way ANOVA-test to compare means between groups shows that these differences are significant at the 1%-level. Figure 9 and 10 display these results graphically.

Table 1 also reports the weighted means of current- and total expected student debt, monthly student loan, monthly supplementary grant and monthly parental contributions in euros for the same categories. I observe that male students, students that live in rooms and university-students have higher current- and expected student debts and borrow more. Again, these differences are significant at the 1%-level when conducting t-tests. I also observe that current student debts and monthly student loans are inversely related with parental income and that students whose parents earn modal incomes expect the lowest total student debts. Furthermore, this group borrows the least and ends up receiving the least financial support from supplementary grants and parental contributions combined. Again, all differences are significant at the 1%-level when conducting a one-way ANOVA-test. Figure 11 and 12 show that these results follow a U-shaped pattern. These facts are consistent with findings by Van Engeland & Van Straaten (2020) who show that students with parents with lower incomes receive more from supplementary grants while students with parents with higher incomes receive more from parental contributions, which means that not all

income groups receive the same net financial support[15]. At last, my outcomes are also consistent with Van Engeland & Van Straaten (2020) in revealing that students that live in rooms and university-students receive higher parental contributions and borrow more.

Table 1: Weighted shares and weighted means

Panel A: Weighted shares (in %)

	Female	Male	*Total*	Living with parents	Living in rooms	*Total*	Hbo	University	*Total*
Complete sample	52.23	47.77	*100*	44.84	55.16	*100*	60.12	39.88	*100*
No plans to start a business	53.53	46.47	*100*	49.28	50.72	*100*	71.05	28.95	*100*
Plans to start a business	32.41	67.59	*100*	42.50	57.50	*100*	86.78	13.22	*100*
Desire to become entrepreneur = 1 (low)	65.81	34.19	*100*	48.65	51.35	*100*	60.83	39.17	*100*
Desire to become entrepreneur = 5 (high)	40.34	59.66	*100*	40.32	59.68	*100*	70.85	29.15	*100*

	Parental income far below modal	Parental income below modal	Parental income modal	Parental income above modal	Parental income far above modal	*Total*
Complete sample	3.76	10.12	35.83	40.49	9.78	*100*
No plans to start a business	3.62	11.85	39.68	36.93	7.91	*100*
Plans to start a business	5.36	15.85	31.86	40.35	6.59	*100*
Desire to become entrepreneur = 1 (low)	3.68	10.25	40.84	37.50	7.73	*100*
Desire to become entrepreneur = 5 (high)	6.40	10.85	29.45	39.35	13.94	*100*

[15] I cannot conclude how causality works in this manner but is conceivable that students with modal-income parents are for that reason the most-risk averse and consequently show the least tendency towards entrepreneurship (potentially supported by the fact that students with modal-income parents are also the least likely from all groups to live in rooms , as shown in Appendix 1).

Panel B: Weighted mean current- & total expected student debt and monthly student loan

	Mean current student debt	Mean total expected student debt	Mean monthly student loan	Mean monthly supplementary grant	Mean monthly parental contributions	Mean monthly suppl. grant + parental contr.
Female	8,000	15,200	128	55	120	175
Male	9,700	17,400	148	54	117	171
Living with parents	4,700	9,800	62	52	65	116
Living in rooms	12,100	21,100	198	56	162	218
Hbo	8,000	14,500	112	64	84	148
University	10,000	18,600	175	41	169	210
Parental income far below modal	13,600	19,900	162	175	52	227
Parental income below modal	8,800	16,300	134	151	46	198
Parental income modal	7,000	13,600	116	62	90	152
Parental income above modal	7,000	14,000	122	29	156	186
Parental income far above modal	7,000	15,000	138	23	240	264

Notes. This table reports weighted shares for different answer categories and weighted means of current student debt, total expected student debt, monthly student loan, monthly supplementary grant and monthly parental contributions in euros for different student categories. All values for current- and total expected student debt are rounded to the nearest hundred. All values for monthly student loan, monthly supplementary grant and monthly parental contributions are rounded to the nearest euro (exact numbers can be found in Appendix 1). The values for *mean monthly supplementary grant + parental contributions* are not always exactly equal to the sum of *mean monthly supplementary grant* and *mean monthly parental contributions* due to rounding. *Plans to start a business* is measured for the years 2013-2018, except 2010. *Desire to become entrepreneur* is measured for the years 2006-2017, except 2010. *Current student debt* is measured for the years 2015-2018. *Total expected student debt* is measured for the years 2016-2018. *Monthly student loan* is measured for the years 2003-2008, except 2010. *Monthly supplementary grant* and *monthly parental contributions* are measured for the years 2003-2018, except 2010. Observations for 2010 are missing because the *Studentenmonitor* was not carried out in that year.

Figure 9: Average desire to become entrepreneur, by parental income

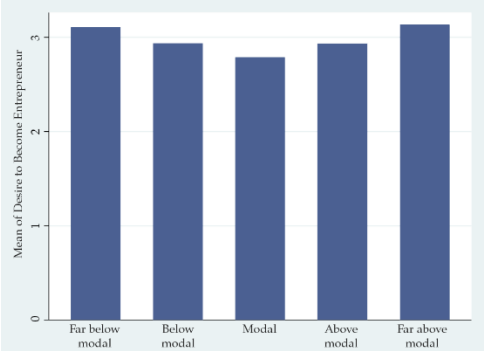


Figure 10: Average propensity to have plans to start a business, by parental income

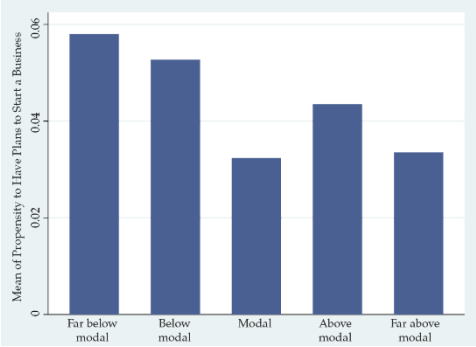


Figure 11: Average monthly supplementary grant & parental contributions, by parental income

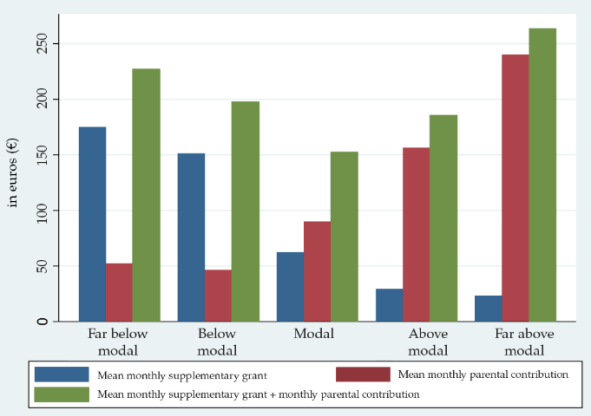
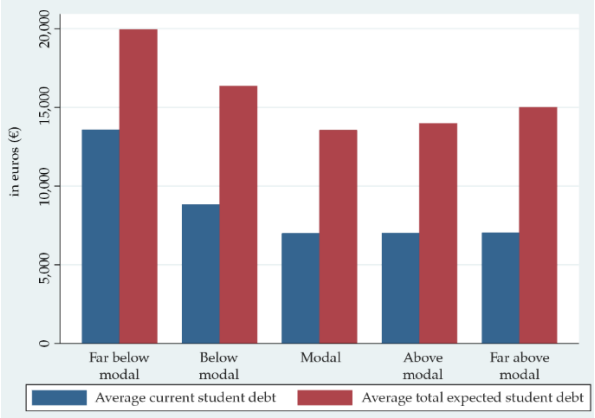


Figure 12: Average current- & total expected student debt, by parental income



Panel F of Appendix 1 reports correlations for my main variables of interest and generally supports my conclusions from this section.

Current Student Debt and Total Expected Student Debt

I start my analysis with estimating the following ordered logistic model where the desire to become an entrepreneur is the response variable:

$$Desire\ to\ become\ entrepreneur_i = \alpha + \beta_1\ Current\ Student\ Debt_i + \gamma\ \chi_i + \varepsilon_i$$

where *Current Student Debt* is measured in thousands of euros and χ_i represents all control variables, including dummies indicating whether someone has a loan or receives a basic- or a supplementary grant and control variables on parental income and demographic- and study characteristics. As a variation to these grant- and loan dummies I run separate regressions with someone's monthly amount of student loan, basic grant and combined amount of supplementary grant and parental contributions in euros.

I perform the same regressions for my second response variable using an OLS-model:

$$Propensity\ to\ have\ plans\ to\ start\ a\ business_i = \alpha + \beta_1\ Current\ Student\ Debt_i + \gamma\ \chi_i + \varepsilon_i$$

Finally, I run separate regressions using *Total Expected Student Debt* instead of *Current Student Debt* as my main explanatory variable. The results of these regressions are reported in Table 2. Columns (1-4) present results for my first response variable and columns (5-8) present results for my second response variable. The sample includes observations on student debts for the years 2015-2018. My results show that the main explanatory variables are generally not significant, and although column (8) reports a negative relationship between total expected student debt and the propensity to have plans to start a business, it is only significant at the 10%-level. A general observation is that coefficients are stronger and more significant for the *Desire to Become Entrepreneur* compared to the *Propensity to Have Plans to Start a Business*.

Table 2 also shows that there is a significant positive relationship between the monthly amount of student loan and the desire te become an entrepreneur (although this is less present for my second response variable). Column (2) reports that with a hundred euro-increase in monthly student loan the log of odds of having a high desire towards entrepreneurship increases by 0.051, ceteris paribus. Furthermore, there is a significant positive relationship between the combined monthly amount of supplementary grant and parental contributions and tendency towards entrepreneurship for both response variables. Column (2) reports that with a hundred euro-increase in monthly income from a supplementary grant or parental contributions the log of odds of having a high desire towards entrepreneurship increases by 0.046, ceteris paribus. Also, parental income is mainly significantly and positively related to entrepreneurship. Finally, male and migrant students and students that live in rooms generally have higher desires and propensities to become an entrepreneur and start a business. The opposite holds for university-students compared to hbo-students and master students compared to bachelor students.

Table 2: Student Debt and Desire to Become Entrepreneur & Propensity to Start a Business

Variables	(1) Desire to Become Entrepreneur	(2) Desire to Become Entrepreneur	(3) Desire to Become Entrepreneur	(4) Desire to Become Entrepreneur	(5) Propensity to Start a Business	(6) Propensity to Start a Business	(7) Propensity to Start a Business	(8) Propensity to Start a Business
Current student debt	-0.001	-0.003			-0.000	-0.000		
	(0.003)	(0.003)			(0.000)	(0.001)		
Total expected student debt			0.002	-0.002			-0.000	-0.001
			(0.002)	(0.003)			(0.000)	(0.000)
Has a student loan	0.122**		0.056		0.006		0.004	
	(0.054)		(0.062)		(0.008)		(0.008)	
Receives basic grant	-0.012		-0.068		-0.007		-0.011	
	(0.048)		(0.055)		(0.007)		(0.007)	
Receives supplementary grant	0.265***		0.307***		0.011		0.004	
	(0.057)		(0.063)		(0.009)		(0.008)	
Monthly income student loan		0.055***		0.047***		0.003		0.003
		(0.012)		(0.013)		(0.002)		(0.002)
Monthly income basic grant		0.042		0.026		0.001		-0.004
		(0.026)		(0.034)		(0.005)		(0.005)
Combined monthly income suppl. grant + parental contributions		0.046***		0.034**		0.001		0.003
		(0.013)		(0.015)		(0.002)		(0.002)
Parental income	0.118***	0.059**	0.085***	0.005	0.002	0.002	0.000	-0.002
	(0.027)	(0.030)	(0.031)	(0.036)	(0.004)	(0.005)	(0.004)	(0.005)
Male	0.481***	0.465***	0.439***	0.392***	0.026***	0.033***	0.025***	0.029***
	(0.048)	(0.056)	(0.058)	(0.073)	(0.008)	(0.009)	(0.008)	(0.011)
Age	0.018*	0.030**	0.006	0.024	0.001	0.002	-0.001	0.003
	(0.011)	(0.012)	(0.012)	(0.016)	(0.002)	(0.002)	(0.002)	(0.002)
Migrant	0.486***	0.524***	0.383***	0.381***	-0.019	-0.020	-0.012	-0.013
	(0.093)	(0.109)	(0.099)	(0.125)	(0.016)	(0.019)	(0.014)	(0.019)
Living in rooms	0.254***	0.106	0.318***	0.167**	0.022***	0.019*	0.026***	0.012
	(0.052)	(0.068)	(0.061)	(0.083)	(0.008)	(0.011)	(0.008)	(0.012)
University	-0.261***	-0.290***	-0.313***	-0.385***	-0.037**	-0.034*	-0.035**	-0.022
	(0.056)	(0.066)	(0.070)	(0.091)	(0.016)	(0.019)	(0.015)	(0.020)
Master's	-0.354***	-0.381***	-0.272***	-0.258**	-0.014	-0.021	-0.012	-0.028
	(0.073)	(0.084)	(0.085)	(0.107)	(0.017)	(0.020)	(0.016)	(0.021)
Sector controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant					-0.010	-0.039	0.032	-0.040
					(0.038)	(0.047)	(0.038)	(0.051)
Observations	6,691	4,877	4,922	2,991	2,832	2,054	2,349	1,437
R-squared					0.035	0.033	0.056	0.051

Notes. This table reports the weighted ordered logit regression results of the desire to become entrepreneur after graduation and the weighted OLS regression results of the propensity to have plans to start a business on current student debt and total expected student debt. Dummies on having a student loan, receiving basic grant and receiving supplementary grant as well as monthly amounts of student loan, basic grant and combined support from supplementary grant and parental contributions are included. *Parental income* is a self-reported scale from 1-5. *Sector controls* include dummies on different education sectors. Current and total expected student debt are stored in thousands of euros. Monthly student loan, basic grant, supplementary grant and parental contributions are stored in hundreds of euros. Regressions on *current student debt* include observations for the years 2015-2018. Regressions on *total expected student debt* include observations for the years 2016-2018.

Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Interactions with Parental Income

Next, I split my main explanatory variables by interacting them with parental income and run the same regressions to explore possible differences between students from different socio-economic backgrounds. Table 3 reports the results of these regressions. It should be noted that Table 3 reports the simple effects estimates of student debt interacted with parental income, meaning that e.g. the first interaction-coefficient displays the simple effect of current student debt when parental income is reported 'far below modal'.

These results indicate that there is only a statistically significant negative relationship between *Current Student Debt* and the *Desire to Become Entrepreneur* for students whose parents earn a combined modal income. This result also holds for *Total Student Debt*, although it is less significant. Column (2) reports that with a thousand euro-increase in student debt the log of odds of having a high desire towards entrepreneurship decreases by 0.017 for the modal income group, ceteris paribus. These coefficients prove significantly different from those of other income groups when running a variation of the model where 'modal income' is the base interaction dummy. For *Propensity to Have Plans to Start a Business*, there is only a significant negative relationship for students whose parents earn a combined income that is far above modal. Coefficients of other control variables that were included in my previous regressions generally do not change direction, magnitude or significance. Furthermore, my results indicate that there is a positive relationship between *Current Student Debt* and *Desire to Become Entrepreneur* for students whose parents earn a combined income that is far below modal, although it is only significant at the 10%-level. This points at U-shaped differences in effects for different income groups, which could explain why the coefficients on student debt in Table 2 are insignificant: these opposite effects for different income groups could cancel each other out.

Table 3: Student Debt and Desire to Become Entrepreneur & Propensity to Start a Business, Interaction by Parental Income

Variables	(1) Desire to Become Entrepreneur	(2) Desire to Become Entrepreneur	(3) Desire to Become Entrepreneur	(4) Desire to Become Entrepreneur	(5) Propensity to Start a Business	(6) Propensity to Start a Business	(7) Propensity to Start a Business	(8) Propensity to Start a Business
Current student debt * far below modal	0.013*	0.014*			0.000	0.000		
	(0.007)	(0.009)			(0.001)	(0.001)		
Current student debt * below modal	0.010*	0.007			0.000	0.000		
	(0.006)	(0.007)			(0.001)	(0.001)		
Current student debt * modal	-0.012***	-0.017***			0.001	0.001		
	(0.004)	(0.005)			(0.001)	(0.001)		
Current student debt * above modal	0.002	0.001			-0.001	-0.001		
	(0.003)	(0.004)			(0.000)	(0.001)		
Current student debt * far above modal	-0.002	-0.004			-0.002*	-0.002*		
	(0.006)	(0.007)			(0.001)	(0.001)		
Tot. exp. student debt * far below modal			0.015**	0.014*			-0.000	-0.001
			(0.006)	(0.007)			(0.001)	(0.001)
Tot. exp. student debt * below modal			0.005	0.002			-0.001	-0.001
			(0.004)	(0.005)			(0.001)	(0.001)
Tot. exp. student debt * modal			-0.002	-0.008**			-0.000	-0.000
			(0.003)	(0.004)			(0.000)	(0.001)
Tot. exp. student debt * above modal			0.003	-0.001			0.000	-0.000
			(0.002)	(0.003)			(0.000)	(0.001)
Tot. exp. student debt * far above modal			-0.002	-0.002			-0.001	-0.001
			(0.004)	(0.004)			(0.001)	(0.001)
Has a student loan	0.132**		0.062		0.007		0.004	
	(0.054)		(0.062)		(0.008)		(0.008)	
Receives basic grant	-0.003		-0.064		-0.007		-0.011	
	(0.048)		(0.055)		(0.008)		(0.007)	
Receives supplementary grant	0.271***		0.313***		0.012		0.005	
	(0.057)		(0.064)		(0.009)		(0.008)	
Monthly income student loan		0.055***		0.049***		0.003		0.003
		(0.012)		(0.013)		(0.002)		(0.002)
Monthly income basic grant		0.045*		0.029		0.001		-0.004
		(0.026)		(0.034)		(0.005)		(0.005)
Combined monthly income suppl. grant + parental contributions		0.044***		0.031**		0.001		0.003
		(0.013)		(0.015)		(0.002)		(0.002)
Parental income	0.135***	0.070*	0.116***	0.029	0.007	0.008	0.000	-0.002
	(0.034)	(0.036)	(0.040)	(0.048)	(0.005)	(0.006)	(0.005)	(0.007)
Demographic controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Study background controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant					-0.025	-0.056	0.032	-0.040
					(0.039)	(0.048)	(0.039)	(0.053)
Observations	6,691	4,877	4,922	2,991	2,832	2,054	2,349	1,437
R-squared					0.037	0.036	0.057	0.053

Notes. This table reports the weighted ordered logit regression results of the desire to become an entrepreneur after graduation and the weighted OLS regression results of the propensity to have plans to start a business on current student debt and total expected student debt, interacted by parental income. *Parental income* is measured on a scale from 1-5 (where 1 means "far below modal" and 5 means "far above modal") and is self-reported.
Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Robustness Checks

Next, I make several modifications to my model to test the robustness of my results and to address concerns about whether these results are driven by specific conditions or unobserved effects in my baseline model. I focus most of my attention on the second model that uses interactions with parental income, since this model has more significant results that I need to check for robustness.

Before doing so, I start with investigating whether there are gender-driven or education-level-driven differences in effects for my main explanatory variables. I do so by making two variations to my model by interacting current- and total expected student debt with a male dummy and a university-level dummy. Results for the model with gender interactions are reported in Appendix 2. Results for the model with education level interactions are reported in Appendix 3. Both variations do not provide significant interaction coefficients, meaning that I cannot observe statistically significant gender- or education level differences in effects.

Next, I test whether my results are robust to using unweighted observations and using different estimation techniques. Appendix 4 reports the results of estimating unweighted regressions and Appendix 5 reports Ordered Probit results for the *Desire to Become Entrepreneur* and Logit results for the *Propensity to Have Plans to Start a Business*. I do not observe great differences in direction, magnitude or significance of variables. However, while the negative relationship between *Current Student Debt* and *Desire to Become Entrepreneur* remains significant for the modal income group, this negative relationship loses its significance for the far-above-modal income group in both variations.

One concern is that my results are driven by unobserved effects in my model. For example, it could be that variations in entrepreneurship or student debts are unnoticedly explained by variations in beliefs about chances in the labour market or that certain students with study delays or below-average examination marks express different tendencies towards entrepreneurship and accumulating student debt.

Another concern is that there are differences between students that fall under the old loan system or the new loan system that was implemented in 2015. Appendix 6 reports the regression results when adding *Monthly income from (side)jobs*, *Beliefs about chances in labour market*, *Average examination mark*, and three dummies (*Under new loan system*, *Has study delay* and *Has worked)* as additional control variables. Interestingly, there are no significant differences in the desire to become an entrepreneur or the propensity to start a business between students that fall under the old or the new loan system. I also observe that students that have a (side)job and students with higher beliefs about their chances in the labour market are more likely to have high desires to become an entrepreneur. However, adding these variables does not change my main finding that there is a negative relationship between *Current Student Debt* and *Desire to Become Entrepreneur* for the modal income group. Again, this negative relationship loses its significance for the far-above-modal income group, further contributing to the notion that this result is not robust.

In order to assess the validity of my measure of parental income, I use four variations to measure socio-economic background. Appendix 7 reports the results when using *Social Class* as my measure, Appendix 8 reports the results when using *Highest Income*, Appendix 9 reports the results when using *Father's Income* and Appendix 10 reports the results when using *Mother's Income* as my measure[16]. Using *Social Class* and *Highest Income* has the additional advantage of including more observations in the regressions. When using *Social Class*, I observe a U-shaped pattern for the interaction coefficients, were lower and higher classes report significant positive coefficients and the middle class (value '6') reports a significant negative

[16] *Social Class* is reported on a scale from 1-10, *Father's Income* and *Mother's Income* are only reported by students that did not fill in *Parental Income* and uses the same 1-5 scale, and *Highest Income* is calculated by using the highest value of father's- and mother's income.

coefficient. I observe a comparable pattern when using *Highest Income*, although the coefficient loses its significance for the modal income group. When using *Father's Income* or *Mother's Income*, I again see a comparable pattern where the outer parts of the income spectrum have significant positive coefficients, but the modal income coefficient is now insignificant.

Another concern is that my results are (partly) driven by yearly differences (e.g. yearly changes in students' view on entrepreneurship or changing economic conditions) instead of differences between students. Therefore, I subtract the mean value of the specific year of survey for all values of *Desire to Become Entrepreneur* and run the same regressions. A concern for the *Propensity to Have Plans to Start a Business* variable is that this question is only asked to students that indicate that they do not want to continue studying. It might be that my results are partly driven by the fact that specific groups of students are currently continuing their studies where they would have considered entrepreneurship if their financial situation had been different. Another possibility is that students with higher debts have more doubts and more often answer the question about whether they want to continue studying with "I don't know", in which case they would not get the follow-up question. As these students would then not be included in my regressions, I would have biased estimations. In order to check this possibility, I fill in the value '0' for every respondent that has not answered the question. Appendix 11 reports the results for both variables. I find no changes in direction, magnitude or significance of the explanatory variables, supporting the belief that these concerns do not harm my results.

Next, I run my main regression for different study sectors in order to see any sectoral differences in effects. Appendix 12 reports these results. Although the negative relationship between *Current Student Debt* and *Desire to Become Entrepreneur* for modal incomes loses its significance in certain sectors, the general observation is that it remains predominantly negative. It should be noted that by running separate

regressions for each sector I drastically sacrifice the amount of observations in each regression.

At last, I include part-time students in my sample to check whether my results are driven by the decision to exclude them in my main model. Appendix 13 reports the results. My main results do not change, except that for the far-below-modal income group, the significance of the positive relationship between *Current Student Debt* and *Desire to Become Entrepreneur* increases to the 5%-level.

To conclude this section, my finding that there is a negative relationship between student debt and the desire for entrepreneurship for modal income groups has proven to be robust to several checks. Because I find evidence for a heterogenous relationship between student debt and entrepreneurship, my hypothesis is partially supported.

Conclusion

At a moment when the new Dutch student loan system has come under pressure and is being revaluated by parties around the political spectrum, I tried to study how student debt and entrepreneurship are related in the Netherlands. Using cross-sectional data from the Dutch *Studentenmonitor* survey for the years 2015-2018, I find a heterogenous relationship between student debt and entrepreneurship for students from different income groups. Student debt is negatively related to the desire to become an entrepreneur for students whose parents earn modal incomes. This means that the higher their student debt, the less likely they are to express high desires for entrepreneurship, ceteris paribus. In multiple robustness checks I find support for this relationship. I also find cautious evidence for U-shaped differences in effects for different income groups, where the outer parts of the income spectrum have more positive coefficients than the modal income group, but this result is not as robust. At the same time, I find a positive relationship between someone's monthly amount of student loan and entrepreneurship and a positive relationship between someone's monthly financial support (in the form of a supplementary grant or parental contributions) and entrepreneurship, ceteris paribus. Furthermore, I find that on average, the modal income group receives the least net financial support when income from either a supplementary grant or parental contributions is combined. At last, I find no evidence for differences between students that fall under the old or the new loan system. Interpretations of these results are given in the next section.

Discussion

My results indicate that only students whose parents earn modal incomes express less desire towards entrepreneurship when their student debts are higher. At the same time, students that borrow higher monthly amounts of student loans express higher desires. This contrary finding could possibly indicate that students that borrow higher amounts are more risk-taking and are less afraid to start a business, but that the higher their eventual debts become the lower their desires become as well. However, this is an interpretation that I cannot prove, as my research design does not allow for causal explanations and my model does not include a measure on risk aversion. Furthermore, it is possible that the negative relationship between student debt and tendency towards entrepreneurship only exists for modal income groups because receiving a supplementary grant or receiving large parental support is offsetting some of the negative effect of having a student debt. It may be that because modal income students receive the least net financial support from supplementary grants or parental contributions, they are the most risk-averse and the least tolerant towards debt. My findings that modal income students least often plan to start a business, least often live in rooms and also borrow the least, as well as literature that shows that higher risk-preferences generally come with higher debt levels and consequently higher tolerance towards these debts, support this idea (Davies & Lea, 1995; Boddington & Kemp, 1999). Again, this remains a question that this study is unable to answer. Future research should investigate this, as that will not only add to our knowledge about student debts and entrepreneurship but will also be highly relevant to policymakers.

