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Economic Policy Analysis

Quantifying the non-take-up of a need-based student grant in the Netherlands

We estimate the non-take-up rate of the need-based student grant in the Netherlands using administrative data on first-year students in higher education. We also investigate which student characteristics correlate with non-take-up.

We find that 24% of all eligible students do not apply for the need-based student grant. Remarkably, one-third of the non-claimants do take on a student loan while leaving the grant on the table.

Quantifying the non-take-up of a need-based student grant in the Netherlands

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Abstract

Students from lower income families are entitled to apply for a student grant. Not all entitled students do so. We estimate the non-take-up rate of the need-based student grant in the Netherlands and investigate which student characteristics correlate with the non-take-up. Using administrative data on students and their parents and data on student grants, we construct an eligibility proxy for first-year students in higher education. Our calculations suggest that around one-third of all students is eligible for a need-based grant, with 12% being eligible for the maximum amount. We find that 24% of all eligible students do not apply for the need-based student grant. The non-take-up among students eligible for the maximum amount is lower but still substantial at 12%. Remarkably about one-third of the non-claimants do take on a student loan while leaving the grant on the table. Our regression results show that the non-take-up of the grant is highest among students who belong to social groups which are overall less likely to be eligible. This indicates that information costs may be an important determinant of non-take-up among students.

Keywords: Student grants; non-take-up rates of social benefits; federal student aid; higher education

JEL classification: I22, I23, I24, I28

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1. Introduction

Need-based student grants provided by the government aim to improve equal access to education. However, non-take-up of governmental support is common and can hamper achieving the policy goals of targeted support programmes. Previous studies have found significant non-take-up of several types of benefits. In a recent review, Ko and Moffitt (2022) find that the non-take-up rates of social benefits generally range from about 20% to 80%. Also concerning student grants, non-uptake is a common phenomenon. Herber and Kalinowski (2019) find a non-take-up rate for a need-based grant in Germany of around 40%. Students in higher education often have limited financial means requiring them to rely on parental contributions, scholarships, or government grants to finance their studies. Students who do not claim these provisions might be more inclined to drop out of their studies and others might not start theirs at all if they are unaware of their eligibility.[1] Hence, non-take-up can hamper the policy goal of creating more equal access to higher education.

In the Netherlands, the need-based student grant (the supplementary grant) is an important component of the student finance system. The grant is aimed at students from lower-income families and amounts to up to €396 per month. The exact amount of this grant mainly depends on parental income and the number of siblings. The grant is performance-related: it is a gift conditional on whether the student graduates within ten years (otherwise the grant is turned into a loan with an income-dependent pay-back scheme). A first indication of non-uptake of the supplementary grant is provided by Kuijpers et al. (2020), who estimate a non-take-up of approximately 20% among a subgroup of students who are entitled to the maximum grant of €396 per month.

In this paper, we estimate the non-uptake of the need-based grant of first-year students in higher education, using administrative data. We use a combination of data from the tax registry, public records from city halls, as well as enrolment and student finance data from the Ministry of Education for the years 2013 to 2020. This allows us to construct an eligibility proxy for enrolled students, and compare it with the received amount of money if they applied for the grant. We further analyse the relationship between student characteristics and the non-take-up rate to estimate which types of students are more likely to not take up the grant when eligible. While our estimated coefficients cannot be interpreted causally, they contribute to the literature by providing a more precise estimate for a big representative sample of students. As Ko and Moffitt (2022) discuss, take-up rates of social benefits are often hard to calculate because of missing data and complex eligibility rules. Since student grants are usually not dependent on the student's own income, but on their parent's income, the requirements on the data are even higher. The administrative data we use does not only allow us to calculate eligibility for all students whose parents are in the tax registry, but to also base our calculations on the same conditions and data as is used by the organization which is responsible for administering student grants (DUO). Finally, the administrative data allow us to compare our proxy with the received amounts for each student.

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[1] Glocker (2011), for example, finds that especially for low-income students (who have the highest dropout risk), increasing the amount of student aid significantly increases their probability to graduate.

Our main findings can be summarised as follows. We find that 24% of eligible students in 2019 do not claim the grant and are missing out on an average of €180 per month.[2] We obtain a negative relationship between non-take-up and the size of the grant. Whereas more than half of the students who are eligible for a relatively small student grant (below €50 per month) do not take up the grant, around 12% of the students who are entitled to at least €350 per month are not requesting it. At the same time, we find that 33% of eligible non-claimants borrow on average €542 per month while leaving an average of €165 on the table from the unclaimed supplementary grant. The grant – which is a performance-related grant and is to be turned into a gift if the student graduates within ten years – is superior to a loan.

Investigating the link between non-take-up of the student grant and student and parental characteristics in a probit model, we find that non-take-up is lower for students who have previously received a diploma in secondary vocational education (MBO level 4), who receive a healthcare allowance, or whose parents receive other social benefits. These results suggest that eligible students who are more likely to be familiar with the student grant system (because of their previous study programme) or with other types of social benefits are more likely to take up the grant. Furthermore, women, students in higher vocational education (as compared to students at universities) and students with a migration background have a lower probability of non-uptake.

What could determine the non-take-up rates? Previous studies indicate that there are four main determinants for the non-take-up of social benefits: pecuniary factors (the size and duration of the benefit), information costs, application costs, and stigma costs.[3] There is no clear consensus on what constitutes the most important factor, and results on the importance of a particular mechanism seem to partially depend on the type of benefit and the research setup. Studies on the up-take of student grants suggest that in particular information costs and application costs could play an important role (see e.g. Fidan & Manger, 2021, or Bettinger et al., 2012). Even though we cannot fully disentangle the impact of potential determinants, our results indicate that a lack of understanding or knowledge about the eligibility and/or the application procedure play a role in explaining the non-take-up rates.

Our findings suggest that about one-third of the non-takers do take up a student loan, which is never more beneficial than the student grant. In addition, the student grant system changed in 2015. Before the change, 99% of the students took up a basic student grant, which used to have the same conditions and application procedure as the need-based grant, but was not means-tested. This indicates that application costs appear to be a minor factor in explaining the non-take-up. The new system is mean-tested and only students from families with relatively low incomes are entitled to receive the grant. Finally, surveys have indicated that a substantial number of students lack knowledge of the need-based grant and also of the student finance system in general (Van den Broek et al., 2020). This suggests that non-take-up is likely to be associated with information costs.

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[2] For our main results, we focus on one start cohort, since the value and rules of student finance products vary slightly over the years. A change in the procedure to allocate the supplementary grant in 2018 makes the proxy more reliable thereafter. We choose to not use 2020 as our main year because of potential shocks during the COVID-19 pandemic.

[3] See e.g. Hernanz et al. (2004) or Currie (2006) for an overview.

The rest of this paper is structured as follows. Section 2 documents the extent and determinants of non-take-up found in previous literature and section 3 details the Dutch student grant system. Section 4 covers the data and methodology, including the eligibility proxy. Section 5 presents the empirical results along with several robustness tests. Section 6 concludes.

2 Literature on non-take-up

There is an extensive and growing literature on the non-take-up of (means-tested) government assistance.[4] However, there is only a limited number of studies on the non-take-up in student finance programmes. A recent report by Kuijpers et al. (2020) indicates a non-take-up rate of the Dutch supplementary student grant of around 20% among maximum eligible students. For the German student federal aid, a combination of a grant and an interest-free loan, Herber and Kalinowski (2019) and Fidan and Manger (2021) find a non-take-up rate of 40% and 67% using a microsimulation model on survey data. Based on student surveys, Bird and Castleman (2016) find that 10% of all US students receiving a need-based grant (Pell Grant) in their first year do not reapply for it in their second year, thereby forfeiting on average $161 per month in federal grants and $135 in loans in 2004-2005.

The literature points to four main factors which may have an impact on the non-take-up rate of government benefits. These are pecuniary factors – such as the level and duration of the benefits – and three types of costs: information, application, and stigma costs (Hernanz et al., 2004; Currie, 2006). These factors of non-take-up are not completely unrelated. The costs – both real and perceived – are important factors affecting the take-up decision, which is derived from an implicit cost-benefit analysis, weighing the expected (dis)utility from receiving the benefit and the effort required to claim it (Tempelman & Houkes-Hommes, 2016). Duclos (1995) estimates that in Britain the total claiming costs can be as high as 17% of the total income support budget. The background characteristics of students and their parents are not only correlated with the level and duration of the benefits, but also with the different types of costs.

