An Evaluation of the Shortened High School Duration in Germany and its Impact on Postsecondary Education and Labor Market Entry

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Tobias Meyer, Hannover, March 2016

Summary

This thesis is based on five research papers and evaluates the effects of a recent education reform in Germany that reduced the duration of university preparatory schooling from 13 to 12 years without changing the curriculum and graduation requirements. The aim of the reform was to allow an earlier start of university education and labor market participation but to maintain the level of education quality. Therefore, the focus of the present evaluation is on the reform's impact on postsecondary education and labor market entry.

The first part of the thesis describes the institutional background of the German education system and reform introduction, the related literature, and the methodological approach. The analysis is based on primary data collected in three survey waves from the 2007 double cohort of high-school graduates in Saxony-Anhalt. In this state, the reform introduction provides a natural experiment that allows a clear identification of reform effects. Furthermore, an additional analysis is conducted on the basis of nationwide data to evaluate reform effects also in other federal states, which reinforces the general validity of the analysis.

In the second part, the results of the empirical investigation are presented and discussed. The findings show that the reform has increased the level of stress experienced by high school students and reduced their participation in some extracurricular activities. Furthermore, education decisions made after high school graduation are affected. Female graduates become more likely to delay university enrollment because of an increased probability of starting vocational education or participating in voluntary service or staying abroad. Enrollment behavior of male students is not influenced, at least as long as they have an additional year for decision-making by the obligation of performing military or civilian service. The effects on postsecondary education decisions are found for the double cohort of graduates in Saxony-Anhalt as well as for the graduates from other states and cohorts. After enrollment in university education, only a few effects can be observed any more. Students affected and unaffected by the reform show similar motivation and abilities at university. Finally, both cohorts enter the labor market at similar points in time and achieve a similar professional success, which means that affected individuals start their career at a younger age as intended. Altogether, the objective of the reform seems to be largely achieved, although a few adverse effects should be taken into account.

Zusammenfassung

Diese Dissertation basiert auf fünf Forschungspapieren und beinhaltet eine Evaluation der Auswirkungen einer Bildungsreform, die vor einigen Jahren in den meisten deutschen Bundesländern eingeführt wurde. Dabei wurde die Schulzeit bis zum Abitur von 13 auf 12 Jahre verkürzt, während das Curriculum bzw. die Anforderungen an das Abitur unverändert blieben. Das Ziel der Reform bestand darin, einen früheren Beginn des Studiums und des Berufslebens zu ermöglichen, ohne dabei das Bildungsniveau zu verringern. Daher stehen die Auswirkungen der Reform auf den nachschulischen Bildungsweg und den Berufseinstieg im Fokus der vorliegenden Evaluation.

Der erste Teil der Dissertation beschreibt den institutionellen Hintergrund des deutschen Bildungssystems und der Reformeinführung sowie die relevante Literatur und das methodische Vorgehen. Die Untersuchung basiert auf einem Primärdatensatz, der von den Abiturientinnen und Abiturienten des Doppelabiturjahrgangs 2007 in Sachsen-Anhalt in drei Wellen erhoben wurde. In diesem Bundesland stellt die Einführung der Reform ein natürliches Experiment dar, wodurch die Reformwirkungen klar identifiziert werden können. Außerdem wird eine ergänzende Analyse der Reformeffekte in anderen Bundesländern auf Basis deutschlandweiter Daten durchgeführt, was die Allgemeingültigkeit der Evaluation erhöht.

Im zweiten Teil der Arbeit werden die Ergebnisse der empirischen Analyse vorgestellt und diskutiert. Die Ergebnisse zeigen, dass die Reform die Stressbelastung der Gymnasialschülerinnen und -schüler erhöht und die Ausübung mancher außerschulischer Aktivitäten verringert hat. Darüber hinaus hat die Reform einen Einfluss auf die nach dem Abitur getroffenen Bildungsentscheidungen. Abiturientinnen mit nur zwölfjähriger Schulzeit verzögern häufiger die Aufnahme eines Studiums, da sie durch die Reform eher geneigt sind, nach dem Abitur eine Berufsausbildung zu beginnen oder ein Freiwilliges Soziales Jahr oder einen Auslandsaufenthalt zu absolvieren. Dagegen lässt sich bei den männlichen Abiturienten kein Reformeffekt feststellen, zumindest solange diese durch Wehr- oder Zivildienst ein weiteres Jahr für die Entscheidungsfindung besitzen. Die Auswirkungen auf die nachschulischen Bildungsentscheidungen sind nicht nur für den Doppelabiturjahrgang in Sachsen-Anhalt, sondern auch für andere Bundesländer und Jahrgänge zu finden. Nach Aufnahme eines Studiums lassen sich jedoch nur noch wenige Reformeffekte feststellen. Studierende weisen unabhängig von der Schulzeit eine ähnliche Studierfähigkeit und -motivation auf. Schließlich steigen beide Jahrgänge zu ähnlichen Zeitpunkten und mit ähnlichem Erfolg in den Beruf ein, d. h. die Reform hat das Berufseinstiegsalter wie beabsichtigt reduziert. Insgesamt scheint das Reformziel weitgehend erreicht. Dennoch sollten die ermittelten negativen Effekte beachtet werden.

Schlagworte

Englisch:

- Shortened School Duration
- Postsecondary Education
- Labor Market Entry

Deutsch:

- Schulzeitverkürzung
- Nachschulische Bildung
- Berufseinstieg

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Chapter 1

Introduction[1]

The time that students spent in school contributes to the development of skills and helps adolescents to discover their talents and preferences. Therefore, the duration and content of primary and secondary schooling are of particular significance in preparing students for higher education and the labor market. This important role of schooling for economic success has been documented in a comprehensive empirical literature considering the perspective of the individual (e.g., Card, 1999) and the overall economy (e.g., Hanushek and Woessmann, 2012). Despite this evidence, the choice and definition of the optimal duration of schooling is not a simple issue. On the one hand, the rising demands of the (academic) labor market require high quality education that provides enough time for the development of human capital and for the discovery of abilities, tastes and concepts of life. Especially in highly developed economies (but also in developing countries), the quantity and quality of education is of great importance for economic prosperity and progress. On the other hand, spending more years in school implies a later entry into the labor market and consequently a shorter working life, given a certain retirement age. A shorter duration of schooling and an earlier career start would lead, ceteris paribus, to a longer working life with increased lifetime earnings as well as increased taxes and social security contributions. Thus, policymakers face a trade-off between the length of schooling and the length of labor market participation. This is particularly important in the light of the demographic change in many countries, which is expected to strain the tax and social security systems and to increase the shortage of skilled workers.

To solve the trade-off, the duration of schooling required for obtaining the university admittance qualification *(Abitur)* in Germany has been reduced from 13 to 12 years over the last decade. However, the graduation requirements and the total number of lessons were not changed, so

[1] The remarks, thoughts and explanations in this and the following chapters are based on five research papers (Meyer and Thomsen, 2013, 2015, 2016a,b; Meyer et al., 2015).

the curriculum has been compressed into the shorter school duration. The main argument for the reform was the aim of achieving the same level of education in a shorter period of time. Graduates should be enabled to start university education and, subsequently, their professional career one year earlier. The underlying idea was that the positive influence of schooling on labor market outcomes documented in the literature comes not primarily from the length of education itself but from its content. For example, Hanushek and Kimko (2000) have shown that the economic impact of education quantity decreases notably if education quality is considered. The international relevance of such reform considerations is underlined by the fact that a reform similar to the one in Germany was implemented some years earlier in the Canadian province of Ontario (see, e.g., Morin, 2013). Also other countries have changed the duration of secondary or tertiary education in the past (see, e.g., Webbink, 2007; Hall, 2012).

If the objective of the shortened school duration in Germany was achieved, it would represent an increase in the efficiency of schooling and a more efficient use of young peoples' human capital. However, it is not clear whether this is the case as the reform could have several conceivable effects. The compression of the curriculum into the shorter school duration leads to a significant increase in the learning intensity at school, which means that students have to learn more curriculum per school year and per school week. This could have implications for the development of skills and resulting school achievements, for example, by a lower quality of teaching or less possibilities for in-depth learning. In addition, the level of stress perceived by students could increase, with potential effects on students' learning motivation, health or maturity. As a consequence, students could be less prepared for higher education. However, it could also be the case that students are better trained to cope with academic requirements. Another potential effect refers to the fact that shortening the duration of schooling also reduces the age of students at school graduation. This means that the time available for students to discover and develop their talents and preferences is reduced by one year. This could, among other things, affect the match quality of further education and occupational decisions.

The present thesis includes a comprehensive evaluation of the reform effects on postsecondary education and labor market entry. This is of particular importance as the reform was introduced without having or developing empirical evidence on its impact. Even to date there is little evidence with regard to outcomes after high school graduation. The evidence provided in this thesis is therefore not only of scientific relevance but also important for education policy, among others because the reform is still discussed and some federal states have decided in the meantime to fully or partly return to a school duration of 13 years.

My empirical analysis is based on primary panel data from the 2007 double cohort of high school graduates in Saxony-Anhalt. The data were collected by myself and other researchers in three waves, covering a time period of up to seven and a half years after high school graduation.

In the state of Saxony-Anhalt, the reform was implemented in 2003 for students enrolled in grade 9 at that time. This first affected cohort graduated from high school after 12 years of schooling in 2007 together with the last cohort graduating after 13 years. Because the reform was announced and implemented within a few months and the affected students had already been enrolled in secondary school for several years, the assignment into the treatment group (students affected by the reform) and the control group (students not affected by the reform) can be assumed to be random. This provides a clean natural experiment for analyzing the effects of shortening the school duration with a maintained curriculum. As indicated above, the reform effects consist of a mixture of several sub-effects working through learning intensity, school duration and graduation age.

Following two previous studies by Büttner and Thomsen (2015) and Thiel et al. (2014) on the influence of the reform on school achievements and personality traits, my investigation starts with an issue that is at the center of the reform debate. I compare students in the treatment and control groups with respect to the perceived level of stress and the time spent on extracurricular activities. However, the main part of the thesis is focused on three areas after high school graduation. At first, I analyze the impact of the reform on the *transition into postsecondary education*, in particular on the decision to start university education or vocational education, on participation in other activities in the year after school graduation (e.g., voluntary service, stay abroad), and on the choice of a specific field of study. The second area of study is focused on the *success in higher education*. Here I examine several measures of students' motivation and abilities in university education as well as the probability of university drop-out. Third, I investigate the question of whether and to what extent the ultimate objective of the reform, namely to provide an earlier but still successful *entry into the labor market*, has been achieved. For this purpose, I compare students in the treatment and control groups with respect to the time of career start and several job characteristics that indicate professional success. In addition to these analyses based on data from the double cohort in Saxony-Anhalt, I examine the question of whether the identified effects also apply to other cohorts and federal states. This investigation is performed for the effects on postsecondary education decisions, using Germany-wide data on high school graduates provided by the German Centre for Research on Higher Education and Science Studies (DZHW, formerly HIS). Because the reform was not introduced nationwide but in succesive years depending on the federal state, reform effects are identified by means of a difference-in-differences approach. All in all, by evaluating these reform effects, my research contributes to a better understanding of the relevance of school duration, learning intensity and graduation age for subsequent education and occupational outcomes.

The thesis is structured as follows. After this introduction, chapter 2 describes the institutional background of the education system in Germany, with a focus on upper secondary schooling,

postsecondary education and labor market entry. In the second part of this chapter, details on the reform of high school duration – its emergence, objectives, implementation and potential effects – are presented. Chapter 3 provides an overview of the relevant literature, especially on the role of instructional time, school curriculum and learning intensity for further education and occupational outcomes, and on the orientation funtion of education. In addition, the available empirical evidence on the effects of the reform in Germany is described and discussed. In chapter 4, I present the methodological approach used in the evaluation. This includes first the process of data collection and the characteristics of the sample. Second, I address concerns related to the reliability of the data (e.g., representativeness, panel attrition) and the validity of the natural experiment. Third, the strengths and weaknesses of the data and of the identification strategy are briefly discussed. The chapter concludes with a description of the estimation approach. The following chapters include the results of the analyses. Each chapter starts with a thematic introduction. Afterwards, I describe the specific methodological issues, especially the outcome variables used and descriptive statistics of these variables. Next, I present the estimation results and robustness checks. The interpretation of the findings, potential explanations and conclusions are discussed in the final section. The results with respect to the level of stress and extracurricular activities of affected students are presented in chapter 5. The reform effects on postsecondary education decisions are analyzed in chapter 6. The analysis of these outcomes in other German states is contained in chapter 7, including a detailed description of the methodological design used here, which differs from the one presented in chapter 4. The analyses presented in chapters 8 and 9 use again the data from Saxony-Anhalt. The effects on motivation and abilities in university education are investigated in chapter 8, while chapter 9 contains the labor market effects. In the final chapter, I provide overall conclusions and discuss them with respect to the literature, previous expectations, and education policy.

Chapter 2

Institutional Background

2.1 The Education System in Germany

2.1.1 Secondary Schooling

Although education policy in Germany is the responsibility of the federal states, the education system is in principle similar across states.[1] Students are usually enrolled in primary school at the age of six and attend this school in most states for four years. Afterwards, students are assigned according to their performance to one of three types of secondary school. The lower and medium tracks include schooling up to grade 9 or 10 (compulsory schooling includes nine or ten school years depending on the state). After completion, students are usually trained for labor market by vocational education in the German apprenticeship system. The highest secondary school track, which prepares for university, is the grammar or high school (*Gymnasium*). Until recently, it contained in all but two states schooling up to grade 13 and leads to the university admittance qualification (*Abitur*). It is important to note that all students graduating from high school obtain the university admittance qualification although not all students attend university education afterwards. One reason is that the *Abitur* is not only seen as university preparatory schooling but also by employers as preparation for vocational education courses with higher demands. The share of students of a given age cohort attending and completing the highest secondary school track has continuously risen over the last decades (Trautwein and Neumann, 2008). For example, the high school graduation rate has increased between 2000 and 2012 from 28% to 37% (Autorengruppe Bildungsberichterstattung, 2014, p. 295). The share is higher for females than for males (e.g., 42% vs. 33% in 2012, see Table 2.1). In addition to

[1] An overview of the education system in Germany is provided, e.g., by European Commission (2010).

high school, it is also possible to obtain the university admittance qualification (or at least the qualification for admittance to universities of applied sciences) at vocational high schools or comprehensive schools. However, these schools represent only a smaller part of the German school system.

2.1.2 Postsecondary Education

Having obtained the university admittance qualification, high school graduates in Germany can choose between two main tracks of postsecondary education. Figure 2.1 illustrates the different possibilities and how often they are chosen by students (numbers taken from Quast et al., 2014, and Schneider and Franke, 2014). Approximately 75 to 80% of high school graduates start university education, while 20 to 25% choose vocational education. In addition to these two main courses, high school graduates could enter the labor market directly without further education but this possibility is chosen only very rarely.

University education includes studying at a university, a university of applied sciences or a professional college, and is classified as tertiary education. According to Schneider and Franke (2014, p. 160 and 165), approximately 60% of high school graduates study at universities, 15% at universities of applied sciences, and 5% at professional colleges. Studying at a university is more academically oriented while unversities of applied sciences offer a more practically oriented education. Studying at a professional college includes periods of practical training in a company or public authority where students are employed.[2] It usually takes three years of study to obtain a bachelor's degree and two further years to achieve a master's degree.[3] The bachelor's degree (regardless of the type of higher education institution) corresponds to a qualification level of 6 according to the International Standard Classification of Education (ISCED-2011), while a master's degree corresponds to a level of 7 (UNESCO, 2012). In addition, there are two further degrees specific to Germany, *Diplom* and *Staatsexamen*, which are generally considered as equivalent to the master's degree. They are awarded in a few study programs (e.g., law, medicine, teaching profession) that have not been changed according to the so-called Bologna process. However, only 25% of university entrants are enrolled in these programs, whereas the

[2] Professional colleges represent a kind of intermediate stage between university and vocational education. Whether they can be considered as a part of tertiary education has not been clearly established. However, the *Kultusministerkonferenz* (a conference consisting of the Ministers of Education and Cultural Affairs of the German states) decided to equate the accredited bachelor's degrees from professional colleges with those from universities of applied sciences (Kultusministerkonferenz, 2004). In addition, the revised International Standard Classification of Education (ISCED-2011) assigns the same level of qualification to a bachelor's degree from a professional college and from a university or university of applied sciences (UNESCO, 2012). Therefore, professional colleges are in the following considered as university education.

[3] A master's degree can be obtained at universities and universities of applied sciences but not at professional colleges.

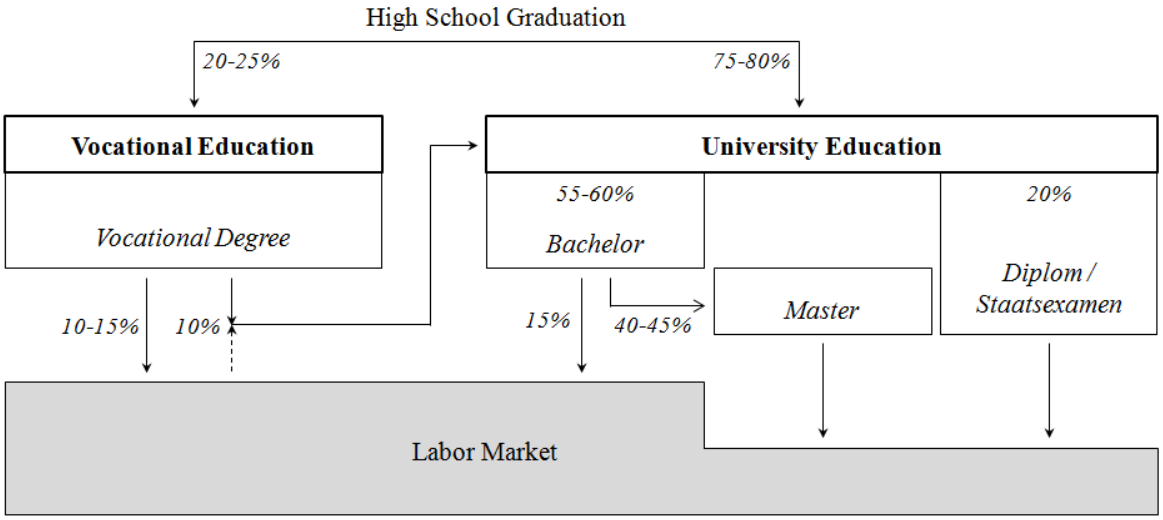


Figure 2.1: Pathways of Postsecondary Education in Germany. (Numbers in italics denote the *shares of high school graduates* attending the respective pathways. Source: Own Illustration. Data Source: Quast et al., 2014, p. 106, 112, 117, 127; Schneider and Franke, 2014, p. 136.)

majority of approximately 75% studies in a bachelor's (and master's) program (see Quast et al., 2014, p. 112).

The second track of postsecondary education is starting *vocational education*, mostly in the German apprenticeship system. An apprenticeship consists of practical on-the-job training in a company, organization or public authority where the trainee is employed, along with attendance at a part-time vocational school. For the majority of professions, it takes approximately three years to obtain the apprenticeship degree, which corresponds (in the case of high school graduates) to an ISCED-2011 level of 4 (postsecondary non-tertiary education). Further training based on a completed vocational education and leading to a formal degree such as master craftsman, technician or educator corresponds to an ISCED-2011 level of 6. The German system of vocational education is internationally quite unique but is acknowledged to provide a high quality education (e.g., OECD, 2010). For example, several occupations that require university education in many countries are qualified in Germany through vocational education (e.g., ergotherapists, kindergarten teachers, nurses, technicians).

The decision process, which includes gathering information about postsecondary education possibilities and thinking about personal preferences and aims, usually starts in the last years of high school. Approximately 55% of students begin two or three years before graduation, while approximately 45% do not start before the last year of high school (Schneider and Franke, 2014, p. 25). Enrollment in vocational education requires an application to the desired company or institution several months (often six to twelve months) before the intended starting date, which is usually August or September. To start university education, students must apply to

their desired university for their desired subject. Some subjects in Germany have restricted admission; here, applications must be submitted to the desired university by July for enrollment in October (or by January for starting in April). Students can apply to as many universities as they like. In addition, very few subjects (e.g., medical sciences and pharmacy) require an application to the Foundation for University Admission (*Stiftung für Hochschulzulassung*, formerly *Zentralstelle für die Vergabe von Studienplätzen, ZVS*). Other subjects, especially most of the so-called STEM subjects, which include natural sciences, technology, engineering and mathematics, do not need an application and can be studied without restriction.

Some students take a year off between high school graduation and starting postsecondary education for other activities (approximately 15 to 25% of graduates, see Schneider and Franke, 2014, p. 121-122). These include, for example, performing an internship or engaging in voluntary service (in social, ecological or cultural institutions at home or abroad) or spending a year abroad for other activities abroad (e.g., work and travel, au pair). Until 2011, males were principally obliged to engage in military or civilian service for nine months, which often started shortly after school graduation, but not all students were drafted.

After completion of a first course of postsecondary education, students decide to continue their education or to enter the labor market. Approximately half of the graduates from vocational education enter the labor market without further education, while the other half start university education. Therefore, in total approximately 85% of high school graduates start university education. The next step after completion of the first course of university education depends on the degree obtained. Those graduating with a *Diplom* or *Staatsexamen* almost completely start their professional career. Only a few of them enroll in a postgraduate course of studies. In contrast, the majority of graduates from a bachelor's program continues university education in order to obtain the master's degree (approximately 75% of graduates). The remaining 25% enter the labor market holding the bachelor's degree. Some of them will start to study in a master's program at a later time (e.g., alongside their job).

Trends in University Attendance

As mentioned above, approximately 85% of high school graduates attend university education. The share of male graduates is higher than the share of females, as Table 2.1 shows. However, because more females than males graduate from high school, the entry rate into university education in relation to the population in the same age group is still higher for females than for males. The same holds true with respect to university graduation rates.

Similar to the shares of high school graduates, the proportions of students of a given age cohort entering into and graduating from university education have increased over the last 20 years.

