

Discussion Paper No. 15-085

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Advantage or Handicap for
Academic Achievement?**

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Zentrum für Europäische
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Student Employment : Advantage or Handicap for Academic Achievement?

Maresa Sprietsma*

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Abstract

We estimate the effects of student employment on academic performance. Performance is measured by grades achieved one and a half years after entering university. We use the amount of financial aid students receive after application as a source of exogenous variation in the probability of being employed to correct for potential endogeneity bias. We find no evidence that student employment is detrimental to academic performance, even for a larger number of hours worked per week. There is significant selection of students into different types of student employment.

JEL Classification: J31, J61

Keywords: student employment, academic achievement, tertiary education

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1 Introduction

We investigate whether student employment during the semester affects the academic performance of full-time students. Considering students have a limited time budget per week to share between work, learning and leisure, it seems clear that student employment comes at the expense of other activities. If working students considerably reduce the time they spend on learning, we may expect negative consequences for academic progress. There is evidence that study time, contrary to time spent attending lectures, significantly affects academic performance (Andrietti and Velasco, 2015; Stinebrickner and Stinebrickner, 2008). However, several studies also find that students tend to reduce leisure time rather than study time to compensate for working time, which would mitigate the risks of student employment for academic achievement (Body et al., 2014; Kalenkoski and Pabilonia, 2012; Oosterbeek and van den Broek, 2009). Moreover, it seems that there is positive self-selection into student employment and students who work tend to have higher academic achievement from the start (Triventi, 2014; Hotz et al., 2002).

The paper fits into a broader literature on academic achievement and students' time allocation by addressing the question of whether it is better to focus as much as possible on learning at university such as attending courses, self-study or writing essays, or whether academic achievement can benefit from other activities as well. Many students are involved in sports, political or cultural activities or work. Working during higher education may affect academic achievement through the development on non-cognitive skills such as time management, communication and organisational skills. Moreover, being employed may motivate students either to obtain the required degrees on the labour market or make them aware of the relevance of certain skills for their future careers.

In Europe, an increasing share of students work while pursuing tertiary education (Neill, 2015). The student employment rate in Germany for instance increased from 51% in 1991 to 62% in 2012. Several reasons can be thought

to have triggered this development. On the one hand, students' financial constraints could have become more binding. An increasing share of youths pursue a tertiary education, including those who can expect less financial support from their parents. In addition, public budgets for education have come under pressure and the share of private expenditures in tertiary education has increased over the last decade (OECD, 2010). Students may therefore need to complement their budget more than in the past. There is empirical evidence that budget constraints are an important determinant of student employment (Bachmann and Boes, 2014; Kalenkoski and Pabilonia, 2010).

On the other hand, student employment provides a first working experience and can be a signal of higher motivation for later employers. In fact, student employment can lead to higher wages, in particular when the student job is related to the field of study (Geel and Backes-Gellner, 2012; Hotz et al., 2002; Häkkinen, 2006; Schrøter Joensen, 2009). This may provide an incentive for students to work even when they do not depend on this additional source of income.

Existing empirical studies on the effects of student employment on academic achievement indicate that the impact of student employment on academic achievement depends on the number of hours worked. Student employment below 16-20 hours per week does not seem to affect academic progress. Above this threshold, several studies find significant negative effects of student employment on academic results (Body et al., 2014; Triventi, 2014; Schrøter Joensen, 2009; Montmarquette et al., 2007; Darolia, 2014). Moreover, it seems that the effect of student employment on academic achievement depends on the type of employment (Body et al., 2014). Wenz and Yu (2010) for instance find that US students who work for primarily financial reasons earn lower grades than students who work to achieve career-specific skills.

This paper contributes to the literature by providing new causal evidence on the impact of student employment on academic achievement. To this purpose, we

use a new representative student survey for Germany that contains information on employment and educational biographies of students including the number of hours and type of student employment. The amount of financial support received by students who applied for financial support (BAföG) is used as a source of exogenous variation in the probability of being employed. We find no effect of working during the semester on academic achievement, even for students working more than ten hours per week.

The paper is structured as follows. We present the data and descriptive statistics in section 2, the estimation strategy in section 3. The results of the empirical analysis can be found in Section 4, and in section 5 we discuss results and present a robustness check.