First, the level and duration of the benefits generally have a positive effect on the take-up rate. Studies have shown that an increase of 10% of the benefit level leads to an average decrease of the non-take-up rate between 0.5 and 3.2 percentage points (McGarry, 1996, Anderson & Meyer, 1997; Riphahn, 2001; Whelan, 2010; Bargain, Immervoll, & Viitamäki, 2012; Bruckmeier & Wiemers, 2012; Chareyron & Domingues, 2018; Tempelman & Houkes-Hommes, 2016). This inverse relationship between the relative level of the benefits and the non-take-up rate does not seem to hold for individuals in the lowest income group, who are usually also the most vulnerable (Tempelman, Houkes, & Prins, 2011; Tempelman & Houkes-Hommes, 2016; Chareyron & Domingues, 2018).

Second, information costs primarily concern the time and effort required for an individual to obtain knowledge about the existence of or eligibility for a certain benefit programme. Factors of interest include programme complexity, public awareness, the incentive or difficulty to look up information, and documents that need to be obtained to estimate whether and to what extent someone is eligible. Bhargava and Manoli (2015) show

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[4] For a general overview, see, for example, Craig (1991), Van Oorschot (1991), Currie (2006), Hernanz et al. (2004), and Alba (2018).

that the high non-take-up of a means-tested tax credit in the US is primarily explained by low programme awareness or understanding and by informational complexity. Fidan and Manger (2021) conclude that information friction may be a major reason for the non-take-up of German student grants. Also, informing people about a programme, their eligibility, or the application process significantly decreases the probability of non-participation (Daponte, Sanders, & Taylor, 1999). Furthermore, several studies have shown that the non-take-up rate is lower among those who also claim other government allowances (see, for example, Yelowitz, 1996; Chareyron & Domingues, 2018; Tempelman & Houkes-Hommes, 2016). Moreover, it has been shown that the provision of information is influenced by peer effects: participants may share their programme knowledge with eligible non-claimants (Bobba & Gignoux, 2014). Herber and Kalinowaski (2019) find no indications of a lower non-take-up rate among German students whose parents claim other social transfers, but there is a higher participation rate if older siblings have claimed the student grants before. Finally, changing personal circumstances – such as new-borns or a divorce – lead to significantly higher non-take-up rates, which could be explained by a lack of knowledge about the new entitlements (Berkhout, Bosch, & Koot, 2019). The same applies to fluctuating income and therefore fluctuating eligibility.

Third, application or transaction costs include the time and effort required to claim government assistance. Relevant factors are the inconvenience of gathering information or estimating future income, queueing, filing forms, and other (non-)financial administrative barriers. Wildeboer Schut, Bakker, and Hoff (2008) document that non-claimants of government benefits in the Netherlands are more likely to depict the benefit application procedure as 'a hassle' or 'time-consuming' compared to applicants.

Finally, social and psychological costs include factors such as facing a social stigma for receiving need-based benefits, not wanting to be dependent on the government, disliking entitlement uncertainty (due to uncertain future income or changing conditions), or the risk of having to repay it. Welfare stigma is the intrinsic disutility from participating in a benefit programme. In his literature review of welfare participation stigma, Andrade (2002) concludes that stigma costs are likely to be the main determinant of non-take-up. As already noted, participating in other welfare programmes decreases the probability of non-take-up due to lower information and application costs, but this can in part also be explained by lower stigma costs: a 'hurdle' is overcome that makes the take-up of other benefits more desirable. Also, peer effects play a role as eligible persons can share not only information, but also their attitudes about the programme (Bobba & Gignoux, 2014). This can also work out negatively as Blundell, Fry, and Walker (1988) argue: they obtain a negative effect of years of education on the probability of take-up, which could be due to 'peer-group stigma' as receiving welfare transfers is less common within this group.

Student aid may be different to other forms of welfare as it is relatively common to receive some form of monetary support, potentially lowering both stigma and information costs due to peer effects. Also, it depends not on the employment status of the recipient, but on the income of its parents. The latter may lower social stigma, but may on the other hand increase the information costs as it becomes more difficult to estimate one's own eligibility.

3 Student grant system

3.1. Dutch student grants and eligibility conditions

All Dutch students younger than 30 who start a higher education study programme are eligible for student finance.[5] Student finance is aimed to provide students with financial support for the costs of living and the (direct) costs of studying, such as the tuition fee (the annual statutory tuition fee for higher education was €2,083 in 2019-2020). Higher education in the Netherlands consists of higher professional education (HBO) taught in universities of applied science and academic higher education (WO), which is pursued at research universities. While there are differences between these tracks, for example, concerning the entrance prerequisites or the duration of the study, the student finance conditions are the same. Students in secondary vocational education (MBO) are also eligible for student finance, but the conditions differ significantly. We therefore limit our study to students in higher education.

The student finance system for higher education consists of several components. The main component of interest in this study is the need-based supplementary grant. Students who have not exceeded the nominal duration of the study programme and whose parents earn below a certain threshold are eligible to receive a grant of up to €396 (maximum value per month in 2019). The exact level of this grant mainly depends on the parental income and the number of siblings of the student. Students also receive a transit card for free public transport during the week or in the weekend. Most students are eligible to receive the public transit card for a maximum of five years. In addition, students can borrow up to €1,056 per month from the government at a relatively low interest rate and favourable pay-back conditions.

The supplementary grant and the public transport card are performance-related: a gift that is conditional on whether the student graduates within ten years. If a student does not graduate within ten years, these student finance components will be turned into a regular student loan to be paid back in full.[6] Of all first-year students who started their first programme between 2008-2010, 76% finished a study programme in higher education within ten years. This includes all students, also those who dropped out during the first semester of their study and thus do not need to repay the grant, and students who have not requested any study grants that can be turned into a gift. The ministry reports that about 90% of the performance-related grants are turned into a gift.[7]

Most students at Dutch universities (among the entire student population, not only first-year students) do receive some performance-related components of study finance. In 2019, 126,421 students in higher education received the supplementary grant on a total of 687,752 students in higher education. For the public transit card, the number of users in higher education is 492,942.

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[5] Foreign students from the EEA, UK or Switzerland who have been living in the Netherlands for at least five consecutive years, who are currently working at least 56 hours a month, or whose partner or parents meet the latter criterium can also be eligible.

[6] First-year students who drop out before the second semester also have their performance-related grants turned into a gift.

[7] See https://www.tweedekamer.nl/kamerstukken/brieven_regering/detail?id=2022Z05764&did=2022D11774

3.2. Recent policy changes

Before a major student finance reform for higher education in 2015, students in higher education were also eligible to receive a basic grant.[8] Unlike the need-based grant, eligibility for the basic grant did not depend on the income of the parents and/or the number of siblings of the student. Students who started their studies before 2015 were entitled to a basic grant of up to €100 or €279 per month (in 2014), conditional on whether they still lived with their parents or not. In 2013 and 2014, the basic grant had a take-up rate of 99% among all first-year students in higher education. With the introduction of the new student finance scheme in 2015, the supplementary grant was increased and made available to a larger share of students, which partially compensated for the abolishment of the basic grant. Similar to the supplementary grant, the basic grant was a gift conditional on graduating within ten years.

3.3. Application procedure

The application for all student finance components is done digitally in one single process on the webpage of DUO, the organisation responsible for providing the funds. To apply, students simply have to tick a box that they want to receive a certain student finance product and, in the case of the loan, fill in the monthly amount they would like to take up.[9] On this page, students do not see their eligibility for the supplementary grant since DUO can only indicate the eligible amount after a student has applied for the grant. Most students do not have to supply any additional information for their application. DUO checks the municipality records and requests information on the parents' income directly from the tax authorities once someone has applied for the supplementary grant.[10] DUO may request additional documents from the student if some information concerning the student or the student's legal parent(s) is missing.[11] By default, DUO uses the parental income of two years ago, but students can request DUO to look at a more recent income reference year if the parental income has significantly dropped. If a student fills in the application in the middle of a study year and is deemed eligible, then he or she retroactively receives all entitlements up to the beginning of the current academic year. The similar application procedure and the 99% uptake of the basic grant indicate that application costs may be particularly low in the context of Dutch student finance.

