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Why are Working-class Children Diverted from Universities?—An Empirical Assessment of the Diversion Thesis

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In spite of educational expansion, the decline of inequality of educational opportunity in schools and the institutional reforms in vocational training and university education, access to university education still remains remarkably unequal across social classes. According to the 'diversion thesis' suggested by Müller and Pollak, which was extended by Hillmert and Jacob, working-class children are distracted from the direct path to university by non-academic educational institutions which affect individuals' educational choices and provide attractive of education and training alternatives in non-academic areas. To investigate why such a diversion occurs, the mechanisms of socially selective educational choices have to be analyzed from the perspective of rational action theory. In order to test this theoretical approach, data of school leavers that have attained the 'Abitur' (high school degree) were collected in East Germany's federal state of Saxony. The main mechanisms responsible for the fact that working-class children are very likely to favour vocational training over education at university are the subjective evaluation of prior educational performance, the probability of success at university, and the subjectively expected costs. In particular, working-class children's educational choices are most influenced by negative estimates of prospective success in university education, which causes them to refrain from university education.

Social Stratification in Higher Education

In spite of the expansion of education in Germany, working-class children are still disadvantaged in academic participation (Blossfeld, 1993; Müller and Karle, 1993; Becker and Hecken, 2007; Mayer *et al.*, 2007; Müller and Pollak, 2007). On the one hand, access to the upper secondary school track (*Gymnasium*) and thus to the *Abitur*, which is required to enter university, has increased slightly for working-class children (Becker, 2003; Blossfeld, 1993; Müller *et al.*, 1996). On the other hand, service-class children are still more likely to attend university than working-class children, to the extent that higher education is still reserved primarily for the already privileged offspring of service-class families (Blossfeld and Shavit, 1993, p. 49; Mayer, 2003, p. 609).

Following Shavit (1989), Müller and Pollak (2007) emphasize the impact of institutional structures and regulations of the German educational system on the educational decisions of the individuals and their families. The institutional characteristics and their

consequences might constitute *one* of the *main* reasons for persistent social inequality in opportunities for university training (Müller and Karle, 1993; Shavit and Müller, 2000; Mayer *et al*., 2007; Arum *et al*., 2007). Such inequality is reinforced by the broad range of different educational choices, as well as the strong segmentation and pronounced stratification of the German educational system, the rigid selection with regard to the 'tracking' at the transition from primary school to the secondary schools, and the marginal permeability among the secondary schools.

Firstly, early directions for a future educational course which are set by the end of primary school and are pivotal and difficult to revise might divert working-class children from access to higher education. Usually, working-class families decide in favour of a short and less ambitious education. Such early decisions hamper or obstruct possible access to academic training at later points in time (Becker, 2003; Stockè, 2007).

Secondly, even after the completion of compulsory schooling, Germany's dual system of vocational training (Blossfeld, 1992) might divert working-class children from the attainment of matriculation certificates or divert eligible working-class graduates from university entrance. The possibility to start vocational training after the completion of lower or intermediate secondary school might have an indicatory impact on an individual's choice of education after the completion of primary school. This possibility will also influence early decisions to attain the upper secondary school certificate or to transit from school to work (Shavit and Müller, 2000; Müller and Pollak, 2007, p. 308).

Thirdly and finally, working-class children who have 'survived' the school system up to point of the attaining the certification needed to enter tertiary academic education ('Abitur') might be diverted from university because the system of vocational training (schooling and in-firm apprenticeship) provides attractive alternatives (Blossfeld, 1992). These alternatives may indeed offer lower returns to education but they are less ambitious and risky for working-class graduates. This might even be the case for well-performing working-class children who would probably make excellent university students. Therefore, even after the attainment of the 'Abitur', social disparities of participation in higher education are to be expected (Müller and Pollak, 2007, p. 311).

Müller and Pollak (2007, p. 311) correctly state that there still are no empirical tests regarding these mechanisms of diversion at the end of upper secondary school. We attempt to fill this gap for Germany both in theoretical and empirical respects. In order to achieve this, we need to answer the following question: *Why* are working-class children diverted from university training in a stratified and segmented educational system? If we proceed to assume that the diversion of working-class children from universities is primarily the result of individual educational choices, we have to answer an additional question: *Which mechanisms of individual educational decision* are responsible for the fact that working-class children are diverted from university training?

In order to provide rational answers to both of these questions, the second section of this article will focus on the discussion of rational action theory, on the basis of which we will deduce hypothesis for empirical analysis. In the third section, we will describe the data base, the variables, and the statistical analysis employed for the empirical analysis. The empirical results will be presented in the fourth section, before we will conclude with a final discussion.

Theoretical Background

Basic Model

For a long time, the paradigm of social reproduction has dominated the description and explanation of both the social stratification in higher education and the social inequalities of educational attainment. According to this theoretical approach, the task of the educational system has been seen in the legitimization and reproduction of the social inequality. In particular, Bourdieu and Passeron (1977) stress that the upper classes exploit higher education for social reproduction. Both the individual and social socialization of the 'class habitus' and—as a consequence of it—the social inequalities of achievement are key mechanisms for persistent inequality of educational opportunity to the disadvantage of the working classes. Self-selection at the transition to higher education based on class-specific achievement constitutes the 'illusion of equality of educational opportunity'. However, this paradigm is theoretically inconsistent and its empirical evidence is still weak (Goldthorpe, 2007).

The *theory of subjectively expected utility (SEU)* suggested by Esser (1999, pp. 265–275), however, is a sophisticated rational choice approach that has been empirically confirmed (Becker, 2003; Breen and Yaish, 2006; Becker and Hecken, 2007; Stockè, 2007). By utilization of this model, it is possible to explain the diversion of working-class children from university as a (intended or unintended) consequence of an individuals' educational decision depending on their socioeconomic resources and their position in the

social stratification, respectively (Becker and Hecken, 2007).[1] This model includes the arguments suggested previously by Breen and Goldthorpe (1997) or by Erikson and Jonsson (1996) (Becker, 2003; Stockè, 2007). In accordance with Boudon (1974), it is assumed in this explanation using the rational action theory that the families' motive of status maintenance across generations is an instrumental end of education investments of their offspring. In particular, the (upper) service classes are interested in avoiding downward intergenerational mobility due to suboptimal investment in education (Keller and Zavalloni, 1969). With a set of choices of alternative educational courses provided by the educational system, individual decisions regarding investment in education depend on the families' socioeconomic resources that can be mobilized for the offspring's education. Therefore, the individuals (and their families) chose the most suitable and most advantageous education subjectively (for example a fairly certain or less risky and cost-efficient education) in order to maintain social status.[2]

Early educational decisions resulting in the attainment of eligibility for university training and the choice to attend university are specific strategies of members of the service class to achieve status maintenance directly. If offspring from upper social classes would reject university education, they would have face definite and significant loss of social status. If the expected costs of university training seem too high or the likelihood of successful academic training seems too low, they decide in favour of the next lower educational course which would still entails the option of later entrance to university. This way, they are still given the opportunity to maintain their social status.

