Bachelor students' transition to postgraduate studies. Do students with and without migration background have different plans?

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More than one fifth of all students in Germany have a migration background. However, there is little research on them in general and on their transition to postgraduate studies in particular. The present paper makes a contribution to fill this research gap. It is based on Boudon's primary and secondary effects, its refinement by Breen and Goldthorpe and theories of assimilation. The study uses data of the 19th survey on the economic and social position of students in Germany (2009). It only considers students who acquired their qualification for admission to higher education in Germany. The paper arrives at the conclusion that students with a migration background plan as often as other students to begin a Master study directly after their Bachelor degree. There are no differences between the groups with regard to the effect of money from parents and problems in the Bachelor studies concerning the decision whether or not to pursue a Master's degree.

Der Übergang von Bachelorstudierenden in ein Masterstudium: Unterschiedliche Pläne von Studierenden mit und ohne Migrationshintergrund?

Mehr als ein Fünftel der Studierenden in Deutschland hat einen Migrationshintergrund. Dennoch gibt es wenig Forschung über diese Studierendengruppe im Allgemeinen und über ihren Übergang in ein Masterstudium im Besonderen. Diese Arbeit möchte dazu beitragen, diese Forschungslücke zu schließen. Sie basiert auf Boudons primären und sekundären Effekten, deren Verfeinerung durch Breen und Goldthorpe sowie auf Assimilationstheorien. Die Studie greift auf die Daten der 19. Sozialerhebung (2009) zurück. Sie beschränkt sich auf Personen, die ihre Hochschulzugangsberechtigung in Deutschland erworben haben. Studierende mit Migrationshintergrund planen ebenso häufig wie andere Studierende, direkt nach dem Bachelorstudium ein Masterstudium aufzunehmen. Es gibt keine Unterschiede zwischen den beiden Studierendengruppen bezüglich der Auswirkungen der finanziellen Unterstützung durch die Eltern und von Problemen im Bachelorstudium auf die Übergangsabsicht.

1 Introduction

During the last decade, many studies explored the transition from secondary to higher education in Germany. One main result of these studies is that whether or not persons enter higher education still significantly depends on their social background *(Lörz 2012; Schindler/Lörz 2012; Schindler/Reimer 2010; Becker/Hecken 2009; Becker/Hecken 2007)*. As a result of the Bologna higher education reforms, a new transition has emerged: the move from undergraduate (Bachelor's level) to postgraduate (Master's level) studies.

Students from immigrant populations deserve more attention in research on higher education in Germany. Up to now, there has only been a small amount of research on this topic, although 23 per cent of students in Germany who acquired their university entrance diploma in Germany have a migration background (in 2012 according to *Middendorff et al. 2013: 520). Stanat et al. (2010)* show that pupils from immigrant families have a strong educational motivation and high aspirations. Frequently, however, these attitudes cannot successfully be converted into educational success due to a lack of resources in immigrant families *(Stanat et al. 2010: 55)*. In order to test whether these findings are valid also for higher education, this article will look at whether a lack of resources is relevant for the transition from undergraduate to postgraduate study, too.

For several reasons, it is important to examine the transition from Bachelor to Master studies. Firstly: As already mentioned, (too) few people from lower socio-economic classes (in which migrants are strongly overrepresented) get a qualification for admission to higher education and therefore they are significantly underrepresented in universities. Do these disadvantages continue with regard to this new transition? Secondly, if (more) migrants get (high) university qualifications (Master's degree or doctorate), this is particularly positive concerning migrants' integration ("structural assimilation"; *Esser 2001)*. Thirdly, due to skill shortages and ageing of society, Germany needs more university graduates, especially in the STEM fields (science, technology, engineering, and mathematics). There are groups whose potential has not yet been fully exploited. Among these are women (concerning their enrolment in certain fields of study), people from lower socio-economic classes and migrants. Fourthly, there have only been a few studies addressing this new transition in Germany *(Auspurg/Hinz 2011a; Heine 2012; Rehn et al. 2011)* so far, and none of these has especially considered migration background.

The *first main goal* of this article is to examine the question of whether undergraduate students with a migration background[1] (from now on also called "migrants") — who, on average, come from less privileged social backgrounds *(Isserstedt et al. 2010: 506)* — and students without a migration background (from now on also called "non-migrants") differ with regard to their plans to continue their studies by pursuing a Master's degree, and to what extent this transition is influenced by secondary effects (for the difference between primary and secondary effects see part 2.1). The *second main objective* is to explore whether the mechanisms governing the decision in favour of postgraduate study differ between migrants and non-migrants, especially concerning the impact of *secondary effects*. The study only covers students who have acquired their qualification for admission to higher education in Germany (for details, see part 3.1).

This article is structured as follows: In part 2 theoretical considerations and hypotheses are presented. Part 3 introduces the data and the methods which are used for analysing the data. Part 4 deals with the results. Part 5 covers a summary, some conclusions and the limitations of the study.