Secondary school students in tracks that grant admission to higher education receive a letter from the Ministry of Education detailing student finances including the supplementary grant. DUO advertises the existence of the student finance options in public communication and promotions in which they, for instance, advertise that a quarter of students receive a supplementary grant.

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[8] Students in secondary vocational education (MBO) can still receive a basic grant. Additionally, the government has announced that the basic grant will be reintroduced for tertiary education as of 2023.

[9] There is a maximum of €1,056 per month for all student finance products jointly. If the choices of the student surpass that maximum, the loan is downward adjusted to maximal amount that is left after the other products have been subtracted from the maximum.

[10] Students in the old scheme do however have to be registered at the municipality of residence if they would like to receive the higher benefits for students not living with their parents.

[11] This could for example be the case if a parent lives abroad, if one of them has not yet done their tax return, or if there are certain issues between the student and the parent which have to be proven (e.g., if the parental authority has been taken away or if the alimony has not been paid for a certain period of time).

4. Data and methodology

4.1. Sample

Our sample consists of first-year bachelor students who are studying in higher education in the Netherlands (HBO and WO) for the first time.[12] We use October 1st as the reference date because this is also the reference date used by the public administration for enrolment and other indicators.

We use administrative data from Statistics Netherlands (CBS) linked with data on student finance payments and student debts from the executive agency DUO. The period covered in this research is 2013-2020 (two years in the old student finance scheme and six years in the new one), with most results focusing on 2019. We start in 2013 because earlier data on parental income apply a different income definition and are therefore less reliable. We do not choose 2020 as our main year because of potential shocks during the COVID-19 pandemic. We drop observations for whom we cannot link parental income data, either because the parents are not registered in the Netherlands or because no tax records are available. This leads to the exclusion of students with parents who live abroad and some students with self-employed parents.[13] Table B.1 in Appendix B details the steps taken to reach the final research sample consisting of 104,183 first-year bachelor students in higher education.

### 4.2. Eligibility proxy and non-take-up indicator

To study the take-up decision of eligible students, we construct an eligibility proxy based on the conditions for eligibility set by the Ministry of Education. Only students who are under 30 when they start a full-time study programme are potentially eligible. Furthermore, the amount depends on the parents' taxable income and study debt repayments, an exemption threshold (based on having lost a parent, a parent not being administratively registered, and/or being a single parent household), the number of children in the household between ages 12 and 17 as well as those who are 18 years and older and still in secondary school, and the number of children in the family who have applied for the supplementary grant (and therefore are in tertiary education). Figure 1 below illustrates the relationship between parental income (horizontal axis) and the eligible amount. The three lines in Figure 1 illustrate the difference in eligibility for students with no, one and two siblings in tertiary education.

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[12] We look only at first-year students who start their first study in tertiary education because they have not yet had the opportunity to use up their student finance components in previous years. This means that if they meet the eligibility criteria, that they will be entitled to the supplementary grant for sure.

[13] International students can be eligible for Dutch student finance if they meet certain conditions, such as having an EEA, UK or Swiss nationality, working a monthly minimum number of hours, or having a partner who meets these conditions. These are not considered in this study.

Fig. 1 Eligible amount for the supplementary grant for an average student per number of siblings studying in tertiary education in 2019.
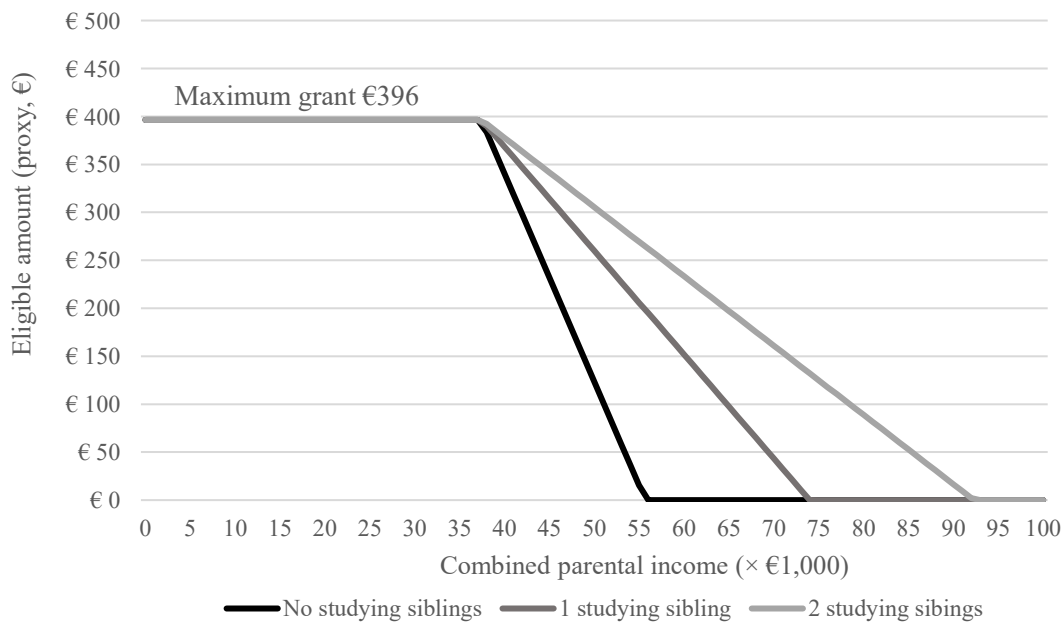
In the case of special circumstances, DUO can adjust the student's eligibility, however, we can only estimate the proxy for the standard situation. This means we have to assume that the student's parents did not have a major decrease in income within the previous two years or stopped contact with the student. Furthermore, we assume that siblings who are eligible for the grant have also requested it.[14] We compare our proxy to the amounts students have in fact received to estimate the non-take-up. Appendix C details the accuracy of the proxy. Our results focus on 2019 because it gives a more accurate estimation of the eligible amount compared to earlier years. For 80% of students, we correctly estimate the monetary amount a student is entitled to (within an error margin of 10%). In most cases when the received amount differs more than 10% from the proxy, the proxy is an underestimation. Therefore, our results are likely to give an underestimation of the actual non-take-up. In 2019, we find 1.470 students (1%) who are false negatives: they receive the grant but are not eligible according to the proxy.[15] For Herber and Kalinowski (2019) and Fidan and Manger (2021), false negatives make up 6% and 9% of students, respectively.

4.3. Descriptive statistics

Table 1 below denotes an overview of the means of the most important covariates used in this study for our complete sample of first-year bachelor students, the subsample of eligible students, and the subsample of students who are eligible for the maximum grant. Table D.1 in the Appendix gives the definitions for the variables being used in this study.

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[14] If a sibling does not request the grant, this can lower the student's eligibility. We consider this as a form of non-up-take.

[15] This could be due to students requesting DUO to look at a more recent income year if the parental income has dropped significantly or requesting to disregard one or both parents if there are certain issues between them. This could result in the student being eligible for a (higher) supplementary grant.

We find that (maximum) eligible students more often have a (maximum) student loan. Furthermore, eligible students are significantly more likely to have a migration background and are also more likely to have previously completed MBO level 4.[16] Students in WO (academic track) are less likely to be eligible compared to students in HBO (vocational track).

Table 1 Descriptive statistics for first-year HBO and WO bachelor students in 2019.

	All students	All eligible students	Max. eligible students
Supplementary grant: eligible amount (proxy, € per month)	85	221	344
Take-up any loan components (borrow ≥1%)	35%	38%	37%
Max. take-up loan components (borrow ≥95%)	6%	10%	13%
Healthcare allowance recipient	80%	80%	83%
Housing allowance recipient	2%	3%	3%
Migration background	13%	33%	50%
Vocational education diploma (MBO4)	19%	30%	33%
Academic study level (WO)	30%	20%	20%
Dual study programme	1%	1%	1%
Field of study:			
Education	9%	10%	9%
Humanities & arts	6%	5%	4%
Social sciences, business & law	33%	30%	31%
Science	10%	10%	11%
Engineering, manufacturing & construction	10%	9%	9%
Agriculture	1%	1%	1%
Health & welfare	20%	23%	23%
Services	5%	4%	3%
Unknown	7%	8%	8%
Observations	104,183	33,806	12,767

5. Results

5.1. Non-take-up rates

i) Quantifying the non-take-up rates

Among all eligible students, we find a significant non-take-up rate of 24% in 2019. Figure 2 shows the mean non-take-up rates for different eligible amounts. We observe a clear negative relationship between non-take-up and the size of the grant a student is entitled to. While more than half of the students who are eligible for a relatively small partial grant (below €50 per month) do not take up the grant, around 12% of the students who could receive the full grant are not requesting it.