However, for members of the working class, a university education is not necessary for status maintenance. In order to maintain their social status, they have to opt for apprenticeship. With regard to the decision in favour of university training, the role of educational motivation might not play a significant role, because working-class graduates do not have to worry about status decline even if they decided to reject tertiary education. Rather, they consider the upper secondary certificate ('Abitur') as an entitlement which permits access to a broad spectrum of alternative educational options. In the case of a positive attitude toward the own success and sufficient socioeconomic resources, these options could be exploited. Therefore, for members of the working class, the attainment of the eligibility for university training is primarily a tool which permits access to desired positions in the non-academic, vocational training sector. In the view of Hillmert and Jacob (2003), the possibility of alternative educational options contributes to the diversion of potential working-class students and, thus, prevents them from entering university immediately after attaining the 'Abitur'. However, even after completion of non-vocational training, students who have attained the 'Abitur' can choose to study at university. Such a combination of apprenticeship and university education is mostly chosen by risk-averse and underperforming graduates for whom the dual education serves as an 'insurance strategy' (Büchel and Helberger, 1995).

For members of the working class, the *investment risk*—that means the ratio between the subjectively expected costs of education (including both opportunity and transaction costs) and the subjectively expected success probability—plays a major role regarding this educational decision (Erikson and Jonsson, 1996; Hansen, 1997; Becker and Hecken, 2007). From the viewpoint of the working classes, university education seems to be relatively expensive as well as very risky because of the correlation between social stratification and expected failure regarding successful tertiary education. Non-academic, vocational training, however, involves a lower investment risk due to low costs and high chances of educational success.

Despite the fact that the educational investments to attain a university degree do not differ for working-class students and upper class students, university training seems more risky to working-class students because, from their point of view, the benefits of higher education seem uncertain. The direct and indirect costs of tertiary education seem higher to them than to members of the upper social classes. Therefore, it is more likely for members of the working classes to refrain from university education and, instead, choose vocational training than it is for members of the upper social classes. Because of the institutionalized alternatives of continued education outside of university, the investment risks are of considerable influence regarding the working classes' educational decisions. As a result, the demand for higher education is lower for the working classes than for the upper social classes.

The Time Horizon—The Extended SEU Model

If individuals are able to calculate their investments regarding future educational returns, then it has to be assumed—regarding both the calculations and the evaluation of costs and benefits of educational alternatives—that the individuals' *time horizon* depends on their socioeconomic situation (Hillmert and Jacob, 2003).

Because the time horizon is based on socially selective incentives of education, one would expect that eligible individuals from the working class have a shorter time horizon. The costs of higher education which are due immediately might be more significant to them than the uncertain returns which they might realize in the future. Due to the short time horizon of children of families with low income, the possibility of 'vocational training' diverts them from university training. This is especially true for eligible working-class graduates who scored average but have a low tolerance for the compensation of direct costs of education (Müller and Pollak, 2007, p. 310).

However, eligible individuals with substandard school achievements decide in favour of vocational training with the possibility of later studies at university, provided that they have a long time horizon and, thus, can compensate the total costs of consecutive training. In particular, risk-averse and/or eligible but underperforming graduates tend to realize such consecutive training: 'first vocational training and then (maybe) university education' (Büchel and Helberger, 1995, p. 35). These graduates usually belong to the middle and upper classes. With respect to this double option, working-class children might be disadvantaged in two respects because for them, two mechanisms of diversion apply. Firstly, cost pressure enforces short time horizons, which diverts them from university education. Secondly, relatively uncertain prospective achievements restrict their time horizons to educational possibilities that only require short and less ambitious training. Essentially, both of these diversion mechanisms reflect the effects of investment risk on educational decisions right after eligibility for university is attained.

Preliminary Conclusion

The empirical analysis aims at verifying the theoretically modelled determinants of educational decisions varying between different the social classes. Does the class-specific evaluation of both costs of tertiary education and prospective achievements contribute to the diversion of working-class children from university education? Are working-class children disadvantaged because of cost pressure, resulting in the fact that also talented graduates abandon university education?

In Germany, as has been shown, graduates can decide to enter university even after completion of their vocational training. Is it mainly underperforming upper-class graduates with long time horizons who make use of this option of consecutive training? Or is it working-class graduates who take advantage of this option because they have to abandon direct entry to university because of educational costs and substandard school performance?

From the theoretical discussion we derive two hypotheses:

(i) *Diversion thesis:* The working-class graduates are mainly diverted from university training by both the cost pressure they expect for their academic training and the underestimation of their achievement at university training.

(ii) *Time horizon thesis:* Due to the socio-economic resources, working-class graduates have shorter time horizons for investments in education than graduates from upper classes and, therefore, they also forgo academic university education after they have completed classic vocational training.

Data, Variables, and Statistical Procedure

Data

For the empirical analysis, we use survey data collected by Wolter and Lenz (Dresden University of Technology), by order of the Saxony ministry of culture (Wolter *et al.*, 2006).[3] The surveys considered for the present contribution were carried out in the years 2000, 2002, 2004, and 2006 in several Saxon school districts. The schools in the sample have been selected randomly in the Saxon school districts Bautzen, Chemnitz, Dresden, Leipzig, and Zwickau. It has been considered that the three school types—academic high school (*Gymnasium*), non-academic high school (*Berufsgymnasium*), and technical secondary school (*Fachoberschule*)—and the school districts are represented in accordance with their shares in the population. Within each of the randomly selected schools all of the graduates in the senior classes (12th or 13th grade) had to be interviewed. The survey is limited to graduates with an educational career exclusively in schools and focuses on their educational decision after getting the 'Abitur' as eligibility for university training.[4] Graduates with labour force experience have been excluded from the survey.

In each of the different years, 10 per cent of the graduates of randomly selected schools were interviewed with a standardized questionnaire. For each year, the data provides information for almost 2.000 12th and 13th graders in Saxony. Although the empirical analyses rely on data collected in Saxony, they are also valid for the other 15 federal states

(the German '*Länder*'), too. With respect to getting the eligibility for tertiary education as well as to the access to vocational or university training there are no substantial institutional differences among the *Länder* in the secondary school systems and, in particular, in the system of both the non-tertiary and the tertiary sector of education and training.[5]

In the empirical analysis, we only considered respondents who had come to a clear decision about their educational course and/or their occupational career at the time of the survey. Almost 20 per cent of the respondents (1.307 out of 7.175 applicable cases) were indecisive about their subsequent educational choice and have therefore been excluded from statistical computations. Class-specific differences of decisiveness and determination regarding educational decisions are to be expected since not all social classes are familiar with higher education to the same extent. If these differences are systematic, this would result in both the socially selective sample and the so-called *sample selection bias*, which bears serious consequences for multivariate estimations (Heckman, 1979).