2 Theoretical background

2.1 Primary and secondary effects

According to *Boudon (1974)*, *primary effects* address different levels of performance in primary, secondary, and tertiary education resulting from students' social background—that is, learners from families with more cultural and financial resources do better. *Secondary effects* cover dissimilarities concerning educational decisions made by individuals in different social groups, if and although their educational performance is equal. Primary effects arise when learners from higher social backgrounds achieve better results at school due to their better access to resources relevant for school success—resources that are not only cultural in nature *(Erikson/Jonsson 1996: 22–27)*, but also financial *(Erikson/Jonsson 1996: 17–22)*. Secondary effects result from differences between higher and lower social backgrounds in the mechanisms governing educational decisions if educational performance remains constant. Secondary effects mainly result from: different degrees of risk aversion, depending on the social group (stronger risk aversion of less privileged families, *Breen/Goldthorpe 1997)*, the consequences of the status attainment motive, meaning that learners from more privileged groups need to reach a higher educational level to obtain the same status as their parents *(Breen/Goldthorpe 1997)*, and differences in people's time horizon *(Hillmert/*

[1] People with migration background do not necessarily have a migration history themselves. According to German official statistics, people have a migration background if they *do not have a German nationality* or if *at least one parent was born in Germany without a German nationality or migrated to Germany after 1949 (Statistisches Bundesamt 2013: 6)*. For the definition of migration background in this article, see part 3.2.

Jacob 2003), which is usually shorter for those with a less advantageous social background (for details, see also chapter 2.2).

The move from undergraduate (Bachelor's level) to postgraduate (Master's level) studies is a very late transition in a standard educational career. Late transitions are characterised by inequalities, too, but these are much smaller than the inequalities observed at earlier educational moves *(Blossfeld/Shavit 1993; Müller/Karle 1993)*. Moreover, *secondary effects* become more important in late transitions than primary effects *(Blossfeld/Shavit 1993; Erikson 2007)*. In early transitions, such as the one from primary to secondary school *(Gymnasium)*, primary effects are more relevant *(Stocké 2007; Müller-Benedict 2007)*.

Primary effects tend to diminish with increasing educational attainment *(Blossfeld/Shavit 1993)*. They only play a minor role in the transition to tertiary education, as then *secondary effects* are of central importance *(Erikson 2007; Schindler/Reimer 2010)*. Entering tertiary education is dominated by strata-specific decisions: 67 to 73 per cent *(Erikson 2007* for Sweden) or even 80 per cent *(Schindler/Reimer 2010* for Germany) of the differences between lower and higher social backgrounds concerning this transition can be explained by *secondary effects*. Regarding the transition from undergraduate to postgraduate study in Germany, *Auspurg and Hinz (2011a)* find no primary effects: Students' performance at the undergraduate level has almost no effect on their transition to Master's-level study *(Auspurg/Hinz 2011a: 93)*. This result may be due to selection processes at earlier stages: Those who "survive" until the entrance into higher education are quite homogeneous concerning their (academic) performance (compared to the whole group starting at primary school).

Due to the results of these studies, primary effects are expected to play no or just a marginal role in the very late educational transition from undergraduate to postgraduate study. Therefore, the present article focuses on *secondary effects*. They are expected to be relevant concerning migrants only due to their less advantageous social background. In table 2 (chapter 4.1) it is shown that migrants get less money from their parents and migrants' parents less often have a tertiary degree or high occupational position. Hence, there should be no differences between migrants and non-migrants concerning their intention to pursue a Master's degree if social background and parents' financial resources are controlled for.

2.2 Effects of social class on educational decisions

According to *Breen and Goldthorpe (1997)*, who refined the concept of primary and secondary effects, differences between learners from privileged and disadvantaged families concerning educational decisions rest on three mechanisms.

2.2.1 Relative risk aversion

Breen and Goldthorpe (1997) compare two classes, service class and working class: *"[F]amilies in both classes alike seek to ensure, so far as they can, that their children acquire a class position at least as advantageous as that from which they originate or, in other words, they seek to avoid downward social mobility" (Breen/Goldthorpe 1997: 283)*. Due to their (on average) more advantageous social background *(Isserstedt et al. 2010: 506)*, non-migrants are expected to begin a Master's degree programme more often in order to avoid downward social mobility. It can be assumed that parents who have completed (German) tertiary education usually do not consider a Bachelor's degree sufficient for their children to reach the same social position due to the fact that earning a *Diplom*, *Magister*, or *Staatsexamen* degree usually takes five years or more, whereas getting a Bachelor's degree in Germany usually takes three or three and a half years. In contrast, students who have parents without a tertiary degree are supposed to refrain more often from the (risky) way to earn a Master degree. For them the subjective probability of success in the Master must be significantly higher than for those with academically educated parents to decide for a Master's degree. So, relative risk aversion means that the question whether or not one can already reach parents' class position with the certificate attained is crucial when it comes to making decisions whether or not to stay in the educational system.

2.2.2 Differences in ability and expectations of success

At later stages of people's educational careers, the performance levels of different social classes become increasingly similar due to selectivity *(Mare 1980: 298)*. More and more high-performance learners stay in the educational system, whereas low-performance students are sorted out more and more at each transition in the educational system. At the end of secondary education, social background hardly seems to be associated with performance *(Schindler/Reimer 2010: 647)*. This is assumed to also apply to students with and without a migration background. Due to these selection processes, (major) performance differences are expected not to occur at the transition from undergraduate to postgraduate education either.