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[16] Students can either enter tertiary education after having completed the higher tracks in secondary education (HAVO or VWO), or they can enter tertiary education after having completed MBO level 4.

Fig. 2 The non-take-up of the supplementary grant per eligible amount in 2019.

Supplementary grant the student is eligible for (€ per month)
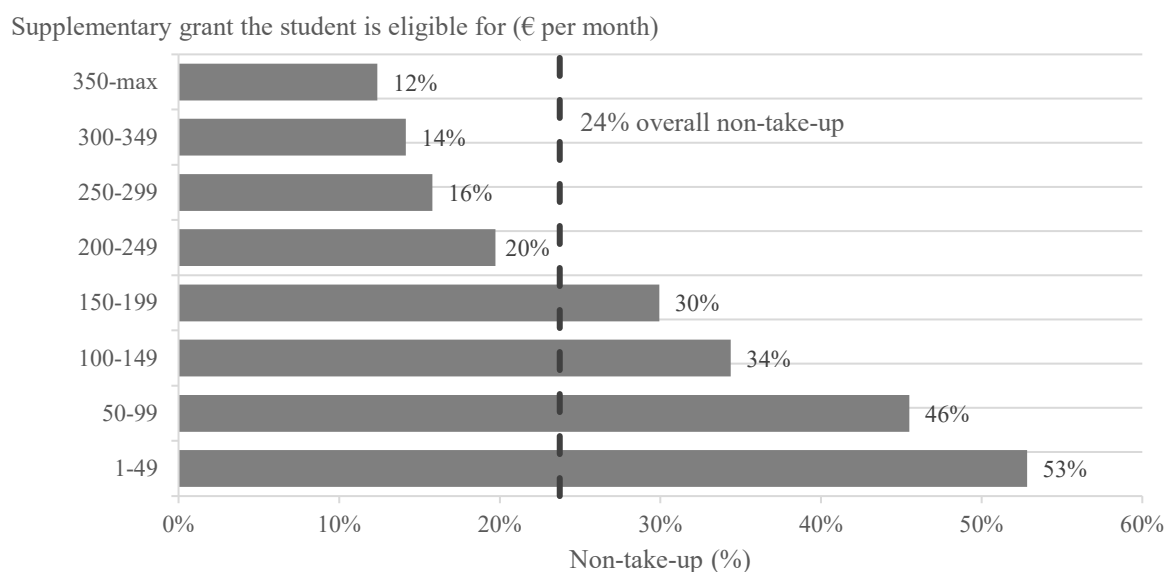
The overall non-take-up rate of 24% and the lower non-take-up of around 12% are comparable to the non-take-up of the grant in earlier years. Figure E.1 in the Appendix shows that the non-take-up rate fluctuates somewhat over time, but it seems that the introduction of the new student finance scheme did not have a significant effect. For all eligible students, the non-take-up initially increases by 5 percentage points from 25% in 2013 to 30% in 2016 whereafter if drops back to around 24%. For maximum eligible students, there seems to be a gradual drop in the non-take-up from 15% in 2013 to around 11% or 12% from 2018 onwards.

Interestingly we find very different take-up rates for the basic grant that was available in the old system, even though both grants are performance-related and need to be paid back if a student does not graduate within ten years. In 2013-2014, the participation in the supplementary grant is significantly lower than the uptake of the basic grant with 75% versus 99% among all eligible and 85% versus 99% among the maximum eligible students. Also, the take-up rate of the supplementary grant is lower than the uptake of 80% of the healthcare allowance among all eligible students, shown in Table 1.[17] A possible explanation for the relatively lower take-up rates for the supplementary grant could be a lack of information. For example, fewer students are entitled, the eligibility conditions are more complex, or students may have incorrectly perceived the basic grant as an unconditional gift.

ii) Eligibility versus received amount of grant money, and loan uptake

Table 2 displays the mean non-take-up rates of the supplementary grant and the take-up rates for the student loans by the student's eligibility and claiming status. On average the eligible non-claimants in our sample of first-year HBO and WO students miss out on €180 per month, which equals working for minimum wage for 4.8 (for 18-year-olds) to 2.4 days per month (for those older than 21).[18] If we do not look at the number of students, but instead at the total

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[17] The healthcare allowance uptake is found irrespective of eligibility, but virtually all students eligible for a supplementary grant should also be entitled to the healthcare allowance since the conditions for the allowance are less strict.

[18] Figure E.2 in the Appendix shows a heat map detailing the difference between the eligible amount according to the proxy and the amount students actually received, including those that qualify as false negatives.

monetary value, the non-take-up equals 16% of potential pay-outs equalling over €1.4 million monthly that is not being paid out for the students in our sample. The total amount of money that is left on the table is significantly larger, given that we only consider the first year of the bachelor study (an average bachelor study in the Netherlands takes 3 to 4 years, and a master study takes an additional 1 to 2 years) and that we have to exclude students whose parents are not in the tax registry from our calculations.

The usage rate of loans by non-claimants indicates that the non-claimants might not have been fully aware of their rights or the existence of a supplementary grant. Remarkably, we find that 33% of the non-claimants do take up a student loan. On average they leave €165 of supplementary grant on the table, while at the same time they borrow an average of €542. Within the subsample students eligible for the maximum grant of €396, 27% of the non-claimants borrow an average of €620. From a financial point of the view, the supplementary grant is superior compared to the student loan.

Table 2 Average (non-)take-up rates and monetary amounts for (maximum) eligible claimants and non-claimants among first-year HBO and WO bachelor students in 2019.

	Eligible students			**Maximum eligible students**		
	Claimants	**Non-claimants**	**All eligible students**	**Claimants**	**Non-claimants**	**All max. eligible students**
Supplementary grant:						
Non-take-up rate (%):	0%	100%	24%	0%	100%	12%
Amount (€ per month):						
Eligible (proxy)	286	180	261	396	396	396
Actually received	290	0	221	392	0	344
Student loans:						
Usage rate (%):						
Any (≥ 1% max. amount)	39%	33%	38%	38%	27%	37%
Max. (≥ 95% max. amount)	11%	5%	10%	14%	5%	13%
Amount (€ per month):						
Actually received (cond. on receiving)	472	542	487	443	620	458
Observations	25,783	8,023	33,806	11,203	1,564	12,767

iii) Non-take-up and background characteristics

Students who are eligible for the maximum amount and who do not take up the grant differ significantly from those who do apply for the maximum grant, as is shown in Table 3. We compare the characteristics within this subgroup, as all students receive (or are eligible for) the same amount of grant money. [19] We find that students who receive a healthcare or housing allowance, or whose parents are on benefits are less likely to forego the student grant. Of all covariates, the biggest difference between claimants and non-claimants is in having one of the parents receiving government benefits as the main source of income: 15% for non-takers and 38% for takers. For the take-up of the healthcare allowance, the difference equals

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[19] Table E.1 in the Appendix shows the characteristics for all eligible claimants and non-claimants among first-year HBO and WO bachelor students in 2019.

16 percentage points. Overall we find that students who (or whose parents) are familiar with another type of benefits are less likely to be among the non-claimants for the study grant. The familiarity with claiming some type of welfare benefits could result in lower information, application, and/or stigma costs. At the same time, non-claimants are more likely to have at least one parent who is self-employed or an entrepreneur (as the main source of income). This could be an information issue: if parental income fluctuates more, the student could be less aware of their eligibility. Furthermore, in this case the eligibility and the need for the supplementary grant could also be more transient. We also find that a higher proportion of claimants use the (maximum) loan component.[20]

Table 3 Characteristics for maximum eligible claimants and non-claimants among first-year HBO and WO bachelor students in 2019.