2 Data and descriptive statistics

We use the student cohort of the National Education Panel Study (NEPS) (Blossfeld et al., 2011). These are representative longitudinal survey data on around ten thousand first-semester students collected in Germany in the years 2007-2010. Students were surveyed twice: during their first semester and in their fourth semester (one and a half years later). Students attend either universities or applied universities. The particularity of the data is that they contain information on academic achievement as well as spell data on the educational and employment biography of the participants. Information on non-cognitive skills, motivation, employment spells and extra-curricular activities is available as well.

A considerable share of the students in our sample (48%) work at least one hour per week during the semester. Work is defined as paid employment for at least one month and at least one hour per week during the academic year. On average, the students in our sample work 12 hours per week and 18% work more than ten hours per week. The students in our sample thus work less hours per

week on average than students in the US. According to Kalenkoski and Pabilonia (2010), four-year higher education students in the US work on average 22 hours per week. The overall income per month can be calculated as the sum of income obtained from parental support, financial student aid, employment, own capital and grants. Working students on average have a monthly income that is 100 Euro higher than those who do not work and employment is the main source of income for only 15% of all students in the sample. About 30% of student jobs are somehow related to the field of study.

In Germany, students are eligible for financial aid, called BAföG (Bundesausbildungsförderungsgesetz), depending on their parents' income and a set of other variables. It provides financial support of up to 670 Euro per month. Although half the amount is to be paid back (interest free), student aid helps to reduce the financial necessity to work for German students.

Table 1 presents characteristics of students who work, who work more than ten hours per week and who do not work. We observe positive self-selection into student employment in terms of achievement in our sample. Working students have significantly better grades at the final higher school examination (Abitur)¹ and achieve more ECTS credit points² between the first and the second survey than students that do not work. However, working students are also slightly less often from families where both parents finished tertiary educational but the share of students whose both parents finished tertiary education is very high (about 70%) in both groups.

Financial constraints do seem to matter for student employment as we observe in Table 1 that working students are less likely to be recipients of financial aid and more often had to pay a tuition fee than non-working students. Working students live more often at home than non-working students. Possibly, living at home and working are both related to financial constraints or students mainly

¹Note that grades are measured on the German scale of 1 (excellent) to 6 (fail) and that higher grades correspond to lower performance.

²ECTS credit points are a measure of the amount of courses that a student passed according to the European Credit Transfer System.

work for reasons not related to financial constraints.

Finally, female students are more likely to be employed as well as those who attend the teacher track³.

Students who work more than ten hours per week receive significantly less financial support from their parents than other employed students and have on average less educated parents. Moreover, they on average obtained higher (worse) secondary education grades. Contrary to the overall group of working students, students working more than ten hours per week thus seem to be a somewhat more negative selection.

Table 1: Descriptive Statistics by Employment Status

	Employed more than 10 hours per week	Employed	Not employed
Income per month (Euro)	891,5 (674,0)	871,5*** (662,7)	775,6 (478,4)
BAföG Recipient	0,26 (0,44)	0,24*** (0,43)	0,30 (0,45)
Paid a tuition fee	0,32 (0,47)	0,33*** (0,47)	0,28 (0,45)
Financial Support from parents per month	238,6*** (225,8)	259,9 (247,5)	255,3 (250,3)
Male	0,41 (0,49)	0,39*** (0,49)	0,44 (0,50)
Teacher Track	0,27** (0,45)	0,30** (0,46)	0,27 (0,44)
Lives at parents' place	0,44 (0,49)	0,46*** (0,49)	0,42 (0,49)
Both parents have tertiary education	0,63*** (0,80)	0,71* (0,79)	0,75 (0,80)
Migration background	0,08 (0,27)	0,07 (0,27)	0,08 (0,26)
Final Grade Secondary School (Abitur)	2,16*** (0,57)	2,05*** (0,57)	2,11 (0,57)
ECTS credit points reached	106,5*** (30,2)	109,3* (28,0)	108,0 (27,5)
Number of Observations	536	1524	1670

Note: ***, **, * stand for statistical significance of the difference as compared with the next category at the 1, 5 and 10% level respectively.

³In Germany, students who aim to become teachers follow a specific academic track called "Lehramt"

Table 2 presents extracurricular activities of students by employment status. Employed students spend about half an hour less studying by themselves and attending lectures per week. However, they participate in sports activities and in learning groups with the same probability and they are more active in student representation than the non-employed students. Students working more than ten hours per week do not differ significantly from the other employed students in terms of extra-curricular activities except that they spend a similar time in lectures as non-employed students.