Table 2.1: Secondary and Postsecondary Education in Germany

	High School Graduation Rate (% of Cohort)[a]		Entry Rate into University Education (% of HS-Graduates)[b]		Entry Rate into University Education (% of Cohort)[c]		Graduation Rate from University Education (% of Cohort)[d]	
	Females	Males	Females	Males	Females	Males	Females	Males
1995	0.31	0.25	0.73	0.82	0.22	0.21	–	–
2000	0.31	0.24	0.75	0.85	0.23	0.20	0.16	0.18
2003	–	–	0.79	0.86	–	–	0.19	0.18
2004	–	–	0.77	0.85	–	–	0.20	0.19
2005	0.33	0.25	0.77	0.86	0.25	0.21	0.22	0.21
2006	0.34	0.26	0.76	0.85	0.26	0.22	0.23	0.21
2007	0.34	0.27	0.79	0.87	0.27	0.23	0.25	0.23
2008	0.35	0.27	0.78	0.86	0.28	0.23	0.28	0.25
2010	0.38	0.29	–	–	–	–	0.32	0.28
2012	0.42	0.33	–	–	–	–	0.32	0.29

[a] Number of high school graduates in relation to the population in the same age group.
[b] Number of students entering university education in relation to the number of high school graduates.
[c] Number of students entering university education in relation to the population in the same age group (calculated on the basis of the previous columns).
[d] Number of graduates from university education in relation to the population in the same age group. The numbers refer to different cohorts than those in the previous columns.
· Source: Autorengruppe Bildungsberichterstattung (2014, p. 295, 296, 303), based on data from the Federal Statistical Office (data not available is indicated by –).

The increase can be observed for both genders but it is higher for women. This trend does not only exist in Germany, but can be observed in many developed countries (see, e.g., Becker et al., 2010). However, there is a difference between Germany and other countries. While approximately 30% of males have completed university education in Germany as well as in the OECD on average, the share of females having graduated from university education is significantly lower in Germany than in many OECD countries (see Figure 2.2). A possible explanation might be that several occupations, especially in the social and health sectors, are qualified in Germany through vocational education but through university education in many other countries. Because these occupations are more frequently chosen by females than by males, the female share of university participation could be lower in Germany than in other countries. Nevertheless, the two other facts with respect to university education – an increasing participation of males and especially females as well as a higher participation level of females compared to males – are similar between Germany, the US and other countries of the developed world. With respect to the choice of university subjects, there is not much variation across cohorts in Germany (see Table A.1 in Appendix A, presenting shares for the years 2002 to 2012). Approximately 20% of male and female students are enrolled in law and economics. Humanities, education and social sciences are more frequently chosen by female than male students (approximately 45% vs. 20%), whereas males are much more likely than females to study a scientific-technological subject (50 to 55% vs. 20 to 25%). Moreover, the distribution is comparable to the average of OECD countries (see Table A.2 in Appendix A).

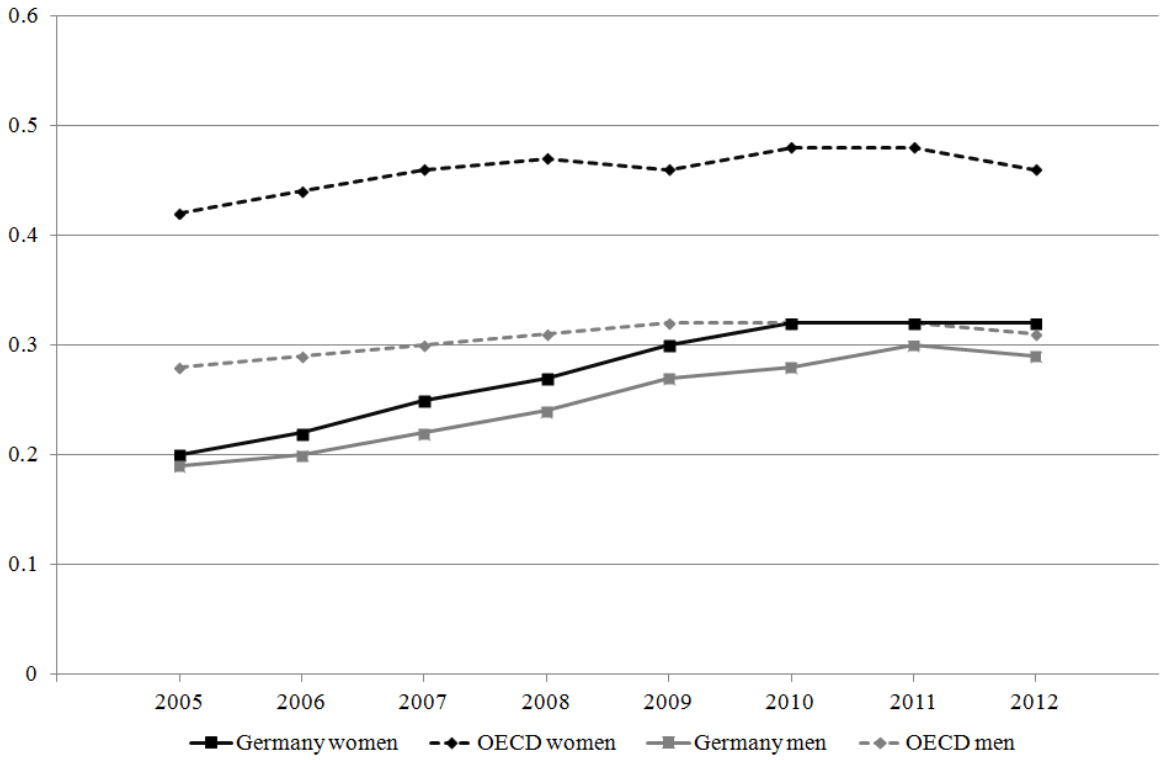


Figure 2.2: Graduation Rates of University Education in Germany compared to OECD average, 2005-2012. Source: OECD (2014, Table A3.2b Web).

2.1.3 Labor Market Entry

After completion of one or more courses of postsecondary education individuals usually start their professional career. In a few cases they enter the labor market before completion or between two courses of education. For example, a significant share of graduates from vocational education who continue their education by attending university is employed for a short period (a few months to a year) before university enrollment.

The labor market entry of graduates from vocational education usually leads to a regular employment. Apprentices are often taken on after graduation by their employer (Dummert et al., 2014). Also, the majority of university graduates in Germany are regularly employed a few months after graduation (numbers in the following are based on Rehn et al., 2011). In many subject areas, employment rates are close to 100% one year after graduation and not different between men and women. Only students from humanities and from some subjects of social sciences have a lower employment share (between 60 and 80%) because they are more likely in the first instance to do a temporary job or an internship or to have a contract for services. In all other fields, temporary jobs, internships, contracts for services or unemployment are the exception (the unemployment rate decreases to 5% or less one year after graduation). Starting the professional career by self-employment is only chosen by very few graduates. In some pro-

fessions, especially law and teaching, a legal clerkship after university graduation of about two years is required before fully entering professional life. In the following, this is considered as labor market entry because individuals are employed at a public authority, receive a wage and perform tasks similar to the ones in their later profession. Finally, some university graduates pursue a doctorate, which in the majority of cases is done in combination with employment as a research associate.

To describe occupational positions, the *International Standard Classification of Occupations* (ISCO-08) classifies occupations according to the skills required and tasks performed (ILO, 2012). An overview of the distribution across occupational groups is provided in Table A.3 in Appendix A.[4] The most common occupational position of university graduates at the beginning of their career is being an academic professional without leadership function, which corresponds to the ISCO-08 major group 2 (highest skill level). University graduates with a bachelor's degree are employed to a smaller proportion in this position but are more frequently found in occupations of major group 3 (technicians and associate professionals; intermediate skill level). Some individuals with vocational education belong also to group 3 (which underlines the high education quality provided by vocational education in Germany), while a similarly large share of them are employed as office, services, sales or craft workers (groups 4 to 7; lower skill level).

2.2 The Reform of School Duration

2.2.1 Historical Overview

The debate on the duration of university preparatory schooling has a long tradition in Germany. The high school (*Gymnasium*) was institutionally established in Germany in the 19th century to regulate university access (Trautwein and Neumann, 2008; the following overview is based on Kühn et al., 2013). At that time, the university admittance qualification was obtained after 12 years of schooling. The duration of 13 years was introduced in 1920, but changed back to 12 years in 1936. After the Second World War, the West-German states reintroduced the 13-year duration in 1949, whereas East Germany continued with a 12-year policy. After the German political reunification in 1990, the former East-German states agreed to adopt the West-German system with a duration of 13 years. This change was relatively quickly implemented in the states of Berlin and Brandenburg, followed by Mecklenburg-Western Pomerania and Saxony-Anhalt in the middle of the 1990s. In contrast, Saxony and Thuringia maintained the 12-year

[4] As other sources are not available, the overview is based on the data described in section 4.2.

policy because they were able to fulfil the number of lessons required by the *Kultusministerkonferenz* within the shorter school duration. However, the different regulations in the federal states intensified the controversial debate on the optimal school duration in the middle and late 1990s. More and more policymakers, also in West Germany, proposed to reduce university preparatory schooling from 13 to 12 years in general. In addition, the effectiveness of the 13-year duration of schooling in Germany became questioned due to the only average results of German high school graduates in international comparison studies such as TIMSS[5] (Baumert et al., 2000), which further supported proposals to reform upper secondary schooling.

2.2.2 Objectives of the Reform

The reduction of the duration of university preparatory schooling was mainly motivated by the observation that graduates from high school as well as from university were comparably older in Germany than in many other countries (see, e.g., OECD, 2014, p. 536), which was the result of a longer duration of secondary schooling but also a longer duration of university studies.[6] This raised the question of whether it was possible to abolish one school year without a loss of skills. The idea was supported by the observation that students in Saxony and Thuringia, the two states with only 12 years of university preparatory schooling, do not showed a lower level of knowledge and performance (in mathematics and physics) at the end of high school as students in states with 13 years of schooling (Baumert et al., 2000).

Therefore, the objective of the reform was to reduce the duration of secondary schooling in order to enable graduates to start and complete their postsecondary education one year earlier. Thereby, an earlier and longer labor market participation of university graduates should be achieved. This was seen as a more efficient use of young peoples' human capital, which would also address the rising shortage of skilled workers caused by the demographic change. The longer working life would generate additional wages as well as additional revenues from taxes and social security contributions. In addition, it would contribute to an earlier intergenerational transfer of know-how.[7] However, the reform was intended to keep constant the content and quality of secondary schooling. The aim was to achieve the same level of education in a shorter period of time, and thereby to increase the efficiency of schooling.

[5] TIMSS: Trends in International Mathematics and Science Study.

[6] It should be noted that the international comparison is not without controversy (see, e.g., Bosse, 2009). For example, the Netherlands or the UK also have 13 years of university preparatory schooling but primary schooling starts at the age of 5. Furthermore, students in most Scandinavian countries have a similar age at high school graduation as in Germany.

[7] Besides educational and occupational effects, an earlier completion of the educational career could also lead to a reduced age of mothers at first birth, and probably to an increase in fertility (cf. e.g., Kreyenfeld and Konietzka, 2008; Humlum et al., 2014).

2.2.3 Implementation of the Reform

Between 2001 and 2008, almost all federal states introduced the reform that shortened the total duration of schooling required for obtaining the university entrance qualification from 13 to 12 years (see Table 2.2). The only exceptions were Saxony and Thuringia, which already had the 12-year system, and Rhineland-Palatinate, which had introduced a special system with 12.5 years at the end of the 1990s.[8] The implementation of the reform, by and large, was similar across states. In all states, the requirements for high school graduation (in terms of instructional time, learning content and examination level) were maintained, which means that the curriculum was compressed into the shorter school duration. Thus, the learning intensity experienced at school notably increased, which means that students have to learn more learning contents per school year. The number of lessons per school week increased on average from approximately 30 to 33 hours (see Table 2.2). According to the Kultusministerkonferenz (1997), at least 265 so-called year-week-lessons (i.e., the average number of lessons per school week multiplied by the number of school years) have to be taught from grade 5 until high school graduation. Hence, the average number of lessons per week in the old system (with 9 school years from grade 5 to grade 13) was $265/9 = 29.4$, while after the reform, $265/8 = 33.1$ hours have to be taught. However, these numbers are averages over all school years between grade 5 and graduation. In practice, grades 5 and 6 remained largely unchanged, whereas the number of lessons per week increased mainly in grades 7 to 10, in some states also in the final grades.

The reform implementation was completed in each state with the so-called double cohort of graduates, which includes the first cohort graduating after the shorter school duration of 12 years and the last cohort graduating after 13 years. The first double cohort graduated in Saxony-Anhalt in 2007, followed by one or more other states in each of the subsequent years. Despite these similarities in the reform introduction across federal states, some differences exist. While the first affected cohort in many states included students entering grade 5 (the first grade of the *Gymnasium*), the change was introduced in higher grades in some states. Furthermore, it depends on the state whether the reform applies exclusively to high schools or to comprehensive schools as well. Finally, the time between law decision and reform implementation varies across states.

[8] In practice, the duration in Rhineland-Palatinate is 12.7 years (graduation in March instead of June) and therefore more similar to graduation after 13 than after 12 years. Hence, Rhineland-Palatinate can be considered as a state which never implemented the reform (except for a pilot project at a few schools).

Table 2.2: Introduction of the Shortened School Duration of 12 Years according to Federal State

	Reform Introduction	Months between Law Decision and Introduction	First Affected Cohort[a]	Affected School Types[b]	Double Cohort of Graduates[c]	Average Number of Lessons per Week[d] G13	G12	Increase
Saxony	always 12 years	–	–	–	–	–	–	–
Thuringia	always 12 years	–	–	–	–	–	–	–
Saxony-Anhalt	2003	5	Grade 9	HS and CS	2007	29.9	33.0	10%
Mecklenburg-Western Pomerania	2001	0	Grade 6	HS and CS	2008	30.2	33.1	10%
Saarland	2001	9	Grade 5	HS	2009	29.7	32.5	10%
Hamburg	2003	2	Grade 6	HS and CS	2010	30.6	33.0	8%
Bavaria	2004	1	Grade 6	HS	2011	31.6	32.5	3%
Lower Saxony	2004	14	Grade 6	HS and CS	2011	30.1	32.6	8%
Baden-Wuerttemberg	2004	13	Grade 5	HS	2012	30.1	33.5	11%
Bremen	2004	5	Grade 5	HS and CS[e]	2012	29.8	33.0	11%
Berlin	2006	28	Grade 7	HS and CS	2012	29.8	33.0	11%
Brandenburg	2007	7	Grade 8	HS and CS[e]	2012	30.9	32.9	6%
North Rhine-Westphalia	2005	6	Grade 5	HS	2013	30.0	33.1	10%
Hesse	2005-2006[f]	9-21	Grade 5	HS and CS	2013-2014	30.4	33.1	9%
Schleswig-Holstein	2008	19	Grade 5	HS	2016	29.3	33.4	14%
Rhineland-Palatinate	never 12 years	–	–	–	–	–	–	–

[a] Indicated is the grade in which the reform was introduced for the first affected cohort.
[b] School Types: HS = high school, CS = comprehensive school (only the cooperative type)
[c] The double cohort includes the first cohort graduating after 12 years and the last cohort graduating after 13 years of schooling.
[d] Average number of required lessons per school week from grade 5 until high school graduation.
[e] In Bremen und Brandenburg, the reform applies only to some comprehensive schools (upon application).
[f] In Hesse, the reform was introduced 2005 and 2006 in two steps.
· Source: Own investigation on the basis of law decisions, school laws and information provided by the state ministries of education. The numbers of lessons are calculated on the basis of Kultusministerkonferenz (2001-2012).

The state of Saxony-Anhalt was the first one that completed the reform introduction. The reform was announced as draft law in October 2002, resolved in the state parliament in March 2003 and implemented in August 2003 with the beginning of the school year 2003/2004 (see Figure 2.3). The first students to be affected by the change (i.e., graduating after 12 years of schooling) were in grade 9 at the beginning of the 2003/2004 academic year. Students in grade 10 at that time were unaffected by the reform, which means that they were the last cohort to graduate after 13 years of schooling. Because requirements for graduation were not changed, students affected by the reform had to learn the same curriculum in fewer years. The number of lessons and the course of instruction of the former grades 9 to 13 now has to be taught in grades 9 to 12.[9] The curriculum of the last two years (former grades 12 and 13), which is relevant for final graduation, was moved forward by one year and is now taught in grades 11 and 12. The course of instruction of the former grades 9 to 11 was compressed for the most part into the new grades 9 and 10. In some subjects (e.g., mathematics, physics) a smaller part was added to the curriculum of the new grades 11 and 12. In minor subjects such as music, arts, geography or chemistry, the curriculum was slightly reduced, but it was maintained in the main subjects such as German language and mathematics. However, the learning intensity increased in all grades and subjects, but the increase was larger in the main subjects. In April and June 2007, Saxony-Anhalt students in the 12th grade (henceforth referred to as G12) and the 13th grade (G13) participated together in the same and identical final examinations.

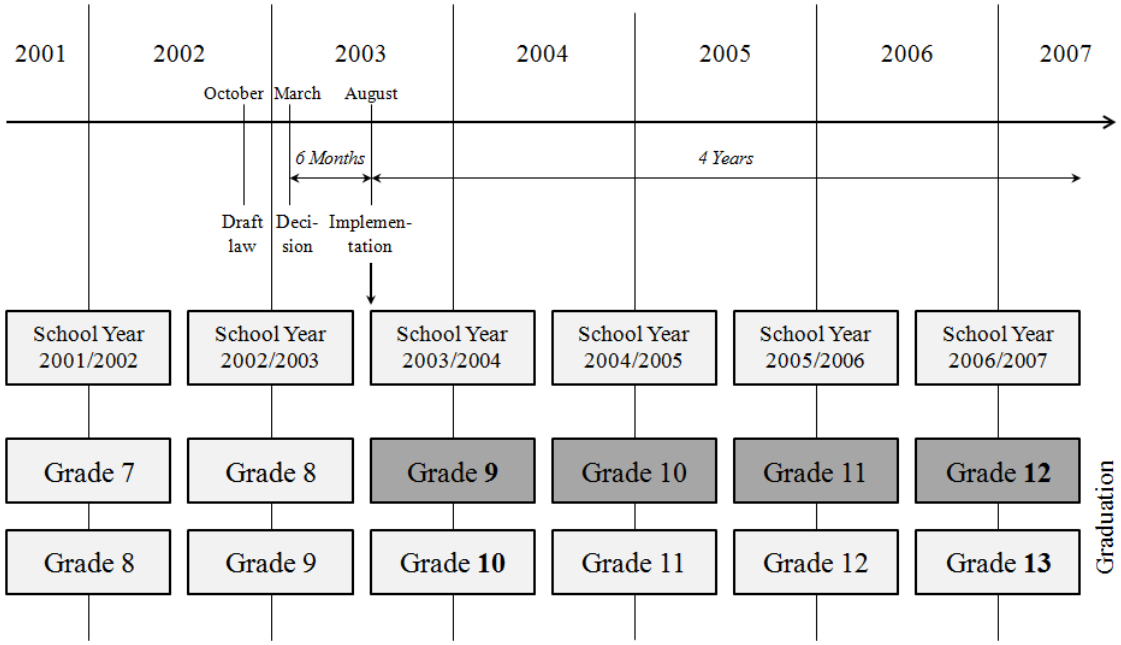


Figure 2.3: Introduction of the Reform in Saxony-Anhalt. Source: Own Illustration.

[9] It is possible that the number of lessons already increased in grade 8 because the state government was planning the reform at that time and therefore possibly increased the number of lessons in advance to mitigate the reform burden for the first affected cohort.

2.2.4 Potential Effects of the Reform

From a theoretical perspective, the reform could have several effects on school education, postsecondary education and the professional career (for an overview see, for example, Kühn et al., 2013), which can be summarized in two potential channels of impact.

First, students have to deal with a notable *increase of learning intensity* at school, that is, they have to learn the same curriculum within a shorter time period, or in other words, they have to learn more curriculum content per unit of instructional time. This might have positive as well as negative effects. On the one hand, the efficiency of learning and students' ability to cope with challenging requirements could be improved, which would be beneficial for further education and labor market outcomes. For example, more students could choose a challenging university subject, or students could show a higher performance or persistence at university. On the other hand, the higher learning intensity could be detrimental to education outcomes, for example, by overtaxing students or by leaving less possibilities for revising the subject matter and for teaching the curriculum in the necessary depth. Consequently, students' learning motivation or school achievements could decrease and students could be or could feel less prepared for university education. This could lead students to choose a less demanding track or subject in postsecondary education. Also their ability to cope with the study requirements at university could be negatively affected. Furthermore, the higher learning pressure could affect students' personality development. In addition, the higher number of lessons per school week reduces the time available for recreation and leisure activities, which could reduce students' participation in extracurricular activities such as sports, music or voluntary engagement. As these activities contribute to the development of cognitive and non-cognitive skills, an influence on later education and professional success is also possible through this channel.

Second, students affected by the reform graduate from school after a *shorter duration of schooling* and at a *younger age*. Therefore, they have less experience of life and one year less (in school as well as in leisure) to discover their talents and occupational interests. As a consequence, students could be less oriented or less informed with respect to their career choice than students with 13 years of schooling. The higher insecurity could prolong the time until entry into postsecondary education or could lead more students to start first, as a precaution, a less demanding course of postsecondary education. Furthermore, if the match quality of their postsecondary education decisions was lower, the probability of changing the subject or dropping out of a course of postsecondary education could increase.

Altogether, the first effect channel, working through learning intensity, can be denoted as a *performance effect*, while the second one, working through school duration and graduation age, represents an *orientation effect*. The overall reform effects, which are analyzed in the later

chapters of this thesis, consist of a mixture of these sub-effects that cannot be separately identified. The reason is that the learning intensity and the graduation age are interconnected and can only be changed simultaneously, otherwise a change in a third variable would be necessary. For example, if only the learning intensity should be changed and the graduation age should be kept constant, this would imply either an increase in the curriculum or an increase in the school starting age. Nevertheless, the conceptual differentiation into a performance effect and an orientation effect can help to understand the mechanisms behind potential effects.

Theoretically it is not clear which effects will occur and whether the aim of an earlier labor market entry with a constant level of education quality will be achieved. The abovementioned remarks have shown several possibilities how the reform could affect the quality of education (e.g., school and academic achievements, personality traits, education attainment) as well as the time course of postsecondary education (e.g., time of enrollment, duration of participation in university education), which subsequently could have an effect on labor market entry and professional success.