		Maximum eligible students	
	Claimants	**Non-claimants**	**All max. eligible students**
Healthcare allowance recipient	85%	69%	83%
Housing allowance recipient	3%	2%	3%
Female	55%	52%	55%
Age	19.20	18.96	19.17
Migration background	53%	32%	50%
Vocational education diploma (MBO4)	34%	24%	33%
Academic study level (WO)	20%	24%	20%
Dual study programme	1%	4%	1%
Parent(s) higher education graduates	24%	32%	25%
Parents same household	63%	64%	63%
Deceased parent(s)	11%	9%	11%
Main source of parental income (either/both parents):			
Employee	45%	51%	46%
Self-employed/entrepreneur	39%	58%	41%
Goverment benefit recipient	38%	15%	36%
Number of children tertiary education: Mother	1.26	1.18	1.25
Father	1.26	1.18	1.25
Number of children secondary school: Mother	0.62	0.62	0.62
Father	0.65	0.67	0.66
Observations	11,203	1,564	12,767

Finally, higher take-up rates are observed among students who are older, have a migration background, are enrolled in a HBO study programme (as opposed to a WO study programme), and among those who have more siblings that are already studying in tertiary education. We also observe higher take-up rates for students who enter higher education (almost exclusively HBO) after having completed secondary vocational education (MBO

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[20] However, borrowing non-claimants – who are also entitled to €396 euro in grants – borrow €177 more than their borrowing peers who do take-up the grant. This may be explained by the fact that all students may receive the same total transfer (€1,056 per month in 2019) such that for students receiving the supplementary grant (up to €369), the remainder which they can potentially borrow is lower.

level 4), as opposed to students who completed a secondary education track that grants access to higher education directly.

We see that students from groups who are overall more likely to be eligible are also more likely to take up the grant if they are eligible. This finding could indicate potential peer effects. Students might share information and attitudes about the supplementary grant such that take-up is higher among groups who have more contact with other eligible students. The higher take-up among the MBO graduates could be because they are more familiar with the student finance scheme at the start of their higher education programme, since they were also eligible to student finance during their secondary vocational education. We also find that maximum eligible students who do not claim the grant are more likely to have parents who graduated from higher education. This could be due to relatively less awareness of the supplementary grant within the student's social group. However, it could also be due to a stigma issue, as argued by Blundell, Fry, and Walker (1988), because government welfare is less common within this group.

5.2. Average marginal effects

We now estimate the relation between the probability of non-take-up and the student's background characteristics in a probit model. This allows us a better understanding of the correlations, however, our results cannot be interpreted causally. Especially the indicator for the eligible amount is potentially endogenous as it is likely to be correlated with unobservable background characteristics that also affect the take-up decision. We also run the regressions using only students who are eligible for the maximum amount separately such that the potential grant entitlements do not vary within the sample.[21] This limits the complete sample of first-year HBO and WO students studying in higher education for their first time in 2019 from a total of 104,183 to 33,806 eligible (32%) and 12,767 maximum eligible students (12%). In all specifications, standard errors are clustered at the level of the mother.[22] Table 4 shows the average marginal effects of probit regressions of student characteristics on non-take-up rates for the sample of eligible students.[23] The first two columns concern all eligible students, and the last two columns only include students who are eligible to receive the maximum amount. Our analyses are based on the cohort of students who are enrolled in the first year of higher education in 2019.

We find that an additional euro a student is entitled to is associated with a significant decrease of the non-take-up rate of 0.1 percentage points for all eligible students at the sample mean.[24] Using the student loan components is also associated with a 5.8 percentage points lower non-take-up. Taking up a loan might however be endogenous to receiving a

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[21] The sample of maximum eligible students is defined by the proxy's eligibility estimation and a 5% interval below the maximum statutory grant.

[22] Mothers in our sample have on average a higher number of children and are more likely to form a single parent households compared to the students' legal fathers.

[23] We calculate the marginal effects at the sample mean for continuous variables and at zero for binary variables.

[24] The marginal effect of an additional euro is stronger at lower values. The marginal effect of the eligible amount ranges from -0.12 at the eligible amount equal zero to -0.05 at the maximum amount of €396. If we add a quadratic term for eligibility in our regression, the marginal effects range from -0.23 to -0.01. Figure E.4 shows the marginal effects at different values of the eligible amount for both specifications.

supplementary grant, and lead to reverse causality. In the second specification, we therefore exclude this variable from the regression. We find that excluding this dummy does not affect the marginal effects of the other covariates.

Table 4. Probit regression estimation results of the average marginal effects on the probability of non-take-up of the supplementary grant in 2019.

	All eligible students		Max. eligible students	
Eligible amount (€ per month) (+ squared)	-0.001***	-0.001***		
	(0.000)	(0.000)		
Student loan recipient (dummy, if ≥ €0)	-0.058***		-0.053***	
	(0.005)		(0.006)	
Healthcare allowance recipient (dummy)	-0.076***	-0.080***	-0.095***	-0.100***
	(0.006)	(0.006)	(0.008)	(0.008)
Parent(s) self-employed/entrepreneur	0.064***	0.065***	0.023***	0.024***
	(0.005)	(0.005)	(0.007)	(0.007)
Parent(s) government benefit recipient	-0.082***	-0.085***	-0.095***	-0.098***
	(0.006)	(0.006)	(0.008)	(0.008)
Parent(s) higher education graduates	0.047***	0.043***	0.021***	0.017**
	(0.005)	(0.005)	(0.007)	(0.007)
Parent(s) deceased	-0.019*	-0.015	-0.046***	-0.044***
	(0.010)	(0.010)	(0.011)	(0.011)
Parents separated (not same household)	0.012**	0.016***	-0.022***	-0.018***
	(0.005)	(0.005)	(0.007)	(0.007)
Female	-0.022***	-0.022***	-0.018***	-0.017***
	(0.005)	(0.005)	(0.006)	(0.006)
Age	0.019***	0.016***	0.016***	0.013***
	(0.002)	(0.002)	(0.002)	(0.002)
Migration background	-0.067***	-0.066***	-0.056***	-0.055***
	(0.005)	(0.005)	(0.006)	(0.006)
Vocational education diploma (MBO4)	-0.059***	-0.051***	-0.038***	-0.031***
	(0.006)	(0.006)	(0.008)	(0.008)
Academic study level (WO, base: HBO)	0.028***	0.023***	0.029***	0.026***
	(0.006)	(0.006)	(0.008)	(0.008)
Field of study (base: Education):				
Humanities & arts	-0.005	-0.013	-0.006	-0.012
	(0.011)	(0.011)	(0.016)	(0.015)
Social sciences, business & law	0.018**	0.014*	0.009	0.005
	(0.008)	(0.008)	(0.011)	(0.011)
Science	0.007	0.004	-0.008	-0.011
	(0.010)	(0.010)	(0.013)	(0.013)
Engr., manufacturing & construction	0.008	0.005	-0.009	-0.013
	(0.010)	(0.010)	(0.013)	(0.013)
Agriculture	-0.014	-0.020	-0.021	-0.026
	(0.019)	(0.019)	(0.023)	(0.023)

Health & welfare	0.007	0.006	0.000	-0.001
	(0.008)	(0.008)	(0.011)	(0.011)
Services	0.056***	0.050***	0.062***	0.058***
	(0.013)	(0.013)	(0.020)	(0.020)
Unknown	0.023**	0.019*	0.013	0.009
	(0.010)	(0.010)	(0.014)	(0.014)
Pseudo R^2	33,727	33,727	12,730	12,730
Observations	0.139	0.135	0.0922	0.0845

Note: Reported findings are average marginal effects at sample means, with the standard errors clustered at the level of the student's mother. Significance levels * $p<5\%$, ** $p<1\%$, *** $p<0.1\%$.

The largest effect is found for having parent(s) receiving government benefits with an 8.2 percentage point lower probability of non-take-up. Already having a secondary vocational education diploma (5.9 percentage points), or being a healthcare allowance recipient (7.6 percentage points) are strongly associated with a lower non-take-up. Furthermore, there is a negative effect for having a parent whose main source of income is self-employment (6.4 percentage points higher non-take-up). Also, having separated parents increases the probability of non-take-up.[25]

Female, younger and HBO students and those with a migration background have a higher probability of take-up. Among the different fields of study, we only find a consistently significantly higher non-take-up among those who study Services as compared to the reference field Education.