Our assumption about sample selectivity can partly be confirmed (Table A1). With regard to social class, there are no significant differences regarding the indecisiveness on educational decisions. At best, there are indications that working-class children are more likely to be uncertain about their decision than upper service-class graduates. Furthermore, it is true for all of the graduates that the higher their certificate (*Gymnasium, Berufsgymnasium*, or *Fachoberschule*), the more likely a clear decision on their next educational step. In particular, graduates of the Gymnasium seem to decide about their educational and occupational career very early on. The fast and rather confident decision of graduates of the Gymnasium reflect the significance of the contingency of previous educational decisions (Breen and Jonsson, 2000) as well as the long-term significance of previous diversion within the stratified educational system.[6]

Our data are cross-sectional. This constitutes a serious limitation of the multivariate estimations in respect of both the modelling of the process and the causal explanation of the decision (Blossfeld, 1996). It might be less serious if one considers that the characteristics of the explaining factors are measured contemporarily to the decision.[7] However, there is a problem with right-censored data still. Its correlation with the contingency of previous educational course refers to the theoretical assumption that individuals' decisions are processes in time.

Dependent and Independent Variables

For the empirical test of the diversion thesis suggested by Müller and Pollak (2007), the *first* dependent variable is the individuals' decision after attaining the eligibility for university training. The following outcomes are possible: (i) training at university, (ii) university of applied sciences (*Fachhochschule*), (iii) higher vocational training such as university of cooperative education (*Berufsakademie*), or (iv) vocational training (full- or part-time schooling and/or apprenticeship in firms). The reference category is 'vocational training'. Additionally, regarding the extension of the original diversion thesis suggested by Hillmert and Jacob (2003), it should be considered whether persons who have already opted for vocational training intend to enter university after completing their vocational training. This decision is the *second* dependent variable (reference category: academic and non-academic training at universities).[8]

As is usual for secondary analyses, the operationalization of the independent variables—the components of the individual decision process—are usually suboptimal. In our case, extensive tests and successful utilization vouch for the validity of the employed proxies (Becker and Hecken, 2007). The correlation between social class and the proxies provide plausible and already familiar findings (Table A2). However, we should keep in mind that the indirect operationalization of the decision process includes methodological problems, which is why the estimations have to be interpreted carefully (Stockè, 2007). Otherwise, on the one hand, there is empirical evidence that these robust indicators work in the theoretically expected way (Becker and Hecken, 2007). On the other hand, for Germany, there are several descriptive studies supporting our findings without considering the social mechanisms responsible for the social selectivity at the access to higher education (Mayer *et al.*, 2007; Müller and Pollak, 2007) as well as the simulation of the individual decision for multiple training after schooling (Hillmert and Jacob, 2003).

The subjectively expected *benefit of education B* is measured by the respondents' evaluation of the career prospects of academics (Question: 'What is your estimation of job prospects for academics within the labour market?'—range of answers: 1 = very low–5 = very high). The subjectively expected *amount of status demotion* SD, as a consequence of suboptimal decision, is measured by the respondents' evaluation of career prospects for graduates of vocational training that have no university education (Question: 'How good are chances in the labour market for graduates of

vocational training without university education?'—range of answers: 1 = very small–5 = very high). The subjectively expected *likelihood of status demotion c* is based on the individuals' comparisons of the career prospects of the academics and the graduates of vocational and further training (Question: 'Do you think that vocational training and further education will provide you with the same occupational opportunities as a university degree?'—range of answers: 1 = very small–5 = very high).

The impact of subjectively estimated *costs C of university training* is measured with the question of whether the expected costs have been of influence to the decision for or against university training. The text of the question is: 'Do the costs of a university education have an impact on your decision for or against university training?'. Answers range from '1' for 'no influence' to '5' for 'very strong influence'. Apart from the fact that it is unclear in which way costs influence educational decisions, one could argue that what is measured is not the amount of expected costs *per se* but, rather, the retrospective evaluation of the impact of these costs on the outcome of the individuals' decision. Because of this problem of measurement, we weighted the term C with the *social distance sd*.[9] The weighted term C_w is the rounded result of the radical of the product of C and SD. Like C and SD, this indicator correlates significantly negatively with the respondents' social origin ($r = -0.45$).

The subjectively expected *likelihood of success at university, i.e. the probability of achievement P* is measured by the evaluation of respondents' opinions on whether they expect to be successful at university (Question: 'Do you believe that you are able to successfully complete your studies at university because of your previous schooling?'—range of answers: 3 = yes, 2 = no, and 1 = I don't know). The subjective *evaluation of school performance P* reflects the *primary effect of social origin* (Question: 'How do you assess your performance at school?'—range of answers: 1 = underperforming pupil–4 = very good pupil).

In stratified educational systems with a broad range of educational alternatives, the contingency of an individuals' previous educational course has an enormous impact on subsequent transitions to other educational systems, which reflects the path-dependence of educational careers in Germany. In order to control the contingency of previous educational decisions, we considered which school the respondents have attended last. The technical secondary school (*Fachoberschule*) constitutes the reference category for both the academic high school (*Gymnasium*) and the non-academic high school (*Berufsgymnasium*).[10]

The respondents' *social origin* is measured by the social class of head of the households. In accordance with the *GEC (German employment status class scheme)* suggested by Mayer and Aisenbrey (2007, p. 131) and the theoretical model suggested by Esser (1999) or Breen and Goldthorpe (1997), we distinguish between three social classes: *working class* (unskilled and skilled workers, unqualified and less skilled employees, or civil servants), *middle class* (foremen, and self-employed master craftsmen, qualified employees and civil servants, and self-employed persons), and *upper service class* (highly qualified employees, supervisors, managers, highly qualified civil servants, civil servants in management positions, academics, and professionals).

In Table 1, the distributions of the independent variables are documented for each of the social classes. In accordance with Boudon (1974), we can detect definite primary effects of social origin. Working-class graduates are more likely to consider themselves poor students than service-class children. The discrepancy of this subjective estimation among the social classes is significant. In Tables A1 and A2, it can be seen that the differences between the different social classes are still significant even if the contingency of previous educational career is controlled statistically. These class-specific differences are valid for all of the other components of the educational decision—except for the expected benefit B. This result confirms the assumptions of the model proposed by Esser (1999).

These findings confirm the theoretical assumptions by Boudon (1974) regarding both the primary and the secondary effects of social origin. Furthermore, our data supports the assumption that social distance to higher education depends on the individuals' social position within the class structure. In contrast to the working class, the social distance to university training is small for the middle and upper social classes. However, the relatively vast standard deviations for middle and upper service classes reflect the large amount of status inconsistency within the social structure of high school graduates. This type of status inconsistency might be an unintended effect of the educational expansion in Saxony after the breakdown of the GDR.