Secondly, heterogeneity exists not only in tendencies towards entrepreneurship but also in accumulating student debt. Most students have relatively low debt levels, but some have borrowed excessive amounts (see Appendix 1). Furthermore, as Baum (2015) says it, "considerable heterogeneity exists in the types of entrepreneurial activities in which people engage, in the ways they finance those activities, in the rate at which new businesses succeed, in the extent to which they grow, and in the number

of people they employ" (p. 15). It is possible that student debt has differential effects not only for different income groups, but also for different types of entrepreneurs. Further research should explore this possibility.

As said, a limitation and a potential threat to the internal validity of this study is that I could not include a measure on risk aversion. A potential omitted variable bias may have ascribed some of the effect of risk aversion to student debt instead. Secondly, instead of having a direct measure on entrepreneurship, I used two proxy variables: the desire for entrepreneurship and the propensity to have plans to start a business. On the other hand, an advantage of this way of measuring is that it enabled me to measure some effect of rising debt levels since 2015 already before large cohorts have graduated under the new loan system. A final limitation of this study is that not every student in the sample has answered questions on student debt. However, this problem is largely solved by means of a weighting factor that the *Studentenmonitor* has included, strengthening the representativity of the sample. Furthermore, there are no reasons to assume that students that did not get a question on student debt expressed different tendencies towards entrepreneurship than those that did. In addition, my results are quite robust to several variations in my main model and the sample size is considered large enough to correct for potential anomalies.

To get a more comprehensive understanding of how student debt and entrepreneurship are related, further research could focus on the following questions: How important are credit constraints for starting entrepreneurs in the Netherlands? How do family characteristics, labour market conditions or entrepreneurial programs impact students' decisions on entrepreneurship? What about the timing of students' borrowing and entrepreneurial choices? Would students that already know before starting their studies that they want to start a business more often refrain from borrowing? Or might those students borrow more instead to increase their liquidity when starting a business? These are all questions that further research could explore.

Given the significant rise in student debt levels since the introduction of the new loan system and its possible impact on entrepreneurial activity of modal income groups, this knowledge will be increasingly relevant for Dutch policymakers. Future research that aims to study the long-term effects of increasing student debt levels in the Netherlands should preferably be experimental or longitudinal, should include a measure on risk aversion and should control for parental income. This study serves as a first step in this process by aiming at the importance of taking heterogeneity between different income groups into account, knowledge that researchers should consider when designing research and policymakers should reflect on when designing policy measures.

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Appendix 1: Extensive Descriptive Statistics

Panel A: Desire to become an entrepreneur after graduation (scale 1-5)

	Mean	Std. dev.	Obs. (N)
2006	2.734	1.392	10,464
2007	2.724	1.410	8,265
2008	2.739	1.389	7,307
2009	2.819	1.373	6,870
2011	2.692	1.378	19,958
2012	2.633	1.369	10,914
2013	2.829	1.322	16,464
2014	2.762	1.299	12,244
2015	2.815	1.296	15,333
2016	2.741	1.304	11,249
2017	2.839	1.318	14,614

Panel B: Propensity to have plans to start a business

	Mean	Std. dev.	Obs. (N)
2013	0.042	0.200	5,583
2014	0.039	0.194	4,114
2015	0.036	0.186	5,225
2016	0.029	0.167	4,996
2017	0.034	0.181	6,523
2018	0.037	0.189	7,167

Panel C: Current student debt

	Mean	Std. dev.	1st quartile	Median	3rd quartile	Obs. (N)
2015	5,347.13	8,501.47	0	0	8,000	6,290
2016	7,179.00	10,888.68	0	2,500	10,000	4,967
2017	9,592.35	12,093.98	0	5,500	14,469	7,039
2018	11,259.11	13,358.93	0	7,000	18,000	7,716

Panel D: Total expected student debt

	Mean	Std. dev.	1st quartile	Median	3rd quartile	Obs. (N)
2016	13,269.41	16,008.26	0	8,000	20,000	5,422
2017	16,138.71	17,745.75	1,400	10,000	25,000	7,950
2018	18,276.36	18,854.70	2,000	12,000	30,000	8,793

Panel E. Other variables

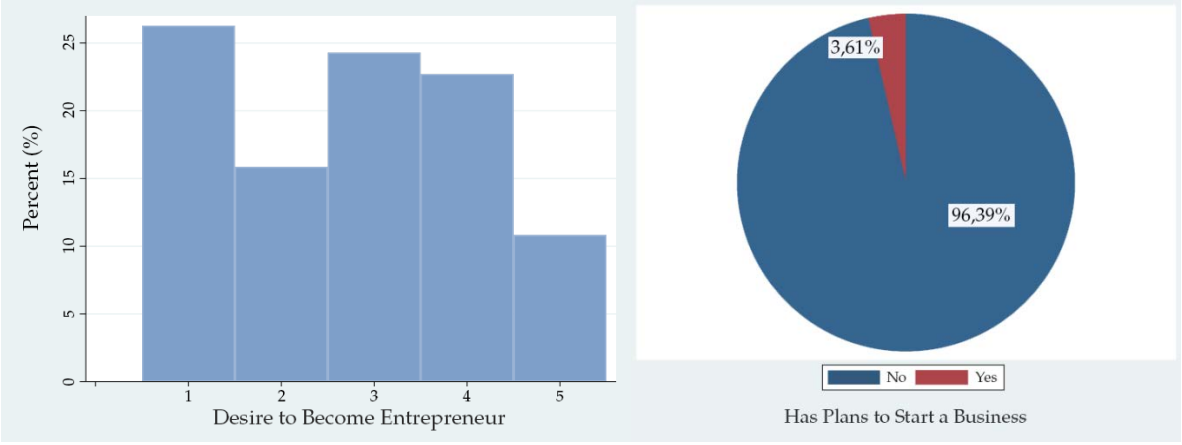
	Mean	Std. dev.	Median	Obs. (N)
Age	21.79	2.62	21.5	196,298
Male	0.40	0.49	0	196,297
University	0.60	0.49	1	196,298
Master's	0.17	0.38	0	196,282
Living in rooms	0.63	0.48	1	196,298

Notes. This table reports summary statistics (unweighted) for the main variables in our sample. Panel A reports the descriptive statistics of the desire to become an entrepreneur after graduation. This value equals 1 if a student if a student answers the question with "This does not apply to me at all" and 5 if a student answers the question with "This totally applies to me". Panel B reports the descriptive statistics of the propensity to have plans to start a business. This value equals 1 if a student indicates to have plans to start a business the first year after graduation, and 0 if not. Panel C and D report the descriptive statistics of respectively current- and total expected student debt in euros. Panel E reports statistics on student characteristics. Observations for 2010 are missing because the *Studentenmonitor* was not carried out in that year.

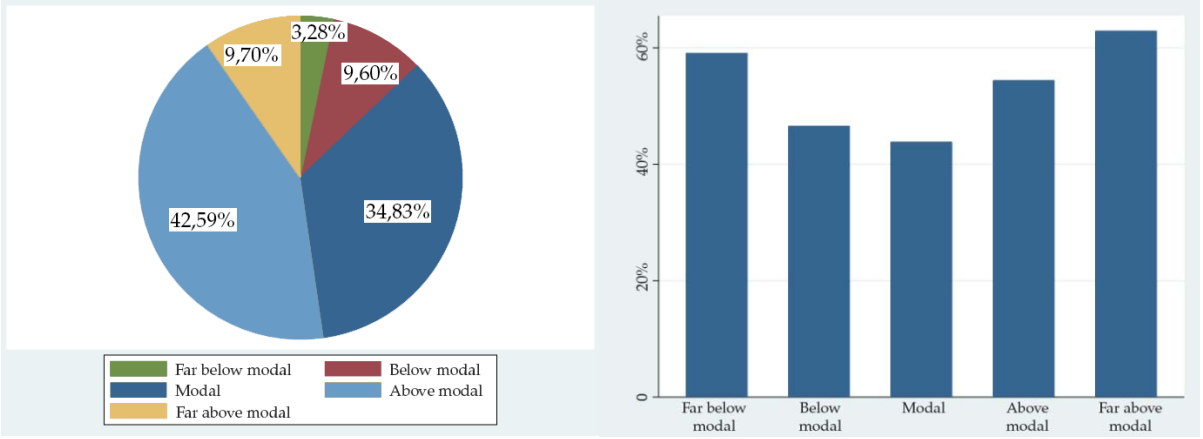
Panel F: Correlation table

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
(1) Propensity to start business	1.00																		
(2) Desire to become entrepreneur	0.27	1.00																	
(3) Current student debt	0.03	0.08	1.00																
(4) Total expected student debt	0.04	0.08	0.83	1.00															
(5) Receives basic grant	0.02	-0.03	-0.03	-0.01	1.00														
(6) Monthly basic grant	0.03	-0.01	-0.03	0.02	0.76	1.00													
(7) Receives supplementary grant	0.03	0.02	0.15	0.14	0.18	0.11	1.00												
(8) Monthly supplementary grant	0.03	0.03	0.09	0.09	0.11	0.09	0.84	1.00											
(9) Has a student loan	0.03	0.06	0.49	0.52	-0.20	-0.03	0.10	0.12	1.00										
(10) Monthly income student loan	0.01	0.07	0.60	0.64	-0.32	-0.18	0.01	0.03	0.78	1.00									
(11) Monthly inc. parental contribution	-0.02	0.02	-0.13	-0.15	-0.13	0.04	-0.23	-0.20	-0.05	-0.05	1.00								
(12) Monthly suppl. grant + par. contr.	0.00	0.04	-0.08	-0.10	-0.07	0.08	0.22	0.33	0.02	-0.03	0.86	1.00							
(11) Total parental income	-0.01	0.02	-0.08	-0.04	-0.01	0.05	-0.41	-0.37	-0.03	-0.01	0.30	0.08	1.00						
(12) Male	0.08	0.16	0.08	0.07	-0.02	-0.06	-0.01	-0.01	0.03	0.04	-0.01	-0.01	0.04	1.00					
(13) Age	0.03	0.07	0.36	0.16	-0.23	-0.11	-0.04	-0.02	0.17	0.19	0.01	0.00	-0.06	0.12	1.00				
(14) Migrant	0.04	0.06	0.10	0.10	-0.03	-0.03	0.12	0.12	0.05	0.05	-0.05	0.02	-0.18	0.01	0.10	1.00			
(15) Living in rooms	0.02	0.04	0.28	0.30	-0.05	0.40	-0.04	0.00	0.26	0.24	0.28	0.27	0.10	-0.04	0.30	-0.01	1.00		
(16) University	-0.07	-0.06	0.06	0.12	-0.11	0.06	-0.14	-0.11	0.09	0.10	0.21	0.14	0.17	0.05	0.11	-0.00	0.30	1.00	
(17) Master's	-0.07	-0.04	0.16	0.01	-0.23	-0.12	-0.09	-0.07	0.09	0.11	0.11	0.07	0.06	0.03	0.34	0.00	0.18	0.35	1.00

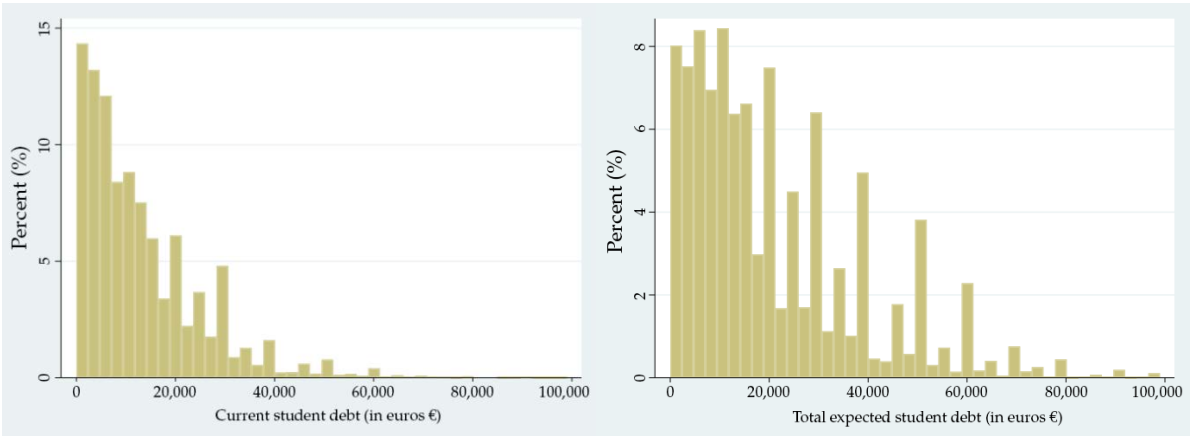
Panel G: *Desire to become entrepreneur* and *propensity to have plans to start a business* distribution