Chapter 3

Related Literature

3.1 The Relevance of Quantity and Quality of Schooling

There is a comprehensive empirical literature documenting that education plays an important role for economic success – from the perspective of an individual and the overall economy. Following the seminal work of Becker (1964), a vast number of authors have estimated the economic return to education, finding *private monetary returns* of approximately 6 to 10% for an additional year of schooling. A literature overview is provided, for example, by Card (1999). The main challenge for the analysis is that causality is difficult to prove because unobserved ability differences might lead to upward-biased OLS estimates. A number of studies try to overcome this problem by comparing the earnings of genetically identical twins with the same ability but different levels of schooling (e.g., Ashenfelter and Krueger, 1994). Others apply an instrumental variable approach and use an institutional feature of the education system as an instrument for schooling (e.g., Angrist and Krueger, 1991, using quarter of birth combined with the compulsory school leaving age in the US as instrument). A subgroup of these studies investigates an exogenous variation in the years of education caused by an increase of compulsory schooling in many countries between the 1940s and 1970s. Some studies find large positive effects on cognitive skills (e.g., Banks and Mazzonna, 2012; Brinch and Galloway, 2012) as well as on earnings (e.g., Harmon and Walker, 1995; Oreopoulos, 2006), in particular in the United Kingdom and the United States. However, no effect on wages is found for reforms in Germany (Pischke and von Wachter, 2008), France (Grenet, 2013) and the Netherlands (Oosterbeek and Webbink, 2007). This points out that a longer duration of education does not necessarily lead to higher welfare but that effects depend on the content and organization of a country's education system.

On the macroeconomic level, the amount of schooling also has a positive impact on economic growth (see, e.g., Cohen and Soto, 2007). Nevertheless, Hanushek and Kimko (2000) and others show that the influence of the *quantity* of education decreases notably if the *quality* of education is considered in the analysis. An overview on this strand of the literature is provided, for example, by Hanushek and Woessmann (2008, 2012), which shows that education quality as measured by cognitive skills has a strong impact on both earnings and economic growth. These findings have shifted the focus of the discussion from school quantity to school quality, or in other words, from attained years of schooling to cognitive skills accumulated during schooling.

Therefore, the question on the determinants of the quality of edcuation arises. A literature review by Hanushek and Woessmann (2011) indicates that most school resource inputs such as expenditure levels or class sizes do not have a substantial influence on student achievement, whereas the teacher quality as well as institutional structures and incentives (e.g., external exit examinations, private-school competition) matter a lot. With respect to earnings, some measures of school quality, for example, the type of school, are found to affect earnings (e.g., Dearden et al., 2002), while others such as teachers' education or salary or the quality of peers have no effect (e.g., Betts, 1995; Heckman et al., 1996; Dustmann et al., 2012).

3.1.1 Instructional Time

Another factor that is important for education quality is instructional time. Several analyses of cross-country or cross-state variation in instructional time, using data from international tests of cognitive skills (e.g., TIMSS, PISA[1]), find a positive impact on students' performance (Lee and Barro, 2001; Mandel and Süssmuth, 2011; Lavy, 2015). However, the size of this effect differs considerably between countries. It ranges from zero to 0.3 standard deviations for a year of school time and seems to decrease with age (Webbink and Gerritsen, 2013). Furthermore, the effects depend on other school characteristics, for example, the classroom environment (Rivkin and Schiman, 2015). An example for zero effects of school duration is canton-based variation in Switzerland, where high school graduation takes place after 12, 12.5 or 13 years of schooling. According to Skirbekk (2006), this variation does not lead to differences in students' performance. For the German states, Woessmann (2010) also does not find a significant influence of instructional time on students' test scores in mathematics.

Other studies analyze (quasi-)experimental variations of instructional time. Webbink (2007) investigates a one-year reduction of duration and content of university education in the Netherlands and finds a wage decrease of 7 to 9%. In contrast, a reform in Sweden that increased the

[1] PISA: Programme for International Student Assessment.

vocational track of upper secondary schooling by one year has no effect on university enrollment or earnings (Hall, 2012). A second group of studies is focused on variation in the number of school days per school year. Using data from the US state of Maryland, Marcotte (2007) shows that heavy snowfall, which reduces the number of school days within a school year, negatively affects examination scores, particularly in mathematics. Very harsh winters (compared to very mild winters) decrease the share of students performing satisfactorily in the mathematics exam (in April/May) by approximately 2%, although this number is likely to represent a lower bound estimate. Later studies by Marcotte and Hemelt (2008) and Hansen (2011) confirm this finding. Carlsson et al. (2015) investigate random variation in the date of a military preparatory test taken by high-school students of age 18 in Sweden and find that additional school days increase cognitive skills. Extrapolated to an additional year of schooling, performance in a crystallized intelligence test increases by approximately 0.2 standard deviations.

A third strand of this literature examines changes in the time that students spend at school per day. A review of empirical studies by Patall et al. (2010) concludes that more instructional time per school day has at best a small positive effect on student achievement. In line with that, Bellei (2009) finds that lengthening school days in Chilean high schools increases student achievement by approximately 0.05 to 0.07 standard deviations in language and by up to 0.12 standard deviations in mathematics. Longer school days in Argentinian primary schools have both positive and negative effects on outcomes in secondary and tertiary education (Llach et al., 2009), which suggests that it is not instructional time per se but rather its content that is decisive. Several recent studies tend to obtain larger effects. Lavy (2012) finds that increasing the length of the school week in primary schools in Israel significantly improves student achievement in core subjects. Adding one more hour per week in each of the subjects math, science and English increases performance by 0.05 standard deviations. An analysis of classroom hours in Denmark by Jensen (2013) shows that one additional hour in grade 9 increases student achievement in mathematics by 0.21 standard deviations, whereas no effect is observed for literacy. A similar result is reported for an increase of instructional time in lower secondary schools in Southern Italy. Battistin and Meroni (2013) and Meroni and Abbiati (2016) find a positive effect on test scores in mathematics (plus 0.25 standard deviations) but not in language. In addition to an average improvement of skills, a study by Kawaguchi (2016) suggests that more school days contribute to equalizing performance of children with different socioeconomic backgrounds.

3.1.2 School Curriculum

The previous section has indicated that instructional time affects the development of skills. However, some studies point out that the impact depends on the content which is learned in this

time. Therefore, the school curriculum is another important determinant of education quality. The first studies on this issue by Altonji (1995) and Levine and Zimmerman (1995) report only small effects on education and labor market outcomes but these studies have some methodological limitations (Altonji et al., 2012). Compared with this, recent studies find that taking more advanced math courses at high school increases earnings significantly (Rose and Betts, 2004; Joensen and Nielsen, 2009). The latter shows an effect size of around 20% due to participation in an advanced math course. A large fraction of the effect works through higher education attainment. Further studies confirm positive impacts of an advanced curriculum on school achievements (Borghans and Diris, 2014) and enrollment in higher education (Aughinbaugh, 2012; Falch et al., 2014). Nevertheless, changing the curriculum does not always improve education quality. For example, Berkhout et al. (2011) do not find an effect of a high-school curriculum reform introduced 1999 in the Netherlands on performance in higher education and the labor market.

Similarly to a more advanced curriculum, central exit examinations or higher examination standards raise learning and performance pressure. On the one hand, several studies identify a positive impact on test scores (e.g., Hanushek and Woessmann, 2011). However, no effect is found on wages, at least with respect to German high schools (Backes-Gellner and Veen, 2008; Piopiunik et al., 2013). Clark and See (2011) also do not observe a wage effect of higher graduation standards in the US state of Florida. On the other hand, the introduction of central exit examinations can have adverse implications. For example, there is evidence for an increase of high-school drop-out in the US (Dee and Jacob, 2007) and for a negative effect on students' attitudes towards learning in Germany (Jürges and Schneider, 2010).

3.1.3 Learning Intensity

Having identified the duration and content of schooling as important factors for the quality of education, their combination is also relevant. This means that the amount of curriculum which is taught and learned per unit of time (the so-called learning intensity) matters. However, except for the recent reform in Germany, only two other reforms that include a reduced school duration and an increased learning intensity have been examined. The first reform is the introduction of two short school years in German primary schools in 1966/67 that notably reduced the length of two primary school years but kept constant the curriculum. An investigation by Pischke (2007) finds an increase of grade repetition in primary school and a decrease in the share of students choosing the intermediate track of secondary school, but no effects on education attainment, earnings, and employment later in life.

The second reform was introduced 1999 in the Canadian province of Ontario and reduced the academic school track from 13 to 12 years in a similar way to the reform in Germany. Krashinsky (2014) identifies a significant and robust negative effect of the reform on students' performance at university. Morin (2013) emphasizes that the effect is small when only high-performing students are considered. Furthermore, wages of graduates whith one year less schooling are significantly reduced in the short-term (Krashinsky, 2009). However, the reform in Ontario differs from the German reform in several respects. First, the curriculum was slightly reduced, therefore it is not clear whether the effect comes from the higher learning intensity or the reduced curriculum. Second, non-compliance was possible because students could choose to graduate one year earlier in the old system or could take an additional year in the new system. In addition, the analyses of the wage impact of the Canadian reform by Krashinsky (2009) and Morin (2015a) do not use data from university graduates but consider only individuals who enter the labor market without further education. This possibility is rarely chosen in Germany. Moreover, Morin (2015a) focuses on the effect of the supply shock created by the double cohort of graduates and leaves aside effects of reduced schooling by only analyzing outcomes of graduates with 13 years of schooling. Altogether, there is so far only little evidence on the relevance of learning intensity for education and labor market outcomes.

3.1.4 The Orientation Function of Schooling

In addition to providing skills, time spent in school also has an orientation function by helping students to discover their tastes and talents (Schultz, 1968). This means that during their school career, individuals discover – at school as well as in leisure – their abilities and talents and develop preferences with respect to their future occupation. This information is an important basis for education decisions after school graduation. For example, Arcidiacono et al. (2012) and Wiswall and Zafar (2015) show that the choice of a university subject depends first of all on perceived ability and tastes for several aspects of an occupation. This process continues during the whole educational career. Individuals receive information on their abilities, which narrows the uncertainty regarding their occupational choice. As a consequence, a longer duration of schooling should increase the match quality of further education and occupational decisions and should reduce drop-outs or switches in further education (Johnson, 1978; Altonji, 1993).

These propositions are confirmed by a few empirical studies. Malamud (2011) compares the difference in the timing of specialization (and hence in the length of education until the specialization decision is made) in undergraduate education in England and Scotland. The results show that graduates in Scotland, where specialization occurs relatively late, have a lower probability of switching to an unrelated occupation than graduates in England who have to specialize

earlier. This advantage in terms of higher match quality is larger than the foregone return to specialized skills which would have been obtained by an earlier specialization (cf. Malamud, 2010). Accordingly, Stange (2012) and Bordon and Fu (2015) show, at least for the United States, that a system where education decisions are made sequentially (i.e., individuals decide to enroll in college but choose their major after some time in college) leads to a higher welfare compared to a system where the major decision has to be made at the time of college enrollment.

Although these findings are concentrated on tertiary education, it is likely that they also (or even more) apply to secondary education. Therefore, the length of schooling until the choice of postsecondary education or occupation is made, matters for the match quality of this decision. This conclusion is supported by a related strand of the literature showing that many high-school students are inadequately informed about postsecondary education. Interventions that provide relevant information to high-school students can increase university enrollment of suitable students, especially of those from lower educated backgrounds (Hoxby and Turner, 2013; Oreopoulos and Dunn, 2013; Borghans et al., 2015).

3.1.5 Summary

This brief overview of the relevant literature has shown that the quality of schooling as measured by cognitive skills has a large influence on individuals success in further education and in the labor market. The development of cognitive skills is influenced, among others, by instructional time, school curriculum and the combination of both. In addition, time spent in school contributes not only to the development of skills but also helps young people in discovering their abilities and preferences. However, it has also been shown that characteristics of high-school education do not always play a role for success in further education and in the professional career.

3.2 Evidence on the Reform in Germany

The reform in Germany that reduced the duration of university preparatory schooling from 13 to 12 years has first been empirically examined by Büttner and Thomsen (2015) and Thiel et al. (2014), using the same data from the state of Saxony-Anhalt that is used in this thesis. Especially in the last two to three years, a number of other authors have also investigated several effects of the reform.

A first group of studies are addressed at the reform effects on cognitive skills. Büttner and Thomsen (2015) investigate the effect on achievement in final examinations of the double cohort of high school graduates 2007 in Saxony-Anhalt. They identify a significant decrease of grades in mathematics by 0.15 standard deviation for women and 0.30 standard deviations for men. In contrast, no significant effect is found in German language. Based on PISA data from 2000 to 2009, Andrietti (2015) finds a significant increase in reading, mathematics and science literacy of high-school students of age 16. This increase is caused by the higher amount of instructional time which students have experienced until this point in time due to the compressed curriculum. An earlier study by Homuth (2012) on the basis of the same data (PISA 2000-2006) reports a similar effect, but only for reading literacy. However, both studies do not allow any conclusions with respect to student achievement at the end of high school. An investigation by Dahmann (2015) using data from the German Socio-Economic Panel (SOEP) also shows an increase of crystallized intelligence for male students of age 17. A second analysis in this paper is based on measures of cognitive ability from the German National Education Panel Study (NEPS) collected in the state of Baden-Wuerttemberg. No difference in crystallized intelligence (mathematical ability) is observed at the end of high school. Only a slight decrease of fluid intelligence (reasoning ability) is identified, which comes from the age difference at school graduation. Finding no effect on mathematical skills contradicts the results obtained by Büttner and Thomsen (2015), which could be explained either by differences in the reform effect between federal states or by differences in the setting of the underlying tests.

In addition to cognitive skills, two papers examine a potential effect of the reform on the probability of grade repetition. The abovementioned analysis by Andrietti (2015) observes no significant effect until grade 9. Compared with this, Huebener and Marcus (2015b) use data from the federal statistical office and find a reform-driven increase in grade repetition by 3 percentage points. This increase is driven by grade retention in the last three years of high school (i.e., in grades 10 to 12). This effect further leads to a decrease in the age at high school graduation by only 10 months instead of a full year. However, the overall rate of high school graduation is not affected, which means that the reform does not increase high-school drop-out.

The question of whether the reform has an influence on students' personality traits is investigated by Thiel et al. (2014), finding no significant influence of the reform in the state of Saxony-Anhalt. The few small effects are interpreted as economically less relevant because not all personality traits have a high relevance for labor markets. For example, the effect on the locus of control is expected to decrease wages by approximately 0.5 to 0.7%. Compared with this, an analysis by Dahmann and Anger (2014), using SOEP data on students of age 17 to 21 from all federal states, finds larger effects, namely an increase in extraversion and a decrease in emotional stability.

A further group of outcomes, which have been examined a bit more often, include potential effects of the reform on students' time burden, extracurricular activities, and well-being. However, most of these studies include only a descriptive analysis and do not allow a causal interpretation. Böhm-Kasper et al. (2001) and Böhm-Kasper and Weishaupt (2002) compare students from the state of Thuringia, which always had a 12-year duration, with students from Bavaria and Brandenburg (13 years) before the reform was introduced. Despite the higher number of lessons per week, the authors do not find evidence that the shorter school duration leads to a higher stress level or to less time available for leisure activities. However, the question remains open whether these results can be attributed to the school duration or to other state-specific characteristics of the school system or the student body. Müller-Ney and Schliesing (2008) use a survey of students from the double cohort in the state of Saarland in the last years of high school. They find that students affected by the reform report a notably higher stress level due to time pressure and learning requirements and also need more time for homework. In a comparison of students from the double cohort in Bavaria, Milde-Busch et al. (2010) do not find an adverse effect of the reform on students' health status. However, students in the shorter school duration have less time for leisure and recreation. Using data from the double cohort in Baden-Wuerttemberg, Hoffmann (2010) shows that students affected by the reform report a significantly higher performance pressure and less frequently do sports in a sports club. Nevertheless, there is no evidence for a decrease in students' physical or emotional well-being. An econometric analysis by Quis (2015) using NEPS data from Baden-Wuerttemberg shows an impact of the reform in terms of increased stress levels and increased mental health problems of female students. Another study based on these data also finds a higher level of perceived stress and less time for leisure (Trautwein et al., 2015), although causal conclusions cannot clearly be made. Two studies in the state of Hesse (Prohl et al., 2013; Laging et al., 2014) support a slightly higher burden of learning for students affected by the reform but do not find differences in leisure activities, especially sports. However, interpretation is limited by the methodology of both studies. The reform in Hesse was introduced in three consecutive years according to schools. Prohl et al. (2013) compare students from different schools in the old and new system but at the same time report that the school environment has a large influence on the results. Laging et al. (2014) compare students in the final years of high school, in which students face only slightly different learning requirements because the reform in Hesse increased the number of lessons mainly in lower secondary school. The same limitation applies to a study by im Brahm et al. (2013) which uses data from the double cohort in North Rhine-Westphalia. Students in upper secondary school affected by the reform spend more time on homework but not less time on leisure activities such as music, sports or social engagement. Nevertheless, they report more frequently that there is not enough time for recreation. Another study on North Rhine-Westphalia does not find differences in leisure time between students from the

shortened school duration and from a reintroduced 13-year duration (Blumentritt et al., 2014). However, the difference between these students is only one lesson per week, compared to the "normal" reform situation with an increase of three hours.

Altogether, the empirical evidence available to date reveals a mixed picture, indicating that some outcomes are actually influenced by the reform while others remain unaffected. However, all these studies are focused on reform effects in secondary school. Hardly any empirical studies are available that analyze effects after high school graduation, for example, on transition into postsecondary education, on success in postsecondary education, or on labor market entry. There are only two exceptions. Kühn (2014) analyzes data on university entrants from the double cohort of high school graduates 2013 in North Rhine-Westphalia and compares self-reported measures of subject-related, methodological and personal competencies. The results do not indicate significant differences between students with 12 and 13 years of schooling. Only a few statistically significant differences between cohorts can be observed but they are not large enough to have substantial implications. Another analysis by Dörsam and Lauber (2015) is based on administrative data from students at the University of Konstanz and comes to similar conclusions. Academic achievements of high school graduates from the states of Baden-Wuerttemberg and Bavaria are largely unaffected by the reform. Nevertheless, some effect heterogeneity is found, namely a slight adverse effect for the first affected cohort from Bavaria, but a slightly better performance of the second affected cohort from Baden-Wuerttemberg.

Chapter 4

Methodological Framework

The evaluation of the effects of the shortened and intensified school duration in Germany is carried out in this thesis mainly for the reform in the state of Saxony-Anhalt. This chapter presents the empirical approach, including the process of data collection, the identification strategy, its validity and related aspects. The presented approach applies to the analyses in all following chapters, except for chapter 7 in which more states are taken into consideration. The corresponding methodological approach is described there.

4.1 The Reform: A Natural Experiment

The key methodological challenge for the evaluation of reform effects is the identification of the causal effect, which is the change in the outcome of interest that is only due to the reform (and does not depend on other influences). As a student cannot be observed simultaneously in the longer and shorter school duration (i.e., the so-called counterfactual situation), an average treatment effect can only be identified using a comparison group which is used to approximate the counterfactual situation. For estimating this effect, it is fundamental that the treatment group and the control group do not differ systematically with the exception of being affected by the reform.

This requirement can be seen to be fulfilled because the implementation of the reform in the state of Saxony-Anhalt provides a natural experiment. From the perspective of a student, the reform was randomly introduced. Therefore, the assignment of students to the treatment group (G12) and to the control group (G13) can be assumed to be random. This assumption is supported by at least two reasons. Announcement and implementation of the reform took place within a few months. More importantly, the students had already been enrolled in secondary

school for a number of years and simply received the notification without being required or having the option to initiate any actions. Students thus had virtually no possibility to evade the shortened school duration. All these aspects of implementation make it very reasonable to assume that students from treatment and control groups do not differ systematically from one another except for the different school duration. This allows the identification of the causal effects of a substantial variation of school duration and learning intensity on education outcomes.

4.2 The Data

The empirical evaluation of the reform effects is based on primary data gathered from students of the 2007 double *Abitur* cohort in Saxony-Anhalt. This state is chosen for several reasons. First, as explained in the previous section, the implementation of the reform in Saxony-Anhalt provides a clean natural experiment to identify reliable causal effects. Second, it was the first state that completed the reform introduction with a double cohort of graduates (see Table 2.2). Hence, the reform effects, in particular on postsecondary education and labor market entry, can be analyzed first in this state. Third, the research team was located in Magdeburg at the beginning of the project. This proximity was necessary or at least helpful for the implementation of data collection.

It was necessary to collect own data because education authorities did not provide administrative data and other data sets did not contain the necessary information or not enough students from the double cohort of high school graduates. Other national representative data, for example the Socio-Economic Panel (SOEP) or the Sample of Integrated Labor Market Biographies (SIAB), could in priniciple be used. However, they often do not possess the suitable depth of information and they require pooling over several cohorts and states in order to obtain a sufficient number of observations. Although this might be beneficial, it also has disadvantages (see section 4.2.4). Moreover, these data sets can only recently be used for the analysis of students' participation in postsecondary education because the first affected cohorts graduated from high school in most states not before 2011 or 2012 (only four small states completed the reform introduction until 2011). This implies also that effects on labor market participation can only be analyzed with these data in some years from now.

4.2.1 Data Collection

The primary data were collected in three waves, which were conducted one and a half years, four and a half years, and seven and a half years after high school graduation (February and

March 2009, November 2011 to January 2012, and November 2014 to January 2015).[1] This was done by means of survey questionnaires that were sent to the high school graduates from the double cohort. The sample of students was drawn from 12 secondary schools in two different regions of Saxony-Anhalt. Ten schools are located in the city of Magdeburg, the state capital, and two (larger) schools in the city of Halberstadt, a town in a rural area. Schools were selected in order to represent different regional backgrounds. The 12 schools represent a share of 12% of all schools leading to the university admittance qualification in Saxony-Anhalt in 2007. Originally it was planned to collect a larger sample including more schools and regions but this was not feasible due to limited financial resources.

In preparation of the first wave (beginning in spring 2008), schools were contacted by the research team. Some schools provided the addresses of graduates, while other schools sent out the questionnaires without providing the addresses to the researchers. For a third group of schools, the addresses had to be investigated by the researchers themselves, contacting students on the basis of *Abitur* journals via social networks, e-mail or telephone. For the second and third waves, addresses of students were updated on the basis of the information available. All students from the 12 selected schools (previous participants and non-participants) were contacted as far as possible by e-mail, telephone or social networks.[2] They were asked whether their address is still valid and whether they would participate again in the survey or, if they had not participated in the first wave, whether they would participate this time. Unknown or outdated addresses were newly investigated, for example by means of online telephone directories or social networks. However, not all addresses could be updated. Furthermore, many students participated in the follow-up survey(s) although their address had not been updated before, and some students with an updated address did not participate.

Parallel to the process of updating addresses, the survey questionnaires were developed. The questionnaire of the first wave contained a large number of questions regarding students' family background, childhood, school education, extracurricular activities and first information on the started postsecondary education. In the second wave detailed information on attended courses and experiences in postsecondary education were collected. The focus of the third wave was on the labor market entry, with questions on the characteristics of the first and the current job. To ensure meaningful evaluations, questions were adjusted to existing surveys such as SOEP, TIMSS, DZHW panel surveys on high school graduates and on university graduates, micro census, BIBB/BAuA labor force survey. The questionnaire of each wave was pretested by students not belonging to the double cohort.