5.3. Sensitivity tests

i) Significant income drop

By default, DUO looks at the parental income of two years ago. If the joint income for both parents has dropped by at least 15% in the two years thereafter, students can request the agency to take one of these respective years as the reference point. This may result in the student qualifying for a (higher) supplementary grant. Not applying for a change in the reference year when eligible, could also be viewed as a form of non-take-up. If we include this condition in the eligibility proxy, 6% of first-year students would be eligible to a higher grant. The average increase is €198 compared to the eligible amount without the adjusted income year. About 57% of these students were not eligible using the default reference year. We find that the 6% of students potentially profiting from this regulation are on average more likely to have one or both parents being self-employed or entrepreneurs (57% versus 34%), which can be explained by a more fluctuating income.

We construct a new sample for 2019, where we assume that every student whose eligibility is increased by requesting DUO to look at more recent income year, does actually

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[25] This may be explained by the fact the that eligibility is based on the income of both legal parents and not of any foster or step parents. If the student does not live with the relatively lower-income parent and is instead raised by the other legal parent or any foster or step parent, the student does not experience the income levels resulting in certain means-tested grant entitlements. Therefore, information issues may result in non-take-up.

do that. Allowing for this adjustment, we can explain 467 'false negatives' in our main sample, i.e., of students who did actually receive the supplementary grant, but would not be eligible for it according to our more strict proxy. This means that in practice at least some students made use of this option. Note that we cannot observe in the data if a student has requested a change of the reference year. Using the new sample with new entitlements, we find that the non-take-up rate for all eligible students has increased from 24% to 29%, while for the maximum eligible students, it has increased from 12% to 17%. Or in other words, the shares of 'newly' eligible students claiming the grant are only 14% and 58% in the two respective samples. These findings are presumably explained by a lack of knowledge about either the existence of the regulation or about the legal parent's income drop, and also by the higher application costs of having to make the request.

ii) Second-year students

Next, to check if the non-take-up of first-year students is also informative for students who are further into their study programme, we look at second-year students in 2019, who were in their first year of higher education in 2018. This sample consists of fewer students than the complete 2018 sample of first-year students, as students who dropped out or took a gap year between the first and second year of higher education are not considered. This selection is made to be able to see if there is a learning effect, it could be that students are more informed about the student finance system in their second year.

Using the set of 24,564 eligible students continuing their studies, we find that the non-take-up decreased slightly from 18% in their first year to 16% in their second year and for maximum eligible students from 10% to 9%.[26] The share of these students being eligible is rather constant (31% as opposed to 32%). These decreases mean that there may be a 'learning effect' between the first and the second year: students are better informed, more familiar with the system, and better able to estimate whether they will graduate within ten years (and will thus receive the grant as a gift). However, the non-take-up remains substantial also for students who are further into their study programme. For eligible non-takers who dropped out after the first year, the average eligible amount is €17 higher than for first-year non-takers who continue their studies.

6. Conclusion

In this paper, we estimate the level of non-uptake of a supplementary student grant in the Netherlands and investigate which student characteristics relate to a higher non-take-up. Using data on enrolment, student finance and other registry data, we construct a precise eligibility proxy for the majority of first-year students in higher education. We estimate that around one-third of the students is eligible for a supplementary grant, and 12% of students qualify for the maximum amount of the supplementary grant.

Out of all eligible students, 24% do not apply to receive the grant. Among the students who receive the maximum amount, this share is lower, with around 12% of non-take-up. At the same time, we find that a significant share of students who leave the supplementary grant on the table do take up a student loan. Since the conditions of the supplementary grant are

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[26] Figure E.3 in the Appendix shows the difference in non-take-up for cohorts starting before 2018 as well.

always better (if the students finish their degree within ten years) or equal to the loan (if the students drop out), this choice is financially suboptimal and points towards unawareness about the supplementary grant or stigma costs.

We find that students from groups who are more frequently eligible for the supplementary grant — such as having parents who receive welfare benefits, having a migration background, or not having highly educated parents — are less likely to be in the group of students who does not take up the grant if they are eligible for it. Similarly, non-take-up is lower among students in universities of applied sciences than at research universities, where the overall share of eligibility is lower. This is in line with the hypothesis of information costs as a driver for the non-take-up.

The eligibility for need-based student grants often depends not only on the students themselves but also their parents. This makes it difficult to determine the group of eligible students, and even more so the amount that the students are eligible for. In absence of detailed register data that allow children to be linked to their parents, studies have to either rely on simulations (e.g., Fidan & Manger, 2021) or on the effect of a treatment on application behaviour for a grant, without the knowledge of whether the students are really eligible or not (see, e.g., Bird et al. (2021) for a review of field experiments). We add to the literature on estimates of the non-uptake of student grants by constructing a precise proxy and using high-quality administrative data, which also include the actual take-up decision. This allows us to more directly study the non-take-up among eligible students and distinguish between partial and full eligibility.

We also add to the broader literature on the drivers of non-take-up of government benefits. Our results indicate information costs – students lacking knowledge about the grant and their eligibility – can be an important determinant of non-uptake. This is consistent with the findings of Ko and Moffitt (2022), who conclude that a lack of information often plays a role in incomplete take-up of social benefits. In our setting, application costs only play a minor role since the application for the grant is relatively simple and usually requires no more than ticking a box. This implies that even if the uptake of aid and attendance in higher education can be increased by simplifying grant application procedures (Bettinger et al., 2012), non-take-up may sustain because of information costs. Information treatments and nudging can decrease the non-take-up, but they are not always effective or scalable (Bird et al., 2021). Effective measures to reduce non-take-up are dependent on the setting. To decrease non-uptake the Dutch government has changed the default from 'opt-in' to 'opt-out' for requesting the eligibility check on the need-based grant since the beginning of 2023.[27] This could reduce the non-take-up of the grant among eligible students, while the effect on student enrolment is less clear.

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[27] An earlier policy report that is linked to our study (https://www.cpb.nl/niet-gebruik-van-de-aanvullende-beurs) has been taken up by the Dutch parliament and has led to actions and proposals on how to decrease the non-take-up.

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Appendix A Dutch acronyms

Table A.1. Dutch acronyms

Abbreviation	Dutch	English translation
CBS	*Centraal Bureau voor de Statistiek*	Statistics Netherlands
CPB	*Centraal Planbureau*	CPB Netherlands Bureau for Economic Policy Analysis
DUO	*Dienst Uitvoering Onderwijs*	Education Executive Agency of the Dutch Ministry of Education, Culture and Science
HAVO	*Hoger Algemeen Voorgezet Onderwijs*	Higher General Secondary Education
HBO	*Hoger Beroepsonderwijs*	Higher Professional Education (university of applied sciences)
MBO	*Middelbaar Beroepsonderwijs*	Secondary Vocational Education
VAVO	*Voortgezet Algemeen Volwassenen Onderwijs*	Extended General Adult Education
VO	*Voortgezet Onderwijs*	Secondary Education
VWO	*Voorbereidend Wetenschappelijk Onderwijs*	Academic Secondary Education
WO	*Wetenschappelijk Onderwijs*	Academic Higher Education (academic/research university)

Appendix B   The research sample

Table B.1   **Compiling the research population.**

	Number of students in 2019
All students in higher education	687,752
Only first-year students	151,148
Only below 30 years old	145,211
Only bachelor students	134,179
Sufficient information parental income	106,793
No parttime students or students with insufficient administrative data	104,183
Final sample used	**104,183**

Appendix C The accuracy of the proxy

Table C.1. The accuracy of the proxy in different years.

Cohort	The actual amount differs less than 10% compared to the proxy	The actual amount differs more than 10% compared to the proxy	
		Proxy gives an underestimation	Proxy gives an overestimation
2013	19,929 (72%)	4,264 (15%)	3,406 (12%)
2014	20,067 (71%)	4,523 (16%)	3,732 (13%)
2015	18,939 (72%)	3,046 (12%)	4,496 (17%)
2016	18,405 (67%)	3,898 (14%)	5,185 (19%)
2017	19,471 (68%)	3,669 (13%)	5,432 (19%)
2018	22,590 (77%)	4,819 (16%)	2,113 (7%)
2019	**21,704 (80%)**	**3,643 (13%)**	**1,906 (7%)**
2020	24,973 (81%)	4,049 (13%)	1,772 (6%)

Note: In 2018, DUO started using a new system that can automatically determine the parental income and the number of children in secondary school in the parents' household quicker and more accurately. It seems likely that this explains the higher share of matching estimates. This study and the calculations done by DUO use the same governmental datasets.