However, it can be argued that due to different cultural backgrounds, students from immigrant populations and students without university-educated parents are less interested in postgraduate study. Students from privileged social groups are more interested in academic work *(Schindler/Reimer 2010: 646)*. In Master's degree programmes, academic content is usually more significant than at the undergraduate level. The focus on research is usually stronger at universities than it is at universities of applied sciences. According to these mechanisms, therefore, students with a migration background and students from lower social classes more likely study at universities of

applied sciences. Due to less familiarity with the higher education system and the fact that they more often decided to study at a university of applied sciences, they are expected to be less often inclined to pursue a Master's degree.

Despite the high degree of selectivity, and hence similarity, at the transition from undergraduate to postgraduate studies, students' expectations of success are assumed to be higher among privileged social groups. In these groups, people are more familiar with the tertiary education system, and therefore students from university-educated backgrounds can be expected to be more optimistic about successfully completing a Master's degree. Besides, it can be expected that students from educationally or economically disadvantaged families are more responsive to problems in their studies. After experiencing problems as undergraduate students, they can be expected to be more prone to choose not to pursue a Master's degree and to drop out more often during their undergraduate studies. Students from privileged families, in contrast, are more likely to stay the course until they got their Master's degree, because they can get (more) support from their parents, have a lower level of risk aversion, and want to avoid downward mobility. For them, only a Master's degree enables them to avert downward mobility.

2.2.3 Differences in resources, time horizon and assessment of costs and returns

Finally, *Breen and Goldthorpe (1997)* argue that differences in resources induce different educational decisions. Pursuing a Master's degree programme implies foregoing two years of earning money (despite student jobs). Besides, financial resources are needed to complete a Master's degree. Therefore, students from disadvantaged social backgrounds presumably are less likely to begin a Master's course due to financial considerations. These monetary concerns are linked to a shorter time horizon. According to *Hillmert/Jacob (2003)*, learners from families with little resources are disinclined to engage in long periods of training not only due to financial restrictions but also due to their shorter time horizon. They usually want to earn money earlier than students from more privileged families. They often overstate the costs accruing during their studies and underestimate the rate of return they can get with a university degree. Moreover, the returns seem to be quite uncertain for them, at least more uncertain than for learners from more privileged families. Whereas pursuing a Bachelor's degree seems to be compatible with a short time horizon, because it does not take significantly more time than vocational training (about three years), postgraduate programmes are assumed in the present paper to be too time-consuming for students with a short time horizon.

Migrants' funding of their studies is less strongly based on their parents, but based more on money according to the Federal Education and Training Assistance Act *(BAf*öG*;* see table 2 in part 4.1). Due to the mechanisms mentioned in parts 2.1 and 2.2, a lack

of financial support from parents should have a stronger impact on their decision whether or not to pursue a Master's degree than for non-migrants. An additional reason for this assumption is that it is not sure that *BAföG* will be available in the Master's studies, too. As half of the money has to be repaid, a Master's study will increase their debts. Migrants are expected to be especially anxious to avoid a mountain of debts. Therefore, a lack of money from parents (which has *not* to be repaid and can be expected to be paid in the Master's studies on a level like in the Bachelor's) is expected to have more negative consequences for migrants with regard to plans concerning Master's studies.

2.3 Assimilation

2.3.1 Assimilation theories

In contrast to the theories mentioned so far, the theoretical concepts which are introduced now do *not* assume distinct disadvantages for students with a migration background concerning the transition to postgraduate studies. According to the *immigrant optimism hypothesis (Kao/Tienda 1995)*, migrants often expect a better life and have high aspirations for success. Immigrant parents have a strong impact on their children: The degree of their optimism regarding their children's socioeconomic prospects is crucial for their educational success *(Kao/Tienda 1995: 17)*.

The theory of *segmented assimilation (Portes/Rumbaut 2001; Zhou 1997)* assumes that the children of first-generation immigrants share the optimism of their parents. Therefore, they can be expected to be more motivated and to have higher aspirations for success than students without a migration background. However, segmented assimilation theory also assumes persistent differences between some groups of migrants and the "native" population. These differences are expected to persist for migrants with little education and low socioeconomic positions ('downward assimilation'), whereas migrants with a comparatively high degree of education and high socioeconomic positions become assimilated in more and more linear ways *(Zhou 1997)*. According to *Esser (2001; 2006a)*, there are four dimensions of assimilation: assimilation by *identification*, *structural* assimilation, *cultural* assimilation, and *social* assimilation. In the context of transitions into the tertiary education system, the second and third dimensions are especially relevant: *Structural* assimilation means assimilation with regard to education, occupational position, and social status. *Cultural* assimilation is the acquisition of knowledge and skills that are relevant in the host culture, especially the language spoken in the country or region. According to *Esser (2001)*, *structural* assimilation plays a central role when it comes to avoiding permanent stratification by ethnicity.

The concept of *linear assimilation (Alba/Nee 2003)* assumes immigrants to converge with each succeeding generation, claiming that opportunities in the education system and vocational sector are important factors for the progress of assimilation. Yet it is greater occupational opportunities in the mainstream economy rather than in the ethnic economy that is crucial for assimilation *(Alba/Nee 2003)*.