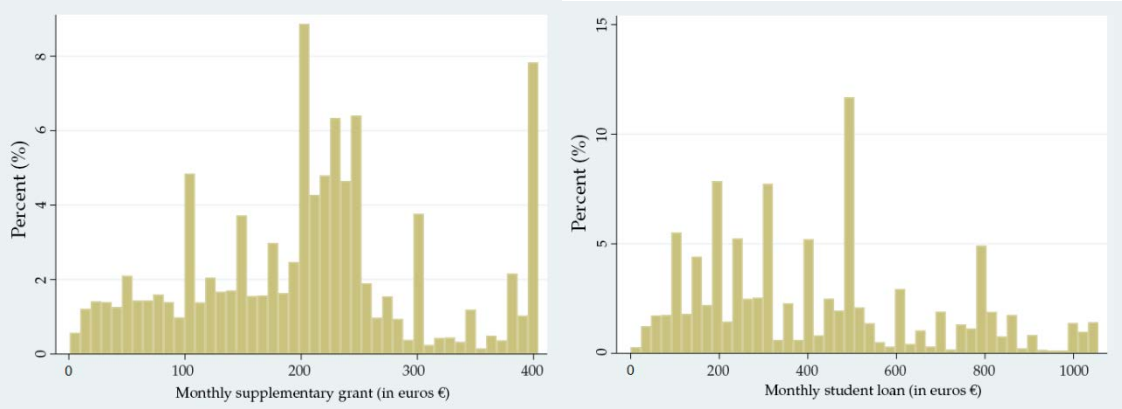
Panel H: *Parental income* distribution & proportion *living in rooms* by *parental income*



Panel I: *Current* – and *total expected student debt* for those who have a student debt



Panel J: *Monthly student loan* and *monthly supplementary grant* for those who receive it



Panel K: Unrounded Weighted Means

	Mean current student debt	Mean total expected student debt	Mean monthly student loan	Mean monthly supplementary grant	Mean monthly parental contributions	Mean monthly suppl. grant + parental contr.
Female	8,025.89	15,166.43	127.93	54.78	119.99	174.75
Male	9,692.91	17,412.56	148.32	53.93	117.21	171.13
Living with parents	4,667.65	9,813.18	61.70	51.73	64.58	116.28
Living in rooms	12,079.58	21,097.69	197.87	56.49	161.97	218.47
Hbo	7,981.78	14,537.12	111.55	63.57	84.28	147.84
University	9,952.24	18,592.72	175.45	40.98	168.78	209.76
Parental income far below modal	13,580.58	19,943.19	161.93	174.82	52.18	226.99
Parental income below modal	8,821.68	16,341.21	133.53	151.17	46.50	197.67
Parental income modal	6,991.71	13,556.86	116.03	62.27	90.09	152.39
Parental income above modal	7,008.94	13,982.64	122.46	29.34	156.36	185.58
Parental income far above modal	7,029.11	15,000.30	138.36	23.40	240.17	263.67

Notes. This table reports weighted means of current student debt, total expected student debt, monthly student loan, monthly supplementary grant and monthly parental contributions in euros for different student categories. *Plans to start a business* is measured for the years 2013-2018, except 2010. *Desire to become entrepreneur* is measured for the years 2006-2017, except 2010. *Current student debt* is measured for the years 2015-2018. *Total expected student debt* is measured for the years 2016-2018. *Monthly student loan* is measured for the years 2003-2008, except 2010. *Monthly supplementary grant* and *monthly parental contributions* are measured for the years 2003-2018, except 2010. Observations for 2010 are missing because the *Studentenmonitor* was not carried out in that year.

List of variables:

Dependent:

beroep13	Desire to become an entrepreneur (1=low; 5=high)	2006-2017
d_eigbed	Dummy: having plans to start a business after graduation (1=yes). Asked to students who indicate that they do not want to continue studying.	2013-2018

Independent:

weegfac	Weighting factor	2001-2018
studieschuldeuro (or studieschuldduizend)	Current student debt (measured in euros or thousands of euros)	2015-2018
totschuldeuro (or totschuldduizend)	Expected total student debt (measured in euros or thousands of euros)	2016-2018
geleend	Has a student loan (1=yes). Based on monthly student loan, *stufisl* and *sl*	2003-2018
stufisl	Use of student loan (1=yes, 2=no, but has the right to, 3=no, and no right)	2016-2018
sl	Way of borrowing (1=regular, 2=incidentally, 3=no loan)	2011-2018
bb	Dummy: has a basic grant (1=yes)	2003-2018
ab	Dummy: has a supplementary grant (1=yes)	2003-2018
inkbb	Monthly amount of basic grant (measured in hundreds of euros)	2003-2018
inkaboud	Combined monthly amount of supplementary grant and parental contributions (measured in hundreds of euros)	2003-2018
inksl	Monthly amount of student loan (measured in hundreds of euros)	2003-2018
wo	Dummy: type of higher education (1=university, 0=hbo)	2001-2018
man	Dummy: gender (1=male)	2001-2018
leeftijd	Age	2001-2018
uitwonend	Dummy: living situation (1=living in rooms, 0=living with parents)	2001-2018
allochtoon	Dummy: migrant (1=yes)	2001-2018
oplsector	Dummies for each study sector	2001-2018
inksamen	Net total parental income (self-reported on a scale 1-10)	2013-2017

In robustness checks:

beroep13demean	Desire to become an entrepreneur (1=low; 5=high), demeaned by the mean of year of survey	2006-2017
d_eigbed_iedereen	Dummy having plans to start a business after graduation (1=yes). 0 filled in for anyone who did not receive the question	2013-2018
leenstelsel	Dummy: falls under the new loan system (1=yes)	2015-2018
gewerkt	Dummy: has worked (1=yes)	2011-2018
kansarbnl	Beliefs about chances on the Dutch labor market after obtaining a diploma from the current study program (scale 0 -100)	2013-2018
inkarbnu	Monthly income from current (side)job (measured in hundreds of euros)	2003-2018
achterstand	Dummy: Has a study delay (1=yes)	2012-2018
tentcijf	Average examination mark (between 1-10)	2004-2018
inkoud	Monthly parental contributions (measured in hundreds of euros)	2003-2018
inkvader	Father's net income (self-reported on a scale 1-10)	2013-2017
inkmoeder	Mother's net income (self-reported on a scale 1-10)	2013-2017
inkhoogst	Net income from highest earning parent (based on *inksamen*, *inkvader* and *inkmoeder*)	2013-2017
socklas	Social class (self-reported on a scale 1-10)	2009-2018
vt_dt	Education form (1=fulltime, 2=parttime, 3=other, e.g. dual, 4=contract student)	2001-2018

Appendix 2: Student Debt and Entrepreneurship, Interaction by Gender

Variables	(1) Desire to Become Entrepreneur	(2) Desire to Become Entrepreneur	(3) Desire to Become Entrepreneur	(4) Desire to Become Entrepreneur	(5) Propensity to Start a Business	(6) Propensity to Start a Business	(7) Propensity to Start a Business	(8) Propensity to Start a Business
Current student debt	-0.002	-0.003			0.000	0.000		
	(0.004)	(0.005)			(0.001)	(0.001)		
Current student debt * male	0.000	-0.003			-0.000	-0.000		
	(0.003)	(0.004)			(0.000)	(0.001)		
Total expected student debt			-0.001	-0.005			-0.000	-0.001
			(0.003)	(0.004)			(0.000)	(0.001)
Total expected student debt * male			0.003	0.001			-0.000	-0.000
			(0.002)	(0.003)			(0.000)	(0.000)
Has a student loan	0.123**		0.059		0.006		0.004	
	(0.054)		(0.062)		(0.008)		(0.008)	
Receives basic grant	-0.012		-0.068		-0.007		-0.011	
	(0.048)		(0.055)		(0.007)		(0.007)	
Receives supplementary grant	0.265***		0.306***		0.011		0.004	
	(0.057)		(0.063)		(0.009)		(0.008)	
Monthly income student loan		0.055***		0.047***		0.003		0.003
		(0.012)		(0.013)		(0.002)		(0.002)
Monthly income basic grant		0.042		0.025		0.001		-0.004
		(0.026)		(0.034)		(0.005)		(0.005)
Combined monthly income suppl. grant + parental contributions		0.046***		0.033**		0.001		0.003
		(0.013)		(0.015)		(0.002)		(0.002)
Parental income	0.118***	0.059**	0.085***	0.004	0.002	0.002	0.001	-0.002
	(0.027)	(0.030)	(0.031)	(0.036)	(0.004)	(0.005)	(0.004)	(0.005)
Male	0.470***	0.460***	0.390***	0.301***	0.031***	0.038***	0.025**	0.027**
	(0.057)	(0.066)	(0.073)	(0.093)	(0.009)	(0.011)	(0.010)	(0.013)
Age	0.018*	0.030**	0.006	0.024	0.001	0.002	-0.001	0.003
	(0.011)	(0.012)	(0.012)	(0.016)	(0.002)	(0.002)	(0.002)	(0.002)
Migrant	0.486***	0.523***	0.382***	0.374***	-0.019	-0.021	-0.012	-0.013
	(0.093)	(0.109)	(0.099)	(0.125)	(0.016)	(0.019)	(0.014)	(0.019)
Living in rooms	0.254***	0.106	0.317***	0.171**	0.022***	0.019*	0.026***	0.012
	(0.052)	(0.068)	(0.061)	(0.083)	(0.008)	(0.011)	(0.008)	(0.012)
University	-0.261***	-0.289***	-0.311***	-0.379***	-0.037**	-0.034*	-0.035**	-0.022
	(0.056)	(0.066)	(0.070)	(0.091)	(0.016)	(0.019)	(0.015)	(0.020)
Master's	-0.353***	-0.381***	-0.274***	-0.263**	-0.015	-0.021	-0.012	-0.028
	(0.073)	(0.084)	(0.085)	(0.107)	(0.017)	(0.020)	(0.016)	(0.021)
Sector controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant					-0.012	-0.042	0.032	-0.040
					(0.038)	(0.047)	(0.038)	(0.051)
Observations	6,691	4,877	4,922	2,991	2,832	2,054	2,349	1,437
R-squared					0.035	0.033	0.056	0.052

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Appendix 3: Student Debt and Entrepreneurship, Interaction by Education Level

Variables	(1) Desire to Become Entrepreneur	(2) Desire to Become Entrepreneur	(3) Desire to Become Entrepreneur	(4) Desire to Become Entrepreneur	(5) Propensity to Start a Business	(6) Propensity to Start a Business	(7) Propensity to Start a Business	(8) Propensity to Start a Business
Current student debt	0.001	-0.000			-0.000	-0.000		
	(0.004)	(0.005)			(0.001)	(0.001)		
Current student debt * university	-0.002	-0.004			0.000	-0.000		
	(0.004)	(0.005)			(0.001)	(0.001)		
Total expected student debt			0.004	0.001			-0.000	-0.000
			(0.003)	(0.003)			(0.000)	(0.000)
Tot. exp. student debt * university			-0.004	-0.004			0.000	-0.000
			(0.003)	(0.004)			(0.000)	(0.001)
Has a student loan	0.121**		0.054		0.007		0.004	
	(0.054)		(0.062)		(0.008)		(0.008)	
Receives basic grant	-0.012		-0.065		-0.007		-0.011	
	(0.048)		(0.055)		(0.007)		(0.007)	
Receives supplementary grant	0.264***		0.302***		0.011		0.004	
	(0.057)		(0.064)		(0.009)		(0.008)	
Monthly income student loan		0.055***		0.048***		0.003		0.003
		(0.012)		(0.013)		(0.002)		(0.002)
Monthly income basic grant		0.042		0.028		0.001		-0.004
		(0.026)		(0.034)		(0.005)		(0.005)
Combined monthly income suppl. grant + parental contributions		0.046***		0.033**		0.001		0.003
		(0.013)		(0.015)		(0.002)		(0.002)
Parental income	0.118***	0.059**	0.084***	0.005	0.002	0.002	0.001	-0.002
	(0.027)	(0.030)	(0.031)	(0.036)	(0.004)	(0.005)	(0.004)	(0.005)
Male	0.481***	0.464***	0.439***	0.389***	0.026***	0.033***	0.025***	0.029***
	(0.048)	(0.056)	(0.058)	(0.073)	(0.008)	(0.009)	(0.008)	(0.011)
Age	0.018	0.029**	0.005	0.023	0.001	0.002	-0.001	0.003
	(0.011)	(0.013)	(0.012)	(0.016)	(0.002)	(0.002)	(0.002)	(0.002)
Migrant	0.484***	0.521***	0.377***	0.375***	-0.019	-0.020	-0.012	-0.013
	(0.093)	(0.109)	(0.099)	(0.125)	(0.016)	(0.019)	(0.014)	(0.019)
Living in rooms	0.252***	0.102	0.313***	0.161*	0.022***	0.019	0.026***	0.012
	(0.052)	(0.068)	(0.061)	(0.083)	(0.008)	(0.011)	(0.008)	(0.012)
University	-0.247***	-0.264***	-0.258***	-0.318***	-0.038**	-0.032	-0.036**	-0.021
	(0.063)	(0.074)	(0.084)	(0.110)	(0.016)	(0.020)	(0.017)	(0.022)
Master's	-0.348***	-0.369***	-0.271***	-0.257**	-0.015	-0.020	-0.012	-0.028
	(0.074)	(0.085)	(0.085)	(0.107)	(0.017)	(0.020)	(0.016)	(0.021)
Sector controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant					-0.011	-0.038	0.032	-0.040
					(0.038)	(0.047)	(0.038)	(0.051)
Observations	6,691	4,877	4,922	2,991	2,832	2,054	2,349	1,437
R-squared					0.035	0.033	0.056	0.051