Statistical Procedure

We employ the *multinomial logistic regression* in order to model the individuals' decision process (Long, 1997), following Breen and Jonsson's (2000),

Table 1 Distribution of the components of the respondents' educational decisions in accordance to their social origin (mean and in brackets: SD)

	Working classes	Middle classes	Upper service class
School performance *P*	2.57	2.63	2.71
(1 = poor—4 = excellent)	(0.65)	(0.68)	(0.69)
Benefit B	3.39	3.39	3.40
(1 = very low—5 = very high)	(1.18)	(1.14)	(1.08)
Likelihood of status demotion *C*	3.19	3.28	3.36
(1 = very low—5 = very high)	(1.04)	(1.04)	(1.02)
Amount of status demotion SD	2.19	2.24	2.25
(1 = very small—5 = very large)	(0.96)	(0.96)	(0.94)
Success probability *p*	2.16	2.27	2.37
(1 = don't know—2 = poor—3 = excellent)	(0.96)	(0.94)	(0.91)
Costs C	3.11	2.79	2.63
(1 = very low—5 = very high)	(1.29)	(1.31)	(1.29)
Weighted costs Cw	3.23	2.56	2.04
(1 = very low—5 = very high)	(0.91)	(1.02)	(0.87)
Social distance SD	3.60	2.64	1.80
(1 = non-existing—5 = very great distance)	(0.93)	(1.33)	(1.16)

Schimpl-Neimanns's (2000), and Becker's (2003) criticism of the Mare's (1980) statistical modelling. The correlation between decision components and social origin will be established by employing *OLS-regression* as well as *binary logistic regression* (Greene, 1997) Due to the scope of this article, we will limit ourselves to the report of odds ratios of the logistic regressions.

Empirical Findings

Assessment of the SEU Model

In accordance with the postulations of the model of social reproduction, there are obvious class-specific disparities regarding subsequent enrolment after the attainment of eligibility for university training (Table 2).[11] These disparities suggest that working-class children are diverted from further educational training and, particularly, they are diverted from academic university training (Müller and Pollak, 2007, p. 311). The chances for children of upper service-class families to choose university training are 2.6 times higher, and chances for middle-class graduates are 1.5 times higher than chances for working-class graduates.

The odds to decide in favour of university training depend on the school performance self-evaluated by the individuals. However, in contrast to the model of social reproduction, there is no significant interaction between previous school performance and social class with regard to the individuals' decision in favour of academic training at the university. Due to the statistical problems of interpreting interaction terms in logistic regressions (Ai and Norton, 2003), we have calculated the odds ratios for the individuals' decision in dependence of their school performance separately for each of the social classes. For the decision in favour of the academic training, the values of the odds ratios are 3.2 for the working-class children, 3.3 for the offspring from the middle classes, and 3.5 for the graduates originated from the upper classes. In the model of social reproduction postulated by Bourdieu and Passeron (1977), these disparities among the social classes are statistically insignificant.

In accordance with Müller and Pollak (2007), the class-specific disparities regarding the educational decisions become more evident if one considers that graduates of academic high schools (*Gymnasium*) are more likely to decide in favour of university training. These high school graduates are mostly upper service class and are more likely to choose direct pathways to university education than working-class graduates. In contrast to working-class children, the upper-class graduates tend to consider the 'Abitur' as eligibility for university training (Table A1). The different attitudes towards certificates reflect the different educational strategies among the social classes. Additionally, these findings can be seen as evidence that members of the upper social classes are very determined to attain the instrumental eligibility for university training. Thus, it is not very common for them to be diverted from university. High school graduates from the upper service class tend to prefer the state-operated university

Table 2 Determinants of educational decisions of graduates in Saxony (odds ratios, estimated with multinomial logit regression)

	Model of social reproduction			SEU model			SEU model		
	UCE	UAS	UNI	UCE	UAS	UNI	UCE	UAS	UNI
Social origin									
Working classes	1	1	1	1	1	1			
Middle classes	1.16	1.34*	1.50*	1.24	1.21	1.05			
Upper service class	1.62*	1.56*	2.56*	1.69*	1.16	1.39*			
Non-Academics							1	1	1
Academics							1.21	1.16	1.51*
Primary effect of social origin									
School performance *P*	1.72*	2.27*	3.28*	1.46*	1.80*	2.44*	1.45*	1.79*	2.42*
Educational decision									
Benefits B				1.44*	1.39*	1.47*	1.43*	1.39*	1.47*
Likelihood of status demotion c				1.40*	1.97*	2.05*	1.40*	1.97*	2.05*
Amount of status demotion SD				1.81*	1.91*	2.08*	1.80*	1.91*	2.07*
Likelihood of achievement *p*				1.34*	1.51*	1.60*	1.34*	1.51*	1.61*
Costs Cw				1.08	0.78	0.60*	1.04	0.79*	0.64*
Previous educational course									
Academic high school	1.48*	0.32*	21.6*	1.62*	0.35*	23.1*	1.63*	0.35*	22.7*
Non-academic high school	1.40	0.23*	20.9*	1.45	0.25*	25.4*	1.45	0.25*	24.8*
Technical secondary school	1	1	1	1	1	1	1	1	1
Pseudo-R^2 (McFadden)		0.113			0.215			0.214	
N		5244			5244			5244	
Quota (VT/UCE/UAS/UNI)		(28%/10%/21%/41%)			(28%/10%/21%/41%)			(28%/10%/21%/41%)	

UCE = university of cooperative education; UAS = university of applied sciences; UNI = university (Reference: VT = vocational training).
**At least $P \leq 0.05$.*

of cooperative education (*Berufsakademie*) to traditional vocational training. Investigations show that this is especially true for underperforming graduates. However, the explanatory value of the simple model of social reproduction indicated by the conservative of the Pseudo-R^2-value, according to McFadden, is relatively minor.

In order to test the diversion thesis, therefore, our next step is the investigation of the explanatory power of the model of subjective expected utility (SEU). If previous educational career as well as school performance is controlled, the results confirm the assumptions of the SEU model (Table 2).[12] There is empirical evidence for the mechanisms of educational decision which were theoretically postulated: the higher the expected returns, the more certain the likelihood of achievement, and the lower the expected costs of academic training, the more likely a decision in favour of university training. The motive of status maintenance has a significant impact on the diversion from universities: the higher the expected amount and likelihood of status demotion due to suboptimal educational decision, the more likely a decision in favour of university training. Without any control of the individuals' social origin, the parsimonious SEU model provides greater explanatory power (Pseudo-R^2-value: 0.215) than the model of social reproduction (Pseudo-R^2-value: 0.113).

In addition to the fact that school performance correlates strongly with subjectively expected likelihood of achievement, which varies among the different social classes, it is the expected costs that result in a socio-structural division with regard to the educational decision for or against university training. In particular, this is true for working-class children who usually expect high costs should they choose to enter universities, whereas graduates of the academic high school will more likely experience low cost pressure (Table A2). Hence, it is more unlikely for working-class children to expect successful attainment of a university degree than for upper class graduates. Moreover, graduates from privileged classes are more likely to fear status demotion should they choose to abandon higher education. In accordance with the theoretical assumptions by Esser (1999), this is especially true for the middle classes who are dependent on continued higher education in order to maintain their social status (Table A2).