2.3.2 Assimilation of students with migration background

A comparatively high degree of *structural* and *cultural* assimilation can be assumed for most undergraduate students with a migration background who earned their university entrance qualification in Germany. Only this group is relevant in the present study. First-generation immigrant students are expected to be driven by their own optimism and by that of their parents, resulting in high educational aspirations similar to those of other students, or even higher. In general, students with a migration background are expected to be assimilated to a large degree, because they have already achieved a relatively high educational level (access to higher education), at least if compared to the average person with a migration background. Besides the high degree of *structural* assimilation, they are expected to have a comparatively high degree of *cultural* assimilation, especially when it comes to language. As national language skills are a determining factor for migrants' success in school *(Esser 2006b)*, those who earned a university entrance diploma are a positively selected group with regard to German language skills. If assimilation theories hold true for students with migration background, they (both first and second generation) should state (at least) as often as students without migration background that they plan to pursue a Master's degree.

2.4 Hypotheses

The theories based on *primary* and *secondary* effects and its refinement by *Breen and Goldthorpe (1997)* (parts 2.1 and 2.2) assume that *there are differences* between students with and without a migration background concerning the share of those who plan to continue their studies with a Master's degree. These differences *can be explained by differences in social class and resources*. Thus, if social background and financial situation are controlled for, possible differences between the share of migrants and non-migrants should disappear.

If *there are no differences* between students with and without a migration background concerning the share of those who plan to continue their studies with a Master's degree, this could be a sign that assimilation theories apply for this research question. With regard to the theories mentioned above, the following hypotheses will be examined:

Table 1: Hypotheses

Nr.	Hypothesis	Theoretical justification
1a	Students with a migration background *less often* plan to *continue their studies* with a Master's degree directly after finishing their Bachelor's.	Differences concerning time horizon and resources, i.e. money from parents and familiarity with the tertiary education system Consequences of the status conservation motive
1b[a]	Students with a migration background plan to *continue their studies* with a Master's degree directly after finishing their Bachelor's *just as often* as students without a migration background.	Strong assimilation effects, i.e. a high degree of structural and cultural assimilation of the vast majority of undergraduate students with a migration background.
2	*Study-related problems* experienced by students with a migration background have a *stronger* negative impact on their decision to begin a Master's degree programme than is the case for students without a migration background.	Differences concerning level of (relative) risk aversion Differences concerning time horizon Consequences of the status conservation motive
3	*Lack of money from parents* has a *stronger* impact on the decision whether or not to pursue postgraduate study among students with a migration background than it does among students without a migration background.	

[a] hypothesis 1b is an alternative hypothesis to hypothesis 1a.

3 Data, operationalisation, and methods

3.1 Data

The study uses data from the 19th survey on the economic and social position of students in Germany *(19. Sozialerhebung)*, organised by the German student services and conducted by the HIS Institute for Higher Education Research[2] in 2009. Every 27th student who acquired the university entrance diploma in Germany and who is enrolled at a public university or university of applied sciences is randomly selected *(Isserstedt et al. 2010: 40)*. Therefore, their progress in the studies differs. Due to the fact that it is a written survey and participation is voluntary, only about 32 per cent of the 51,143 students who were given the questionnaire took part in the survey *(Isserstedt et al. 2010: 44)*. Women are considerably overrepresented; students enrolled at universities and students majoring in languages and cultural studies are slightly overrepresented. Students in law, business/economics and social sciences, mathematics, and natural sciences, as well as engineering students and students at universities of applied sciences are slightly underrepresented *(Isserstedt et al. 2010: 44)*. The 16,370 respondents (all semesters, various degree programmes) were asked primarily about their social and economic situation in 2009 *(Isserstedt et al. 2010)*. A detailed description of the study is available in *Isserstedt et al. (2010)*.

[2]Now: German Center for Research on Higher Education and Science Studies.

The data cover students in 'traditional' *(Staatsexamen, Magister, Diplom)* and 'new' degrees *(Bachelor, Master)*. For the analysis below, only students enrolled in a Bachelor's course who do not plan to become a teacher (for them a Master degree is obligatory) are relevant (n=5,930). Due to their special characteristics, undergraduate students enrolled in distance learning programmes (n=166) were excluded as well. The same applies to students who did not earn their university entrance diploma in Germany (n=25)[3] due to their different starting conditions, e.g. concerning German language skills *(Heublein et al. 2004: 107)* or intentions to leave Germany *(Wolfeil 2009)*. 5,548 students remain in the data set. 566 (10%) of them have a migration background.

3.2 Operationalisation

As no information is available concerning respondents' country of birth or that of their parents, the information about citizenship has to be used to define migration background. Until 1999, it was difficult for migrants to become naturalised. The 2000 Nationality Act has made it easier for migrants to get German citizenship. Therefore, migration background and nationality differ increasingly due to the fact that many of the migrants and their children now have German citizenship. Using nationality hence *underestimates* the number of people with a migration background. The following definition (which differs from the German official definition) is used: Students with a migration background are those *who are non-German nationals themselves or have at least one parent who is a non-German national*.

The dependent variable is the question of whether a student *plans to continue her/his studies with a Master's degree directly after obtaining the Bachelor's degree*. The independent variables cover the following topics: (1) migration background (yes or no), (2) financial situation, (3) family/social background, (4) respondents' own university history and study habits, (5) context variables and (6) control variables (see table 2 for details).