[1] The first wave was implemented by Bettina Büttner and Stephan Thomsen, while the second and third waves were conducted by Stephan Thomsen and myself.

[2] Participants had been asked at the end of the previous survey whether they in principle would participate again in a follow-up survey.

The first survey wave was carried out by means of a paper-and-pencil questionnaire that was sent to the high school graduates by mail. In the second and third wave, the questionnaire was additionally programmed as online-questionnaire. In these waves, the questionnaire was sent out by mail and/or e-mail, depending on the addresses available and the preferences of participants. A reminder was sent after some weeks to those who had not yet answered the questionnaire. In order to obtain a sufficient number of observations, students where told that their participation significantly contributes to the success of the research project. Furthermore, an incentive of 10 Euro for participation was paid in each wave (20 Euro in the third wave).

4.2.2 The Sample

The double cohort of graduates in the 12 schools contained 1,628 students. Not all questionnaires could be delivered because some addresses were unknown or outdated. In the first wave, 1,464 questionnaires could be delivered, in the second wave 1,202, and in the third wave 1,140. In total, 1,014 students participated in at least one survey wave – 806 in the first, 602 in the second and 664 in the third wave.[3] This corresponds to response rates of 55%, 50% and 58%, which were almost the same for G12 and G13 students. An overview of the sample composition is provided in Table 4.1. The potential restrictions for the analysis caused by panel attrition could be partly compensated by collection of refreshment samples. These include students from the original double cohort who where contacted but did not participate in a previous wave (117 of the 602 students in the second wave and 91 of the 664 students in the third wave). The questionnaires for the refreshment samples contained a few additional questions on background characteristics from the first survey.

In order to make G12 and G13 students more comparable with respect to their school duration, students who repeated a grade or spent a year abroad during their school career are not considered in the analysis. The final estimation sample includes 717 students in the first wave, 529 students in the second wave, and 598 students in the third wave. In each wave, half of the students are from the treatment group (G12) and half from the control group (G13). The sample contains more female students (64% in the first wave) than male students, which is mainly due to a higher share of female students graduating from high school, and not due to different response rates. The Statistical Office of Saxony-Anhalt (2011) reports for 2007 that 8,717 female students from a total of 14,756 students obtained the university admittance qualification, which corresponds to a share of 59%.

[3] The higher response in the third wave could be achieved by at least three measures: The addresses of students were updated with more time and effort, the length of the questionnaire was notably reduced, and the financial incentive for participation was doubled.

Table 4.1: Data Collection and Sample Composition (Double Cohort of High School Graduates 2007 in Saxony-Anhalt, Students from 12 Schools)

	1st Wave	2nd Wave	3rd Wave
Time of Survey	February – March 2009	November 2011 – January 2012	November 2014 – January 2015
Questionnaires Sent	1,628	1,302	1,274
Questionnaires Delivered	1,464	1,202	1,140
Questionnaires Responded	806	602	664
Response Rate	55%	50%	58%
Final Sample[a]	**717**	**529**	**598**
Previous Participants	–	430	515
Refreshment Sample	–	99	83
G12 Students	358	261	301
G13 Students	359	268	297
Female Students	456	366	399
Male Students	261	163	199

[a] Exclusion of students who repeated a grade or spent a school year abroad.

4.2.3 Collected Information

The information collected by the survey questionnaires was recorded according to the four-eyes prinicple. Afterwards, the answers of students were checked for consistency and, if necessary, corrected. Finally, the data from the paper- and online-questionnaires were merged, appended to the data from the other waves, and prepared for the analysis. The following section contains a description of the items collected by the questionnaires (the full questionnaires are contained in Appendix B).

The first survey was carried out in February and March 2009, one and a half years after high school graduation. This time lag might has slightly reduced the precision of students' answers. However, it is also possible that the distance of time has lead to a more realistic assessment of school education and thereby increased the quality of answers. The 101 questions of the first survey can be divided into the following categories:

1. The first set of questions covers *personal characteristics* of the student such as date of birth, gender, place of birth, place of residence during childhood and schooling, number of relocations, migration background.

2. Students' *family background* includes separate information on the father and the mother such as age, divorce, change of partners, education attainment, occupational position, unemployment, and involvement in, for example, cultural, political, religious and sport activities. Information on siblings covers their number, gender, age and education. Fur-

ther variables capture household details: the number of own books and books of parents as well as the existence and use of several items of household equipment.

3. *School education* is captured by general information on the duration of day nursery and kindergarten attendance, the age at school enrollment, the state in which primary and secondary school was attended, the distance between home and school, the year of high school enrollment, and whether a grade was repeated or skipped at least once. In addition, detailed information on the school curriculum contains the grades in main subjects in school year 7, the duration and number of foreign languages and natural sciences learned at school, and participation in extra-lessons. Students are also asked for a self-assessment of own skills, which importance was attached to them at school, and how important schooling was for the development of these skills. Furthermore, an evaluation of the relationship between teachers and students is included.

4. Further questions consider the *last year(s) of school and graduation*. They contain the class size, the types of the main courses (i.e., whether the final examinations in these courses were taken on a basic or an advanced level), the final examaination score in each of these courses, and the overall achievement score. Moreover, a number of questions is devoted to students' assessment of the stress and burden of learning.

5. *Extracurricular activities* include educational activities outside school and other leisure activities, for example, private tutoring, music instruction, sports, social or political engagement, or working in a side job. Students are asked whether and how often they participated in these and other activities in the last year(s) of high school.

6. The *health status* of students in the last year of school is considered by questions on health complaints and health behavior (e.g., consumption of alcohol, smoking).

7. The last category on school education contains the *support from parents, teachers and other persons*. This comprises the amount of support with schooling tasks and homework from parents, siblings, friends and peers, the interest of parents on everyday school life, and school involvement of parents.

8. Participation in *postsecondary education* is observed for the 18 months between school graduation and the date of the first survey. The activities that took place during this time (e.g., military or civilian service, stay abroad, university or vocational education, employment) are reported in a retrospective monthly calendar. In addition, information is provided on the type of the attended postsecondary education, the degree aspired to (e.g., Bachelor, Master) and the university subject. Furthermore, students are asked for the reasons of their education decisions and their plans for future educational activities.

9. Students' *attitudes and personality traits* are measured by various items that consider several concepts from personality psychology such as the so-called big five inventory, locus of control, self-control, reciprocity, and risk attitude.

The second survey was conducted between November 2011 and January 2012, four and a half years after school graduation. Participants had to answer around 100 questions, depending on the attended educational and occupational career. At first, the information on students' *family background* from the first wave was supplemented by additional information on the subject area of father's and mother's university or vocational education as well as an on the intended and completed postsecondary education of siblings. All other questions were focused on students participation in postsecondary education, which can be categorized as follows:

10. *Activities after school graduation* until the time of the second survey are reported in a retrospective quarterly calendar, which covers several types of postsecondary education and employment, civil and military service, stay abroad, parental leave and care of relatives. This section also contains retrospective information on the education plans at the time of school graduation, motives for these plans as well as problems with realizing the planned education.

11. Students having started a *vocational education* are asked about the details on up to two vocational trainings. These include the beginning, duration and end of vocational education as well as the type, field and place of education. Information on the final degree or a drop-out (and the reason for this) and on financing this education is considered as well.

12. *Details of university education* include information on up to three courses of university education. This covers the beginning, duration and end of university education, the chosen subject and type of university as well as stays abroad, internships and working during studies. Further questions address the manner of learning and studying, the stress and burden of university education, the existence of skill deficits and reasons for these difficulties, reasons for dropping-out of the course of study, and the final grade of study if completed. In addition, students are asked to evaluate their preparation for university by school, how they would decide if they had to decide again on their postsecondary education, which further degrees they plan to obtain, and in which area they want to work after graduation.

13. Persons who are or have been already *in employment* (as main activity) provide information on several characteristics of their professional career, for example the beginning, duration, type and position of the job, the occupational area and job location, as well as

reasons for choosing this job. Further information is collected on the duration and ways of finding the job, difficulties in the first months of working, and on self-employment.

14. Information on *education-related and other leisure activities* comprises the frequency of several leisure activities (e.g., meeting friends, reading, music, sports, working), the participation in activities of various university groups, as well as personal interest for politics, political participation and political attitudes.

15. First information on *family formation* includes students' current family status, the number of own children and future family plans.

16. The final section of the questionnaire is concerned with students' *health status and health behaviors*. This contains a self-evaluation of the current health status and life satisfaction as well as questions on past and current health problems. Further information is collected on students' size and weight as well as their health behaviors such as alcohol consumption, smoking behavior and health-conscious nutrition.

The questionnaire of the third wave, which was conducted from November 2014 to January 2015 (seven and a half years after high school graduation), contained approximately 40 questions in the following categories:

17. The *educational and occupational career* from high-school graduation 2007 until the end of 2014 is reported by students in a retrospective quarterly calender, which indicates participation in university education, vocational education, employment, and all other activities, with the corresponding start and end time. Aditional information is collected on all courses of university education such as subject (major), name of university, desired or obtained degree and final grade. Further questions include stays abroad, internships, side jobs, further degrees aspired, and how students would decide if they had to decide again on their postsecondary education.

18. The *labor market entry* is captured by a number of questions on the first and current job, which is performed as main activity. Included are characteristics such as the start and end time of the respective job, the type of employment contract, working time, the adequacy of the job with respect to previous education, and the wage. Further questions cover the process of finding the first job, for example, the number of applications, the perceived difficulty of job search, the search area, and the motives for choosing the job. Moreover, the intensity of several problems at job start, reasons for job change, and a self-assessment of the future career perspective are considered. Those individuals which have not started their career at the time of the survey are asked for the desired type and time of career start.

19. Information on *family formation and children* includes the marital status, the employment of the partner, and the number and birth year of children.

20. *Final questions* contain students own opinion on the reform of school duration, the education attainment of siblings, and the occupational position of parents.

4.2.4 Differentiation to Other Data Sets

The panel data collected from the 2007 double cohort of high school graduates in Saxony-Anhalt provide a unique data set for the quantitative analysis of reform effects. They include a sufficient number of observations as well as extensive and detailed information over a long period of observation. With these characteristics, the data differ considerably from a number of other data sources which are used by other researchers for the analysis of reform effects (see section 3.2). The main difference (and therefore the unique feature) is that the data cover a long period of time – starting at childhood, through school education, high school graduation and postsecondary education up to the entry into the labor market. Compared with this, the other data sets include only information on certain sub-periods of time, for example, only school education, only university education, or only the transition from high school into university education.

The other data sets can be characterized as follows, starting with those including national representative data:

- The Socio-Economic Panel (SOEP; used, for example, by Dahmann and Anger, 2014) covers a large time period, but the number of observations per high-school cohort and federal state is small. Hence, several cohorts and states have to be pooled together. Thereby, state-specific effects and other confounding influences might play a role and could bias the results. Furthermore, the SOEP cannot be used by now to analyze reform effects on education attainment and labor market entry because the first affected cohort graduated from high school in most states not before 2011, 2012 or 2013 and only a small number of observations is contained from states with earlier reform completion.

- The panel survey on high school graduates provided by the German Centre for Research on Higher Education and Science Studies (DZHW), which is used in chapter 7, includes only information on the transition from high school into postsecondary education. Similar to the SOEP, the number of observations for each graduation cohort and federal state is small.

- Data from several years of the PISA study are analyzed by Homuth (2012) and Andrietti (2015). However, they allow only conclusions on student achievement at age 15, which means that effects in higher grades, at the end of high school and beyond high school cannnot be investigated.
- A study on the basis of aggregate data provided by the Federal Statistical Office (Huebener and Marcus, 2015b) consider only reform effects on secondary schooling. Furthermore, it does not contain individual data.

Further data, which are based on one federal state, are:

- The additional study Baden-Wuerttemberg of the National Educational Panel Study (NEPS; used by Dahmann, 2015, Quis, 2015, and Trautwein et al., 2015) contains only information at the time of high school graduation, for example, test scores, grades, or student well-being.
- The analysis by Dörsam and Lauber (2015) uses data on academic achievement of students at the University of Konstanz. The students come from several federal states but only Baden-Wuerttemberg and Bavaria are considered in the analysis. The focus is on only one period of time, namely university education. In addition, only one university is included in the data.
- Surveys on the double cohort of high school graduates in North Rhine-Westphalia (conducted and analyzed by im Brahm et al., 2013, and Kühn, 2014) also consider only one period of time, namely students in high school or at the beginning of university education.

This section is not to say that the data used in the present thesis is superior to these other data sets, but rather that each data and the corresponding methodological approaches have their specific strengths and weaknesses (a brief discussion is presented in section 4.8).

4.3 Descriptive Statistics of Students' Characteristics

To characterize the groups in the analysis, mean values of selected background variables are provided in Table 4.2. Variables with respect to preschool experiences do not show any differences between treatment and control groups, which indicates that students from both cohorts had similar experiences in childhood and enrolled in school with equal starting conditions. Almost all students attended primary school within Saxony-Anhalt. The age at school enrollment

is slightly different between female cohorts but the difference should not be too large in absolute terms to be economically relevant. School achievements in year 7 – before the reform was implemented – are indicated once by the average grade and once by the grade in mathematics. The average grade (i.e., the average of the grades in the core subjects: mathematics, German literature, English language) is considered as a measure of general school achievement, whereas the grade in mathematics is taken into account because of its specific importance for further education.[4] In the female sample, grades in year 7 do not differ significantly between cohorts. In contrast, a difference in the average grade can be observed in the male sample. However, the grade in mathematics, which might be more relevant for subsequent education outcomes, is not significantly different between male cohorts. Furthermore, the family background represents a well-established factor for school achievements and further education and occupational outcomes. No significant differences are found between treatment and control groups with respect to the educational background of parents and siblings, the number of books at home, and the occupational position of parents. Only the share of female students whose father experienced unemployment at least once is significantly lower in the treatment group.

The overall picture of students' background characteristics does not indicate systematic differences between G12 and G13 students, and therefore supports the assumption of a natural experiment. The few differences should not be a problem for several reasons. First, they do not indicate a systematic pattern because the differences are partly in favor of G12 students and partly in favor of G13 students. For example, G13 females are a bit older than those in the G12 cohort, whereas G12 females are less likely to have a father with unemployment experience. Second, a set of further background characteristics reported in Table A.4 in Appendix A do not reveal systematic differences between cohorts. Third, some differences apparent in the sample of the first survey wave do no longer exist in the samples of the second and third wave (see Table 4.3).[5] Furthermore, the broad consistency across waves indicates that a valid sample was obtained by each survey wave.

4.4 Representativeness of the Sample

Because the survey was conducted in two regions of one federal state, it is important to check the representativeness of the sample. Are the students in the surveyed sample comparable to the population of high school graduates in Germany? In order to answer this question,

[4] Several studies show that mathematical abilities are most likely to be affected by changes of instructional time (e.g., Marcotte, 2007; Jensen, 2013). Moreover, mathematical abilities are found to be much more important for postsecondary education than verbal abilities (e.g., Paglin and Rufolo, 1990).

[5] Not all variables collected in the first wave have also been collected from new participants in the second and third wave. Therefore, Table 4.3 contains fewer variables than Table 4.2.

Table 4.2: Means of Selected Background Characteristics of Students, According to Cohort and Gender (1st Survey Wave)

	Female Sample			Male Sample		
	G12	G13	p-value[a]	G12	G13	p-value[a]
Preschool Experiences						
Country of Birth: Germany	0.98	0.99	(0.65)	0.99	0.98	(0.91)
Number of Siblings	0.90	0.93	(0.68)	1.03	0.93	(0.36)
Childhood mostly with Both Parents[b]	0.83	0.82	(0.78)	0.83	0.78	(0.27)
Number of Removals during Childhood	1.65	1.69	(0.78)	1.58	1.56	(0.91)
Attendance of Day Nursery	0.88	0.86	(0.59)	0.80	0.82	(0.60)
Attendance of Day Nursery $>$ 2 Years	0.22	0.18	(0.37)	0.15	0.17	(0.69)
Attendance of Kindergarten	0.99	0.99	(0.60)	0.99	0.98	(0.27)
Attendance of Kindergarten $>$ 2 Years	0.92	0.90	(0.59)	0.82	0.81	(0.78)
Schooling Before Reform Introduction						
Age at School Enrollment	6.12	6.19	(0.09)	6.21	6.22	(0.87)
Primary School in Saxony-Anhalt	0.98	0.99	(0.21)	0.97	0.99	(0.22)
Average Grade in Year 7[c]	2.15	2.19	(0.42)	2.26	2.38	(0.10)
Mathematics Grade in Year 7[c]	2.33	2.27	(0.35)	2.13	2.22	(0.33)
Education of Parents and Siblings						
Academic Degree of Father	0.42	0.44	(0.74)	0.45	0.52	(0.30)
Academic Degree of Mother	0.49	0.50	(0.92)	0.45	0.53	(0.18)
Academic Degree of at least one Sibling	0.23	0.29	(0.17)	0.23	0.20	(0.47)
Number of Books of Parents (categorical)						
0 to 100	0.27	0.26		0.31	0.30	
101 to 500	0.49	0.55		0.39	0.37	
More than 500	0.23	0.19	(0.40)	0.30	0.33	(0.90)
Occupation of Parents (categorical)						
Father: Not employed	0.06	0.10		0.04	0.08	
Father: Blue-/White-collar Worker	0.69	0.69		0.79	0.70	
Father: Civil Servant	0.07	0.05		0.05	0.07	
Father: Self-employed	0.18	0.16	(0.29)	0.13	0.15	(0.32)
Mother: Not employed	0.10	0.08		0.08	0.08	
Mother: Blue-/White-collar Worker	0.75	0.79		0.76	0.73	
Mother: Civil Servant	0.06	0.07		0.08	0.11	
Mother: Self-employed	0.09	0.06	(0.57)	0.08	0.08	(0.90)
Occupation of Parents						
Leading Occupational Position of Father	0.34	0.36	(0.71)	0.35	0.30	(0.42)
Leading Occupational Position of Mother	0.21	0.23	(0.60)	0.20	0.27	(0.17)
Unemployment of Father during Childhood[d]	0.23	0.33	(0.02)	0.22	0.24	(0.61)
Unemployment of Mother during Childhood[d]	0.28	0.28	(0.95)	0.32	0.28	(0.55)
Number of Observations	220	236		138	123	

[a] p-value from t-test on equality of means; for categorical variables: p-value from Pearson χ^2-test of independence. Values are shown in parentheses for better readability.
[b] Living with both parents at least one half of childhood.
[c] Grades range from 1 (excellent) to 6 (failed), i.e., lower grades indicate higher achievement.
[d] Occurence of unemployment at least once during childhood of students.

Table 4.3: Means of Background Characteristics, According to Cohort and Gender (All Waves)

	Female Sample								
	1st Wave			2nd Wave			3rd Wave		
	G12	G13	p [a]	G12	G13	p [a]	G12	G13	p [a]
Preschool Experiences									
Number of Siblings	0.90	0.93	(0.68)	0.96	0.93	(0.76)	–	–	–
Number of Removals dur. Childhood	1.65	1.69	(0.78)	1.73	1.68	(0.76)	1.65	1.63	(0.89)
Schooling Before Reform Introduction									
Age at School Enrollment	6.12	6.19	(0.09)	6.13	6.21	(0.09)	6.14	6.21	(0.09)
Average Grade in Year 7[b]	2.15	2.19	(0.42)	2.16	2.22	(0.30)	2.17	2.23	(0.28)
Mathematics Grade in Year 7[b]	2.33	2.27	(0.35)	2.31	2.32	(0.93)	2.33	2.34	(0.94)
Education of Parents and Siblings									
Academic Degree of Father	0.42	0.44	(0.74)	0.42	0.45	(0.57)	0.44	0.44	(0.92)
Academic Degree of Mother	0.49	0.50	(0.92)	0.52	0.48	(0.38)	0.51	0.47	(0.34)
Acad. Degree of at least one Sibling	0.23	0.29	(0.17)	0.26	0.28	(0.56)	0.31	0.33	(0.72)
Number of Books of Parents (categorical)									
0 to 100	0.27	0.26		0.23	0.22		0.22	0.21	
101 to 500	0.49	0.55		0.54	0.58		0.55	0.58	
More than 500	0.23	0.19	(0.40)	0.23	0.20	(0.75)	0.23	0.21	(0.85)
Occupation of Parents									
Unemployment of Father dur. Childh.[c]	0.23	0.33	(0.02)	0.29	0.32	(0.49)	0.27	0.30	(0.46)
Unemployment of Mother dur. Childh.[c]	0.28	0.28	(0.95)	0.28	0.27	(0.86)	0.32	0.29	(0.54)
Number of Observations	220	236		183	183		200	199	

	Male Sample								
	1st Wave			2nd Wave			3rd Wave		
	G12	G13	p [a]	G12	G13	p [a]	G12	G13	p [a]
Preschool Experiences									
Number of Siblings	1.03	0.93	(0.36)	1.08	0.91	(0.22)	–	–	–
Number of Removals dur. Childhood	1.58	1.56	(0.91)	1.76	1.49	(0.24)	1.51	1.54	(0.87)
Schooling Before Reform Introduction									
Age at School Enrollment	6.21	6.22	(0.87)	6.19	6.20	(0.92)	6.25	6.24	(0.83)
Average Grade in Year 7[b]	2.26	2.38	(0.10)	2.14	2.39	(0.00)	2.22	2.34	(0.15)
Mathematics Grade in Year 7[b]	2.13	2.22	(0.33)	2.09	2.19	(0.44)	2.01	2.14	(0.18)
Education of Parents and Siblings									
Academic Degree of Father	0.45	0.52	(0.30)	0.56	0.46	(0.18)	0.50	0.49	(0.89)
Academic Degree of Mother	0.45	0.53	(0.18)	0.53	0.58	(0.52)	0.50	0.61	(0.11)
Acad. Degree of at least one Sibling	0.23	0.20	(0.47)	0.28	0.20	(0.22)	0.34	0.34	(1.00)
Number of Books of Parents (categorical)									
0 to 100	0.31	0.30		0.31	0.27		0.27	0.23	
101 to 500	0.39	0.37		0.34	0.41		0.40	0.41	
More than 500	0.30	0.33	(0.90)	0.35	0.32	(0.62)	0.32	0.36	(0.73)
Occupation of Parents									
Unemployment of Father dur. Childh.[c]	0.22	0.24	(0.61)	0.17	0.25	(0.24)	0.19	0.27	(0.24)
Unemployment of Mother dur. Childh.[c]	0.32	0.28	(0.55)	0.29	0.26	(0.70)	0.30	0.23	(0.28)
Number of Observations	138	123		78	85		101	98	

[a] p-value from t-test on equality of means; for categorical variables: p-value from Pearson χ^2-test of independence. Values are shown in parentheses for better readability.
[b] Grades range from 1 (excellent) to 6 (failed), i.e., lower grades indicate higher achievement.
[c] Occurence of unemployment at least once during childhood of students.

students' characteristics in the sample are compared to the Socio-Economic Panel (SOEP) in a first step. The comparison group is generated from the waves 2000 to 2008 of the SOEP and consists of individuals below the age of 25 with a university admittance qualification. In order to consider regional differences, the comparison is carried out with respect to Germany as a whole and with respect to East Germany. The resulting SOEP sample includes almost 3,000 observations (and 1,070 observations for the subsample of East Germany). At first, the means of sociodemographic and family background characteristics from the own sample are compared to those from the SOEP sample (see Table 4.4). Differences in almost all variables are negligible, in particular when compared with East German students. The few differences could result from regional characteristics in West and East Germany as well as from different survey years (due to an increasing social openness of high school, i.e., more students come from non-academic families, see, e.g., Trautwein and Neumann, 2008). Secondly, the own sample is merged with the SOEP, and this merged data set is used for estimation of a probit model

$$Prob(Y_i = 1|X_i) = \Phi(\alpha + \beta'\mathbf{X}_i). \tag{4.1}$$

The dependent variable Y_i is a dummy variable which indicates whether an observation belongs to the SOEP ($Y = 1$) or to the own sample ($Y = 0$). The matrix $\mathbf{X}_i$ contains the explanatory background variables with the corresponding coefficient vector β. If the two samples differ from one another, the coefficients will become significant. But this is only the case for a few variables, whereas most background variables do not indicate significant differences (see Table A.5 in Appendix A). Furthermore, differences are not systematic via different specifications tested.