However, if the subjectively expected benefits as well as the economic burdens of university training, the graduates' motive to avoid status demotion, and their self-evaluated academic abilities are taken into account, the class heterogeneity of the propensity to select university training instead of non-academic training decreases substantially. While the SEU model contributes obviously to the explanation why the working classes are diverted from the university, the impact of class differentiation on the access to university education will not be explained completely by the mechanisms of the graduates' educational decision (Stockè, 2007). The relatively weak but still significant net effect of social origin implies that the transition to the university is more likely for graduates from the upper service class.

Assuming that there is an educational heterogeneity within the upper service class we consider the academic background of the graduates' parents, particularly, in order to explain secondary effects of class on educational decisions (*last column in* Table 2). When the contrast between academic versus non-academic classes is taken into account, the impact of class differentiation on continued training becomes less significant in favour of the rational choice model. If one controls for the determinants of rational educational decisions, the direct effect of the graduates' social origin on the decision in favour of the academic university training only is reduced but still significant. An ad-hoc explanation compatible with the SEU explanation is based on the role of the academic class' familiarity with university training being part of their academic tradition over consecutive generations. Academic families and their offspring might have strong cognitive frames and traditional habits with regard to academic education and culture. This means that they often choose academic university training via quasi-automatic decision processes. It is assumed, therefore, that their education decision can—in contrast to the working classes—not be characterized as a result of rationally and carefully considered cost-benefit calculations. In accordance with these results it might be true that the SEU model is over-specified for the upper classes. For the next analytical step, we therefore make use of a reduced SEU model considering the investment risk (the proportion of subjectively expected costs C and achievement chances p) only.

In order to test the 'diversion thesis' in detail, we assess whether the subjectively estimated achievements and university costs indeed create the class division between training at academic universities or universities of applied sciences, on the one hand, and non-tertiary vocational training, on the other hand. Furthermore, it will be investigated whether this indeed results in the diversion of working-class children from universities. Due to technical problems of statistical estimation regarding the interactions between social origin and other explaining variables, the models will be estimated separately for each of the three social classes.[13] Considering that merely the impacts of expected achievement—the possibility of successful university education—and the costs are interesting, we estimate a reduced model.[14]

As for both school performance and previous educational course, it is evident for all social classes that both the expected costs and the estimated likelihood of achievement affect the individuals' decision significantly (Table 3). In quantitative respects, these effects are the main mechanisms by which working-class children are diverted from academic university education. Compared to middle and upper-class graduates, the working-class children opt for university training only if they expect very high probabilities of success. This holds true even if the effect of expected cost is controlled. Working-class children who are in doubt about their prospective achievement are diverted from universities and generally opt for non-academic vocational training.

There is a significant cost pressure causing a diversion of working-class children from academic universities, in particular, but from universities of applied sciences, as well. This is also true for the graduates from middle classes or upper service class. Considering the relatively large mean and minor standard deviation of weighted costs for university education (Table 1), already low cost pressure is sufficient for working-class children to prefer the reasonable option of vocational training.[15]

If one considers the standardized effect coefficients (in brackets), it has to be noticed that it is the expected achievement that is of higher influence to working-class children than the costs they expect. In contrast to graduates from higher social classes, working-class children are more likely to be diverted from university training because of their expected failures at university than by the expected costs. Unfortunately, due to limited data, we cannot assess whether these effects arise because of lower self-esteem ('self-efficacy') of working-class children. It would be interesting to establish whether working-class children who have attained the eligibility for university entry exhibit less internal control belief than graduates from upper social classes (Diewald *et al.*, 1996).

Table 3 Determinants of the educational decision of graduates in Saxony (odds ratios, estimated with multinomial logit regression)

	Working classes			Middle classes			Upper service class		
	UCE	UAS	UNI	UCE	UAS	UNI	UCE	UAS	UNI
Primary effects									
School performance *P*	1.46*	1.64*	2.31*	1.47*	1.82*	2.46*	1.59*	2.03*	2.75*
Secondary effects									
Expected achievement *p*	1.35*	1.63*	1.79*	1.37*	1.57*	1.64*	1.39*	1.42*	1.40*
Costs Cw	1.11	0.90	0.76*	0.91	0.72*	0.56*	1.23*	0.73*	0.46*
			(1/1.32)			(1/1.79)			(1/2.17)
Previous education									
Academic high school	1.73*	0.30*	10.3*	1.36	0.34*	60.9*	1.31	0.30*	26.6*
Non-academic high school	1.39	0.16*	14.2*	1.27	0.27*	69.6*	1.32	0.27*	17.1*
Technical secondary school	1	1	1	1	1	1	1	1	1
Pseudo-R^2 (McFadden)	0.126			0.132			0.160		
N	1945			1889			1454		
Quota (VT/UCE/AUS/UNI)	(35%/10%/22%/33%)			(27%/10%/22%/41%)			(20%/9%/19%/52%)		

UCE = university of cooperative education; UAS = university of applied sciences; UNI = university (Reference: vocational training).
**At least $P \leq 0.05$.*

Vocational Training and Subsequent University Training: A Way Out of the Decision Dilemma?

In this final step, in order to test the 'time horizon thesis', we will investigate whether well-performing working-class children abandon university training for the moment, but intend to enter university at some point after they have finished their vocational training. The same issue is also investigated with regard to underperforming graduates from affluent families who reject university education at first, but can afford to enrol in university after successful completion of their vocational training.

In correspondence to previous findings, it is evident that working-class children are more likely to decide in favour of non-academic vocational training than service-class graduates (Table 4). With regard to the working classes' risk adverse educational decision (Breen and Goldthorpe, 1997) this is not true for the decision for the vocational training with subsequent university training. Apart from the fact that the significant influences on the educational decision (e.g. perception and evaluation of the development on the labour market or vocational training sector) are not considered, the structure of the decision will be 'explained' in terms of the primary effects of social origin (school performance), the motivation for status maintenance, and, in particular, the expected achievement and the costs for university training.