Table C.2. The number of students who were entitled to the supplementary grant according to the proxy versus students who did receive the grant in 2019.

|		As paid out by DUO		
Eligibility calculated by the proxy		No grant	Some amount	Maximum
	No grant	**68,907 (66.1%)**	1,243 (1.2%)	227 (0.2%)
	Some amount	6,459 (6.2%)	**14,052 (13.5%)**	528 (0.5%)
	Maximum	1,564 (1.5%)	499 (0.5%)	**10,704 (10.3%)**

Appendix D   Variables and definitions

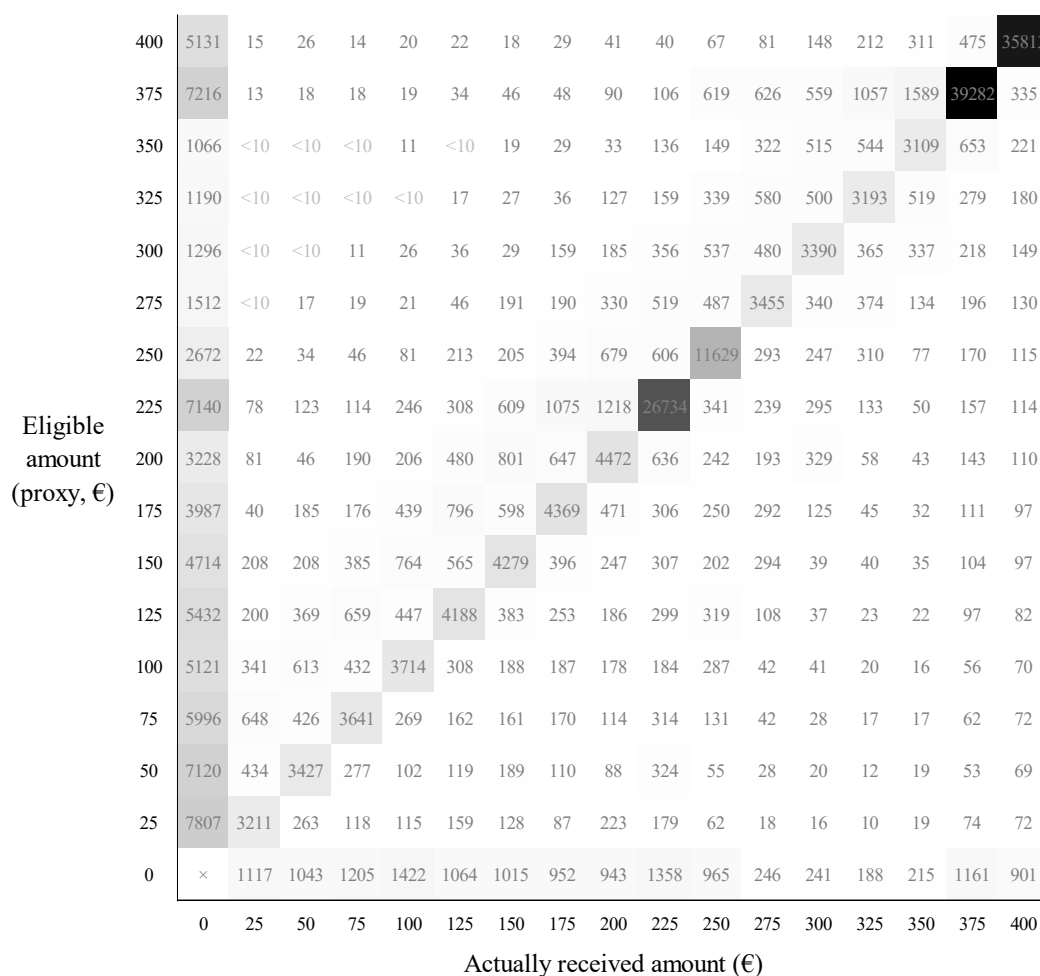**Table D.1**   Variables and definitions

Variable	Definition
Take-up loan components	A dummy variable indicating whether the student uses any of the student loan borrowing components, i.e., they borrow strictly more than €0.
Max. take-up loan components	A dummy variable indicating whether the student uses the maximum amount of the student loan borrowing components defined as borrowing 95% or more of the total available amount in a certain year.
Take-up healthcare allowance	A dummy variable indicating whether the student receives strictly more than €0 of the healthcare allowance. This is irrespective of the eligibility for this specific allowance. The eligibility conditions include having financial assets and an income both below certain thresholds.
Take-up housing allowance	A dummy variable indicating whether the student receives strictly more than €0 of the housing allowance. This is irrespective of the eligibility for this specific allowance. The eligibility conditions include living on your own, having financial assets and an income both below certain thresholds, and having a rent above a specific threshold based on year age.
Main source of parental income	A categorial variable indicating the main source of income for either or both legal parents categorised as being an employee, self-employed or an entrepreneur, or being a government benefit recipient.
Parent(s) higher education graduates	A dummy variable indicating whether either or both legal parents graduated from higher education or not.
Separated parents	A dummy variable indicating whether the legal parents are separated/divorced or not, based on the two legal parents living in the same household or not according to the administrative data.
Deceased parent(s)	A dummy variable indicating whether either or both legal parents are deceased or not according to the administrative data.
Children secondary school	The number of children in the household of either legal parent who are between the age of 12 and 17 years, or who are 18 years and older and in fulltime secondary or continuing general adult education (VO or VAVO) at some point in the previous academic year (up until July 31st).
Children tertiary education	The number of children in the household of either legal parent who could be eligible for student finance, i.e., not only those who actually applied. This therefore includes all children between 18 and 29 years old pursuing a fulltime MBO education (only *beroepsopleidende leerweg*) and those younger than 30 pursuing a fulltime HBO or WO study.
Female	A dummy variable indicating whether the student is female or not.
Age	Variable indicating the age of the student.

Migration background	A dummy variable indicating whether the student has a 1st or 2nd generation migration background or not.
Vocational education diploma (MBO4)	Dummy variable indicating whether the student graduated from MBO level 4 before starting their first year in higher education.
Academic study level (WO)	Dummy variable indicating whether the student pursues a WO level study programme (as opposed to the HBO level).
Dual study programme	A dummy variable indicating whether the student is currently pursuing a dual programme (as opposed to a fulltime study). Parttime students are excluded as these cannot be eligible for a supplementary grant.
Field of study	A categorial variable indicating the field of study the student is currently pursuing, categorised according to ISCED 1997, i.e., Education; Humanities & arts; Social sciences, business & law; Science; Engineering, manufacturing & construction; Agriculture; Health & welfare; and Services.

**Appendix E   Additional tables and figures non-take-up**
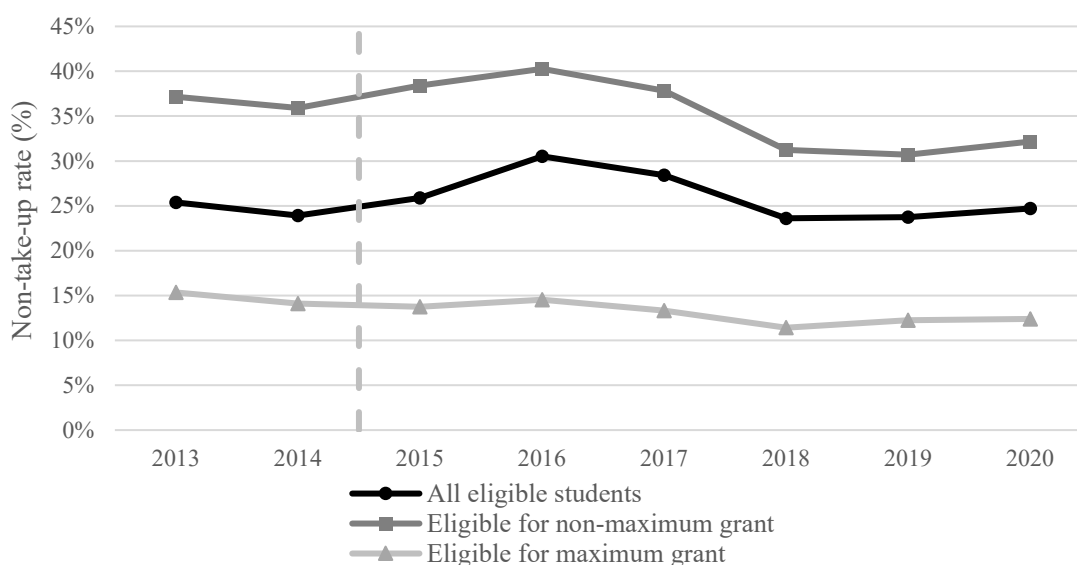
Fig. E.1 The non-take-up of the supplementary grant over time for all eligible students, students eligible for the non-maximum amount, and students entitled to the maximum grant.