As a further representativeness check, the sample from Saxony-Anhalt is compared to another nationally representative data record, the panel survey of high school graduates carried out by the German Centre for Research on Higher Education and Science Studies (DZHW). The 2006, 2008 and 2010 waves of these data include students from all German states, some of which also completed the reform in the respective time period. Table 4.5 contains a comparison of mean values of some variables concerning students' background, showing a broad similarity between both data sets. With respect to the educational background, there is the time trend of an increasing social openness of the high school in Germany. The respective mean values of the own sample lie in between the 2006 and 2010 values of the DZHW data, especially for female students. A further argument in favor of the representativeness of the sample is that the outcome variables analyzed in this thesis (e.g., enrollment rates, subject choices) are in line with other statistics. Altogether, the sample collected from the double cohort of high school graduates in Saxony-Anhalt can be considered to be representative. Accordingly, empirical analyses based on these data will have some degree of general validity.

Table 4.4: Means of Selected Characteristics from the Own Sample Compared to SOEP

	Own Sample		SOEP	
	1st Wave	2nd Wave	Germany	East Germany
Sociodemographic Variables				
Gender (Male)	0.37	0.32	0.43	0.40
Age	20.70	–	22.07	21.94
Country of Birth (Germany)	0.98	–	0.97	0.99
Number of Siblings[a]	0.94	0.96	1.13	0.99
School-Leaving Degree of Parents				
Father: No School-Leaving Degree	0.00	0.00	0.00	0.00
Father: Secondary School Degree	0.58	0.58	0.60	0.68
Father: High School Degree	0.42	0.42	0.39	0.32
Mother: No School-Leaving Degree	0.00	0.00	0.00	0.00
Mother: Secondary School Degree	0.62	0.61	0.69	0.70
Mother: High School Degree	0.38	0.39	0.30	0.30
Occupational Degree of Parents				
Father: No Occupational Training	0.00	0.01	0.02	0.01
Father: Apprenticeship Training	0.58	0.56	0.55	0.54
Father: University Education	0.41	0.44	0.42	0.45
Mother: No occupational Training	0.01	0.01	0.06	0.02
Mother: Apprenticeship Training	0.55	0.50	0.61	0.50
Mother: University Education	0.44	0.49	0.33	0.48
Occupational Position of Parents				
Father: Not Employed	0.07	–	0.07	0.07
Father: Bl./Wh.-Collar Worker, Civil Servant	0.77	–	0.77	0.80
Father: Self-Employed	0.16	–	0.16	0.14
Mother: Not Employed[b]	0.08	–	0.15	0.08
Mother: Bl./Wh.-Collar Worker, Civil Servant[b]	0.84	–	0.74	0.84
Mother: Self-Employed[b]	0.08	–	0.11	0.08
Leading Occupational Position of Parents				
Father: Leading Position	0.34	–	0.33	0.33
Mother: Leading Position	0.23	–	0.13	0.11
Number of Books of Parents[c]				
0 to 100	0.28	0.24	0.34	0.34
101 to 500	0.47	0.50	0.48	0.51
More than 500	0.25	0.25	0.18	0.14
Leisure Activities During Childhood[d]				
Sport	0.75	0.74	0.73	0.60
Music	0.50	0.51	0.54	0.48
Number of Observations (max.)	716	529	2,999	1,070
Number of Observations (min.)	676	499	2,691	945

[a] Number of observations in SOEP data: 1,019 (Germany), 368 (East Germany).
[b] Number of observations in SOEP data: 1,744 (Germany), 525 (East Germany).
[c] Number of observations in SOEP data: 690 (Germany), 249 (East Germany).
[d] Number of observations in SOEP data: 1,030 (Germany), 279 (East Germany).
· Variables not collected in the 2nd survey wave are indicated by –.

Table 4.5: Means of Selected Background Characteristics from the Own Sample (1st Wave) Compared to the DZHW Panel Survey of High School Graduates[a]

	Female Sample				Male Sample			
	DZHW (2006)	**Own Sample (2007)**		DZHW (2010)	DZHW (2006)	**Own Sample (2007)**		DZHW (2010)
	G13	**G13**	**G12**	G12	G13	**G13**	**G12**	G12
Country of Birth: Germany	0.97	**0.99**	**0.98**	0.99	0.99	**0.98**	**0.99**	1.00
Language at Home: German	0.97	**0.99**	**0.99**	0.95	0.93	**0.98**	**0.99**	1.00
Academic Degree of Father	0.50	**0.44**	**0.42**	0.39	0.49	**0.52**	**0.45**	0.48
Academic Degree of Mother	0.58	**0.50**	**0.49**	0.42	0.58	**0.53**	**0.45**	0.49
Father's Occupation: Worker	0.69	**0.77**	**0.74**	0.72	0.69	**0.76**	**0.82**	0.80
Father's Occupation: Civil Serv.	0.10	**0.05**	**0.08**	0.06	0.14	**0.08**	**0.05**	0.05
Father's Occupation: Self-Empl.	0.21	**0.17**	**0.19**	0.22	0.17	**0.16**	**0.13**	0.15
Mother's Occupation: Worker	0.87	**0.86**	**0.83**	0.81	0.75	**0.82**	**0.79**	0.81
Mother's Occupation: Civil Serv.	0.06	**0.07**	**0.07**	0.06	0.15	**0.09**	**0.12**	0.06
Mother's Occupation: Self-Empl.	0.07	**0.07**	**0.10**	0.12	0.10	**0.09**	**0.09**	0.13
Number of Observations	394	**236**	**220**	442	135	**123**	**138**	300

[a] Subsample of federal states which completed the reform of reduced school duration between 2006 and 2010 (Hamburg, Mecklenburg-Western Pomerania, Saarland, Saxony-Anhalt).
· Shares of occupations differ from Table 4.2 because the category "not employed" is excluded for comparability reasons.

4.5 Nonresponse and Panel Attrition

Another concern regarding the data could come from survey nonresponse. Because the response rates range between 50% and 58%, a nonresponse bias could occur if students in the sample differ systematically from students who did not answer the questionnaire. However, the response rates coincide with other well accepted surveys conducted in Germany. For example, the Panel Survey of High School Graduates, the Volunteer Survey, and the German part of the European Social Survey report response rates in recent years of between 34% and 50% (Lörz et al., 2012; Gensicke and Geiss, 2010; European Social Survey, 2014). Some surveys obtain higher rates of approximately 70%, for example, the National Educational Panel Study or the Socio-Economic Panel (Prussog-Wagner and Aust, 2012; Rahmann and Schupp, 2013). Nevertheless, a response rate of at least 50% is often accepted as adequate in the social research literature (see, e.g., Draugalis et al., 2008). But regardless of the level of the response rate, a nonresponse bias is always possible. However, there is no obvious reason why a potential bias should be different between G12 and G13 students. Moreover, it has been shown in the previous section that the sample can be considered as representative for the basic population of high school graduates, which is good evidence against the existence of a nonresponse bias.

The smaller number of responses in the second and third wave may give rise to another potential source of bias, coming from panel attrition. In order to test for any systematic patterns

in panel attrition, the probability of participating in the second and third survey waves is estimated for participants of the previous wave(s). This is done using participation of first wave respondents in the second wave (and participation of first or second wave participants in the third wave, respectively) as the dependent variable (i.e., a dummy variable equal to 1 if previous participants have participated again and equal to 0 otherwise). This dependent variable is estimated using a probit model with several specifications which contain all relevant covariates with respect to students' family background and school achievements (as in the estimations presented in section 4.9). As an additional explanatory variable, a dummy is included which indicates whether the address (mail or e-mail) of a student had been updated before the second (or third) wave started (see section 4.2.1). The results in Table 4.6 show that a few variables have a significant effect on the participation probability (in particular the number of books of parents). However, the largest influence is exerted by the variable indicating the updated address. Furthermore, the treatment dummy has no significant impact. Although the effect on participation in the 3rd wave is close to the 10%-level of statistical significance in the female sample, the size and the test statistic of the effect decrease when only the treatment dummy is included in the estimation.

However, panel attrition is only half the story because the consequences of panel attrition are mitigated by the collection of refreshment samples, which include individuals who did not participate in a previous wave but newly participate in the second or third wave (see section 4.2.2). Thus, panel attrition would only be a concern if it lead to a sample with different characteristics than the sample of the first wave. A comparison of students' characteristics across waves (see Table 4.3) shows that the female sample is remarkably similar across waves. This means that students in the refreshment samples are very similar to students who dropped out (i.e., the new participants nearly perfectly substitute the drop-outs). Hence, a bias from panel attrition is not likely to exist in the case of females. The characteristics of male students are also very similar between the first wave and the third wave, but male students participating in the second wave may be slightly positively selected with regard to the educational background of the family. As a solution, sampling weights are introduced in the sample of the second wave for males from the G12 cohort. Thereby, the second wave is weighted according to students' background in the first wave. More precisely, the weights are calculated on the basis of five background variables, in which small differences between the male sample of the first wave and the male sample of the second wave exist: average grade in year 7, academic degree of father, academic degree of mother, academic degree of siblings and unemployment of father. With respect to average grade in year 7, the share of each grade category[6] is weighted so that its share in the second wave is equal to the respective share in the first wave. The same is done for the other four (dummy) variables. The share of each response category in the second wave is adjusted so

[6] Grades range from 1 (excellent) to 6 (failed), categories are 1.0, 1.3, 1.7, 2.0, 2.3, 2.7 etc.

Table 4.6: Probability of Participation in the 2nd/3rd Survey Wave (Participants of a Previous Wave, Probit Estimates)

	Female Sample		Male Sample	
	2nd Wave	3rd Wave	2nd Wave	3rd Wave
Independent Variables	Marg.eff.	Marg.eff.	Marg.eff.	Marg.eff.
Academic Degree of at least one Parent	0.057*	0.036	0.046	0.047
	(0.033)	(0.046)	(0.060)	(0.061)
Academic Degree of at least one Sibling	0.061	0.044	-0.013	0.019
	(0.040)	(0.045)	(0.064)	(0.073)
Number of Books of Parents: 101 to 500	0.126***	0.148***	0.044	0.154***
	(0.040)	(0.044)	(0.065)	(0.058)
Number of Books of Parents: More than 500	0.100*	0.115*	-0.022	0.178**
	(0.052)	(0.068)	(0.073)	(0.075)
Unemployment of at least one Parent	-0.004	-0.015	-0.106**	-0.025
	(0.039)	(0.038)	(0.051)	(0.057)
Number of Removals during Childhood	0.045	0.028	0.023	-0.027
	(0.040)	(0.042)	(0.071)	(0.071)
Age at School Enrollment	0.063	0.032	-0.031	0.016
	(0.045)	(0.050)	(0.046)	(0.052)
Average Grade in Year 7: Very Good	-0.067	-0.029	0.111	0.066
	(0.065)	(0.060)	(0.109)	(0.077)
Average Grade in Year 7: Satisfactory/Fair	-0.050	0.118***	-0.053	-0.068
	(0.043)	(0.043)	(0.052)	(0.053)
Address Updated before the 2nd/3rd Wave	0.458***	0.364***	0.466***	0.418***
	(0.021)	(0.041)	(0.026)	(0.071)
D (Treatment)	0.016	0.065	-0.058	-0.022
	(0.032)	(0.040)	(0.047)	(0.046)
School Fixed Effects	yes	yes	yes	yes
Number of Observations	442	500	253	280

· Dependent variable (2nd wave): dummy indicating whether an individual from the first survey wave has participated again in the second survey wave.
· Dependent variable (3rd wave): dummy indicating whether an individual from the first or second survey wave has participated again in the third survey wave.
· Marginal effects are average marginal effects. All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below marginal effects. Stars denote significance of the estimates as follows: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

that it is equal to the respective share in the first wave. Finally, all five weights are multiplied. The resulting total weight is assigned to each observation in the sample of the second wave and regarded in the estimation.

Altogether, it can be concluded that the empirical analysis should not be biased by panel attrition. Nevertheless, remaining concerns are addressed by additional robustness checks in the following chapters, which use only individuals who participated in a previous wave and estimate the reform effects by applying the Heckman selection model.

4.6 Internal Validity of the Natural Experiment

As shown above, assuming random assignment of students to the treatment and control groups is reasonable. Nevertheless, there may be some concerns with respect to the internal validity of the natural experiment. Inferences would be limited if a selection bias between both groups were present. This could be the case if students (or their parents) evaded the reform, for example, by moving or commuting to a different state within Germany.[7] However, this is not very likely, because the monetary and non-monetary costs of such a move would be very high, in particular given the rapid implementation of the reform. Commuting to a school in a neighboring state is also unattractive, because the closest border is quite far away (about 30 to 50 km) for the sample analyzed. Moreover, many parents were familiar with the shorter school duration of 12 years, which had existed in Saxony-Anhalt until 1997 (see section 2.2.1). Another possibility would be moving to a different type of school within Saxony-Anhalt, at which school duration is still 13 years (e.g., vocational high schools, some comprehensive schools). However, this is also unlikely because students were already enrolled for several years in high school as the reform was introduced in grade 9. Thus, moving to a different school would include high non-monetary costs such as adaption to new peers or a new school environment.

Avoiding the double cohort by fast-tracking secondary schooling (i.e., skipping a school year) is conceivable as well, but the German school system does normally not provide this option. A further reason for the existence of a selection bias could be a reform-driven increase in grade retention. On the one hand, students could have voluntarily repeated a grade in order to avoid the increased learning intensity and to regain the eliminated year. However, to my knowledge, nothing like this was reported for Saxony-Anhalt. On the other hand, grade retention could have increased involuntarily if more students were not able to cope with the higher learning intensity at school. Specific investigation of this would require detailed information according to grades and school years on grade repetition, school drop-out, change of school and spending a school year abroad, but such data are not available. Nevertheless, official statistics from the Federal Statistical Office (n.y.a) can be considered as an approximation. The share of students in the last year of high school not successfully passing the final examinations is not that different for the two cohorts and compared to previous and subsequent years (see Table A.6 in Appendix A; statistics with respect to lower grades are difficult to compare between cohorts, partly because of different conditions for spending a school year abroad).

However, if relatively more students with lower performance have dropped out of the affected cohort, the sample of G12 students would show better pre-reform school achievements than it

[7] As mentioned above, the reform was mandatory for all students, so students did not have the option of choosing the longer school duration.

would be the case for the original cohort. In fact, G12 students have slightly better average grades in year 7 than G13 students but the difference is not statistically significant (except for male students in the second wave, which is corrected by sampling weights as described above). Moreover, no systematic differences between groups with respect to pre-reform characteristics can be observed, as one would expect from successive cohorts. This suggests that a selection bias is not very likely, which further supports the identification strategy. Although the argumentation refers to observable characteristics, the comprehensive number of examples may be interpreted in favor of no further unobserved differences between G12 and G13 students systematically affecting the estimation of the reform effects.

4.7 External Validity of the Natural Experiment

The external validity (i.e., the generalizability of the findings) could be impaired, for example, if the identified reform effects represent only temporary effects which would diminish for subsequent cohorts. This could be due to the existence of transition or learning effects. These may occur if school principals or teachers needed some time to adapt to the new organizational and instructional requirements. However, the majority of school principals and teachers in Saxony-Anhalt had previously been involved in the old 12-year graduation policy, making implementation effects less likely. Furthermore, principals, teachers, students and parents showed no great resistance to the new system.

Another concern could be the fact that the reform was introduced for the first affected cohort in grade 9. In the following cohorts and in many other states, the reform was introduced in earlier grades. Hence, the higher number of lessons had to be distributed over fewer years than in the "normal case", which means that the first affected cohort in Saxony-Anhalt experienced a larger increase of learning intensity than normal. Unfortunately, definite information on how the distribution of instructional hours across grades was actually changed in the first cohort is not available, among other reasons, because official requirements could be implemented differently in the individual schools. For example, it could be the case that some schools increased the number of lessons already in grade 8 because the reform introduction was planned by the state government at this point in time. According to Olbertz (2008), the schools were involved in the reform process at an early stage. In addition, the number of lessons were increased also in the following cohorts mainly not before grade 7, which means that grades 5 and 6 remained largely unchanged (Kultusministerkonferenz, 2001-2012; see also section 2.2.3). Thus, the difference in affected grades between the first and subsequent cohorts is only one or possibly two grades. Moreover, it cannot be ruled out that the first affected cohort experienced a slightly lower number of instructional hours than the officially required number of 265 year-week-lessons.

This could be the case because 5 of the 265 year-week-lessons are allowed to be taught as elective courses (e.g., project work). Despite the lack of precise information, these remarks show that the increase in learning intensity does not have to be much larger for the first affected cohort than for the following cohorts.

Nevertheless, a slightly higher increase cannot be ruled out with absolute certainty. If this was be the case, the analysis would slightly overestimate the true reform effect. However, an effect working in the opposite direction is possible as well. The first cohort in Saxony-Anhalt was affected mainly in upper secondary schooling, whereas the following cohorts and students in other states experienced the main increase of learning intensity in lower grades. As students in these lower grades are in a critical age in terms of personal development (i.e., puberty), the reform might have larger effects in these grades. If this was the case, the analysis based on the double cohort in Saxony-Anhalt would underestimate the true reform effect. Therefore, the present analysis can be considered as representing a good estimation of reform effects. Although the reform-driven increase in learning intensity is distributed slightly differently across grades in other states, similar effects can be assumed.

In addition, the particular situation of the double cohort of high school graduates might has impaired the transition into postsecondary education. Due to the double cohort, the number of students entering universities and the apprenticeship market in 2007 considerably increased, and thus the competition for places at university and for apprenticeship positions. In order to avoid this situation, some students possibly delayed their entrance into postsecondary education. However, this would only be plausible if students really had to fear limited capacities. First, universities in Saxony-Anhalt considerably increased the number of study places for the double cohort, which was publicly announced (e.g., Ministry of Education, 2007; University Magdeburg, 2007). Second, a comparison of admission grades for several fields of study and universities in Saxony-Anhalt for the years 2006 to 2008 does not indicate an intensified competition for university enrollment (see Table A.7 in Appendix A).[8] Third, students had sufficient possibilities to study at a university in one of the surrounding federal states which had no double cohort of high school graduates at that time. This possibility is chosen, regardless of the reform, by a significant fraction of graduates. From the 2007 double cohort in the sample, only 50% of university entrants were enrolled in Saxony-Anhalt (G12: 45%; G13: 54%). In 2006 and 2008, the respective shares were 46% and 50%.[9] Furthermore, the market for vocational

[8] It should be noted that the number of new students in Saxony-Anhalt did not double in 2007 (compared to 2006) for several reasons. Most importantly, students at universities in Saxony-Anhalt are only partly from Saxony-Anhalt, with many also coming from other federal states.

[9] Numbers for 2006 and 2008 are obtained from the abovementioned DZHW data. Although G12 students in the own sample have a slightly lower probability of studying in Saxony-Anhalt than G13 students, this does not necessarily indicate an increased competition for study places at university. The lower share could also be caused by other factors, for example a different pattern of chosen university subjects leading to a different regional distribution of students.

education was favorable for high school graduates in 2007. The positive economic situation as well as an impending shortage of skilled workers caused by shrinking birth cohorts increased the demand of firms for applicants with a good school education. The double cohort was used by firms to increasingly fill apprenticeship positions. Official statistics show an increase of more than 40% in the number of high school students starting an apprenticeship in Saxony-Anhalt between 2006 and 2007 (Federal Statistical Office, 2008, p. 161). Altogether, it can be concluded that the conditions for the transition into postsecondary education were not that different for the double cohort than for previous and subsequent cohorts.

Another reason for the existence of temporary effects could be the fact that the reference group for the G12 students in 2007 are the G13 students, which means that they orient themselves towards their counterparts with 13 years of schooling. This could lead to a higher degree of insecurity regarding postsecondary education decisions as well as to the feeling of having received a free year. Therefore, their decisions after school graduation could be different from those made once graduation after 12 years is standard. This concern is addressed in chapter 7 by analyzing later cohorts.

Furthermore, external validity could be limited if the higher number of university students decreased the quality of university education. However, the ratio of (new) students per academic staff member at universities in Saxony-Anhalt remained largely unchanged between 2004 and 2011 (Berthold et al., 2011; Federal Statistical Office, n.y.c,n). Although it is therefore unlikely that the quality of teaching and studying at university has been affected by the reform, this issue is addressed in a robustness check in chapter 8. In addition, a peer group effect at university might play a role if G12 students benefitted from studying together with G13 students. However, students with 12 years of schooling were also studying together with many students having graduated after 13 years of schooling in the following years, because at German universities, students usually come from different federal states and school types with different durations of university preparatory schooling. Hence, the composition of peer groups in 2007 was not that different from other years.