Table 4 Determinants of decision in favour of double training: university training following non-academic vocational training (odds ratios, estimated by multinomial logit regression)

	VT without UT	VT and UT
Social origin		
Working classes	1.48*	0.87
Middle classes	1.25*	0.83
Upper service class	1	1
Primary effect of social origin		
School performance *P*	0.46*	0.60*
Educational decision		
Benefit *B*	0.71*	0.73*
Likelihood of status demotion *c*	0.46*	0.60*
Amount of status demotion SD	0.51*	0.59*
Likelihood of achievement *p*	0.58*	0.84*
Costs *Cw*	1.49*	1.57*
Contingency of educational course		
Academic high school	0.93	1.13
Non-academic high school	0.89	1.06
Technical secondary school	1	1
Pseudo-R^2 (McFadden)	0.219	
N	4904	
Quota (VTwUT/VTandUT/UT)	(24%/9%/67%)	

VT = vocational training; UT = university training (Reference category: UT = university training only.
**At least $P \leq 0.05$.*

Table 5 Decision in favour of double qualification: first vocational training, then university training (odds ratios, estimated by multinomial logit regression)

	Working classes		Middle classes		Upper service class	
	VT without UT	VT and UT	VT without UT	VT and UT	VT without UT	VT and UT
Educational decision						
Costs of university training Cw	1.26*	1.31*	1.60*	1.51*	1.95*	2.20*
School performance						
Low level	19.7*	2.02	12.5*	5.19*	1	1
Average level	7.36*	3.61*	6.99*	***5.84****	3.32*	3.25*
High level	2.82*	2.00	2.26*	2.90*	0.89	1.55
Excellent level	1	1	1	1	1	1
Pseudo-R^2 (McFadden)	0.047		0.079		0.102	
N	1832		1765		1282	
Quota (VTwUT/VTaUT/UT)	(32%/10%/58%)		(24%/9%/67%)		(16%/9%/75%)	

VT = vocational training (Reference category: academic and non-academic university training).
**At least $P \leq 0.05$.*

As Hillmert and Jacob (2003) have theoretically postulated, graduates are initially diverted from university training on the basis of uncertain future achievements. The more unfavourable the subjectively estimated previous school performance and likelihood of achievement, the less likely a decision in favour of university training. There are indications suggesting that the expected likelihood of successful achievement should not be too high to avoid that average graduates change their minds and decide to pursue university training after completing their vocational training.

In order to clarify this further, and in order to assess whether it is mainly academically weak graduates from rather affluent families who pursue university training after non-academic vocational training, we estimate the determinants separately for each of the three classes (Table 5).[16] In order to model the decision in favour of double qualification (vocational and university training), we only consider subjectively expected costs and subjective evaluation of previous school performance. It is distinguished between four different levels of school performance, whereas the excellent performance is the reference category.

If school performance is controlled, it is mainly working-class children who opt for double qualification. To be more precise, they abandon direct transition to universities because of the costs. Well-performing working-class children also reject university education because of the costs and first opt for the vocational training. Among the graduates from the middle classes, the individuals threatened by the subjectively high costs for university training opt for the double qualification. As predicted by Hillmert and Jacob (2003), it is the middle-class children with average performance, average achievement, and long time horizons who are able to afford double qualification (see the odds ratios in italics in Table 5). [17]

The effects of previous school performance, expected costs, and anticipated achievements are especially evident for the offspring of the upper service class. Upper service class graduates with average school performance choose to go on to university education after initial non-academic vocational training. Similarly, to graduates from other social classes, upper service class graduates are influenced less by the expected costs than the self-evaluated school performance. According to the logic of primary effects of social origin, the higher the social position of the family within the class structure, the less significant the impact of self-evaluated school performance.

Conclusion

It was the aim of this article to investigate, by means of an empirical analysis, *why* only few working-class children enrol in universities. The starting point of our analysis was the thesis stressed by Müller and Pollak (2007) that, in stratified and segmented educational systems, which offer a broad spectrum of non-academic vocational training, it is mainly working-class children who are diverted from university training (Shavit, 1989). By means of the empirically established SEU (Breen and Goldthorpe, 1997; Esser, 1999; Becker, 2003; Stockè, 2007) and by using data of high school

graduates collected in Saxony (federal state in East Germany), the diversion thesis as well as its extension suggested by Hillmert and Jacob (2003) have been confirmed empirically. The most important mechanism for the diversion of working-class children is the investment risk—the ratio between subjectively expected costs of university training and the prospective achievement—which varies systematically among different social classes. Furthermore, an important determinant regarding the decision for or against academic or non-academic training is the contingency of previous educational decisions at the end of upper secondary school.

Compared to previous opportunities in the educational system, working-class children are disadvantaged in several respects when it comes to university access because of direct and indirect costs of education, their previous school performance, and the expected likelihood of successful achievement. However, service-class graduates first prefer non-academic training, provided that their performance at school is average, whereas they tend to enrol in university at a later stage. In other words, they use their vocational training as a 'safety net' (Shavit and Müller, 2000, p. 446). In this respect, they are privileged in two ways: firstly, they are provided with advantages because of their social origin, and secondly, they can assure their educational opportunities by making use of institutional options.

The direct, empirical assessment of the components and the mechanisms of educational decisions and their consequences should contribute to the explanation of the social inequality of higher education. Following Manski (2004), we have strived to both directly measure individual expectations as well as to accurately model the structure of educational decisions for all social classes. There are two important issues that could not be confirmed empirically because of data limitations. It has to be assumed that not only the processes of the definition of the social situation are different for each social class—as was already confirmed empirically—but also the evaluation of higher education and the decision on educational courses itself. Because upper social classes, in general, and academic families, in particular, are familiar with university education, which is sometimes part of a long educational tradition over consecutive generations, their education decision can—in contrast to the working classes—not be characterized as rationally and carefully considered cost-benefit calculations that also taking into account alternative educational courses. It has to be assumed that theses classes already have cognitive frames and traditional habits with regard to academic education and culture. This would also explain why members of the service classes often choose academic university training via quasi-automatic, decision processes. One could assume that most members of these upper classes do not realize that there are alternatives to university education, which is a result of their merely minimal set of alternative actions (Esser, 1999). This circumstance would also explain why the educational decision of the service classes does not conform to the changing demands of the labour markets or the economic development, whereas members of the working-class are more sensitive to such changes. In this respect, our basic SEU model is over-specified for the upper service class.

However, it is also under-specified if one takes into account that the upper service classes may be sensitive to additional benefits and costs which were not considered within our empirical analysis because of data limitations. For example, the influence of third parties among peer groups regarding the motive of status maintenance might be important. For instance, Meulemann (1985) refers to social requests from the social network of upper service class families. The social pressure of such networks persuades the parents to pursue status maintenance by higher education, even when their offspring's performance at school is below average. For upper service class families, the suboptimal careers of their children would create psychical inconveniences due to of dissonances as well as informal costs, such as the loss of prestige due to stigmatization by the peer groups. We have been able to provide indirect evidence: In the case of under-performance or low likelihood of achievement, service classes opt for the second best alternative, such as university of applied sciences or university of cooperative education, because these institutions are more prestigious than the vocational training within in firms.

Some questions remain unanswered: How are social inequalities of socioeconomic resources and class structure reflected in the social inequality and stratification of higher education? Our empirical analyses show that the socio-structural division of educational opportunities and determinants of evaluation and decision on education separates the working-class and the service classes, while the differences among the service classes are rather negligible. This empirical fact might be a result of the development of the social structure in the former GDR and the special class structure of an East German federal state such as Saxony. Therefore, there is a demand for more national and international comparative studies which investigate the impact of the variety of social inequalities in a society on the educational decisions of individuals (Erikson, 1996).