3.3 Methods

Logistic regression models were used to test the hypotheses. Average marginal effects are reported. This allows comparing directly the effects for migrants and non-migrants in Table 4 in part 4.2 *(Auspurg/Hinz 2011b)*.

[3] They are in the data accidently as they are not part of the target group. 47 Bachelor students without information were they earned their university entrance qualification were excluded as well.

4 Results

4.1 Descriptive results

Table 2 gives an overview concerning the descriptive results of the relevant variables.

Table 2: Descriptive results concerning the relevant variables[a]

Variable	Migration background		Differences?
	no (n=4982)	yes (n=566)	
Intention to pursue a direct Master's (yes/no; share yes)	51.2 %	52.1 %	V[b]=0,01
Financial situation			
Maintaining of livelihood during studies is secured (yes/no; share yes)	64.0 %	49.5 %	V[b]=0,09***
Amount of money from parents (€/month)	218.5 (215.4)[c]	141.4 (198.7)[c]	t=8.08***
Amount of money according to Federal Education and Training Assistance Act (€/month) *(BAföG)*	118.8 (204.5)[c]	194.9 (246.6)[c]	t=8.16***
Amount of money from own employment (€/month)	162.3 (246.5)[c]	178.3 (225.0)[c]	t=1.47°
Family/social background			
Number of siblings who are in the education system	0.75 (1.09)[c]	0.79 (1.17)[c]	t=0.75
At least one parent with a tertiary degree (university or university of applied sciences) (yes/no; share: yes)	48.2 %	41.0 %	V[b]=0.04**
At least one parent with a high occupational position (yes/no; share: yes)	49.0 %	34.7 %	V[b]=0.08***
Respondent's own university history and study habits			
Change of field of study (yes/no; share: yes)	16.0 %	17.7 %	V[b]=0.01
Break in the studies (yes/no; share: yes)	6.1 %	8.0 %	V[b]=0.02°
Studies are the central element of activities and interests (yes/no; share: yes)	48.5 %	47.3 %	V[b]=0.01
Number of hours spent for study purposes (per week)	36.6 (13.1)[c]	37.3 (13.2)[c]	t=1.09
At least one study-related problem in the last twelve months (yes/no; share yes)	27.5 %	34.3 %	V[b]=0.05**
Context variables (type of higher education institution, field of study)			
University (vs. other institutions, esp. university of applied sciences) (yes/no; share: yes)	58.4 %	58.1 %	V[b]=0.00
Social sciences, psychology, and education (share)	16.0 %	14.0 %	V[b]=0.02
Medicine and health sciences (share)	1.4 %	1.1 %	V[b]=0.01
Mathematics and natural sciences (share)	19.5 %	17.1 %	V[b]=0.02
Languages and cultural studies (share)	16.3 %	16.1 %	V[b]=0.00
Engineering (share)	21.4 %	22.1 %	V[b]=0.00
Law and business administration/economics (share)	23.6 %	27.7 %	V[b]=0.03*

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Table 2 (continued)

Variable	Migration background		Differences?
	no (n=4982)	yes (n=566)	
Control variables			
Age	23.4 (3.3)[c]	23.7 (3.4)[c]	t=2.36*
Women (share)	54.2	56.0	V[b]=0,01
At least one child (yes/no; share: yes)	3.4	4.4	V[b]=0,02
Additional information (not relevant for logistic regression models)			
Progress of studies (semester)	3.6 (1.9)[c]	3.8 (2.2)[c]	t=1.68°
Number of working hours (per week)	6.2 (8.5)[c]	8.2 (9.4)[c]	t=5.05***

[a] Detailed descriptions of the independent variables out of these, which are not straightforward, but constructed in a more complex manner *(italicised)*, are presented in appendix 1.
[b] V means Cramérs V here
[c] Standard deviation
Significance: °p< .1; *p<.05; **p<.01; ***p<.001

The results show that there are no significant differences between migrants and non-migrants to plan to continue their studies with a Master's degree directly after the Bachelor's. However, there are considerable differences with regard to their subjective financial situation: Almost two-thirds of non-migrants claim that maintaining their livelihood during their studies is secured, compared to slightly less than half of non-migrants. In contrast to this negative subjective assessment, migrants objectively do *not* face a less favourable financial situation. They get 77 euros less per month from their parents, but receive roughly the same amount extra through government financial aid based on the Federal Education and Training Assistance Act. Besides the differences with regard to financial resources, there are also substantial dissimilarities concerning family background (parents' education and occupational position). Moreover, there is also a difference concerning study-related problems within the last twelve months. Migrants more often experienced such a problem. Migrants and non-migrants do not differ with regard to their progress in the studies. However, they are dissimilar when it comes to working hours: Migrants report to work about two hours more per week than non-migrants.

4.2 Results of the logistic regressions

Table 3 shows the results of the logistic regression concerning respondents' plans to directly continue studies with a Master's degree after finishing their Bachelor's. More and more variables are introduced to check whether or not the effect of migration background changes. In none of the four models there is a significant effect for migration background, but the models show which factors instead of migration background are relevant for the plan to directly continue studies with a Master's.