Table 2: Extracurricular Activities, by Employment Status

	Employed more than ten hours per week	Employed	Not employed
Time spent studying (hours per week)	11,82 (8,07)	12,03*** (8,59)	12,78 (8,94)
Time spent in lectures (hours per week)	19,9* (7,94)	19,55** (7,47)	20,15 (7,89)
Participates in sports activities (% students)	0,36 (0,48)	0,38 (0,49)	0,39 (0,49)
Participates in student representation (% students)	0,10 (0,30)	0,10*** (0,30)	0,07 (0,26)
Participates in group learning (% students)	0,54 (0,50)	0,54 (0,50)	0,56 (0,01)
Number of Observations	536	1524	1670

Note: ***, **, * stand for statistical significance of the difference with the next column at the 1, 5 and 10% level respectively.

3 Empirical strategy

We want to assess whether student employment, especially a large number of hours worked per week, can be detrimental to academic performance. Academic performance is measured with grades obtained one and a half years after entering tertiary education. The data allow us to control for a large set of student characteristics that contribute to academic performance such as grades at the end of secondary school, parents' education, or participation in extracurricular activities. We also include a measure for personality (Big Five) as well as

dummies for the study major (Θ_{im}) that may affect both academic achievement and the probability to be employed. We thus estimate the following equation:

$$Grade_i = \alpha_i + \beta_1 StudentEmployment_i + \sum_j \beta_j X_{ij} + \sum_{b=1}^5 BigFive_{bi} + \Theta_{im} + \varepsilon_i \quad (1)$$

Where student employment is measured either as an indicator variable equal to one if the student works at least one hour per week, or as the number of hours worked per week. Although we control for many student characteristics that are relevant for academic performance, our estimates may still be biased because working students may have different unobserved characteristics that affect their academic performance. For instance, working students may be more ambitious or better organised.

In order to correct for the potential endogeneity bias due to these unobserved characteristics, we use an instrumental variables approach. As an excluded variable, we use the amount of financial aid the student receives, provided that he or she applied. We expect the amount of financial aid received to reduce to financial necessity to work. In short, with our two-stage least squares approach, we estimate the effect of student employment on academic achievement for those students that work because of financial constraints rather than the wish to improve one's CV and gain first working experience. However, this only applies to those students that applied for financial support. In effect, students that did not apply receive no support but this does not imply that they have a tight budget constraint and have to work. To the contrary, these students are likely to benefit from other sources of income and are unlikely to work out of financial necessity. We therefore exclude students that did not apply for financial support from our sample. As a result, we have 1490 students available for the estimation. About 60% of the students that apply actually obtain some amount of financial support.

Being eligible for financial aid and to the amount of financial aid received depend on several combined criteria. These include net parental income, the number of siblings, the students' own savings, living at home, and the type of studies. The final decision is at discretion of the authority in charge (the local "BAföG Amt"). We additionally include the amount of financial support from parents that the student receives to control for a possible direct effect of parental financial support on grades. Information on parents' total income per month and the number of siblings is not available in the dataset.

Table 3 presents observable characteristics of students that applied and received support as compared with those that applied but did not obtain financial support. We observe that students that obtain BAföG are more likely to have a migration background and parents without a tertiary education degree but there are no differences between the two groups in terms of gender or secondary school achievement. Students that receive BAföG and those that do not have similar secondary school grades and grade repetition rates.

Students that applied but did not receive financial support on average receive support from their parents that is twice the amount received by students that do receive financial support. It is therefore important to control for parental support in the estimation. Students with BAföG on average have a 35 Euro higher total income per month. Students that do not receive BAföG more often live at their parents' place and they also more often paid a tuition fee. Finally, students that receive BAföG are less likely to be employed and to work more than ten hours per week.

Table 3: Descriptive statistics of students that obtained financial support and that did not obtain financial support, only applicants.

	Receives BAföG	Does not receive BaföG
Income per month (Euro)	783,1 (644,9)	748,3* (483,9)
Paid a tuition fee	0,25 (0,47)	0,31*** (0,44)
Financial Support from parents per month	125,3 (186,1)	256,3*** (6,24)
Male	0,38 (0,23)	0,38 (0,23)
Final Grade Secondary School (Abitur)	2,15 (0,02)	2,15 (0,02)
Repeated a grade	0,10 (0,30)	0,09 (0,29)
Migration background	0,13 (0,01)	0,09*** (0,01)
Both parents have tertiary education	0,44 (0,03)	0,62*** (0,03)
Lives at parents' place	0,34 (0,49)	0,39** (0,49)
ECTS credit points reached	108,5 (26,8)	104,4*** (29,0)
Employed	0,43 (0,49)	0,53*** (0,49)
Employed more than ten hours per week	0,16 (0,36)	0,20*** (0,40)
Number of Observations	886	605

Note: ***, **, * stand for statistical significance of the difference at the 1, 5 and 10% level respectively.