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Appendix 4: Student Debt and Entrepreneurship, Interaction by Parental Income, Unweighted

VARIABLES	(1) Desire to Become Entrepreneur	(2) Desire to Become Entrepreneur	(3) Desire to Become Entrepreneur	(4) Desire to Become Entrepreneur	(5) Propensity to Start a Business	(6) Propensity to Start a Business	(7) Propensity to Start a Business	(8) Propensity to Start a Business
Current student debt * far below modal	0.013*	0.011			0.000	0.000		
	(0.008)	(0.009)			(0.001)	(0.001)		
Current student debt * below modal	0.003	0.001			-0.000	-0.000		
	(0.006)	(0.007)			(0.001)	(0.001)		
Current student debt * modal	-0.010***	-0.013***			0.000	0.000		
	(0.004)	(0.005)			(0.000)	(0.001)		
Current student debt * above modal	0.000	-0.000			-0.000	-0.000		
	(0.003)	(0.004)			(0.000)	(0.001)		
Current student debt * far above modal	-0.004	-0.005			-0.001	-0.001		
	(0.006)	(0.007)			(0.001)	(0.001)		
Tot. exp. student debt * far below modal			0.011*	0.008			0.000	-0.000
			(0.006)	(0.008)			(0.001)	(0.001)
Tot. exp. student debt * below modal			0.001	-0.003			-0.000	-0.001
			(0.004)	(0.005)			(0.001)	(0.001)
Tot. exp. student debt * modal			-0.002	-0.007**			-0.000	-0.001
			(0.003)	(0.004)			(0.000)	(0.001)
Tot. exp. student debt * above modal			0.003	0.000			-0.000	-0.000
			(0.002)	(0.003)			(0.000)	(0.000)
Tot. exp. student debt * far above modal			0.001	0.001			-0.001	-0.001
			(0.004)	(0.004)			(0.001)	(0.001)
Has a student loan	0.194***		0.109*		-0.000		0.003	
	(0.053)		(0.061)		(0.008)		(0.008)	
Receives basic grant	-0.001		-0.069		-0.008		-0.008	
	(0.047)		(0.054)		(0.007)		(0.007)	
Receives supplementary grant	0.228***		0.262***		0.005		0.000	
	(0.058)		(0.065)		(0.008)		(0.008)	
Monthly income student loan		0.056***		0.046***		0.001		0.002
		(0.012)		(0.014)		(0.002)		(0.002)
Monthly income basic grant		0.031		0.018		-0.002		-0.004
		(0.025)		(0.032)		(0.004)		(0.005)
Combined monthly income suppl. grant + parental contributions		0.050***		0.039**		0.001		0.002
		(0.013)		(0.015)		(0.002)		(0.002)
Parental income	0.104***	0.039	0.070*	-0.019	0.002	0.002	-0.002	-0.005
	(0.033)	(0.036)	(0.040)	(0.049)	(0.005)	(0.006)	(0.005)	(0.007)
Male	0.504***	0.497***	0.424***	0.391***	0.020***	0.024***	0.021***	0.022**
	(0.048)	(0.055)	(0.058)	(0.073)	(0.007)	(0.009)	(0.007)	(0.010)
Age	0.037***	0.046***	0.009	0.017	0.002	0.004**	0.002	0.006**
	(0.011)	(0.013)	(0.013)	(0.017)	(0.002)	(0.002)	(0.002)	(0.002)
Migrant	0.459***	0.464***	0.397***	0.341***	-0.005	-0.001	-0.003	0.000
	(0.096)	(0.112)	(0.104)	(0.130)	(0.016)	(0.018)	(0.015)	(0.019)
Living in rooms	0.174***	0.036	0.269***	0.129	0.013*	0.010	0.017**	0.007
	(0.051)	(0.068)	(0.061)	(0.084)	(0.008)	(0.011)	(0.008)	(0.012)
University	-0.248***	-0.257***	-0.315***	-0.336***	-0.038***	-0.029*	-0.035**	-0.016
	(0.056)	(0.065)	(0.070)	(0.091)	(0.013)	(0.016)	(0.014)	(0.019)
Master's	-0.369***	-0.400***	-0.258***	-0.227**	-0.011	-0.020	-0.010	-0.028
	(0.066)	(0.076)	(0.080)	(0.102)	(0.013)	(0.017)	(0.014)	(0.019)
Sector controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant					-0.025	-0.055	-0.011	-0.074
					(0.037)	(0.045)	(0.040)	(0.053)
Observations	6,703	4,889	4,935	3,004	2,652	1,887	2,182	1,316
R-squared					0.028	0.027	0.035	0.033

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Appendix 5: Student Debt and Entrepreneurship, Interaction by Parental Income, Ordered Probit & Logit Estimations

Variables	(1) Desire to Become Entrepreneur	(2) Desire to Become Entrepreneur	(3) Desire to Become Entrepreneur	(4) Desire to Become Entrepreneur	(5) Propensity to Start a Business	(6) Propensity to Start a Business	(7) Propensity to Start a Business	(8) Propensity to Start a Business
Current student debt * far below modal	0.006	0.007			0.015	0.009		
	(0.004)	(0.005)			(0.036)	(0.035)		
Current student debt * below modal	0.006*	0.005			0.017	0.013		
	(0.003)	(0.004)			(0.023)	(0.024)		
Current student debt * modal	-0.007***	-0.010***			0.014	0.014		
	(0.002)	(0.003)			(0.014)	(0.016)		
Current student debt * above modal	0.001	0.001			-0.029	-0.025		
	(0.002)	(0.003)			(0.020)	(0.021)		
Current student debt * far above modal	-0.001	-0.003			-0.362	-0.339		
	(0.004)	(0.004)			(0.275)	(0.268)		
Tot. exp. student debt * far below modal			0.008**	0.008*			0.009	-0.003
			(0.003)	(0.004)			(0.039)	(0.039)
Tot. exp. student debt * below modal			0.003	0.002			-0.019	-0.026
			(0.002)	(0.003)			(0.020)	(0.023)
Tot. exp. student debt * modal			-0.002	-0.005**			-0.004	-0.013
			(0.002)	(0.002)			(0.013)	(0.017)
Tot. exp. student debt * above modal			0.001	-0.001			0.000	-0.009
			(0.001)	(0.002)			(0.013)	(0.017)
Tot. exp. student debt * far above modal			-0.001	-0.002			0.000	0.000
			(0.002)	(0.003)			(0.000)	(0.000)
Has a student loan	0.073**		0.041		0.201		0.119	
	(0.031)		(0.036)		(0.248)		(0.306)	
Receives basic grant	-0.012		-0.050		-0.220		-0.398	
	(0.029)		(0.033)		(0.225)		(0.269)	
Receives supplementary grant	0.162***		0.190***		0.393		0.205	
	(0.034)		(0.038)		(0.245)		(0.291)	
Monthly income student loan		0.032***		0.029***		0.058		0.083
		(0.007)		(0.008)		(0.047)		(0.062)
Monthly income basic grant		0.026*		0.017		0.001		-0.173
		(0.015)		(0.020)		(0.118)		(0.180)
Combined monthly income suppl. grant + parental contributions		0.025***		0.019**		0.032		0.115*
		(0.008)		(0.009)		(0.054)		(0.068)
Parental income	0.081***	0.048**	0.069***	0.020	0.302*	0.286*	0.043	0.005
	(0.019)	(0.021)	(0.023)	(0.028)	(0.166)	(0.174)	(0.215)	(0.235)
Male	0.283***	0.276***	0.254***	0.227***	0.791***	0.923***	0.805***	0.943**
	(0.028)	(0.033)	(0.034)	(0.043)	(0.239)	(0.273)	(0.305)	(0.393)
Age	0.013**	0.019**	0.006	0.015	0.006	0.043	-0.004	0.115*
	(0.006)	(0.007)	(0.007)	(0.009)	(0.045)	(0.049)	(0.056)	(0.064)
Migrant	0.273***	0.290***	0.208***	0.179**	-0.932	-0.689	-0.779	-0.628
	(0.054)	(0.064)	(0.058)	(0.075)	(0.730)	(0.741)	(0.779)	(0.822)
Living in rooms	0.157***	0.067*	0.192***	0.099**	0.533**	0.430	0.751**	0.318
	(0.031)	(0.040)	(0.036)	(0.049)	(0.249)	(0.298)	(0.305)	(0.369)
University	-0.160***	-0.177***	-0.183***	-0.225***	-1.055**	-0.905*	-0.832	-0.550
	(0.033)	(0.039)	(0.041)	(0.054)	(0.482)	(0.523)	(0.509)	(0.572)
Master's	-0.213***	-0.226***	-0.164***	-0.146**	-0.637	-0.646	-0.923	-1.156*
	(0.043)	(0.050)	(0.050)	(0.063)	(0.526)	(0.571)	(0.575)	(0.654)
Sector controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant					-5.221***	-5.745***	-3.993***	-6.379***
					(1.151)	(1.266)	(1.438)	(1.710)
Observations	6,691	4,877	4,922	2,991	2,502	1,780	1,868	1,115

Note. Columns (1-4) report weighted ordered probit results, columns (5-8) report weighted logit results for our main model interacted with parental income. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Appendix 6: Student Debt and Entrepreneurship, Extra Variables

Variables	(1) Desire to Become Entrepreneur	(2) Desire to Become Entrepreneur	(3) Desire to Become Entrepreneur	(4) Desire to Become Entrepreneur	(5) Propensity to Start a Business	(6) Propensity to Start a Business	(7) Propensity to Start a Business	(8) Propensity to Start a Business
Current student debt * far below modal	0.012*	0.014			-0.000	-0.000		
	(0.007)	(0.009)			(0.001)	(0.001)		
Current student debt * below modal	0.009	0.005			-0.000	-0.000		
	(0.006)	(0.007)			(0.001)	(0.001)		
Current student debt * modal	-0.013***	-0.021***			0.000	0.000		
	(0.004)	(0.005)			(0.000)	(0.001)		
Current student debt * above modal	0.003	0.001			-0.001	-0.001		
	(0.004)	(0.004)			(0.000)	(0.001)		
Current student debt * far above modal	-0.000	-0.005			-0.001	-0.002		
	(0.006)	(0.007)			(0.001)	(0.001)		
Tot. exp. student debt * far below modal			0.017***	0.017**			0.000	0.000
			(0.006)	(0.008)			(0.001)	(0.001)
Tot. exp. student debt * below modal			0.007*	0.003			-0.000	-0.001
			(0.004)	(0.006)			(0.001)	(0.001)
Tot. exp. student debt * modal			-0.001	-0.008**			0.000	-0.000
			(0.003)	(0.004)			(0.000)	(0.001)
Tot. exp. student debt * above modal			0.004	-0.001			0.000	0.000
			(0.002)	(0.003)			(0.000)	(0.000)
Tot. exp. student debt * far above modal			0.001	-0.001			-0.001	-0.001
			(0.004)	(0.005)			(0.001)	(0.001)
Financial								
Under new loan system	-0.067	-0.113	0.113	0.094	0.011	0.000	-0.003	-0.015
	(0.078)	(0.082)	(0.082)	(0.092)	(0.010)	(0.012)	(0.010)	(0.012)
Has a student loan	0.141**		0.060		0.004		0.003	
	(0.057)		(0.065)		(0.008)		(0.008)	
Receives basic grant	0.004		0.005		0.003		-0.010	
	(0.064)		(0.072)		(0.009)		(0.009)	
Receives supplementary grant	0.269***		0.314***		-0.002		-0.002	
	(0.060)		(0.066)		(0.008)		(0.008)	
Monthly income student loan		0.061***		0.056***		0.002		0.002
		(0.012)		(0.014)		(0.002)		(0.002)
Monthly income basic grant		0.044		0.056		0.001		-0.005
		(0.031)		(0.039)		(0.005)		(0.005)
Monthly income supplementary grant		0.097***		0.078**		0.003		0.003
		(0.027)		(0.034)		(0.004)		(0.005)
Parental income	0.092***	0.067*	0.107**	0.058	-0.000	0.004	-0.002	-0.001
	(0.035)	(0.041)	(0.042)	(0.054)	(0.005)	(0.006)	(0.005)	(0.007)
Monthly parental contributions	0.025*	0.034**	0.016	0.021	-0.000	0.000	0.001	0.003
	(0.013)	(0.015)	(0.014)	(0.017)	(0.002)	(0.002)	(0.002)	(0.002)
Monthly income from (side)jobs	0.010**	0.007	0.010**	0.004	0.000	0.000	-0.001	-0.001
	(0.005)	(0.006)	(0.005)	(0.006)	(0.001)	(0.001)	(0.001)	(0.001)