How can we explain the residual effects of social origin in our models? On the one hand, we were not able

to operationalize all of the components of educational decision in an appropriate way because we have employed a data set which has been collected by other researchers investigating other issues (Stockè, 2007). Due to this methodical limitation and also the latent social selectivity of the analytical sample, not all of the effects of social origin could be controlled statistically. On the other hand, we should specify the rational choice models in a more realistic way. In order to achieve this, it would be necessary to consider the changes of the labour markets, the developments in the generational cycle, as well as changes in the social class structure.

Notes

1. Primary effects of social origin and social selection within the educational system are important mechanisms for the emergence of social inequality of educational opportunities. Because of privileged conditions of socialisation, education, and encouragement within the families, children from upper social classes reach higher achievements, whereas working-class children undergo fewer cognitive developments and may achieve less during school years. Therefore, working-class children are more likely to be excluded from university training due to their low achievements (this is true for the entrance to disciplines that are regulated by the so-called 'numerus clausus') or because of uncertain success in the university training.
2. According to Erikson and Jonsson (1996), individuals opt for university education, if the subjectively expected utility of study at university *EU(S)* resulting from the subjectively *expected costs C* and *benefits B* (whereby the benefit will be weighted by the *subjectively expected likelihood of success p*) is higher than the subjectively expected utility of an non-academic vocational training *EU(V)*: $EU(S) = pB(S) - C(S) > EU(V) = pB(V) - C(V)$. In particular, Esser (1999) stresses the effects of the amounts of threatening *status demotion*—SD, which occurs due to suboptimal educational decisions, and the *subjectively expected likelihood of status descent c*, which arises because of the abandonment of investment in higher education. The subjectively expected utility of non-tertiary training is therefore $EU(V) = c(-SD)$, and for university training, it is $EU(S) = pB + (1 - p)\, c(-SD) - C$. After mathematical transformations, we arrive at the following unequation: $B + cSD > C/p$. Individuals opt for university education if the motivation for higher education $B + c$SD is greater than the investment risk C/p.
3. Regarding the low academic enrolment in Saxony and other federal states in Germany, the Saxony ministry of culture is interested in the determinants of the graduates' educational plans after getting the eligibility for tertiary education. The biennial reports should provide information about the graduates' reasons, motives and criteria for their educational decision for the vocational training or in favour of university education. Further data should be collected about the field of study the future students are interested in. Additionally, the ministry of culture is interested in the development of the attractiveness of the academic universities, the universities of applied sciences or the University of Cooperative Education in Saxony. Finally, the reports should trace the trend of the graduates' propensity for university education as well as the impact of educational policy and the development of opportunities for vocational training on the decision for or against university training.
4. In 2005, 42 per cent of the German population aged between 18 and 20 years became eligible for university training, while the share is 37 per cent in Saxony. However, since the early 1990s Saxony has witnessed an enormous increase in the percentage of graduates with eligibility for university education from the very low level of 16 per cent. In average for Germany, 73 per cent of the eligible graduates actually start the university training, but only 68 per cent of the eligible graduates in Saxony (Statistisches Landesamt Sachsen, 2006).
5. However, some of the German federal states such as Baden-Württemberg, Thuringia, and Saxony provide training in the University of Cooperative Education, the so-called '*Berufsakademie*', operated by the state. Private, but officially recognized universities of cooperative education exist in Hessen, Lower Saxony, Saarland, and Schleswig-Holstein. In Berlin, there is a special offer of dual training integrated into the universities basing on the concept of the *Berufsakademie*.

In other federal states such as North Rhine-Westphalia and Rhineland-Palatinate exists universities of cooperative education; but they do not belong to the tertiary education sector.

6. There are several ways to deal with sample selectivity. A first option is the two-step procedure suggested by Heckman (1979). However, in our case, we have too few variables to model the respondents' inconclusiveness adequately. Furthermore, the problem arises that the same variable is needed for both the correction of sample selection bias and the modelling of the educational decision. If we neglect such a problem, we will have to deal with multicollinearity. Therefore, we have decided not to control the sample selection bias, but we will control the respondents' previous educational course.
7. Due to the cross-sectional design so-called 'rationalisation bias' are possible when the respondents report their expectations and choice at the same time. However, empirical analyses do not support this assumption empirically. For example, for the uncertain respondents we find no significant correlation between their perceptions or expectations, and their social origin.
8. In our analysis, we do not consider graduates who transit to work immediately upon graduation because this is only the case for 4 per cent of all graduates.
9. The social distance suggested by Boudon (1974) reflects the discrepancy between university training and the educational degree of the parents of high school graduates: the lower the parents' educational degree the larger the social distance to a university diploma. This distance refers to the costs arising for investments regarding higher education. The amount of costs is reverse to the socioeconomic position of the parents within the social stratification. In our case, we measure the social distance by the discrepancy of the vocational training certificates of parents to a university diploma: 5 = 'no vocational training degree', 4 = 'vocational training degree', 3 = 'master craftsman's diploma', 2 = engineering school diploma, and 1 = 'university diploma'.
10. In Table A1, evidence is documented that the structure of the previous educational course varies systematically among different social classes. For example, service-class students are more likely to attain their diploma (Abitur) at an academic high school than working-class children. Therefore, the direct way to the Abitur segregates privileged classes from working classes since it is more likely for working-class students to attain a diploma at a non-academic high school or a technical secondary school than for students from service classes.
11. Most of the graduates decide in favour of university training: Almost 41 per cent choose to continue their education at university and 21 per cent of them wish to attend the University of Applied Sciences. A small group (10 per cent) will enrol in the University of Cooperative Education (*Berufsakademie*), and one third have opted for vocational training.
12. In accordance with the SEU model, graduates opt for university training if their school performance is favourable. The subjective evaluation of their school performance correlates with social origin. Upper-class students, rather than middle or working-class students consider themselves ambitious students (Table A1). Previous educational decisions have effects on the decision for or against university training, which bears negative consequences for working-class children (Shavit and Müller, 2000, p. 438). For example, this results in the fact that working-class children are underrepresented in the academic high schools. Such findings indicate that working-class children are diverted from universities at early stages during their educational course.
13. Due to formal mathematical reasons, it is difficult to interpret the interaction terms in logit or probit regression models (Ai and Norton, 2003). In accordance with Norton *et al.* (2004), the standard errors of regression coefficients are biased seriously if they are calculated with conventional statistic programmes (such as SPSS). Therefore, we have employed the statistical routine programmed by the authors for STATA 8.2 as well. Currently, it is only possible to use this *inteff*-module for the estimation of the binary logistic regression. However, in our case, the utilization of binary logistic regression results in dissatisfying estimations. This is the main reason to abolish the estimates of interaction terms. Nevertheless, the

conventional estimations are documented in Table A3. As was theoretically expected, graduates from both the working classes and the middle classes opt for university training, or for academic tertiary education, in particular, if their attitude towards the expected likelihood of achievement and estimated costs is positive. For working-class children, it is the high likelihood of achievement, in particular, that has a significant impact on the decision to enter university. However, the interactions of expected costs, school performance, and social origin are statistically insignificant. The data indicate that middle-class graduates decide in favour of university of applied sciences if they expect that costs of academic university training will be too high. In general, graduates from working and middle classes decide against university training if cost pressure is remarkably high. However, it has to be noticed that the effects of cost pressure are statistically insignificant. The effect of self-evaluated school performance is positive, but insignificant.