| Eligible amount (proxy, €)	0	25	50	75	100	125	150	175	200	225	250	275	300	325	350	375	400
400	5131	15	26	14	20	22	18	29	41	40	67	81	148	212	311	475	35813
375	7216	13	18	18	19	34	46	48	90	106	619	626	559	1057	1589	39282	335
350	1066	<10	<10	<10	11	<10	19	29	33	136	149	322	515	544	3109	653	221
325	1190	<10	<10	<10	<10	17	27	36	127	159	339	580	500	3193	519	279	180
300	1296	<10	<10	11	26	36	29	159	185	356	537	480	3390	365	337	218	149
275	1512	<10	17	19	21	46	191	190	330	519	487	3455	340	374	134	196	130
250	2672	22	34	46	81	213	205	394	679	606	11629	293	247	310	77	170	115
225	7140	78	123	114	246	308	609	1075	1218	26734	341	239	295	133	50	157	114
200	3228	81	46	190	206	480	801	647	4472	636	242	193	329	58	43	143	110
175	3987	40	185	176	439	796	598	4369	471	306	250	292	125	45	32	111	97
150	4714	208	208	385	764	565	4279	396	247	307	202	294	39	40	35	104	97
125	5432	200	369	659	447	4188	383	253	186	299	319	108	37	23	22	97	82
100	5121	341	613	432	3714	308	188	187	178	184	287	42	41	20	16	56	70
75	5996	648	426	3641	269	162	161	170	114	314	131	42	28	17	17	62	72
50	7120	434	3427	277	102	119	189	110	88	324	55	28	20	12	19	53	69
25	7807	3211	263	118	115	159	128	87	223	179	62	18	16	10	19	74	72
0	×	1117	1043	1205	1422	1064	1015	952	943	1358	965	246	241	188	215	1161	901

Actually received amount (€)

Fig. E.2 Density scatter plot for 2013-2020 showing the eligible amount according to the proxy versus the amount actually received, excluding the cells with fewer than 10 observations and the one with both values below €25.

Table E.1 Characteristics for all eligible claimants and non-claimants among first-year HBO and WO bachelor students in 2019.

	All eligible students		
	Claimants	**Non-claimants**	**All eligible students**
Healthcare allowance recipient	82%	74%	80%
Housing allowance recipient	3%	2%	3%
Female	56%	52%	55%
Age	18.97	18.68	18.90
Migration background	37%	18%	33%
Vocational education diploma (MBO4)	32%	23%	30%
Academic study level (WO)	19%	23%	20%
Dual study programme	1%	3%	1%
Parent(s) higher education graduates	27%	39%	30%
Parents same household	66%	73%	68%
Deceased parent(s)	8%	4%	7%
Main source of parental income (either/both parents):			
Employee	68%	79%	71%
Self-employed/entrepreneur	32%	40%	34%
Goverment benefit recipient	28%	11%	24%
Number of children tertiary education: Mother	1.33	1.52	1.37
Father	1.33	1.52	1.37
Number of children secondary school: Mother	0.57	0.49	0.55
Father	0.59	0.50	0.57
Observations	25,783	8,023	33,806
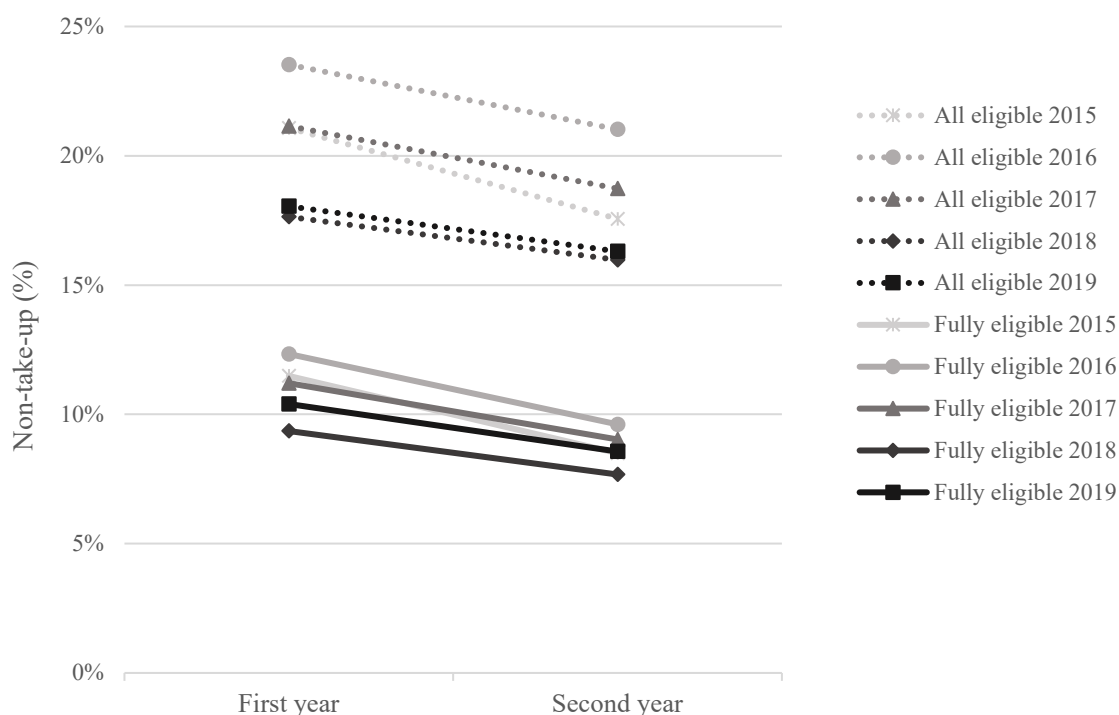
Fig. E.3 The difference in non-take-up rates between students in their first year and those same students subsequently in their second year.
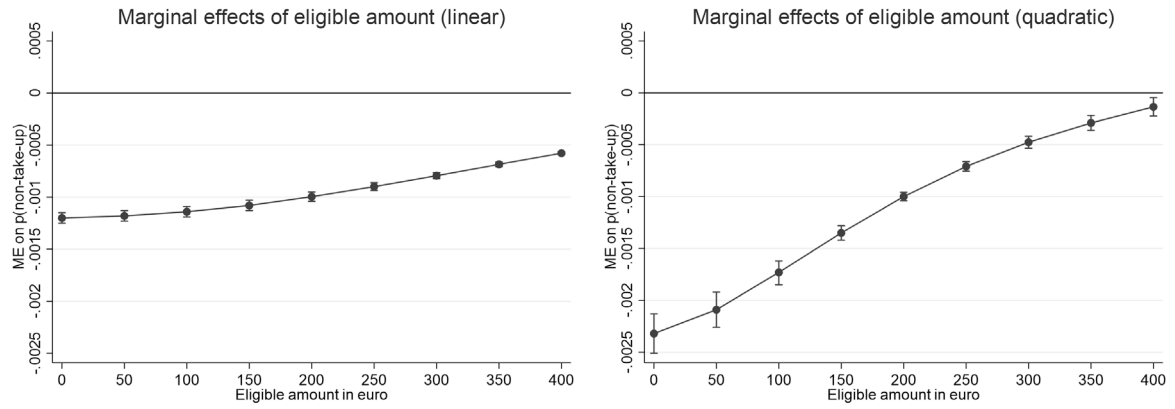
Fig. E.4 Marginal effects of the eligible amount on the probability of non-take-up

Note: The marginal effects of the figure on the left are based on the same probit regression as is used for Table 4, column 1. The figure on the right is based on the same specification, but with an added quadratic term for the eligible amount.