Table 3: Logistic regression[a] concerning respondents' plan to directly continue their studies with a Master's (analyses for all undergraduate students)

Variables	Model 1	Model 2	Model 3	Model 4
Migration background (1=yes)	.0307401	.030008	.03151	.027757
Financial situation				
Maintaining of livelihood during studies secured (1=yes)	.009467	-.001156	.005422	.003744
Money from parents (€ per month)	.000234***	.000187***	.000179***	.000136***
Financial aid according to Federal Education and Training Assistance Act (€ per month)	.000063°	.000088*	.000090*	.000087*
Money from own employment (€ per month)	-.000028	-.000023	.000025	.000051°
Family/social background				
Number of siblings who are in the education system		–.001981	–.002571	–.007739
At least one parent has a tertiary degree (1=yes)		.081057***	.080871***	.058611***
At least one parent has a high occupational position (1=yes)		.005095	.006214	.000956
Respondents' own university history and study habits				
Change of field of study (1=yes)			.012116	.003252
Break during studies (1=yes)			–.044192	–.069205*
Studies are central element of activities and interests (1= yes)			.090225***	.080447***
Time spent for study purposes (hours per week)			.003502***	.003074***
Study-related problems during last twelve months (1=at least one problem in the last twelve months)			-.052761**	-.067257***
Context variables (Type of higher education institution, field of study)				
University (1=yes) (*Reference category: University of applied sciences*)				.246252***
Social sciences/psychology/education				.043718*
Medicine and health sciences				.085179
Mathematics and natural sciences				.102012***
Languages and cultural studies				.027639
Engineering				.122273***
(Reference category: Law and business/ economics)				

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Table 3 (continued)

Variables	Model 1	Model 2	Model 3	Model 4
Control variables				
Age	–.028942***	–.028153***	–.027151***	–.019383***
Woman (1=yes)	–.063219***	–.063269***	–.065555***	–.056976***
Child (1=at least one child)	–.026728	–.031648	–.003326	–.002297
Constant	2.80583***	2.62785***	1.87569***	.43733
n	4,898	4,898	4,898	4,898
Likelihood ratio chi²	248.91	280.75	406.50	764.80
Prob > chi²	0.0000	0.0000	0.0000	0.0000
Pseudo r²	0.0367	0.0414	0.0599	0.1128

[a] indicated are average marginal effects;
Significance: °p<.10; *p<.05; **p<0.01; ***p<.001

Model 1 considers the variable measuring migration background, variables concerning respondents' financial situation and three control variables. There is *no* significant difference between migrants and non-migrants with regard to their plans to start a Master's degree programme after finishing their Bachelor's. The more money students get from their parents, the more likely they are to plan to continue their studies with a Master's degree directly after obtaining their Bachelor's degree. Receiving financial aid based on the Federal Education and Training Assistance Act only slightly increases the probability, whereas money from own employment does not play a role at all. The probability is negatively associated with students' age, and women are less likely to have plans to earn a postgraduate degree. Children do not have an impact.

In *model 2*, social background is added. Students with at least one parent with a tertiary degree have a distinctly higher probability to have plans for postgraduate study than students who do not have a parent with a tertiary degree. The number of siblings who are also in the educational system and parents' occupational position do not have an influence.

In *model 3*, variables concerning students' study habits and their university history are included. Students who say their studies are central to their activities and interests are much more likely to think about doing a Master's. The same is true for the time (hours per week) students spend on their studies. Students who encountered at least one of the three study-related problems during the last twelve months are less likely to have plans for graduate school.

Finally, in *model 4*, context variables were included. Students at universities have a much higher probability to pursue a Master's degree than students at universities of applied sciences. Besides, there are marked differences by field of study.

The results remain quite stable as more and more variables are added. However, with the inclusion of more variables, the effects for the financial situation and family background become somewhat less strong. It can be seen that in terms of funding, support from parents is by far the most important. As we do not find a difference between migrants and non-migrants, we have to *reject hypothesis 1a* and *accept hypothesis 1b*. In order to test hypotheses 2 and 3, separate models were calculated for migrants and non-migrants.

Table 4: Logistic regression[a] concerning plans to directly continue studies with a Master's (Separate analyses for undergraduate students with and without a migration background)

	Students without a migration background	Students with a migration background
Variables	Model 4	Model 4
Financial situation		
Maintaining of livelihood during studies secured (1=yes)	.012536	–.094706*
Money from parents (€ per month)	.000122***	.000319**
Financial aid according to Federal Education and Training Assistance Act (€ per month)	.000081*	.000158
Money from own employment (€ per month)	.000054°	.000044
Family/social background		
Number of siblings who are in the educational system	–.010633	.018131
At least one parent has a tertiary education degree (1=yes)	.062489***	.018366
At least one parent has a high occupational position (1=yes)	–.003099	.059243
Respondents' own university history and study habits		
Change of field of study (1=yes)	.005635	–.030253
Break during studies (1=yes)	–.060766°	–.137865
Studies are central element of activities and interests (1= yes)	.078577***	.090509*
Time spent for study purposes (hours per week)	.003537***	–.001394
Study-related problems during last twelve months (1=at least one problem in the last twelve months)	–.068563***	–.041739

Continued on the next page

Table 4 (continued)