With respect to labor market outcomes, the validity of the analysis could be limited if macroeconomic conditions have changed largely over the observation period or represented a special situation. Fortunately for the analysis, conditions for labor market entry remained relatively constant over the relevant period of time (i.e., between 2010 and 2014; see Table A.8 in Appendix A). Although the GDP growth varies, a positive growth is observed in all years. Moreover, the number of employed persons increased even in years with low GDP growth. For university graduates, the labor market is basically more favorable: they relatively quickly found a job even in the main year of the economic crisis, 2009 (Rehn et al., 2011). Similar to the abovementioned concern of restricted access to postsecondary education, one might worry that

the double cohort impairs labor market entry. However, a supply effect on labor market entry is even more unlikely than on postsecondary education because graduates have already spread out Germany-wide for postsecondary education and even more to start their professional career. In addition, labor market entry has taken place over several years. So even within Saxony-Anhalt, a labor supply shock is unlikely to occur, in contrast to the analyses for Ontario by Krashinsky (2009) and Morin (2015a).

As a final possible concern to external validity, the reform effects may differ across institutional environments. However, only slight differences exist between the education systems of the federal states. Altogether, it can therefore be argued that the reform effects presented in this thesis are of quite general significance, at least for Germany.

4.8 Additional Remarks on Validity

Having shown that internal and external validity hold, the strengths and weaknesses of the present analysis should be briefly discussed in comparison to the other studies mentioned in sections 3.2 and 4.2.4. The reform introduction in the state of Saxony-Anhalt provides a clean natural experiment and has some advantages compared to the reforms in other states. For example, most states introduced the reform in earlier grades (see Table 2.2) which gave students more possibilities to evade the reform. Thus, a selection bias is less likely to exist in Saxony-Anhalt than in other states. Furthermore, high school graduation in Saxony-Anhalt includes central exit examinations for many years, which means that students in the treatment and control groups had to pass the same exams at the end of high school. Therefore, student achievement can be measured and compared simultaneously for both cohorts. Furthermore, implementation and learning effects are less likely than in other states because Saxony-Anhalt had a 12-year policy until 1997 and no large resistance to the reform was observed.

Due to the small size of Saxony-Anhalt and the fact that no other state completed the reform with a double cohort in 2007 (and only three other small states followed between 2008 and 2010), it is unlikely that the transition into postsecondary education and into the labor market was limited. In contrast, analyses on the basis of other states could be affected by supply shocks because relatively large double cohorts graduated in several states within a few years (in 2011, 2012 and 2013, double cohorts occured in eight states, of which some are large in absolute numbers, e.g., Baden-Wuerttemberg, Bavaria, Hesse, Lower Saxony, North-Rhine Westphalia). Even if analyses used subsequent cohorts, supply effects could play a role.

The main disadvantage of the presented methodological approach is that only one state and one year is analzyed. Related concerns, which were raised, for example, by Huebener and

Marcus (2015a), have been addressed in the previous section. Nevertheless, it is important to investigate the reform effects in later years and other states, which is done in chapter 7. However, both approaches have their specific strengths and weaknesses. The analysis on the basis of Saxony-Anhalt includes extensive and detailed data over a relatively long period of time and uses a clean natural experiment, but external validity might be limited (although many concerns have been removed). On the other hand, analyses using nationwide data might have a higher degree of external validity but require pooling data over several cohorts and states, which might come at the cost of other confounding influences. Furthermore, when analyzing reform effects on postsecondary education and labor market entry on the basis of nationwide data, supply shocks could represent a larger problem, as decribed above. Therefore, in contrast to the view expressed by Huebener and Marcus (2015a), both approaches should be seen as complementary and equally suitable.

4.9 Estimation Strategy

Due to the natural experimental setting provided by the reform, the treatment effect of shortening secondary school duration can be identified by comparing the outcomes of G12 and G13 cohorts. The treatment effect of the reform is then estimated using equations of the form

$$Y_i = \alpha + \beta D_i + \gamma_s + \mathbf{X}_i'\delta + \varepsilon_i. \tag{4.2}$$

Estimations are carried out separately for each outcome Y_i. Depending on the type of the outcome variable, a probit model is used for binary outcomes, an ordered probit model for categorical variables, an OLS model for (quasi-)continuous variables, and an interval regression for variables measured in intervals. For example, enrollment in postsecondary education is estimated using the following probit model:

$$Prob(Y_{p,t,i} = 1|D_i, X_i) = \Phi(\alpha_{p,t} + \beta_{p,t}D_i + \gamma_{p,t,s} + \mathbf{X}_i'\delta_{p,t}). \tag{4.3}$$

The term $Y_{p,t,i}$ denotes the binary outcome measure, which is enrollment of individual i in a specific type of postsecondary education p (e.g., university education) in a specific period of time or at a specific point in time t. $Prob(Y_{p,t,i} = 1)$ is then the probability of enrollment.

Coming back to equation (4.2), α is the constant. D_i indicates the treatment, which is a binary dummy variable taking the value 1 if the individual i is a G12 student (treatment group) and 0 if the individual is a G13 student (control group). β is the parameter of interest, the average treatment effect (ATE). The ATE denotes the average marginal change in the dependent variable

that is solely due to the reform, that is, the average change in the outcome Y over all individuals if D is increased from 0 to 1, holding all other variables constant.

Besides the treatment, several exogenous variables, which are likely to have an influence on the outcome variables, are included. This is done in order to make estimates more efficient and to consider the few differences between cohorts. These explanatory variables are included in the matrix $\mathbf{X}_i'$, with the corresponding coefficient vector δ. Presumably, school achievements (and consequently, outcomes after school graduation) are influenced by individual, family and school factors (see, e.g., Helmke and Weinert, 1997). Examples for these factors could be that higher-performing students are more able to cope with learning and study requirements, that students coming from a higher-educated family receive more support for homework or with respect to higher education, and that some schools provide a better preparation for postsecondary education than others.

As *individual factors*, the estimation considers firstly school achievement, measured by grades in year 7 as the average and for mathematics, which are unaffected by the reform. Secondly, the age of students within a cohort is captured by the age at school enrollment.[10] The *family characteristics* of students are considered using variables on the educational background of parents and siblings. Two dummy variables indicate whether at least one parent and whether at least one sibling possess an academic degree. Furthermore, a categorical variable on the number of books in the parental home is included. For some outcome variables, additional explanatory variables on students' family background are used. The subject area of university education is estimated in the second survey wave by considering an additional dummy variable indicating the respective subject area of parents' occupational education (this variable was only collected in the second wave). Estimations of labor market outcomes further include variables regarding parents' occupational background. These are a categorical variable on the occupational status of parents (only collected in the third wave), a dummy variable indicating whether at least one parent has been affected by unemplyoment during childhood of students, and a variable on the number of removals during childhood (as a proxy for individual preferences regarding job mobility).[11] In addition, several further specifications have been tested, including, for example, variables on the choice of examination subjects, on the learning support received by parents, siblings, friends or private tuition, or the leisure activities of parents. Nonetheless, these variables are not included in the final specification for efficiency reasons.

[10] Several studies show that older students within a cohort achieve better education outcomes than younger students. This relative age effect can persist even beyond secondary schooling (Bedard and Dhuey, 2006; Crawford et al., 2010; Fredriksson and Öckert, 2014).

[11] In a very few cases, some of the explanatory variables perfectly predict the binary outcome and therefore are left aside. This should not be a problem, as the covariates ($\mathbf{X}_i$) are included in order to make the estimates more efficient, but due to the natural experimental setting, omission of them should not bias the effect of the treatment dummy. Furthermore, a sufficient number of other explanatory variables remain, and in any case it is checked whether results change due to the omission of some variables.

The influence of *school characteristics* (e.g., institutional characteristics, socio-economic background of the student body, quality of teaching, regional location) is considered as well. Because the sample analyzed here contains 12 different secondary schools, some heterogeneity across schools could exist. Due to the natural experimental setting, it can be assumed that this does not have a systematic influence on the outcomes. Nevertheless, in order to obtain precise estimates, school-fixed effects (γ_s) capturing all variation between schools are included in the regressions. Similarly, peer group effects may be relevant. These occur if education outcomes of at least some students are influenced by their schoolmates. To take this correlation of outcomes within classes into account and obtain consistent variance estimates, class-level clustering is implemented by applying a cluster-robust sandwich estimator of variance. As it is possible that the reform has affected male and female students differently (see, e.g., Buchmann et al., 2008, Zafar, 2013, or Büttner and Thomsen, 2015), a gender dummy is included and separate estimations for male and female students are carried out.

Effect Heterogeneity

To investigate whether the reform implies heterogeneous effects for different groups of students, equation (4.2) is estimated separately for several subsamples. For example, estimations are carried out separately for students with higher school achievement (indicated by an average grade in year 7 of good or very good) and lower school achievement (indicated by an average grade in year 7 of satisfactory or below), or separately for students with an academic and non-academic family background. For the analysis of outcomes in university education (chapter 8), further subsamples are generated, which are restricted to students in specific types of university education.

As an alternative approach, equation (4.2) is augmented with an interaction term between the treatment dummy and characteristics of students. The interaction effect is then estimated by

$$Y_i = \alpha + \beta D_i + \theta(D_i \times C_i) + \gamma_s + \mathbf{X}_i'\delta + \varepsilon_i, \tag{4.4}$$

where C_i denotes the respective characteristic (e.g., school achievements in year 7). For the binary outcome variables, interaction effects are estimated by

$$Prob(Y_i = 1|D_i, X_i) = \Phi(\alpha + \beta D_i + \theta[D_i \times C_i] + \gamma_s + \mathbf{X}_i'\delta), \tag{4.5}$$

according to the approach suggested by Norton et al. (2004) because interaction effects in nonlinear models depend on other covariates (see Ai and Norton, 2003).

Chapter 5

Reform Effects on Extracurricular Activities

5.1 Overview[1]

The increased learning intensity at school is at the center of the discussion on the pros and cons of the reform. Opponents fear especially that it leads to worse school achievements and leaves less time for extracurricular activities. The former has been examined by Büttner and Thomsen (2015), finding a decrease of performance in mathematics but not in German language. The latter is analyzed in this chapter. In particular, two research questions are answered:

1. Does the reform lead to a higher level of workload and stress (measured both subjectively and objectively)?
2. What is the impact of the reform on extracurricular activities (both school-related and leisure activities)?

These questions are of importance, among others, because they are closely related to students' education success and personality development. For example, the participation of students in sport, music and voluntary activities during adolescence have been found to influence the development of cognitive and non-cognitive skills, which have further effects on education and professional success as well as on social involvement later in life (see, for example, Metz and Youniss, 2005; Pfeifer and Cornelißen, 2010; Cabane and Clark, 2015; Hille and Schupp, 2015).

[1] The results presented in this chapter are published in Meyer and Thomsen (2015).

The studies on this topic presented in section 3.2 reveal a mixed picture but seem to indicate that the higher number of lessons and the higher amount of learning contents per unit of time are likely to have an influence on students' perceived stress and participation in extracurricular activities. However, the question of causality remains open in most studies. Therefore, the estimations in this chapter, based on the double cohort in Saxony-Anhalt, make an important contribution to the literature.

5.2 Empirical Results

5.2.1 Outcome Variables

The effect of the reform on students' perceived stress and participation in extracurricular activities is estimated using several outcome variables:

- Students' *subjective assessment of perceived stress* caused by (1) the number of school lessons, (2) the amount of learning contents, and (3) the amount of homework during the last three years of high school is measured on a five-stage Likert scale ranging from 1 (very low) to 5 (very high).
- The *time spent on* (1) homework and learning, (2) remedial lessons, (3) working in a side job, and (4) housework or family work is measured by the average number of hours per week during the last year of high school. This represents an *objective* indicator of students' level of stress.
- The *frequency* by which several *leisure activities* are performed during the last year of high school is contained in categorical variables, which range from 0 (never) to 4 (daily).

5.2.2 Descriptive Results

A comparison of mean values of these variables is presented in Table 5.1 and provides first indications of reform effects. G12 students consistently report a higher level of perceived stress. Furthermore, they spend about one hour more per week on homework and learning than G13 students, although the difference is not statistically significant. In addition, male G12 students are more likely to participate in remedial lessons. With respect to leisure activities in the last year of high school, working in a side job as well as voluntary work are less prevalent among G12 students. Male G12 students spend also less time on housework or family work than their

counterparts in the control group. Most other leisure activities do not show differences between cohorts.

Table 5.1: Means of Perceived Stress and Extracurricular Activities, According to Cohort and Gender (1st Survey Wave)

	Female Sample			Male Sample		
	G12	G13	p-value[a]	G12	G13	p-value[a]
Perceived Level of Stress[b]						
Stress caused by the Number of School Lessons	**4.12**	**3.51**	**(0.00)**	**3.94**	**3.29**	**(0.00)**
Stress caused by the Amount of Learning Contents	**4.14**	**3.69**	**(0.00)**	**3.94**	**3.56**	**(0.00)**
Stress caused by the Amount of Homework	**3.67**	**3.31**	**(0.00)**	**3.37**	**2.92**	**(0.00)**
Time Use (Hours per Week)[c]						
Homework and Learning	18.06	17.06	(0.26)	12.76	11.90	(0.36)
Remedial Lessons	0.65	0.63	(0.90)	**0.74**	**0.34**	**(0.01)**
Working in a Side Job	**1.95**	**3.10**	**(0.01)**	**1.20**	**2.94**	**(0.00)**
Housework and Family Work	5.32	5.10	(0.63)	**3.99**	**5.02**	**(0.04)**
Frequency of Leisure Activities[d]						
Spending Time with Friends	3.07	3.07	(0.95)	**3.14**	**3.32**	**(0.03)**
Watching TV, Films, Internet	3.59	3.68	(0.18)	3.78	3.77	(0.85)
Reading	2.49	2.34	(0.19)	1.93	2.18	(0.11)
Doing Nothing, Listening to Music	2.68	2.68	(0.99)	2.73	2.93	(0.11)
Artistic or Music Activity	1.77	1.57	(0.12)	1.01	1.15	(0.42)
Visiting Cinema, Disco, Concert	2.11	2.09	(0.85)	2.22	2.28	(0.54)
Active Sports	2.09	2.02	(0.54)	2.70	2.75	(0.75)
Working in a Side Job	**0.68**	**1.18**	**(0.00)**	**0.55**	**1.20**	**(0.00)**
Voluntary Work	0.35	0.49	(0.11)	**0.39**	**0.69**	**(0.02)**
Number of Observations	219	232		139	127	

[a] p-value from t-test on equality of means; for categorical variables: p-value from Pearson χ^2-test of independence. Values are shown in parentheses for better readability.
[b] Average level of perceived stress in the last three years of high school: 1= very low, 5= very high.
[c] Average number of hours per week during the last year of high school.
[d] Leisure activities in the last year of high school: 4= daily, 3= at least once a week, 2= at least once a month, 1= less frequent, 0= never.
· Differences between cohorts, which are significant at a significance level of 10%, are highlighted in boldface.

5.2.3 Estimation Results: Perceived Stress

The estimation results in Table 5.2 show that the reform has significantly increased the perceived stress caused by the number of school lessons, by the amount of learning contents and by the amount of homework. In order to interpret the effect size, marginal effects are computed for each category of the ordered outcome variable. The probability that students affected by the reform feel a high or very high level of stress (i.e., the sum of the two upper categories of the five-stage Likert scale) has increased by approximately 30 percentage points with respect to school lessons, by approximately 20 percentage points with respect to learning contents, and

by approximately 16 percentage points with respect to homework (and decreased accordingly in the lower three categories).

Table 5.2: Estimates of Reform Effects: Perceived Stress in the Last Three Years of High School (1st Wave, Ordered Probit Estimates)

	Female Sample Coeff.	Male Sample Coeff.
D: Stress caused by the Number of School Lessons	0.935***	0.844***
	(0.123)	(0.144)
Marginal Effect: $y = 1$	-0,007	-0,033**
$y = 2$	-0,037***	-0,073***
$y = 3$	-0,263***	-0,183***
$y = 4$	0,085***	0,109***
$y = 5$	0,222***	0,180***
D: Stress caused by the Amount of Learning Contents	0.624***	0.571***
	(0.110)	(0.144)
Marginal Effect: $y = 1$	–	-0,007
$y = 2$	-0,040***	-0,055***
$y = 3$	-0,163***	-0,138***
$y = 4$	0,019*	0,049***
$y = 5$	0,184***	0,151***
D: Stress caused by the Amount of Homework	0.438***	0.502***
	(0.096)	(0.152)
Marginal Effect: $y = 1$	-0,008*	-0,055***
$y = 2$	-0,070***	-0,093***
$y = 3$	-0,080***	-0,026
$y = 4$	0,081***	0,095***
$y = 5$	0,080***	0,078***
Number of Observations	432	257

· Dependent variable: categorical variable indicating perceived level of stress, ranging between 1 (very low) to 5 (very high).
· Regressions are separately run for each outcome.
· Regressions include further explanatory variables (school achievements until reform, educational background of family, age at school enrollment) and school fixed effects.
· All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below marginal effects. Stars denote significance of the estimates as follows: $^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$.

5.2.4 Estimation Results: Time Use for Extracurricular Activities

The effects of the higher number of school lessons per week on extracurricular activities is presented in Table 5.3. Male and female students in the G12 cohort spend slightly but not significantly more time on homework. Male G12 students are more likely to spend time on extra or remedial lessons (plus approximately one third of an hour per week). These results mean that the time burden is mainly increased within school, while the time spent on school-

related extracurricular activities is only slightly increased. Nevertheless, this is an important finding because it shows that the additional time spent at school is not substituted by less time spent on school-related work outside school. Hence, the reform has in fact increased the time burden of students. This result is in line with Lavy (2012, p. 27) who has also found (in a study conducted in Israel) that more time at school does not crowd out time invested at home for school work.

Table 5.3: Estimates of Reform Effects: Time Use in the Last Year of High School (1st Wave, OLS Estimates)

	Female Sample Marg.eff.	Male Sample Marg.eff.
D: Hours per Week spent on Homework and Learning	0.429	0.684
	(0.826)	(1.044)
D: Hours per Week spent on Remedial Lessons	0.028	0.338**
	(0.152)	(0.154)
D: Hours per Week spent on Working in a Side Job	-1.012**	-1.904***
	(0.493)	(0.404)
D: Hours per Week spent on Housework and Family Work	0.242	-0.850*
	(0.488)	(0.474)
Number of Observations	428	255

· Dependent variable: average number of hours per week spent on the respective activity during the last year of high school.
· Regressions are separately run for each outcome.
· Regressions include further explanatory variables (school achievements until reform, educational background of family, age at school enrollment) and school fixed effects.
· All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below marginal effects. Stars denote significance of the estimates as follows: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

As a consequence, students affected by the reform have less time available for non-school-related activities. Therefore, the time spent on working in a side-job is significantly reduced on average by one hour per week for female students and by nearly two hours in the case of male students. In addition, male students in the treatment group spend less time on housework or family work. It is striking that the effects on time use differ by gender, whereas the results presented in the previous and following sections are similar for males and females. Several explanations are conceivable. Finding an increase in remedial lessons only for male students could be explained by the fact that male students on average spend less time on homework (see Table 5.1). When learning requirements increase they might be more likely than females to feel a need for additional learning opportunities. The second difference, namely that male students reduce the time spent on a side job more strongly than female students, could be related to a finding by Tillmann and Meier (2004). They report that males have a notably higher risk of decreasing school performance due to working while in school than females. Hence, when confronted with higher learning requirements, female students could be more able to continue

or start working in a side job than male students. Finally, finding a reduction of housework and family work only in the male sample might be explained by a gender-specific understanding of roles. In face of higher school demands, parents may be more willing to release boys from housework than girls.

A comparison of Tables 5.2 and 5.3 reveals another interesting aspect. While the objective burden of homework (measured in hours per week) is only slightly increased, a notable increase in the subjectively perceived burden of homework is observed. This could indicate that even small changes in the actual time burden lead to a considerably larger increase in the perceived time burden.

5.2.5 Estimation Results: Leisure Activities

The results with respect to leisure activities in Table 5.4 show that the majority of analyzed activities are performed with similar frequency by students in the treatment and control groups. However, a few effects can be observed. Television and internet consumption of female students as well as reading and listening to music of male students is decreased. Furthermore, two leisure activities are particularly affected by the reform. First, the frequency of working in a side job is significantly reduced, as already mentioned. (It should be noted that the outcome variables in Table 5.3 include the time measured in hours per week, while the variables in Table 5.4 are based on a five-stage Likert scale ranging from daily to never.) The probability of not working in a side job in the last year of high school is increased by 18 percentage points for females and by 23 percentage points for males. Compared with this, the reform has reduced the probability of working at least once a week by 11 and 15 percentage points respectively.

Second, a negative effect on voluntary work is identified. G12 students are more likely by approximately 8 percentage points to be not involved in voluntary work. But also the students who are working voluntary perform this activity less often. A comparison of effect sizes shows that the change in voluntary work is approximately half as large as the change regarding work in a side job, which can be linked to the change measured in hours in Table 5.3.

Altogether, the reform has reduced students participation in paid and voluntary work both at the intensive and extensive margin. That is, the reform has reduced the probability of performing such an activity at all and the frequency by which this activity is carried out (see also the descriptive comparison in Table A.9 in Appendix A).

Table 5.4: Estimates of Reform Effects: Leisure Activities in the Last Year of High School (1st Wave, Ordered Probit Estimates)

	Female Sample Coeff.	Male Sample Coeff.
D: Spending Time with Friends	-0.033	-0.267
	(0.111)	(0.165)
D: Watching TV, Films, Internet	-0.207*	-0.114
	(0.124)	(0.175)
D: Reading	0.103	-0.195*
	(0.108)	(0.114)
D: Doing Nothing, Listening to Music	0.021	-0.209*
	(0.110)	(0.109)
D: Artistic or Music Activity	0.147	0.005
	(0.107)	(0.145)
D: Visiting Cinema/Disco/Concert	0.012	-0.140
	(0.111)	(0.137)
D: Active Sports	0.007	-0.111
	(0.111)	(0.141)
D: Working in a Side Job	-0.510***	-0.655***
	(0.118)	(0.128)
Marginal Effect: $y = 0$ (never)	0.183***	0.232***
$y = 1$ (less frequent)	-0.021***	-0.040***
$y = 2$ (at least once a month)	-0.019***	-0.025***
$y = 3$ (at least once a week)	-0.113***	-0.153***
$y = 4$ (daily)	-0.031***	-0.014*
D: Voluntary Work	-0.308**	-0.293*
	(0.147)	(0.151)
Marginal Effect: $y = 0$ (never)	0.081**	0.084**
$y = 1$ (less frequent)	-0.027**	-0.021*
$y = 2$ (at least once a month)	-0.012*	-0.014*
$y = 3$ (at least once a week)	-0.036**	-0.044*
$y = 4$ (daily)	-0.006	-0.006
Number of Observations	428	257

· Dependent variable: categorical variable indicating frequency of leisure activity during the last year of high school (4= daily, 3= at least once a week, 2= at least once a month, 1= less frequent, 0= never).
· Regressions are separately run for each outcome.
· Regressions include further explanatory variables (school achievements until reform, educational background of family, age at school enrollment) and school fixed effects.
· All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below marginal effects. Stars denote significance of the estimates as follows: $^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$.