4 Results

Table 4 shows the OLS estimates for the determinants of academic achievement measured by grades after one and a half years of higher education. Note that grades are measured on the German scale of 1 (excellent) to 6 (failed) meaning that lower grades imply better performance. Students that are employed at least one hour per week obtain significantly better grades than those who do not. Table 5 shows OLS results using hours worked per week as a measure of student employment. The positive relation between student employment and

grades holds for employment up to 15 hours per week, there is no significant correlation between grades and employment for students working more than 15 hours per week.

There is a negative correlation between the number of ECTS credit points achieved and grades. This implies that better performing students both achieve more ECTS credit points and better grades. The other control variables have the expected effects. Students with a migration background and male students obtain higher (worse) grades, but this correlation becomes non significant when controlling for previous achievement. The performance in secondary school such as having repeated a grade in secondary school and grades obtained at the end of secondary school are good predictors of grades obtained in college. Students in the teacher track and students attending a university rather than an applied university obtain less good grades.

Students that work can be expected to have different personality traits that affect academic achievement. In our third specification we therefore include personality traits according to the Big Five scale. We find that there is a positive correlation between perfectionism and better grades, other personality traits are not related to grades.

Table 4: OLS Results. Determinants of Grades*

	(1)	(2)	(3)
Student Employment	-0,11*** (0,03)	-0,09*** (0,03)	-0,08*** (0,03)
Ln(ECTS reached)	-0,38*** (0,06)	-0,20*** (0,06)	-0,17*** (0,06)
Male	0,19*** (0,03)	0,06** (0,03)	0,04 (0,03)
Migration Background	0,15*** (0,04)	0,06* (0,04)	0,05 (0,04)
Both parents have tertiary education	-0,10** (0,04)	-0,07* (0,04)	-0,08** (0,03)
Final Grade Secondary School (Abitur)		0,33*** (0,03)	0,31*** (0,03)
Repeated a grade		0,09*** (0,04)	0,08*** (0,04)
Attending university		0,15*** (0,04)	0,15*** (0,04)
Teaching Track		0,15*** (0,04)	0,16*** (0,04)
Study Major dummies	no	yes	yes
Personality: Big Five	no	no	yes
R-Squared	0,11	0,31	0,33
Number of Observations	1490	1490	1490

Note: ***, **, * stand for statistical significance of the difference at the 1, 5 and 10% level respectively. Big Five variables include extrovertness, openness to experiences, patience, neuroticism and perfectionism.

*Grades one and a half years after the beginning of studies. These are measured on the German scale of 1 (excellent) to 6 (failed) meaning that lower grades imply better performance.

Table 5: OLS Results. Hours worked and academic achievement

	(1)	(2)	(3)
Student Employment			
Up to 5 hours work per week	-0,19*** (0,04)	-0,12** (0,05)	-0,11** (0,05)
5-10 hours	-0,08* (0,04)	-0,06 (0,04)	-0,06 (0,04)
10- 15 hours	-0,14*** (0,05)	-0,14*** (0,05)	-0,14*** (0,05)
More than 15 hours per week	-0,05 (0,05)	-0,06 (0,04)	-0,07 (0,04)
Ln(ECTS reached)	-0,38 *** (0,06)	-0,20*** (0,06)	-0,17*** (0,06)
Male	0,19*** (0,03)	0,06 (0,03)	0,04 (0,03)
Migration Background	0,16*** (0,04)	0,06* (0,04)	0,05 (0,04)
Both parents have tertiary education	-0,10*** (0,04)	-0,07** (0,03)	-0,08** (0,03)
Final Grade Secondary School (Abitur)		0,33*** (0,03)	0,31*** (0,03)
Repeated a grade		0,09*** (0,04)	0,09** (0,04)
Attending university		0,15*** (0,04)	0,15*** (0,04)
Teaching Track		0,15*** (0,04)	0,16*** (0,04)
Study Major dummies	no	yes	yes
Personality: Big Five	no	no	yes
R-Squared	0,12	0,30	0,33
Number of Observations	1490	1490	1490

Note: ***, **, * stand for statistical significance of the difference at the 1, 5 and 10% level respectively. Big Five dummies include extrovertness, openness to experiences, patience, neuroticism and perfectionism.