14. The huge school-type effects detected in Table 2 suggest conducting the analysis separately for each of the school types. Due to limited sample size we refrain from doing this. From all of the respondents, 72 per cent come directly from the academic school track (Gymnasium), and 47 per cent of these graduates have decided in favour of the academic training at the university. While 14 per cent of the respondents are enrolled in the *Berufsgymnasium*, 46 per cent of them will start an academic training at the university. The other 14 per cent of the respondents from the *Fachoberschule* mostly want to continue their education at the University of Applied Sciences (57%) while a minor rest of them is interested in university education (3%). This result indicates indeed as stressed below that the different tertiary destinations are continuations of pathways entered in the upper-secondary phase. Besides the fact that some of the subsamples are rather small, previous analysis provide indication that the result is insensible for the exclusion of the graduates from both the *Berufsgymnasium* and the *Fachoberschule*.

15. According to Allison (1999), comparisons of logit and probit coefficients across groups are problematic. Therefore, we have to interpret such comparisons very carefully. Indirect tests with bivariate analyses support our interpretation of the multivariate estimations.

16. The distribution of the educational courses ensures that the decision for vocational training without university education or for direct access to university training depends on the social origin or the social distance to university education. However, there is no correlation between social origin and the decision in favour of double qualification, such as non-academic training and subsequent academic training.

17. Due to reason of estimation for the graduates from the upper classes, the extreme groups of low and excellent school performance has been considered as the reference groups. On the one hand, there are too few upper-class graduates with poor school performance. On the other hand, almost all of the well-performing graduates from the upper classes have decided in favour of the university training.

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Appendix

Table A1 Distribution of the determinants of the educational decision depending on social origin (odds ratios, estimated by multinomial and binary logistic regression)

	Indecision	Non-academic high school (*Berufs-gymnasium*)[a]	Academic high school (*Gymnasium*)[a]	Abitur as eligibility for access in university	Favourable school performance
Social origin					
Working classes	1	1	1	1	1
Middle classes	0.97	1.31*	1.79***	1.30***	1.18*
Upper service class	0.82	1.07	2.03***	1.87***	1.42***
Type of 'Abitur'					
Gymnasium	0.76***			0.82*	1.07
Berufsgymnasium	0.86			0.60***	0.97
Fachoberschule	1			1	1
Pseudo-R^2	0.003	0.011		0.013	0.004
N	7084	5520		5520	5520
Quota	18%	(14%/72%)		69%	55%

[a]*reference category: technical secondary school (Fachoberschule).*

*$P \leq 0.05$; **$P \leq 0.01$; ***$P \leq 0.001$.

Source: 'Abiturientenbefragung in Sachsen 2000–06'—the author's own calculations.

Table A2 Distribution of the determinants of the educational decision depending on social origin (OLS-regression: beta coefficients)

	P	*B*	*c*	SD	*p*	C	sd	*Cw*
Social origin								
Working classes	1	1	1	1	1	1	1	1
Middle classes	0.04*	−0.02	0.04*	0.03	0.05*	−0.11*	−0.33*	−0.29*
Upper service class	0.09*	0.05	0.08*	0.02*	0.09*	−0.15*	−0.58*	−0.49*
Type of 'Abitur'								
Gymnasium	0.03	0.01	−0.02	−0.01	0.04*	−0.07*	−0.09*	−0.10*
Berufsgymnasium	−0.01	−0.01	−0.02	−0.02	−0.01	0.03	−0.02	−0.01
Fachoberschule	1	1	1	1	1	1	1	1
Adjusted R^2	0.008	0.002	0.004	0.001	0.009	0.031	0.286	0.216
N	5520	5520	5520	5520	5520	5520	5520	5520

P = School performance; B = Benefits (return to education); c = Likelihood of status descent; SD = Amount of status demotion, p = expected achievement, C = Cost of university training, sd = Social distance, and Cw = Cost weighted by social distance.
**At least P ≤ 0.05.*
Source: 'Abiturientenbefragung in Sachsen 2000–06'—the author's own calculations.

Table A3 Determinants of the educational decision (odds ratios, estimated by multinomial logit regression)

	SEU model			SEU model with interaction terms			SEU model with interaction terms		
	UCE	UAS	UNI	UCE	UAS	UNI	UCE	UAS	UNI
Social origin									
Working classes	0.59*	0.86	0.71*	1.00	0.42	0.13*	1.17	0.79	0.29*
Middle classes	0.73*	1.04	0.76*	1.66	0.79	0.35*	1.99	1.08	0.53
Upper service class	1	1	1	1	1	1	1	1	1
Primary effect									
School performance *P*	1.46*	1.80*	2.44*	1.47*	1.79*	2.41*	1.58*	1.91*	2.55*
Educational decision									
Benefits *B*	1.44*	1.39*	1.47*	1.44*	1.39*	1.47*	1.44*	1.39*	1.47*
Likelihood of status demotion *c*	1.40*	1.97*	2.05*	1.39*	1.97*	2.05*	1.39*	1.97*	2.05*
Amount of status demotion *SD*	1.81*	1.91*	2.08*	1.82*	1.91*	2.07*	1.81*	1.90*	2.06*
Likelihood of achievement *p*	1.34*	1.51*	1.60*	1.34*	1.36*	1.38*	1.34*	1.51*	1.60*
Costs *Cw*	1.08	0.78*	0.60*	1.27*	0.74*	0.46*	1.27*	0.74*	0.46*
Interaction with working classes									
Likelihood of achievement *p*				0.96	1.11	1.24*			
Costs *Cw*				0.84	1.17	1.60*	0.85	1.17	1.60*
School performance *P*							0.89	0.85	0.87
Interaction with middle classes									
Likelihood of achievement *p*				1.02	1.16	1.19			
Costs *Cw*				0.73*	0.99	1.23	0.73*	0.98	1.22
School Performance *P*							0.93	1.00	0.99
Previous educational course									
Academic high school	1.62*	0.35*	23.1*	1.61*	0.35*	23.2*	1.61*	0.35*	23.1*
Non-academic high school	1.45	0.25*	25.4*	1.44	0.25*	25.2*	1.44	0.25*	25.3*
Technical secondary school	1	1	1	1	1	1	1	1	1
Pseudo-R^2 (McFadden)		0.215			0.217			0.217	
N		5244			5244			5244	

UCE = university of cooperative education; UAS = university of applied sciences; UNI = university (Reference category: VT = vocational training).
**At least P ≤ 0.05.*
Source: 'Abiturientenbefragung in Sachsen 2000–06'—the author's own calculations.