5.2.6 Effect Heterogeneity

Finally, the question of whether the identified reform effects are heterogenous for different groups of students is investigated. Estimations are carried out separately for students with higher and lower school achievement (measured by the average grade in year 7) and separately for students with an academic and non-academic family background. The results in Tables A.10 to A.13 in Appendix A indicate that most reform effects apply similarly to all students.

The level of perceived stress as well as the frequency of working in a side job are affected by the reform regardless of students' performance or family background.

However, some effect heterogeneity exists. In the male sample, the higher level of stress is more pronounced for students with lower achievements and non-academic parents (see Table A.10). In line with that, the result that male students become more likely to spend time on remedial lessons can only be found in the subsample of students with lower achievements but not for high-achieving students (see Table A.11). Finally, heterogenous effects according to school achievements exist with respect to a few leisure activities but the direction of heterogeneity differs across activities (see Tables A.12 and A.13).

5.3 Summary

The reduction of university preparatory schooling from 13 to 12 years has substantially increased the number of class hours per week and the amount of subject matter which has to be learned in a certain period of time. In this chapter, I have analyzed how this affects the perceived level of stress and the time used for various extracurricular activities.

Two main results have been found. First, the reform significantly increases the perceived level of stress caused by schooling. The question of whether the higher level of stress represents overstress cannot be answered because this analysis is concentrated on the difference between G12 and G13 students. It does not allow any statements with respect to the question of which level of stress is reasonable or recommendable for high school students. Nevertheless, the results on the subjective and objective burden of homework, presented in Tables 5.2 and 5.3, indicate that even a small increase in the objective level of stress can lead to a relatively large increase in the level of subjectively perceived stress. Second, the time available for extracurricular activities is noticably reduced. As a consequence, G12 students are less likely than G13 students to work in a side job or to be involved in voluntary work. Whether the reduction of time spent on a side job represents a positive or negative effect can also not be answered. On the one hand, a trade-off between working in a side job and school achievements could exist. On the other hand, students can gain valuable practical experiences by working in a side job (see, e.g., Kalenkoski and Pabilonia, 2012). However, the lower participation of G12 students in voluntary work definitely represents a negative effect of the reform because voluntary work is relevant for students' personal development and for their social engagement later in life (see section 5.1).

Chapter 6

Reform Effects on Postsecondary Education Decisions

6.1 Overview[1]

After graduation from high school, the transition into postsecondary education represents one of the most important decisions in the life of young people which is crucial for their future career. As described in section 2.2.4, this decision could be influenced by the shortened school duration. As a consequence of the findings reported by Büttner and Thomsen (2015) and in the previous chapter, students affected by the reform could be or feel less prepared for postsecondary education, which has previously been characterized as a *performance effect*. In addition, students graduating after the shorter school duration might have a higher degree of insecurity about their future career, which represents an *orientation effect*.

In this chapter I therefore analyze the impact of the reform on education decisions after high school graduation. These postsecondary education decisions include the decision between several tracks (e.g., university or vocational education) and the choice of a specific field of study or occupation. Both decisions could be made either sequentially or simultaneously. Theoretical approaches have worked out at least three major determinants of these decisions: (1) expected returns, (2) expected costs of a specific course of education, and (3) the expected probability of successfully completing it (Erikson and Jonsson, 1996; Breen and Goldthorpe, 1997). These determinants have been confirmed by a number of empirical studies (e.g., Becker and Hecken, 2007). Expectations are influenced by several factors such as personal abilities and preferences. High school graduates decide first of all to learn an occupation or to study a subject that

[1] The results presented in this chapter are published in Meyer and Thomsen (2016b).

they are good at (e.g., Paglin and Rufolo, 1990; Arcidiacono et al., 2012), and in which they will enjoy coursework at university and working in potential jobs (e.g., Zafar, 2013; Wiswall and Zafar, 2015). Further determinants are content and quality of previous school education (e.g., Aughinbaugh, 2012), students' socioeconomic family background (e.g., Björklund and Salvanes, 2011), labor market conditions (e.g., Becker, 2000), geographical accessibility to institutions of tertiary education (e.g., Spiess and Wrohlich, 2010), and peer group effects (e.g., Christofides et al., 2015).

6.2 Outcome Variables

The question of whether postsecondary education decisions are also influenced by school duration and learning intensity is analyzed in the following using the data from the double cohort of high school graduates 2007 in the state of Saxony-Anhalt.

The first group of outcomes considers the decision to start a vocational education and to study at university. The impact of the reform is analyzed as short-term and medium-term effects. The short-term perspective corresponds to the first survey wave, which was conducted one and a half years after high school graduation. The medium-term effects include the time period up to four and a half years after graduation, which is the date of the second survey wave. The effects are measured using several outcome variables. For the probabilities of *enrollment in university education* and *enrollment in vocational education*, the overall decisions are considered using binary outcome measures in a first step. In order to capture potential differences in the time pattern, dummy variables are used which indicate participation in each of the two types of postsecondary education at several distinct points in time when the respective semester was already underway: November 2007 as well as May and November of each of the years 2008, 2009, 2010, and 2011. Information on enrollment decisions was collected in the first wave by means of a retrospective calendar, while in the second wave the type of education as well as its starting and ending date were asked explicitly and in more detail. It should be noted that the reform effects are measured by a comparison of outcomes at specific points in time (e.g., studying at university five months after school graduation). Because the affected cohort of students is on average one year younger than the control group, it would also be possible to compare students at the same age. However, a same-age comparison has the disadvantage that outcomes are compared at different points in time and therefore could be confounded by different economic, political and social conditions. Hence, I concentrate on the same-year comparison.

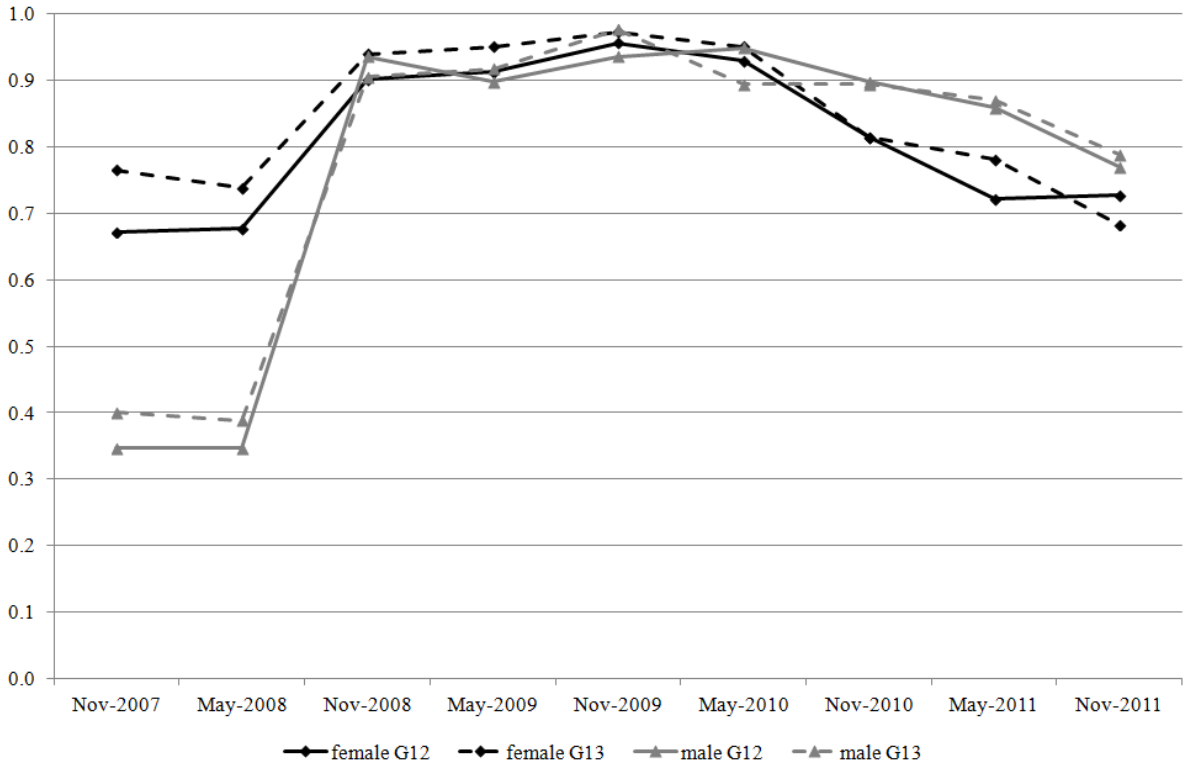
Second, the *choice of a specific field of study* is investigated using dummy variables for six major fields of study: (1) humanities (which include, for example, cultural studies and languages), (2) education and social sciences (including, for example, pedagogy, social work, sociology), (3) law and economics (including, for example, business administration, economics, law), (4) engineering (which includes the whole range of technological and engineering subjects), (5) natural sciences and mathematics (including, for example, biology, computer science, mathematics, physics), and (6) medical sciences (which include, for example, medicine, pharmaceutics, health care studies). The subject variables are analyzed at two different time periods. The first refers to university education in March 2009 (first wave), which is examined for all students being enrolled in university education at that time. As for this time period only students attending university education are considered, the reported results below contain composition effects as well as effects of the treatment on subject switching. The second period refers to the end of 2011 (second wave) and takes into account all high school graduates. Here the variables indicate whether graduates are still enrolled or have already obtained a degree in the respective subject.

6.3 Descriptive Statistics

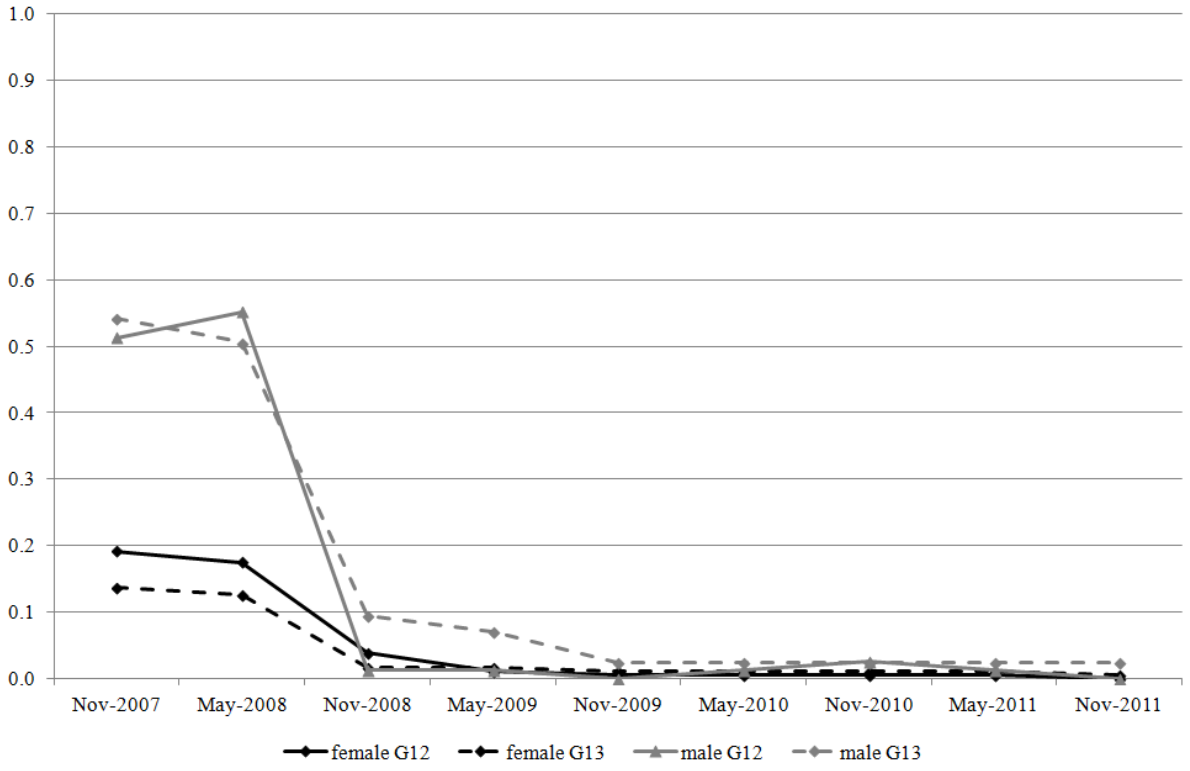
As a starting point for the transition into postsecondary education, Table A.14 in Appendix A shows mean values of variables regarding high school graduation. G12 students are almost exactly one year younger at graduation than G13 students. School achievements at graduation are affected by the reform. G12 students show significantly lower performance in mathematics, which has been identified by Büttner and Thomsen (2015) as being a causal negative reform effect. Female G12 students also have a lower average grade at graduation. The probability of taking final examinations in mathematics or science at an advanced level[2] is slightly lower for female G12 students, but the difference is not statistically significant.

Figure 6.1 shows the participation rates in postsecondary education up to four and a half years after school graduation (more detailed information can be found in Tables A.14 and A.15 in Appendix A). In the first year after school graduation, approximately 70% of female students and nearly 40% of male students are enrolled in postsecondary education (panel a). The share of males is lower due to mandatory military or civilian service of nine months (panel b). But also 15 to 20% of female students use the first year to carry out voluntary service or to stay abroad. However, 16 months after graduation, participation rates in postsecondary education are over

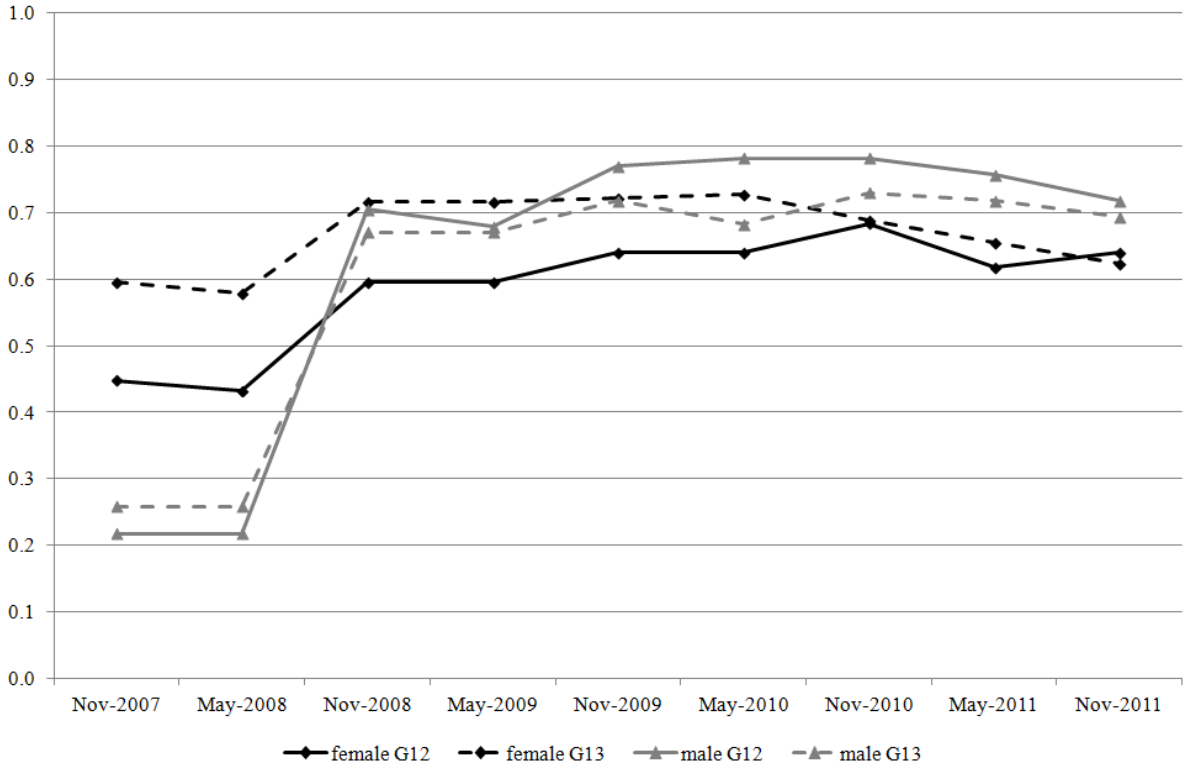
[2] In the last two years of upper secondary school, all subjects were studied on the same level and with the same number of lessons. However, each student had to choose two subjects, in which final examinations were taken at an advanced level, while all other subjects were examined at a basic level.



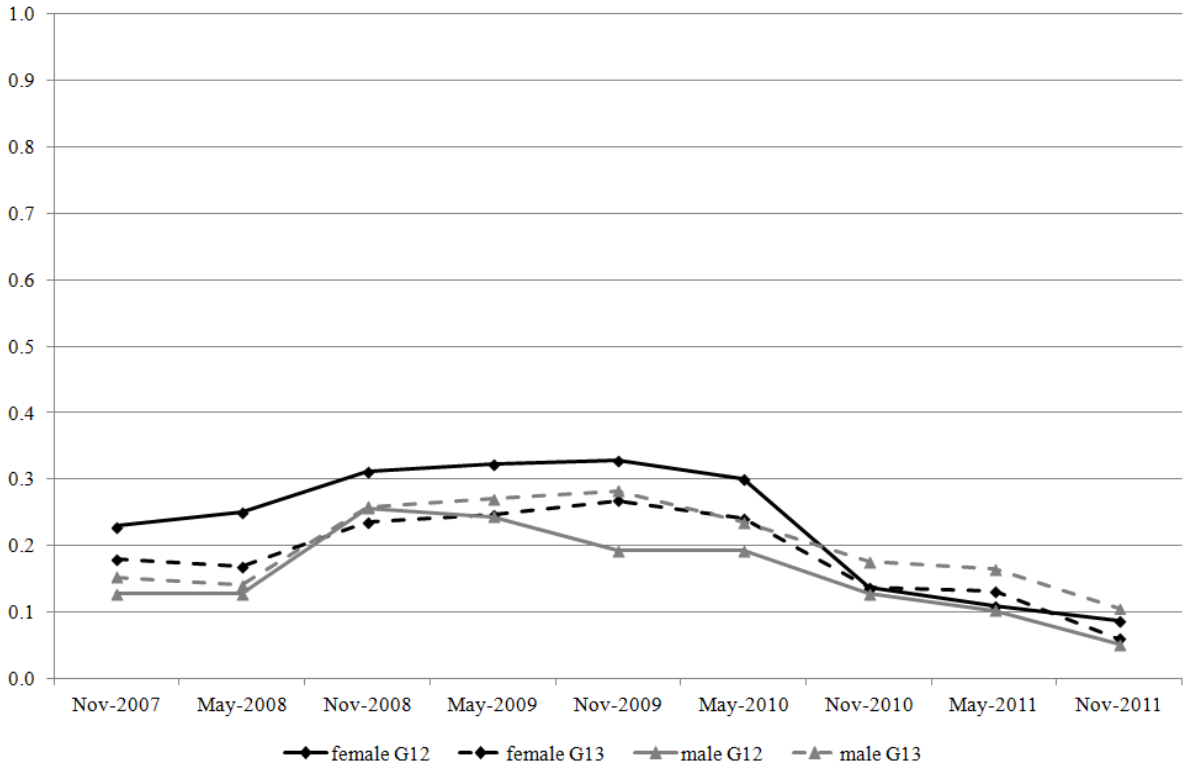
(a) All Types of Postsecondary Education



(b) Military, Civilian or Voluntary Service or Stay Abroad



(c) University Education



(d) Vocational Education

Figure 6.1: Share of Students Enrolled in Different Courses of Postsecondary Education, November 2007 – November 2011

90% and similar between G12 and G13 students. Two years after high school graduation, all male and virtually all female students are enrolled in any postsecondary education. By the end of 2011, the remaining female students also have attended postsecondary education. With respect to the course of postsecondary education, female G12 students show a significantly lower share of university enrollment until summer 2010 (panel c). On the other hand, they have a higher participation in vocational education until this point in time (panel d). The overall share of university enrollment is similar between female cohorts (82%), but female G12 students have more often started and completed a vocational education before going to university (16% vs. 8%). A different picture emerges for male students. Enrollment in university education is slightly higher in the G12 cohort, while vocational education is slightly more often chosen by G13 students. However, the differences are insignificant. Furthermore, the choice of a specific field of study of university students shows a few differences between cohorts. In particular, the share of females studying natural sciences and mathematics is lower in the treatment group than in the control group.

Finally, it should be emphasized that the enrollment rates and subject choices are in line with other statistics on education decisions of high school graduates in Germany (e.g., Lörz et al., 2012), which further supports the representativeness of the sample.

6.4 Estimation Results

The causal effects of the reform on postsecondary education are estimated according to equation (4.3) presented in section 4.9. The estimation is carried out separately for each outcome, that is, for each type of postsecondary education (university education, vocational education, several university subjects) and for each point or period of time.

6.4.1 Enrollment in University and Vocational Education

The estimation results show that the probability of female students to be enrolled in university education is significantly reduced in the short term by the reform, but not in the medium term (Table 6.1). Affected females are less likely by approximately 0.08 on average to have started university education by March 2009 (one and a half years after school graduation). However, for the entire period from school graduation in July 2007 to December 2011, no significant effect can be found. Compared with this, female students become more likely by approximately 0.06 to 0.10 on average to start a vocational education than in the reference situation (Table 6.2).

The timing pattern of enrollment is shown in Table 6.3 (only treatment effects are reported, but all other explanatory variables are considered in the estimations). Females are significantly less likely by approximately 0.13 to 0.17 to be enrolled in university education in the first three years after school graduation. In November 2010, no significant effect can be observed anymore. With respect to vocational education, a significantly higher probability of approximately 0.07 to 0.10 up to 2010 is revealed. Once again, this effect disappears in November 2010. Because the regular duration of vocational education in Germany usually is three years and there is no difference in the medium-term probability of university attendance, I conclude that the reform has not reduced but rather delayed university enrollment of females by increasing their probability of completing a vocational education before starting university education. If this conclusion holds, one should observe a positive reform effect on the additional outcome variable *vocational education before university education*. This is the case, as Table A.16 in Appendix A shows.