	Students without a migration background	Students with a migration background
Context variables (Type of higher education institution, field of study)		
University (1=yes) (*Reference category: university of applied sciences*)	.246996***	.251073***
Social sciences/psychology/education	.043530°	.089083
Medicine and health sciences	.066890	.304202
Mathematics and natural sciences	.104546***	.092869
Languages and cultural studies	.025284	.032870
Engineering *(Reference category: Law and business/ economics)*	.132106***	.022872
Control variables		
Age	–.019412***	–.018664*
Woman (1=yes)	–.052563***	–.119024*
Child (1=at least one child)	–.004235	.053637
Constant	0.34359***	1.42133
n	4,424	474
Likelihood ratio chi²	702.03	84.88
Prob > chi²	0.0000	0.0000
Pseudo r²	0.1146	0.1293

[a] indicated are average marginal effects; Significance: °p<.10; *p<.05; **p<0.01; ***p<.001

Applying model 4 (see table 4) to the separate data sets for migrants and non-migrants shows that migrants and non-migrants tend to have a lower probability to have the intention to start a Master's degree if they had study-related problems within the last twelve months. However, the effect is significant for non-migrants, but not significant for migrants and not stronger for migrants than for non-migrants. Therefore, *hypothesis 2 has to be rejected*.

The same is true concerning hypothesis 3. The effect of money from parents seems to be stronger for migrants. However, additional analyses (for reasons of limited space not shown) indicate that the interaction of money from parents and migration background is not significant[4]. In other words, the difference concerning the effects of money from parents is *not* significant.

[4] In this analysis, the models for the complete data set which were reported in table 3 were slightly changed. Instead of the exact amount of money students get from their parents, two groups were created. Group 1: more than 150 euros (the median) per month from their parents, group 2: 150 euros or less. The interaction of a migration background and a high amount of money from parents was *not significant* in any of the four models. The same result was found when the students were divided in one group which got *any money* (59 percent of migrants and 77 percent of non-migrants) and one which got no money from their parents.

5 Summary, conclusions and limitations

5.1 Summary

This article shed light on the question of whether migrants differ from non-migrants with regard to their plans to continue their studies with a Master's degree after finishing their Bachelor's. The analyses were theoretically based on Boudon's primary and secondary effects, the refinement by Breen and Goldthorpe and theories of assimilation.

It has been shown that there are *no significant differences between migrants and non-migrants* concerning their plans to pursue a postgraduate education. Migrants are *not* more strongly influenced by study-related problems concerning their plan to get a Master's degree than non-migrants. The effect of receiving money from parents does *not* differ significantly between migrants and non-migrants. All hypotheses but one (hypothesis 1b) had to be rejected.

5.2 Conclusions

Undergraduate students with a migration background as a whole do not differ significantly from students without a migration background with regard to their plans to pursue postgraduate (Master's-level) studies. This result confirms those studies which have shown that late transitions in the educational system are characterised by small(er) social inequalities. Nevertheless, differences according to social class also play a role at this late transition, namely parents' education and financial support. These results confirm the assumptions of *Breen and Goldthorpe (1997)* concerning the effect of differences in resources (see 2.2.3). Moreover, avoidance of downward mobility and differences with regard to the assessment of risks can explain the higher transition rate of those students with at least one parent who obtains a tertiary degree (see 2.2.1 and 2.2.2). However, the effects are only *indicators* for these mechanisms and there is no stringent proof. There is also no direct evidence concerning the assumptions with regard to assimilation. One *plausible explanation* of the fact that migrants as often as non-migrants have plans to pursue Master's level studies is that there probably are assimilation effects. Assimilation effects are also a *possible explanation* for the fact that hypotheses 2 and 3 had to be rejected. While it is true that there is a lack of structural assimilation at least concerning the parents of students with migration background (less money from parents probably due to a less advantageous financial situation caused by a lower level of education of parents), students with migration background probably can (partly) compensate this disadvantage by their own high degree of cultural assimilation (e.g. language skills). For this conclusion there is also *no direct proof*, but the fact that these students with a migration background have earned their qualification for admission to higher education in German(y) is an indicator for a comparatively high degree of cultural integration.

The results also indicate that the mechanisms behind this decision in both groups are similar to a high degree. The analyses have shown that migrants have about the same amount of money per month as non-migrants. They get less money from their parents, but receive about the same amount in extra financial aid according to the Federal Education and Training Assistance Act. However, half of this financial aid has to be paid back. Therefore, this source is less important than money from parents for migrants and non-migrants regarding their decision to begin a Master's degree programme. As migrants get a greater share of their total funding through government financial aid, they are disadvantaged compared to non-migrants, even though they do not have less money available than non-migrants. If migrants were to get the same amount of money from their parents as non-migrants, most likely the share of migrants who plan to pursue postgraduate study would be *higher* than that of non-migrants. Possibly, it would also be higher if government financial aid did not come with an obligation to pay back half of the funding. A reduction (one fourth instead of one half) or a complete abolition of the obligation to repay *BAföG* (usually possible for pupils in Germany) could be a measure to encourage more people with migration background to study (on Master's level). This could be a measure to work against skill shortages and the implications of the ageing of the German population.

5.3 Limitations

In general, the results presented in this article should be interpreted carefully due to five drawbacks:

(1) In the data, there is only information about students' *intention* to pursue a Master's degree programme. Educational *intentions* must not be confused with educational *decisions (Sarcletti/Müller 2011: 244–245)*. For example, some of the students who plan to get a Master's degree fail to get admitted to graduate school due to admissions restrictions. Caused by immigrant optimism (Kao/Tienda 1995), migrants perhaps more often than non-migrants are too optimistic about their chances to get an admission to postgraduate studies.