Demographics								
Male	0.466***	0.430***	0.424***	0.340***	0.020***	0.025***	0.020***	0.024**
	(0.050)	(0.059)	(0.059)	(0.076)	(0.007)	(0.009)	(0.007)	(0.010)
Age	0.012	0.022	0.008	0.033*	0.002	0.002	0.001	0.003
	(0.013)	(0.015)	(0.015)	(0.019)	(0.002)	(0.002)	(0.002)	(0.002)
Migrant	0.439***	0.465***	0.341***	0.301**	-0.018	-0.018	-0.010	-0.009
	(0.097)	(0.114)	(0.103)	(0.131)	(0.015)	(0.018)	(0.014)	(0.018)
Study background:								
Living in rooms	0.203***	0.079	0.286***	0.128	0.018**	0.019*	0.018**	0.011
	(0.055)	(0.071)	(0.064)	(0.086)	(0.008)	(0.011)	(0.008)	(0.012)
University	-0.206***	-0.211***	-0.268***	-0.347***	-0.018	-0.015	-0.018	-0.010
	(0.059)	(0.069)	(0.073)	(0.095)	(0.015)	(0.018)	(0.015)	(0.019)
Master's	-0.339***	-0.354***	-0.259***	-0.273**	-0.022	-0.027	-0.014	-0.027
	(0.076)	(0.088)	(0.089)	(0.114)	(0.016)	(0.020)	(0.016)	(0.021)
Average examination mark	-0.124***	-0.128***	-0.120***	-0.061	0.007	0.009	0.003	0.012*
	(0.037)	(0.043)	(0.042)	(0.054)	(0.005)	(0.006)	(0.005)	(0.007)
Has study delay	0.035	0.041	-0.014	-0.007	0.009	0.005	-0.008	-0.012
	(0.055)	(0.064)	(0.063)	(0.081)	(0.008)	(0.010)	(0.008)	(0.011)
Study sector:								
Nature	-0.502***	-0.619***	-0.453***	-0.616***	-0.001	-0.016	-0.005	-0.016
	(0.085)	(0.105)	(0.087)	(0.113)	(0.012)	(0.016)	(0.011)	(0.015)
Technical	-0.819***	-0.814***	-1.048***	-1.190***	0.001	-0.014	-0.009	-0.020
	(0.085)	(0.102)	(0.098)	(0.127)	(0.012)	(0.015)	(0.013)	(0.018)
Health	-0.787***	-0.939***	-0.283*	-0.404**	-0.005	-0.024	-0.003	-0.011
	(0.109)	(0.124)	(0.147)	(0.185)	(0.016)	(0.020)	(0.018)	(0.024)
Economics	-0.071	-0.055	-0.792***	-0.751***	0.013	0.001	-0.002	-0.009
	(0.084)	(0.097)	(0.134)	(0.173)	(0.012)	(0.015)	(0.019)	(0.027)
Law	-1.117***	-0.995***	-1.689***	-1.694***	-0.026	-0.036*	-0.031**	-0.043**
	(0.123)	(0.145)	(0.142)	(0.181)	(0.016)	(0.021)	(0.015)	(0.021)
Social	-0.483***	-0.562***	-0.231*	-0.202	0.025*	0.012	-0.010	-0.023
	(0.101)	(0.116)	(0.140)	(0.175)	(0.015)	(0.018)	(0.021)	(0.028)
Language & cultural	-0.105	-0.218	0.010	-0.086	0.042*	0.037	-0.011	-0.015
	(0.138)	(0.156)	(0.192)	(0.243)	(0.023)	(0.027)	(0.026)	(0.035)
Education	-0.386***	-0.612***	0.144	0.040	0.019	0.004	0.046***	0.052**
	(0.116)	(0.137)	(0.132)	(0.169)	(0.016)	(0.020)	(0.017)	(0.023)
Supra-sectoral	-0.373***	-0.372***	-0.272***	-0.322***	-0.004	-0.013	-0.009	-0.010
	(0.080)	(0.102)	(0.078)	(0.100)	(0.011)	(0.014)	(0.009)	(0.013)
Labour market:								
Has worked	0.146**	0.167**	0.182***	0.233***	0.000	-0.006	0.002	0.010
	(0.060)	(0.071)	(0.068)	(0.089)	(0.008)	(0.011)	(0.008)	(0.012)
Beliefs about chances in labour market	0.066***	0.076***	0.074**	0.085**	-0.001	-0.005	0.003	0.000
	(0.025)	(0.029)	(0.029)	(0.036)	(0.004)	(0.004)	(0.004)	(0.005)
Constant					-0.073	-0.076	-0.021	-0.110
					(0.058)	(0.072)	(0.058)	(0.080)
Observations	6,372	4,621	4,722	2,862	2,695	1,940	2,238	1,359
R-squared					0.020	0.025	0.022	0.032

Notes. This table reports the weighted ordered logit regression results of the desire to become an entrepreneur after graduation and the weighted OLS regression results of the propensity to have plans to start a business on different categories of variables. Extra variables that are not included in previous regressions are the following: *Under new loan system* is a dummy that equals 1 if someone falls under the new loan system that was introduced in 2015. *Average examination mark* is measured on a scale from 1-10. *Has study delay* is a dummy that equals 1 if someone has a delay. The variables under *Study sector* are dummy variables on different sectors, where agriculture is the base dummy. *Has worked* is a dummy variable that equals 1 if someone has worked (structural or incidental) in the past year. *Beliefs about chances in labour market* is measured on a scale from 0-100 percent.

Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Appendix 7: Student Debt and Entrepreneurship, Interaction by Social Class

Variables	(1) Desire to Become Entrepreneur	(2) Desire to Become Entrepreneur	(3) Desire to Become Entrepreneur	(4) Desire to Become Entrepreneur	(5) Propensity to Start a Business	(6) Propensity to Start a Business	(7) Propensity to Start a Business	(8) Propensity to Start a Business
Current student debt * Social Class (1)	0.028***	0.024**			0.002**	0.002***		
	(0.008)	(0.010)			(0.001)	(0.001)		
Current student debt * Social Class (2)	0.021***	0.017***			0.001*	0.001*		
	(0.005)	(0.006)			(0.001)	(0.001)		
Current student debt * Social Class (3)	0.011***	0.013***			0.000	0.000		
	(0.003)	(0.003)			(0.000)	(0.000)		
Current student debt * Social Class (4)	0.004	0.004			-0.000	-0.000		
	(0.003)	(0.003)			(0.000)	(0.000)		
Current student debt * Social Class (5)	-0.002	0.000			0.000	0.000		
	(0.003)	(0.003)			(0.000)	(0.000)		
Current student debt * Social Class (6)	-0.008***	0.001			-0.000	-0.000		
	(0.003)	(0.004)			(0.000)	(0.000)		
Current student debt * Social Class (7)	0.000	0.007*			0.001	0.001**		
	(0.003)	(0.004)			(0.000)	(0.000)		
Current student debt * Social Class (8)	0.007**	0.005			-0.000	-0.000		
	(0.003)	(0.004)			(0.000)	(0.001)		
Current student debt * Social Class (9)	0.007	0.014*			0.000	-0.001		
	(0.006)	(0.007)			(0.001)	(0.001)		
Current student debt * Social Class (10)	0.005	0.001			-0.001	-0.001		
	(0.007)	(0.008)			(0.001)	(0.001)		
Total student debt * Social Class (1)			0.020***	0.014**			0.001**	0.002***
			(0.005)	(0.006)			(0.001)	(0.001)
Total student debt * Social Class (2)			0.011***	0.008**			0.001*	0.001**
			(0.004)	(0.004)			(0.000)	(0.000)
Total student debt * Social Class (3)			0.007***	0.006***			0.000	0.000*
			(0.002)	(0.002)			(0.000)	(0.000)
Total student debt * Social Class (4)			0.002	0.001			-0.000	0.000
			(0.002)	(0.002)			(0.000)	(0.000)
Total student debt * Social Class (5)			0.000	0.000			-0.000	0.000
			(0.002)	(0.002)			(0.000)	(0.000)
Total student debt * Social Class (6)			-0.003	0.006*			0.000	0.000
			(0.002)	(0.003)			(0.000)	(0.000)
Total student debt * Social Class (7)			0.002	0.004			-0.000	0.000
			(0.002)	(0.003)			(0.000)	(0.000)
Total student debt * Social Class (8)			0.008***	0.007**			0.000	0.000
			(0.002)	(0.004)			(0.000)	(0.000)
Total student debt * Social Class (9)			0.001	0.007			-0.000	-0.001
			(0.004)	(0.006)			(0.001)	(0.001)
Total student debt * Social Class (10)			0.001	-0.004			-0.001	-0.001
			(0.006)	(0.007)			(0.001)	(0.001)
Has a student loan	0.137***		0.101***		0.004		0.003	
	(0.033)		(0.038)		(0.005)		(0.005)	
Receives basic grant	-0.021		-0.020		0.002		-0.001	
	(0.030)		(0.034)		(0.004)		(0.004)	

Receives supplementary grant	0.051		0.088**		0.005		0.002	
	(0.032)		(0.036)		(0.004)		(0.004)	
Monthly income student loan		0.024***		0.024***		0.001		-0.000
		(0.007)		(0.008)		(0.001)		(0.001)
Monthly income basic grant		-0.002		-0.002		0.005**		0.002
		(0.016)		(0.020)		(0.002)		(0.002)
Combined monthly income suppl. grant + parental contributions		0.014*		0.008		0.000		0.000
		(0.008)		(0.009)		(0.001)		(0.001)
Social class	0.037***	0.029***	0.006	-0.030*	0.001	-0.000	-0.001	-0.002
	(0.009)	(0.011)	(0.011)	(0.016)	(0.001)	(0.002)	(0.001)	(0.002)
Male	0.422***	0.416***	0.383***	0.354***	0.040***	0.040***	0.035***	0.033***
	(0.029)	(0.034)	(0.035)	(0.044)	(0.004)	(0.005)	(0.004)	(0.005)
Age	0.025***	0.022***	0.023***	0.034***	0.001	0.001	0.002***	0.004***
	(0.007)	(0.008)	(0.007)	(0.010)	(0.001)	(0.001)	(0.001)	(0.001)
Migrant	0.346***	0.352***	0.258***	0.280***	-0.003	0.003	-0.003	0.005
	(0.053)	(0.062)	(0.057)	(0.072)	(0.007)	(0.008)	(0.007)	(0.008)
Living in rooms	0.236***	0.201***	0.249***	0.180***	0.023***	0.018***	0.019***	0.012**
	(0.032)	(0.042)	(0.037)	(0.050)	(0.005)	(0.006)	(0.005)	(0.006)
University	-0.250***	-0.230***	-0.319***	-0.332***	-0.040***	-0.040***	-0.030***	-0.025**
	(0.034)	(0.040)	(0.043)	(0.055)	(0.009)	(0.010)	(0.009)	(0.010)
Master's	-0.360***	-0.399***	-0.287***	-0.330***	-0.011	-0.010	-0.023**	-0.028***
	(0.045)	(0.053)	(0.053)	(0.067)	(0.009)	(0.010)	(0.009)	(0.011)
Sector controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant					0.009	0.008	-0.008	-0.025
					(0.019)	(0.022)	(0.019)	(0.023)
Observations	17,569	12,902	13,272	8,197	11,193	9,145	10,576	8,177
R-squared					0.028	0.029	0.031	0.033

Note. Social class is self-reported on a scale 1-10.

Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Appendix 8: Student Debt and Entrepreneurship, Interaction by Highest Income

Variables	(1) Desire to Become Entrepreneur	(2) Desire to Become Entrepreneur	(3) Desire to Become Entrepreneur	(4) Desire to Become Entrepreneur	(5) Propensity to Start a Business	(6) Propensity to Start a Business	(7) Propensity to Start a Business	(8) Propensity to Start a Business
Current student debt * far below modal	0.027***	0.023***			0.001	0.001		
	(0.005)	(0.006)			(0.001)	(0.001)		
Current student debt * below modal	0.009***	0.013***			-0.000	0.000		
	(0.003)	(0.004)			(0.001)	(0.001)		
Current student debt * modal	-0.003	-0.003			0.000	0.001		
	(0.002)	(0.003)			(0.000)	(0.000)		
Current student debt * above modal	0.004*	0.010***			-0.000	-0.000		
	(0.002)	(0.003)			(0.000)	(0.000)		
Current student debt * far above modal	0.001	0.004			-0.000	-0.000		
	(0.003)	(0.004)			(0.001)	(0.001)		
Tot. exp. student debt * far below modal			0.020***	0.014***			0.000	0.000
			(0.004)	(0.004)			(0.001)	(0.001)
Tot. exp. student debt * below modal			0.005**	0.007**			-0.000	0.000
			(0.002)	(0.003)			(0.000)	(0.000)
Tot. exp. student debt * modal			-0.001	-0.003			-0.000	-0.000
			(0.002)	(0.002)			(0.000)	(0.000)
Tot. exp. student debt * above modal			0.003**	0.006***			-0.000	0.000
			(0.002)	(0.002)			(0.000)	(0.000)
Tot. exp. student debt * far above modal			0.003	0.004			-0.000	-0.000
			(0.002)	(0.003)			(0.000)	(0.001)
Has a student loan	0.139***		0.123***		0.009		0.011*	
	(0.034)		(0.039)		(0.006)		(0.006)	
Receives basic grant	0.007		-0.016		0.003		0.000	
	(0.031)		(0.035)		(0.005)		(0.005)	
Receives supplementary grant	0.122***		0.145***		0.006		0.001	
	(0.036)		(0.040)		(0.006)		(0.006)	
Monthly income student loan		0.025***		0.023***		0.001		0.000
		(0.007)		(0.008)		(0.001)		(0.001)
Monthly income basic grant		0.012		-0.003		0.006*		-0.000
		(0.016)		(0.021)		(0.003)		(0.003)
Combined monthly income suppl. grant + parental contributions		0.009		0.007		-0.001		-0.001
		(0.008)		(0.010)		(0.001)		(0.002)
Highest parental income	0.144***	0.119***	0.109***	0.069**	0.008**	0.010***	0.005	0.005
	(0.021)	(0.023)	(0.024)	(0.030)	(0.004)	(0.004)	(0.004)	(0.005)
Male	0.412***	0.416***	0.372***	0.347***	0.034***	0.036***	0.033***	0.033***
	(0.031)	(0.036)	(0.036)	(0.046)	(0.005)	(0.006)	(0.006)	(0.007)
Age	0.029***	0.026***	0.024***	0.030***	-0.000	-0.000	0.000	0.001
	(0.007)	(0.008)	(0.008)	(0.010)	(0.001)	(0.001)	(0.001)	(0.002)
Migrant	0.364***	0.388***	0.260***	0.256***	-0.007	0.003	-0.011	-0.005
	(0.057)	(0.066)	(0.060)	(0.075)	(0.010)	(0.012)	(0.010)	(0.013)
Living in rooms	0.202***	0.166***	0.214***	0.172***	0.026***	0.022***	0.016***	0.007
	(0.034)	(0.044)	(0.039)	(0.052)	(0.006)	(0.008)	(0.006)	(0.008)
University	-0.263***	-0.244***	-0.337***	-0.358***	-0.047***	-0.050***	-0.035***	-0.032**
	(0.036)	(0.042)	(0.045)	(0.057)	(0.011)	(0.013)	(0.012)	(0.015)
Master's	-0.370***	-0.418***	-0.282***	-0.319***	-0.001	0.005	-0.010	-0.009
	(0.047)	(0.054)	(0.055)	(0.069)	(0.012)	(0.014)	(0.012)	(0.015)
Sector controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant					0.013	0.011	0.012	0.009
					(0.027)	(0.032)	(0.028)	(0.036)
Observations	16,062	11,816	12,164	7,547	6,795	4,942	5,739	3,569
R-squared					0.026	0.028	0.030	0.032

Note. Highest parental income measures the net income from the highest earning parent and is based on father's income, mother's income or combined parental income.

Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Appendix 9: Student Debt and Entrepreneurship, Interaction by Father's Income

Variables	(1) Desire to Become Entrepreneur	(2) Desire to Become Entrepreneur	(3) Desire to Become Entrepreneur	(4) Desire to Become Entrepreneur	(5) Propensity to Start a Business	(6) Propensity to Start a Business	(7) Propensity to Start a Business	(8) Propensity to Start a Business
Current student debt * far below modal	0.021***	0.023***			-0.000	-0.000		
	(0.005)	(0.006)			(0.001)	(0.001)		
Current student debt * below modal	0.014***	0.021***			-0.001	-0.000		
	(0.004)	(0.005)			(0.001)	(0.001)		
Current student debt * modal	-0.000	0.006			-0.000	-0.000		
	(0.003)	(0.004)			(0.001)	(0.001)		
Current student debt * above modal	0.004	0.012***			-0.001	-0.000		
	(0.003)	(0.004)			(0.000)	(0.001)		
Current student debt * far above modal	0.002	0.007			0.001	0.001		
	(0.005)	(0.005)			(0.001)	(0.001)		
Tot. exp. student debt * far below modal			0.010**	0.007			0.001	0.001
			(0.004)	(0.005)			(0.001)	(0.001)
Tot. exp. student debt * below modal			0.006*	0.009**			-0.001*	-0.000
			(0.003)	(0.004)			(0.000)	(0.001)
Tot. exp. student debt * modal			-0.001	0.001			-0.000	-0.000
			(0.002)	(0.003)			(0.000)	(0.001)
Tot. exp. student debt * above modal			0.004**	0.010***			-0.000	0.001
			(0.002)	(0.003)			(0.000)	(0.000)
Tot. exp. student debt * far above modal			0.005*	0.008**			-0.000	0.000
			(0.003)	(0.004)			(0.001)	(0.001)
Has a student loan	0.169***		0.169***		0.012		0.015*	
	(0.046)		(0.053)		(0.008)		(0.009)	
Receives basic grant	0.014		0.027		0.012		0.010	
	(0.042)		(0.047)		(0.008)		(0.008)	
Receives supplementary grant	0.003		0.040		0.004		0.001	
	(0.049)		(0.054)		(0.009)		(0.009)	
Monthly income student loan		0.011		0.013		0.001		-0.002
		(0.010)		(0.011)		(0.002)		(0.002)
Monthly income basic grant		-0.004		-0.003		0.009**		0.003
		(0.022)		(0.027)		(0.004)		(0.005)
Combined monthly income suppl. grant + parental contributions		-0.013		-0.003		-0.004*		-0.006**
		(0.011)		(0.013)		(0.002)		(0.002)
Father's income	0.131***	0.134***	0.096***	0.073*	0.004	0.005	0.006	0.008
	(0.025)	(0.029)	(0.030)	(0.038)	(0.005)	(0.005)	(0.005)	(0.006)
Male	0.363***	0.375***	0.337***	0.325***	0.039***	0.036***	0.033***	0.027***
	(0.042)	(0.049)	(0.049)	(0.061)	(0.008)	(0.009)	(0.008)	(0.010)
Age	0.043***	0.033***	0.044***	0.043***	-0.001	-0.001	0.002	0.002
	(0.009)	(0.011)	(0.010)	(0.013)	(0.002)	(0.002)	(0.002)	(0.002)
Migrant	0.282***	0.251***	0.239***	0.204**	-0.012	0.002	-0.028**	-0.016
	(0.079)	(0.092)	(0.083)	(0.104)	(0.015)	(0.018)	(0.014)	(0.018)
Living in rooms	0.166***	0.210***	0.136***	0.169**	0.027***	0.026**	0.003	-0.001
	(0.046)	(0.060)	(0.053)	(0.070)	(0.009)	(0.011)	(0.009)	(0.012)
University	-0.246***	-0.208***	-0.322***	-0.351***	-0.041**	-0.046**	-0.023	-0.025
	(0.049)	(0.056)	(0.060)	(0.078)	(0.016)	(0.019)	(0.018)	(0.022)
Master's	-0.436***	-0.483***	-0.367***	-0.424***	-0.002	0.011	-0.015	-0.003
	(0.064)	(0.075)	(0.074)	(0.095)	(0.017)	(0.020)	(0.018)	(0.023)
Sector controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant					0.044	0.056	-0.008	0.020
					(0.038)	(0.044)	(0.039)	(0.050)
Observations	8,671	6,411	6,659	4,183	3,631	2,634	3,106	1,944
R-squared					0.028	0.030	0.033	0.043

Note. Father's income is self-reported on a scale 1-10.
Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Appendix 10: Student Debt and Entrepreneurship, Interaction by Mother's Income

Variables	(1) Desire to Become Entrepreneur	(2) Desire to Become Entrepreneur	(3) Desire to Become Entrepreneur	(4) Desire to Become Entrepreneur	(5) Propensity to Start a Business	(6) Propensity to Start a Business	(7) Propensity to Start a Business	(8) Propensity to Start a Business
Current student debt * far below modal	0.010**	0.014***			-0.001	-0.000		
	(0.004)	(0.005)			(0.001)	(0.001)		
Current student debt * below modal	0.002	0.007*			-0.000	-0.000		
	(0.003)	(0.004)			(0.000)	(0.001)		
Current student debt * modal	0.002	0.009**			0.000	0.001		
	(0.003)	(0.004)			(0.001)	(0.001)		
Current student debt * above modal	0.007*	0.023***			0.000	0.001		
	(0.004)	(0.005)			(0.001)	(0.001)		
Current student debt * far above modal	0.003	0.009			-0.001	-0.002		
	(0.009)	(0.010)			(0.002)	(0.002)		
Tot. exp. student debt * far below modal			0.004	0.005			-0.000	0.000
			(0.003)	(0.004)			(0.000)	(0.001)
Tot. exp. student debt * below modal			0.003	0.007**			-0.000	0.000
			(0.002)	(0.003)			(0.000)	(0.001)
Tot. exp. student debt * modal			0.004*	0.008***			0.000	0.001*
			(0.002)	(0.003)			(0.000)	(0.001)
Tot. exp. student debt * above modal			0.006**	0.015***			-0.000	-0.000
			(0.003)	(0.004)			(0.001)	(0.001)
Tot. exp. student debt * far above modal			0.011**	0.012**			-0.001	-0.001
			(0.005)	(0.006)			(0.001)	(0.001)
Has a student loan	0.155***		0.158***		0.016*		0.018**	
	(0.047)		(0.054)		(0.008)		(0.009)	
Receives basic grant	0.013		0.013		0.011		0.010	
	(0.043)		(0.048)		(0.008)		(0.008)	
Receives supplementary grant	-0.034		-0.006		-0.011		-0.008	
	(0.048)		(0.053)		(0.009)		(0.009)	
Monthly income student loan		0.008		0.009		0.001		-0.001
		(0.010)		(0.011)		(0.002)		(0.002)
Monthly income basic grant		-0.007		-0.014		0.009**		0.004
		(0.022)		(0.028)		(0.004)		(0.005)
Combined monthly income suppl. grant + parental contributions		-0.004 (0.012)		0.005 (0.013)		-0.002 (0.002)		-0.004 (0.002)
Mother's income	0.055**	0.053*	0.010	0.008	-0.008*	-0.005	-0.002	-0.003
	(0.025)	(0.029)	(0.030)	(0.038)	(0.005)	(0.006)	(0.005)	(0.006)
Male	0.383***	0.421***	0.317***	0.321***	0.044***	0.041***	0.041***	0.035***
	(0.043)	(0.050)	(0.049)	(0.062)	(0.008)	(0.009)	(0.009)	(0.011)
Age	0.039***	0.023**	0.032***	0.017	-0.001	-0.003	0.000	-0.001
	(0.009)	(0.011)	(0.010)	(0.013)	(0.002)	(0.002)	(0.002)	(0.002)
Migrant	0.302***	0.277***	0.193**	0.157	0.010	0.028	-0.006	0.008
	(0.077)	(0.088)	(0.080)	(0.099)	(0.015)	(0.018)	(0.014)	(0.018)
Living in rooms	0.165***	0.193***	0.141***	0.166**	0.023**	0.019*	0.004	-0.001
	(0.048)	(0.061)	(0.054)	(0.072)	(0.009)	(0.011)	(0.009)	(0.012)
University	-0.253***	-0.216***	-0.341***	-0.339***	-0.048***	-0.053***	-0.030	-0.032
	(0.050)	(0.058)	(0.062)	(0.078)	(0.017)	(0.020)	(0.018)	(0.023)
Master's	-0.409***	-0.457***	-0.276***	-0.321***	0.006	0.022	-0.012	0.004
	(0.066)	(0.076)	(0.076)	(0.097)	(0.018)	(0.021)	(0.019)	(0.023)
Sector controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant					0.098***	0.119***	0.055	0.113**
					(0.036)	(0.043)	(0.038)	(0.048)
Observations	8,244	6,100	6,389	4,026	3,447	2,510	2,973	1,882
R-squared					0.030	0.032	0.031	0.037

Note. Mothers's income is self-reported on a scale 1-10.
Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Appendix 11: Student Debt and Entrepreneurship, Interaction by Parental Income, Demeaned and Complete Sample