*Grades one and a half years after the beginning of studies. These are measured on the German scale of 1 (excellent) to 6 (failed) meaning that lower grades imply better performance.

Because working students may still differ in terms of unobserved characteristics, we then estimate the effect of student employment on grades using a two-stage least squares approach. Results of the first stage are presented in Table 6. The amount of BAföG received has a significant effect both on the probability of being employed at all and of being employed more than ten hours per week. Receiving public financial support (BAföG) of at least 300 Euro per month

significantly decreases the probability of student employment.

The control variables have the expected signs in the first stage. Students paying a tuition fee and with better grades in secondary education are significantly more likely to work. To the contrary, students whose parents both have a tertiary education and those who receive more financial support from their parents are less likely to be employed.

Table 6: First Stage: Determinants of student employment and working more than ten hours per week. Marginal effects from a Probit estimation.

	p(employed)	p(Working more than 10 hours per week)
Amount of Financial Aid (BAföG)		
1- 200 Euro per month	-0,03 (0,04)	-0,04 (0,03)
200-300 Euro per month	0,01 (0,04)	0,03 (0,03)
300-400 Euro per month	-0,18*** (0,04)	-0,08** (0,03)
More than 400 Euro per month	-0,17*** (0,04)	-0,08*** (0,02)
Male	-0,00 (0,03)	0,02 (0,03)
Migration background	0,04 (0,04)	0,01 (0,03)
Both parents have tertiary education	-0,01 (0,04)	-0,07** (0,03)
Final Grade Secondary School (Abitur)	-0,05** (0,03)	0,02 (0,02)
Repeated a grade	-0,01 (0,03)	0,05 (0,03)
Paid a tuition fee	0,09*** (0,03)	0,03 (0,02)
University	0,08* (0,04)	0,01 (0,03)
Teacher Track	-0,07* (0,04)	0,00 (0,03)
Financial support parents per month		
Up to 100 Euro	-0,04 (0,03)	-0,03 (0,02)
101-200 Euro	-0,05 (0,04)	0,03 (0,03)
201-300 Euro	-0,12** (0,05)	-0,05 (0,03)
More than 300 Euro	-0,08** (0,04)	-0,05* (0,03)
Study Major dummies	yes	yes
Personality: Big Five	yes	yes
F-Statistic	55,18	13,95
Number of Observations	1477	1477

Note: ***, **, * stand for statistical significance of the difference at the 1, 5 and 10% level respectively.

We use the predicted value of this estimation as an instrument for student employment in the second stage of the estimation. Results are presented in Table 7. We find that students who work because they receive less financial support do not obtain significantly better grades but we find no evidence for detrimental effects of student employment on academic achievement either. This result also holds for working more than ten hours per week.

Table 7: 2SLS estimates of the effect of student employment on academic achievement (grades)

	Coeff. (Std.Dev)	Coeff. (Std.Dev)
Employed	-0,04 (0,16)	
Works more than 10 hours per week		-0,12 (0,29)
Ln (ECTS reached)	-0,16*** (0,06)	-0,17*** (0,05)
Migration Background	0,05 (0,04)	0,04 (0,04)
Both parents have tertiary education	-0,09** (0,03)	-0,09** (0,04)
Final Grade Secondary School (Abitur)	0,31*** (0,03)	0,32*** (0,02)
Repeated a grade	0,11*** (0,04)	0,11*** (0,04)
University	0,14*** (0,04)	0,14*** (0,03)
Lives with parents	0,05** (0,02)	0,05** (0,03)
Teacher Track	0,16*** (0,04)	0,16*** (0,03)
Support from Family	yes	yes
Study Major dummies	yes	yes
Personality: Big Five	yes	yes
R-Squared	0,33	0,33
Number of Observations	1477	1477

Note: ***, **, * stand for statistical significance of the difference at the 1, 5 and 10% level respectively. Further control variables include gender, age.

Grades one and a half years after the beginning of studies. These are measured on the German scale of 1 (excellent) to 6 (failed) meaning that lower grades imply better performance

5 Discussion of Results and Robustness Checks

In a next step, we would like to investigate whether the type of student employment matters for the interpretation of results. Table 8 shows what type of employment the students in our sample are working in. Most students work in firms, either as student assistants or as temporary workers. 27% work as student assistants in research and a minority give private lessons to secondary school pupils or are self-employed. Clearly, there is self-selection of students into these different types of employment as unobserved student characteristics are likely to affect both the choice of employment and academic achievement. Different types of employment are for instance associated with different working hours per week (second column of Table 8). Whereas student assistants in research work on average 7 hours per week, students in firms work on average 15 hours per week. Moreover, more than 60% of student assistants in research and in private teaching claim that their employment is relevant for their field of study whereas helping out in a firm is claimed to be relevant for the field of study by only 6% of students.