(2) Due to data privacy restrictions and limited number of students with migration background in the data set, it was not possible to analyse different groups of migrants, especially concerning country of origin, first versus second generation and the distinction between those with one and those with two parents without a German nationality. For the latter group, German language skills and knowledge about the German educational system could be worse that for those who have one "native" parent. However, due to naturalisation, some of the students with migration background who have one "German" parent still may have two parents who are migrants.

(3) The subjective probability to successfully completing a Master's degree programme study was not considered for the analyses. Study-related problems at the undergraduate level during the last twelve months can be interpreted as a *proxy* for this, but more specific indicators may be associated with somewhat different results.

(4) There is no information about the (subjective) employment outlook for graduates with Bachelor's and Master's degrees. Having this information would make it possible to control for expectations with regard to return on investment with different degrees.

(5) There is no information about respondents' academic performance at the undergraduate level or at the end of the school career[5]. Although *primary effects* are not important in late educational transitions, controlling for performance could refine the analyses.

These drawbacks show that further studies concerning the move of students with migration background from undergraduate to graduate studies are necessary to shed more light on this "new" transition.

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[5]For those bachelor's students who got their university entrance diploma in 2008, the average final grade is 2.24 for students without (n=1,922) and 2.45 for students with a migration background (n=291), according to data from the panel on individuals eligible for admission to higher education institutions *(Studienberechtigtenpanel)*, conducted by the German Centre for Research on Higher Education and Science Studies (thanks to Heiko Quast for the analysis). Thus, students with a migration background tend to have a lower average final grade, typically come from a lower social background, and hence get less money from their parents. And yet, they plan to pursue a postgraduate degree just as often as students without a migration background, or even slightly more often than students without a migration background. This could be explained by migrant students' higher ambition or motivation.

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Appendices

Appendix 1: Operationalisation of independent variables

Variable	Question in questionnaire	Codes	Comments
Maintaining of livelihood during studies is secured?	To what extent do the following statements apply to your financial situation? […] The maintaining of my livelihood during my studies is secured.	1: does not apply at all 5: applies fully	Yes if code 4 or code 5 is applicable, no otherwise
At least one parent has a high occupational position	Please classify the current or last employment of your father and mother by using the spectrum mentioned below.	See appendix 2	
Studies are central element of activities and interests	Which of the following three statements does best apply to your current academic and life situation?	1: Studies and university are the centre around which almost all of my interests and activities revolve. 2: Studies and university are as important to me as interests and activities outside university. 3: Studies and university are rather in the background, because my primary interests and activities are outside university.	Studies are the central element of activities and interests if code 1 is applicable.

Appendix 1 (continued): Operationalisation of independent variables

Variable	Question in questionnaire	Codes	Comments
Study-related problems during last twelve months	Did you have need for advice or information concerning the following topics in the last twelve months? […] Problems concerning learning/ performance […] Doubts about continuing my studies Problems to finish my studies […]	1: yes 0: no	This variable is assumed to be a proxy for the subjective probability of success in a Master's degree programme. Persons who encountered at least one of these problems during their undergraduate studies are assumed to think they will be less successful at graduate school than those who did not have such a problem. Students get code 1 if they had at least one of these three problems and code 0 otherwise.

Appendix 2: Operationalisation of parents' educational position (categories)

Question in the questionnaire: Please classify the current or last employment of your father and mother by using the spectrum mentioned below.

Main category 1	Main category 2	Main category 3	Main category 4	Main category 5
Worker	Employee	Officer	Self-employed	Liberal professions, e.g. doctor with own medical office, lawyer with own law office, artist, showman

Appendix 2 (continued): Operationalisation of parents' educational position (Subcategories)

Main category 1	Main category 2	Main category 3	Main category 4	Main category 5
Subcategories				
Unskilled/ semi-skilled worker *(Code 1)*	Employee with simple tasks, e.g. stenotypist, sales assistant *(Code 4)*	Public officer in low or middle civil service *(Code 8)*	Small self-employed business, e.g. small store retailer, craftsperson, farmer with small farm *(Code 11)*	With low income *(Code 14)*
Skilled worker or not self-employed craftsperson *(Code 2)*	Employee with qualified work in a middle position, e.g. case handler, accountant, clerk of works, nurse, caregiver *(Code 5)*	Public officer in higher intermediate civil service[a] *(Code 9)*	Middle self-employed business, e.g. large store retailer, main agent, farmer with large farm *(Code 12)*	With middle income *(Code 15)*
Foreman, site foreman *(Code 3)*	Employee with upper-level position, e.g. teacher, research assistant, authorised officer, head of department[a] *(Code 6)*	Public officer in highest civil service[a] *(Code 10)*	Large selfem-ployed business, e.g. entrepreneur with large company or high income[a] *(Code 13)*	With high income[a] *(Code 16)*
	Officer with extensive executive functions, e.g. director, managing director, member of the management board of a large company or federation[a] *(Code 7)*			

[a] high occupational position of parents if at least one parent belongs to one of these subcategories (codes 6, 7, 9, 10, 13, 16), low (also category "never worked", code 17) otherwise

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