Variables	(1) Desire to Become Entrepreneur (demeaned)	(2) Desire to Become Entrepreneur (demeaned)	(3) Desire to Become Entrepreneur (demeaned)	(4) Desire to Become Entrepreneur (demeaned)	(5) Propensity to Start a Business (everyone)	(6) Propensity to Start a Business (everyone)	(7) Propensity to Start a Business (everyone)	(8) Propensity to Start a Business (everyone)
Current student debt * far below modal	0.007	0.008			0.000	0.000		
	(0.005)	(0.006)			(0.000)	(0.001)		
Current student debt * below modal	0.007*	0.006			0.000	0.000		
	(0.004)	(0.005)			(0.000)	(0.001)		
Current student debt * modal	-0.008***	-0.012***			0.000	0.001*		
	(0.003)	(0.003)			(0.000)	(0.000)		
Current student debt * above modal	0.001	0.001			-0.000	-0.000		
	(0.002)	(0.003)			(0.000)	(0.000)		
Current student debt * far above modal	-0.001	-0.003			-0.001**	-0.001**		
	(0.004)	(0.005)			(0.000)	(0.001)		
Tot. exp. student debt * far below modal			0.009**	0.008*			-0.000	-0.000
			(0.004)	(0.005)			(0.000)	(0.001)
Tot. exp. student debt * below modal			0.004	0.003			-0.000	-0.000
			(0.003)	(0.003)			(0.000)	(0.000)
Tot. exp. student debt * modal			-0.002	-0.006**			-0.000	-0.000
			(0.002)	(0.002)			(0.000)	(0.000)
Tot. exp. student debt * above modal			0.001	-0.001			-0.000	-0.000
			(0.002)	(0.002)			(0.000)	(0.000)
Tot. exp. student debt * far above modal			-0.002	-0.002			-0.000	-0.000
			(0.003)	(0.003)			(0.000)	(0.000)
Has a student loan	0.096**		0.058		0.003		0.002	
	(0.037)		(0.043)		(0.004)		(0.004)	
Receives basic grant	0.005		-0.028		-0.005		-0.007**	
	(0.034)		(0.039)		(0.003)		(0.004)	
Receives supplementary grant	0.194***		0.225***		0.007*		0.003	
	(0.040)		(0.045)		(0.004)		(0.004)	
Monthly income student loan		0.038***		0.034***		0.001		0.001
		(0.008)		(0.009)		(0.001)		(0.001)
Monthly income basic grant		0.036**		0.024		-0.001		-0.004
		(0.018)		(0.024)		(0.002)		(0.002)
Combined monthly income suppl. grant + parental contributions		0.029***		0.022**		0.001		0.002*
		(0.009)		(0.011)		(0.001)		(0.001)
Parental income	0.095***	0.055**	0.084***	0.026	0.004*	0.004*	-0.000	-0.001
	(0.023)	(0.025)	(0.027)	(0.033)	(0.002)	(0.003)	(0.003)	(0.003)
Male	0.337***	0.325***	0.307***	0.270***	0.012***	0.015***	0.013***	0.015***
	(0.034)	(0.039)	(0.040)	(0.051)	(0.003)	(0.004)	(0.004)	(0.005)
Age	0.013*	0.021**	0.004	0.014	0.001	0.002*	-0.000	0.002**
	(0.007)	(0.009)	(0.009)	(0.011)	(0.001)	(0.001)	(0.001)	(0.001)
Migrant	0.318***	0.344***	0.235***	0.217**	-0.011*	-0.011	-0.007	-0.006
	(0.064)	(0.076)	(0.069)	(0.088)	(0.006)	(0.008)	(0.006)	(0.009)
Living in rooms	0.178***	0.066	0.218***	0.107*	0.009**	0.008	0.012***	0.005
	(0.036)	(0.047)	(0.042)	(0.058)	(0.004)	(0.005)	(0.004)	(0.006)
University	-0.179***	-0.194***	-0.202***	-0.248***	-0.029***	-0.030***	-0.029***	-0.027***
	(0.039)	(0.046)	(0.049)	(0.064)	(0.004)	(0.005)	(0.005)	(0.006)
Master's	-0.255***	-0.273***	-0.197***	-0.175**	0.004	0.003	0.004	-0.001
	(0.051)	(0.058)	(0.060)	(0.075)	(0.005)	(0.006)	(0.006)	(0.008)
Sector controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	-0.453**	-0.475**	-0.241	-0.168	-0.020	-0.036*	0.017	-0.029
	(0.181)	(0.205)	(0.207)	(0.261)	(0.018)	(0.022)	(0.020)	(0.026)
Observations	6,424	4,756	4,863	2,992	6,424	4,756	4,863	2,992
R-squared	0.089	0.095	0.110	0.109	0.022	0.022	0.032	0.031

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Appendix 12: Student Debt and Entrepreneurship, Interaction by Parental Income, Per Sector

Variables	(1) Desire to Become Entrepreneur	(2) Desire to Become Entrepreneur	(3) Desire to Become Entrepreneur	(4) Desire to Become Entrepreneur	(5) Desire to Become Entrepreneur	(6) Desire to Become Entrepreneur	(7) Desire to Become Entrepreneur	(8) Desire to Become Entrepreneur	(9) Desire to Become Entrepreneur	(10) Desire to Become Entrepreneur
Current student debt * far below modal	-0.005	0.064	0.065**	0.019	-0.028	0.082	-0.008	0.078	0.042	-0.050
	(0.018)	(0.042)	(0.027)	(0.030)	(0.031)	(0.054)	(0.018)	(0.104)	(0.054)	(0.040)
Current student debt * below modal	-0.017	-0.026	0.021	-0.012	0.073***	0.052	0.010	0.002	0.037	-0.007
	(0.015)	(0.022)	(0.020)	(0.031)	(0.027)	(0.042)	(0.038)	(0.028)	(0.023)	(0.018)
Current student debt * modal	-0.048***	-0.014	-0.005	0.005	-0.001	0.005	-0.043**	-0.094***	-0.006	-0.010
	(0.011)	(0.014)	(0.014)	(0.023)	(0.014)	(0.026)	(0.020)	(0.034)	(0.023)	(0.011)
Current student debt * above modal	0.007	0.009	0.014	0.007	0.011	0.055**	-0.044***	-0.032	0.001	-0.008
	(0.009)	(0.015)	(0.011)	(0.020)	(0.012)	(0.027)	(0.016)	(0.024)	(0.021)	(0.012)
Current student debt * far above modal	-0.013	-0.002	-0.021	0.012	0.013	0.000	-0.005	-0.026	-0.070	0.026
	(0.017)	(0.023)	(0.019)	(0.023)	(0.022)	(0.028)	(0.021)	(0.040)	(0.057)	(0.017)
Monthly income student loan	0.068***	0.062*	0.050	0.031	0.037	-0.075	0.064	0.126**	0.084	0.054*
	(0.026)	(0.033)	(0.034)	(0.052)	(0.035)	(0.062)	(0.042)	(0.059)	(0.054)	(0.032)
Monthly income basic grant	-0.045	0.009	0.169**	-0.102	0.158**	0.106	-0.097	-0.070	-0.146	0.054
	(0.066)	(0.083)	(0.069)	(0.097)	(0.074)	(0.140)	(0.087)	(0.120)	(0.119)	(0.079)
Combined monthly income suppl. grant + parental contributions	0.063**	0.040	0.004	0.121**	0.031	0.116*	0.081*	0.097	0.115**	-0.014
	(0.031)	(0.037)	(0.037)	(0.059)	(0.040)	(0.061)	(0.045)	(0.066)	(0.049)	(0.036)
Parental income	-0.068	0.069	0.120	-0.063	0.346***	0.074	-0.042	-0.098	0.135	-0.050
	(0.096)	(0.123)	(0.100)	(0.143)	(0.095)	(0.181)	(0.114)	(0.196)	(0.154)	(0.102)
Male	0.682***	0.312*	0.607***	0.403**	0.461***	0.324	0.333*	0.026	0.342	0.858***
	(0.141)	(0.172)	(0.154)	(0.203)	(0.144)	(0.267)	(0.190)	(0.280)	(0.240)	(0.197)
Age	0.085***	0.040	-0.010	0.034	0.006	0.024	0.005	-0.097*	0.012	0.040
	(0.032)	(0.042)	(0.032)	(0.042)	(0.034)	(0.071)	(0.044)	(0.058)	(0.058)	(0.037)
Migrant	-0.005	0.955**	0.531	0.724	0.734***	0.048	0.826*	-1.163*	1.316	0.455
	(0.233)	(0.379)	(0.332)	(0.559)	(0.271)	(0.510)	(0.426)	(0.642)	(0.888)	(0.290)
Living in rooms	0.168	-0.092	0.092	0.363	-0.167	0.223	0.237	0.787**	0.551*	0.195
	(0.163)	(0.206)	(0.191)	(0.272)	(0.187)	(0.310)	(0.228)	(0.359)	(0.306)	(0.196)
University	-0.368**	-0.173	-0.269	-0.472*	-0.690***	1.217***	0.085	-1.707***	-0.598**	-0.108
	(0.171)	(0.196)	(0.189)	(0.248)	(0.178)	(0.352)	(0.219)	(0.366)	(0.263)	(0.213)
Master's	-0.634***	-0.345	-0.423*	-0.435	-0.943***	-0.219	-0.507*	0.527	-0.017	-0.247
	(0.236)	(0.252)	(0.225)	(0.289)	(0.238)	(0.452)	(0.260)	(0.382)	(0.335)	(0.266)
Observations	585	619	763	498	573	237	432	253	273	644

Note. Column (1) is Agriculture, (2) is Nature, (3) is Technical, (4) is Health, (5) is Economics, (6) is Law, (7) is Social, (8) is Language & cultural, (9) is Education and (10) is Supra-sectional.
Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Appendix 13: Student Debt and Entrepreneurship, Interaction by Parental Income, Including Part-Time Students

Variables	(1) Desire to Become Entrepreneur	(2) Desire to Become Entrepreneur	(3) Desire to Become Entrepreneur	(4) Desire to Become Entrepreneur	(5) Propensity to Start a Business	(6) Propensity to Start a Business	(7) Propensity to Start a Business	(8) Propensity to Start a Business
Current student debt * far below modal	0.013**	0.019**			-0.000	0.001		
	(0.006)	(0.008)			(0.001)	(0.001)		
Current student debt * below modal	0.012*	0.010			0.000	0.001		
	(0.006)	(0.007)			(0.001)	(0.001)		
Current student debt * modal	-0.007*	-0.009*			0.001	0.001*		
	(0.004)	(0.005)			(0.000)	(0.001)		
Current student debt * above modal	0.004	0.005			-0.000	-0.000		
	(0.003)	(0.004)			(0.000)	(0.001)		
Current student debt * far above modal	0.004	0.002			-0.001*	-0.002*		
	(0.006)	(0.007)			(0.001)	(0.001)		
Tot. exp. student debt * far below modal			0.013**	0.016**			-0.001	-0.000
			(0.005)	(0.007)			(0.001)	(0.001)
Tot. exp. student debt * below modal			0.004	0.003			-0.000	-0.000
			(0.004)	(0.005)			(0.000)	(0.001)
Tot. exp. student debt * modal			-0.004	-0.007**			-0.000	-0.000
			(0.003)	(0.004)			(0.000)	(0.000)
Tot. exp. student debt * above modal			0.004*	0.003			0.000	-0.000
			(0.002)	(0.003)			(0.000)	(0.000)
Tot. exp. student debt * far above modal			0.003	0.003			-0.001	-0.001*
			(0.004)	(0.005)			(0.001)	(0.001)
Has a student loan	0.133**		0.098*		0.007		0.002	
	(0.057)		(0.059)		(0.008)		(0.007)	
Receives basic grant	-0.001		-0.009		-0.001		-0.001	
	(0.052)		(0.054)		(0.007)		(0.007)	
Receives supplementary grant	0.265***		0.265***		0.010		0.002	
	(0.063)		(0.063)		(0.008)		(0.008)	
Monthly income student loan		0.043***		0.040***		0.002		0.001
		(0.012)		(0.012)		(0.002)		(0.002)
Monthly income basic grant		0.024		0.039		0.005		0.002
		(0.028)		(0.029)		(0.004)		(0.004)
Combined monthly income suppl. grant + parental contributions		0.012		0.010		0.000		0.000
		(0.009)		(0.009)		(0.001)		(0.001)
Parental income	0.047	0.012	0.018	-0.028	0.002	0.009*	-0.003	0.003
	(0.034)	(0.038)	(0.037)	(0.043)	(0.005)	(0.005)	(0.005)	(0.006)
Male	0.282***	0.300***	0.321***	0.329***	0.021***	0.033***	0.025***	0.038***
	(0.052)	(0.061)	(0.055)	(0.067)	(0.007)	(0.009)	(0.007)	(0.009)
Age	0.005	-0.002	0.001	-0.010	-0.000	0.000	-0.001	-0.000
	(0.005)	(0.007)	(0.006)	(0.008)	(0.001)	(0.001)	(0.001)	(0.001)
Migrant	0.417***	0.396***	0.367***	0.363***	-0.019	-0.022	-0.016	-0.022
	(0.096)	(0.113)	(0.094)	(0.114)	(0.014)	(0.018)	(0.013)	(0.017)
Living in rooms	0.155***	0.146**	0.221***	0.214***	0.019**	0.011	0.029***	0.019*
	(0.056)	(0.071)	(0.059)	(0.077)	(0.008)	(0.010)	(0.008)	(0.011)
University	-0.409***	-0.535***	-0.450***	-0.602***	-0.020	-0.018	-0.034***	-0.034*
	(0.060)	(0.071)	(0.065)	(0.080)	(0.012)	(0.016)	(0.013)	(0.017)
Master's	-0.164**	-0.146*	-0.135*	-0.028	-0.018	-0.022	-0.011	-0.013
	(0.072)	(0.085)	(0.075)	(0.092)	(0.013)	(0.016)	(0.013)	(0.018)
Sector controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant					0.014	-0.028	0.046**	0.008
					(0.023)	(0.028)	(0.024)	(0.032)
Observations	5,635	4,109	4,999	3,384	3,407	2,394	3,240	2,068
R-squared					0.027	0.031	0.039	0.038

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1