Table 8: Type of Student Employment, descriptive statistics. Only BAföG applicants.

	Share of students	Number of hours worked	Relevance for study major
Student assistant in a firm	12,7%	14,8	35%
Student assistant in research	26,8%	7,7	62%
Helping out in a firm	37,6%	14,6	6%
Private lessons /coaching of pupils	9,0%	5,2	60%
Other Type of Employment	9,4%	11,4	24%
Self-employed	4,5%	10,5	29%
Number of Observations	534	534	534

We cannot estimate the causal effect of different types of employment on academic achievement because of selection bias. Nevertheless, we estimate the effect of each employment type on achievement by ordinary least squares to understand better how the type of employment is related to academic achievement.

Table 9: Type of student employment and academic achievement

	(1)	(2)
Student assistant in a firm	-0,11* (0,06)	-0,08 (0,06)
Student assistant in research	-0,25*** (0,05)	-0,18*** (0,05)
Temporary worker in a firm	-0,06 (0,05)	-0,06 (0,05)
Private lessons /coaching of pupils	0,12* (0,06)	0,04 (0,06)
Other Type of Employment	-0,09 (0,10)	-0,07 (0,10)
Self-employed	-0,24*** (0,07)	-0,26*** (0,07)
Final Grade Secondary School (Abitur)		0,29*** (0,03)
Repeated a grade		0,10*** (0,04)
R-squared	0,24	0,33
Number of Observations	1323	1323

Note: ***, **, * stand for statistical significance of the difference at the 1, 5 and 10% level respectively. Except for grades in secondary school and repeating a grade, the same control variables were included as in Table 4.

The results are presented in Table 9. We use the same specification as in Table 4. Only working as a student assistant or being self-employed is associated with better grades when controlling for achievement in secondary school (Column 2). One way to interpret this result is that the relevance of the student job for the field of study seems to matter and that student employment may contribute to better academic achievement through learning on the job. But the positive correlation may also be related to selection into different types of student jobs. The results show that the coefficient of the type of employment goes down when including achievement in secondary school, which indicates that there are selection effects into different types of employment.

As we have seen, students that have jobs that are relevant for the field of study may have obtained better grades from the start and employers may select students based on their grades for these jobs. In order to test the robustness of our results to bias because of selection of students with good academic achievement

into relevant student jobs, we now restrict our sample to those employment spells that start within three months of the beginning of the first semester. Restricting the sample to early employment spells presents the advantage that employers cannot yet select students based on their academic achievement at university. The results are presented in Table 10 are similar to those for the full sample of students that applied for financial support.

Table 10: Robustness test: estimates using only employment spells at the beginning of studies

	OLS Coeff. (Std.Dev)	2SLS Coeff. (Std.Dev)
Employed	-0,07** (0,03)	-0,09 (0,17)
Ln (ECTS reached)	-0,22*** (0,07)	-0,22*** (0,07)
Final Grade Secondary School (Abitur)	0,33*** (0,03)	0,33*** (0,03)
Repeated a grade	0,10* (0,05)	0,10* (0,05)
Both parents have tertiary education	-0,08* (0,04)	-0,08* (0,04)
Migration Background	0,07 (0,04)	0,08* (0,04)
Attending university	0,13*** (0,04)	0,13*** (0,04)
Study Major dummies	yes	yes
Personality: Big Five	yes	yes
R-Squared	0,36	0,28
Number of Observations	959	951

Note: ***, **, * stand for statistical significance of the difference at the 1, 5 and 10% level respectively. Further control variables include gender and being in the teacher track.

6 Conclusion

Student employment is quite common in Germany as about half of all students work at least one hour per week. The aim of the paper was to investigate whether student employment affects academic performance, especially for students working many hours per week. We find no evidence in favor of this

hypothesis. Student employment does not have a significant effect on academic performance for students that work due to stronger financial constraints. This result also holds for students working more than ten hours per week. Although we cannot estimate the causal effect of different types of student employment, we find indications that there is selection into different types of jobs and that students with jobs that are relevant to the field of study obtain better grades.

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