For male students, the effects on university and vocational enrollment are of a similar magnitude but of reversed sign. However, most of the estimates are insignificant due to larger standard errors. Only the effect on medium-term university enrollment becomes slightly statistically significant. This effect is mostly driven by a higher probability of enrolling at a university of applied sciences (see Table A.17 in Appendix A). In order to overcome the problem of small sample size, an additional estimation is conducted using the pooled sample and an interaction term between treatment and male gender (see Table A.18 in Appendix A). Here, the effects on university education in the short term and on vocational education in the medium term become slightly significant. However, the timing pattern of enrollment is not as clear as for female students, which complicates interpretation. Nevertheless, it can be stated that the reform tends to have a different effect on males than on females, making male students more likely to enroll in university education and less likely to start vocational education.[3]

With respect to the question of whether students are enrolled in any postsecondary education (university and vocational education) at the specific points in time, no significant effects are observed. Also the probability of participation in a voluntary year of social or ecological service or spending a year abroad is not affected (Table 6.4).

6.4.2 Choice of University Subjects

As mentioned above, the reform could have affected skills as well as occupational preferences of students, which could further influence choice of university subjects. To analyze this issue,

[3] The results from a test of whether the reform effects on male students are significantly different from those on female students are presented in Table A.19 in Appendix A.

Table 6.1: Probability of University Education (1st and 2nd Wave, Probit Estimates)

	Female Sample		Male Sample	
	Short-term 07/2007 – 03/2009	Medium-term 07/2007 – 12/2011	Short-term 07/2007 – 03/2009	Medium-term 07/2007 – 12/2011
Independent Variables	Marg.eff.	Marg.eff.	Marg.eff.	Marg.eff.
D	-0.077**	-0.027	0.062	0.098*
	(0.035)	(0.038)	(0.055)	(0.053)
Average Grade in Year 7: Very Good[a]	-0.044	-0.041	-0.040	-0.098
	(0.068)	(0.083)	(0.105)	(0.137)
Average Grade in Year 7: Satisfactory/Fair[a]	-0.080	-0.022	-0.100	-0.074
	(0.053)	(0.055)	(0.061)	(0.066)
Math Grade in Year 7: Very Good[a]	0.267***	0.299**	-0.086	0.060
	(0.094)	(0.121)	(0.081)	(0.095)
Math Grade in Year 7: Satisfactory/Fair[a]	-0.071	-0.019	-0.079	-0.139**
	(0.050)	(0.055)	(0.063)	(0.060)
Academic Degree of at least one Parent[b]	0.077*	0.033	0.195***	0.101
	(0.046)	(0.048)	(0.052)	(0.066)
Academic Degree of at least one Sibling[b]	0.065	0.053	0.109	0.010
	(0.041)	(0.056)	(0.070)	(0.068)
Number of Books of Parents: 101 to 500[c]	0.026	0.029	0.068	0.143**
	(0.046)	(0.058)	(0.064)	(0.064)
Number of Books of Parents: More than 500[c]	0.128**	0.129	0.099	0.227***
	(0.065)	(0.086)	(0.072)	(0.077)
Age at School Enrollment	0.027	-0.024	-0.026	0.008
	(0.061)	(0.064)	(0.058)	(0.067)
School Fixed Effects	yes	yes	yes	yes
McFadden's R^2	0.12	0.07	0.14	0.27
Number of Observations	437	298	259	158
Number of Clusters	82	69	78	68
D (Without Control Variables)	-0.071*	-0.009	0.026	0.062
	(0.042)	(0.037)	(0.064)	(0.069)
Mean Value of Dependent Variable (G13)	0.72	0.83	0.69	0.81

[a] Average/Mathematics grade in year 7 (reference: good).
[b] Academic degree of at least one parent or sibling (reference: no academic degree).
[c] Number of books of parents (reference: 0 to 100 books).
· Dependent variable: Dummy indicating enrollment in university education at least once between July 2007 and March 2009 (1st wave)/ between July 2007 and December 2011 (2nd wave).
· Marginal effects are average marginal effects. All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below marginal effects. Stars denote significance of the estimates as follows: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 6.2: Probability of Vocational Education (1st and 2nd Wave, Probit Estimates)

	Female Sample		Male Sample	
	Short-term 07/2007 – 03/2009	Medium-term 07/2007 – 12/2011	Short-term 07/2007 – 03/2009	Medium-term 07/2007 – 12/2011
Independent Variables	Marg.eff.	Marg.eff.	Marg.eff.	Marg.eff.
D	0.061	0.096**	-0.052	-0.098
	(0.041)	(0.039)	(0.052)	(0.067)
Average Grade in Year 7: Very Good[a]	-0.000	-0.036	-0.170	0.027
	(0.068)	(0.080)	(0.127)	(0.149)
Average Grade in Year 7: Satisfactory/Fair[a]	0.022	-0.048	0.125**	0.054
	(0.051)	(0.058)	(0.059)	(0.088)
Math Grade in Year 7: Very Good[a]	-0.140	-0.152	0.134	0.164
	(0.100)	(0.103)	(0.085)	(0.114)
Math Grade in Year 7: Satisfactory/Fair[a]	0.107**	0.090	0.011	0.170**
	(0.047)	(0.061)	(0.059)	(0.082)
Academic Degree of at least one Parent[b]	-0.070	-0.021	-0.115**	-0.182**
	(0.046)	(0.053)	(0.058)	(0.081)
Academic Degree of at least one Sibling[b]	-0.078**	-0.117**	-0.057	-0.163*
	(0.038)	(0.055)	(0.070)	(0.086)
Number of Books of Parents: 101 to 500[c]	-0.027	-0.010	-0.139**	-0.110
	(0.050)	(0.057)	(0.062)	(0.086)
Number of Books of Parents: More than 500[c]	-0.136**	-0.220***	-0.211***	-0.250***
	(0.062)	(0.071)	(0.066)	(0.094)
Age at School Enrollment	-0.038	0.024	0.001	0.025
	(0.058)	(0.064)	(0.062)	(0.086)
School Fixed Effects	yes	yes	yes	yes
McFadden's R^2	0.12	0.11	0.13	0.21
Number of Observations	437	344	259	162
Number of Clusters	82	81	78	71
D (Without Control Variables)	0.054	0.074	-0.024	-0.028
	(0.047)	(0.045)	(0.060)	(0.080)
Mean Value of Dependent Variable (G13)	0.29	0.32	0.28	0.35

[a] Average/Mathematics grade in year 7 (reference: good).
[b] Academic degree of at least one parent or sibling (reference: no academic degree).
[c] Number of books of parents (reference: 0 to 100 books).
· Dependent variable: Dummy indicating enrollment in vocational education at least once between July 2007 and March 2009 (1st wave)/ between July 2007 and December 2011 (2nd wave).
· Marginal effects are average marginal effects. All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below marginal effects. Stars denote significance of the estimates as follows: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 6.3: Estimates of Reform Effects: Enrollment in University Education and Vocational Education, According to Semester (2nd Wave, Probit Estimates)

	Female Sample Marg.eff.	Male Sample Marg.eff.
University Education		
D: University Education 11/2007	-0.166***	-0.026
	(0.044)	(0.072)
Mean Value[a]	*0.59*	*0.27*
D: University Education 11/2008	-0.145***	0.103
	(0.043)	(0.074)
Mean Value	*0.72*	*0.66*
D: University Education 11/2009	-0.127***	0.115*
	(0.040)	(0.062)
Mean Value	*0.73*	*0.70*
D: University Education 11/2010	-0.012	0.080
	(0.041)	(0.056)
Mean Value	*0.69*	*0.72*
D: University Education 11/2011	-0.003	0.071
	(0.047)	(0.063)
Mean Value	*0.63*	*0.66*
Vocational Education		
D: Vocational Education 11/2007	0.073**	-0.070
	(0.032)	(0.061)
Mean Value	*0.17*	*0.18*
D: Vocational Education 11/2008	0.103**	-0.047
	(0.040)	(0.065)
Mean Value	*0.23*	*0.27*
D: Vocational Education 11/2009	0.100**	-0.145**
	(0.040)	(0.068)
Mean Value	*0.26*	*0.30*
D: Vocational Education 11/2010	0.015	-0.063
	(0.037)	(0.049)
Mean Value	*0.14*	*0.17*
D: Vocational Education 11/2011	0.031	-0.035
	(0.031)	(0.063)
Mean Value	*0.06*	*0.10*
Number of Observations	345	145

[a] All mean values of the dependent variable refer to G13 students.

· Dependent variable: dummy indicating enrollment in university or vocational education at certain points in time.

· Regressions are separately run for each outcome.

· Regressions include further explanatory variables (school achievements until reform, educational background of family, age at school enrollment) and school fixed effects.

· Marginal effects are average marginal effects. All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below marginal effects. Stars denote significance of the estimates as follows: $^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$.

· p-value from estimation of joint significance of all outcomes: 0.046 (females), 0.375 (males).

Table 6.4: Estimates of Reform Effects: Enrollment in Any Postsecondary Education and Participation in Voluntary Service or Stay Abroad (1st Wave, Probit Estimates)

	Female Sample Short-term 07/2007 – 03/2009 Marginal effect	Male Sample Short-term 07/2007 – 03/2009 Marginal effect
Postsecondary Education[a]		
D: Postsecondary Education 11/2007	-0.032	-0.027
	(0.039)	(0.054)
D: Postsecondary Education 05/2008	-0.044	-0.033
	(0.040)	(0.057)
D: Postsecondary Education 11/2008	0.013	-0.007
	(0.021)	(0.025)
D: Postsecondary Education 03/2009	0.005	0.001
	(0.018)	(0.032)
Voluntary Service or Stay Abroad		
D: Voluntary Service[b]	0.026	0.016
	(0.027)	(0.029)
D: Voluntary Service or Stay Abroad[c]	0.042	0.039
	(0.033)	(0.030)
Number of Observations	371 – 438	217 – 258

[a] Dependent variable: dummy indicating enrollment in any type of postsecondary education (university or vocational education) at several points in time.
[b] Dependent variable: dummy indicating participation in a voluntary year of social or ecological service at least once between July 2007 and December 2008.
[c] Dependent variable: dummy indicating participation in a voluntary year of social or ecological service at least once or stay abroad of at least 6 months between July 2007 and December 2008.
· Regressions are separately run for each outcome.
· Regressions include further explanatory variables (school achievements until reform, educational background of family, age at school enrollment) and school fixed effects.
· Marginal effects are average marginal effects. All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below marginal effects. Stars denote significance of the estimates as follows: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.
· The number of observations varies depending on the outcome variable. Indicated are the minimum and maximum number of observations.

the reform effect is estimated separately for six major fields of study. These are intended to cover a large range of sciences but allow sufficient differentiation with regard to occupational fields. These fields are: humanities, education and social sciences, law and economics, engineering, natural sciences and mathematics, and medical sciences. Due to the specific relevance of engineering, natural sciences and mathematics – the so-called STEM subjects – for labor supply and economic growth, the reform effect is also estimated for these subjects as a whole group. Another reason for consideration of STEM subjects as a group is the fact that the differentiation between natural sciences and mathematics on the one hand and engineering on the other hand is difficult in a few cases. Medical sciences normally do not belong to the STEM subjects, however, they are related to them in terms of content. Therefore, STEM subjects are considered once with a narrow definition (without medical sciences) and once with a broad definition including medical sciences. Subjects are observed at two different points in time. In

the first wave, the variables refer to enrollment in a specific subject in March 2009, considering all university students at that point in time. It should be noted that these outcomes indicate the effects on subject choice conditional on university enrollment, which means that they include also a composition effect and a potential effect of subject switching. In the second wave, subject variables consider all high school graduates and indicate whether a student was still enrolled or had already obtained a degree in the respective subject by December 2011.

Table 6.5 shows that the reform has influenced the choice of some university subjects. Affected male students are slightly less likely to study education and social sciences in the first wave but the effect disappears after several years. Furthermore, the reform has significantly reduced the probability of females to study natural sciences and mathematics in the short and medium term by approximately 0.07 to 0.09. In the medium term, the whole group of narrowly defined STEM subjects is also negatively affected. On the other hand, the probability of females to choose medical sciences is increased in the medium term by approximately 0.07 on average. No effect can be established in the more broadly defined STEM subjects. Therefore, the reduction in science and mathematics seems to be "compensated" for by the increase in medical sciences. For male students, no significant effect is found with respect to STEM subjects.

6.4.3 Effect Heterogeneity

Results from separate estimations for different levels of school achievement (Table 6.6) do not show a clear picture. Nevertheless, it seems that the reform effects on university and vocational enrollment are valid for females with both higher and lower school achievements. However, high-achieving students are less likely to start postsecondary education immediately after high school graduation (i.e., until November 2007). The effect is significant in the male sample, while only a slight tendency is observed for females. In line with that, female students with higher school achievements are significantly more likely by 0.10 to perform voluntary service or to stay abroad in the first year after school graduation, whereas the effect is negative and insignificant in the subsample of low-achieving females. With respect to the choice of university subjects, the abovementioned lower probability of affected females to study a STEM subject, especially natural sciences and mathematics, the results in Table 6.6 clearly show that this effect is driven by the students with lower school achievements. In addition, a negative effect exists here even for the broadly defined group of STEM subjects.[4]

[4] The estimation of interaction effects (see section 4.9) leads to similar findings.

Table 6.5: Estimates of Reform Effects: Choice of University Subjects (1st and 2nd Wave, Probit Estimates)

	Female Sample		Male Sample	
	Short-term 07/2007 – 03/2009 Marg.eff.	Medium-term 07/2007 – 12/2011 Marg.eff.	Short-term 07/2007 – 03/2009 Marg.eff.	Medium-term 07/2007 – 12/2011 Marg.eff.
D: Humanities	-0.010	-0.052	0.031	-0.040
	(0.045)	(0.033)	(0.052)	(0.048)
Mean Value[a]	*0.21*	*0.19*	*0.06*	*0.09*
N	291	333	120	140
D: Education/Social Sciences	0.047	0.057	-0.120*	0.013
	(0.045)	(0.040)	(0.061)	(0.040)
Mean Value	*0.18*	*0.15*	*0.13*	*0.07*
N	287	341	123	136
D: Law and Economics	0.049	0.000	-0.035	-0.011
	(0.049)	(0.034)	(0.045)	(0.052)
Mean Value	*0.24*	*0.19*	*0.19*	*0.16*
N	291	341	167	136
D: Engineering	-0.011	-0.033	0.110	0.090
	(0.033)	(0.029)	(0.068)	(0.056)
Mean Value	*0.14*	*0.11*	*0.42*	*0.31*
N	283	317	172	158
D: Natural Sciences/Mathematics	-0.068**	-0.086***	-0.058	-0.031
	(0.032)	(0.029)	(0.050)	(0.056)
Mean Value	*0.15*	*0.11*	*0.17*	*0.13*
N	283	298	157	134
D: Medical Sciences	0.028	0.073***	–	–
	(0.039)	(0.028)		
Mean Value	*0.06*	*0.05*		
N	199	295		
D: STEM (narrow definition)[b]	-0.061	-0.102***	0.026	0.074
	(0.048)	(0.038)	(0.071)	(0.066)
Mean Value	*0.28*	*0.22*	*0.58*	*0.43*
N	283	325	172	158
D: STEM (broad definition)[c]	-0.042	-0.045	-0.026	0.072
	(0.052)	(0.039)	(0.073)	(0.068)
Mean Value	*0.35*	*0.26*	*0.64*	*0.46*
N	283	325	172	158

[a] All mean values of the dependent variable refer to G13 students: value in relation to all university students in March 2009 (1st wave) and in relation to all high-school graduates (2nd wave).

[b] STEM subjects (narrow definition) include natural sciences, technology, engineering and mathematics.

[c] STEM subjects (broad definition) include natural sciences, technology, engineering, mathematics and medical sciences.

· Dependent variables: dummy indicating enrollment in a specific university subject in March 2009 (1st wave, in relation to all university students at that time); dummy indicating that a student is enrolled or has already obtained a degree in a specific university subject at the end of 2011 (2nd wave, in relation to all high school graduates).

· Regressions are separately run for each outcome.

· Regressions include further explanatory variables (school achievements until reform, educational background of family, age at school enrollment) and school fixed effects.

· Marginal effects are average marginal effects. All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below marginal effects. Stars denote significance of the estimates as follows: $^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$.

· Estimations with fewer than 100 observations are indicated by $-$.

· p-value from estimation of joint significance of all outcomes (except the STEM subjects as a whole group): 0.473 (females, short-term), 0.041 (females, medium-term), 0.160 (males, short-term), 0.680 (males, medium-term).

Table 6.6: Estimates of Reform Effects: Separate Estimations for Students with Higher and Lower School Achievements (1st and 2nd Wave, Probit Estimates)

	Female Sample		Male Sample	
	Short-term 07/2007 – 03/2009 Marg.eff.	Medium-term 07/2007 – 12/2011 Marg.eff.	Short-term 07/2007 – 03/2009 Marg.eff.	Medium-term 07/2007 – 12/2011 Marg.eff.
University Education[a]				
D (Students with Higher Achievements)	-0.082*	-0.043	0.000	0.059
	(0.044)	(0.066)	(0.051)	(0.094)
D (Students with Lower Achievements)	-0.075	-0.008	0.050	0.253***
	(0.059)	(0.060)	(0.068)	(0.080)
Vocational Education[b]				
D (Students with Higher Achievements)	0.016	0.109**	-0.112*	-0.098
	(0.049)	(0.052)	(0.067)	(0.095)
D (Students with Lower Achievements)	0.135**	0.104	0.024	-0.101
	(0.064)	(0.068)	(0.079)	(0.116)
Postsecondary Education 11/2007[c]				
D (Students with Higher Achievements)	-0.065	-0.090	-0.112*	-0.186*
	(0.049)	(0.063)	(0.068)	(0.104)
D (Students with Lower Achievements)	0.016	-0.065	0.064	0.027
	(0.059)	(0.074)	(0.085)	(0.111)
Voluntary Service or Stay Abroad[d]				
D (Students with Higher Achievements)	0.096**	–	0.085	–
	(0.045)		(0.064)	
D (Students with Lower Achievements)	-0.041	–	0.005	–
	(0.056)		(0.062)	
STEM Subjects (Narrow Definition)[e]				
D (Students with Higher Achievements)	0.041	-0.040	0.051	0.231***
	(0.061)	(0.058)	(0.100)	(0.086)
D (Students with Lower Achievements)	-0.191**	-0.137***	0.080	0.092
	(0.088)	(0.049)	(0.121)	(0.098)
STEM Subjects (Broad Definition)[e]				
D (Students with Higher Achievements)	0.083	0.073	0.017	0.294***
	(0.060)	(0.054)	(0.105)	(0.099)
D (Students with Lower Achievements)	-0.191**	-0.104**	0.054	0.003
	(0.086)	(0.052)	(0.096)	(0.117)
Number of Observations (High Achievem.)	149 – 229	131 – 168	76 – 114	52 – 80
Number of Observations (Low Achievem.)	101 – 208	152 – 171	74 – 142	73 – 82

[a] Dependent variable: dummy indicating enrollment in university education at least once between July 2007 and March 2009 (1st wave)/ between July 2007 and December 2011 (2nd wave).

[b] Dependent variable: dummy indicating enrollment in vocational education at least once between July 2007 and March 2009 (1st wave)/ between July 2007 and December 2011 (2nd wave).

[c] Dependent variable: dummy indicating enrollment in any type of postsecondary education in November 2007.

[d] Dependent variable: dummy indicating participation in a voluntary year of social or ecological service at least once or Stay Abroad of at least 6 months between July 2007 and December 2008.

[e] Dependent variable: dummy indicating enrollment in a STEM university subject in March 2009 (1st wave, in relation to all university students at that time); dummy indicating that a student is enrolled or has already obtained a degree in a specific university subject at the end of 2011 (2nd wave, in relation to all high school graduates).

· Regressions are separately run for each outcome.

· Students with higher achievements are characterized by an average grade in year 7 of good or very good, students with lower achievements by an average grade in year 7 of satisfactory or below.

· Regressions include further explanatory variables (educational background of family, age at school enrollment) and school fixed effects.

· Marginal effects are average marginal effects. All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parenthesis below marginal effects. Stars denote significance of the estimates as follows: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

· The number of observations varies depending on the outcome variable. Indicated are the minimum and maximum number of observations.

6.4.4 Robustness Analysis

The representativeness of the sample has already been checked in section 4.4. As a further robustness check, sampling weights are included in the estimations according to the distribution of the SOEP sample. The results are presented in Table 6.7. A comparison with Tables 6.1 to 6.5 shows that the reform effects remain unchanged in size and significance. The effects on females' enrollment in vocational education even become slightly stronger, whereas the effects on the enrollment behavior of male students decrease in size and significance. This confirms the reliability of the effects on female students, but underlines that no clear conclusions can be drawn with respect to male students.

As mentioned in section 4.3, there are a few differences between cohorts with respect to some background characteristics. Although these differences do not show a systematic picture, they could have an influence on the observed outcomes. In order to test this possibility, the respective background variables are adjusted between treatment and control groups. This is done using a weighting procedure, similar to the one described in section 4.5. In each sample (females and males, first and second wave), the respective background variables of the G12 students are weighted so that their average values are equal to those of the G13 students. Although this procedure cannot fully eliminate any differences, it can indicate a rough direction of the potential influence of these differences. All regressions are rerun with the weighted data. Again, most results remain unchanged (see Table A.20 in Appendix A). Only the results on females' enrollment in university and vocational education in the short term become slightly weaker in size and significance. Moreover, the short-term effect on studying education or social sciences of males becomes slightly stronger, and the medium-term coefficients of choosing humanities (female students) and engineering (male students) become slightly significant. However, all other effects on university subjects and on enrollment in university and vocational education in the medium term remain stable. Hence, it is unlikely that the originally identified effects are driven by differences in background characteristics.

As a third robustness check, estimations of the joint significance of the effects are performed. This is done using seemingly unrelated regression models, by which the probability of enrollment in university or vocational education (in the short and medium term as well as at specific points in time) is jointly estimated. In the same way, the joint significance of the effects on the choice of university subjects is estimated. Results from these estimations are presented in Table A.21 in Appendix A, which support the original findings.

The reform was introduced in August 2003 for students in grade 9 at that time, so the robustness of the findings can be checked using an instrumental variable approach with the date of birth as an instrument for assignment to treatment and control groups. Reform effects are estimated

Table 6.7: Robustness Check: Sample Representativeness, Estimation with Data Weighted According to the Socio-Economic Panel (1st and 2nd Wave, Probit Estimates)

	Female Sample		Male Sample	
	Short-term Marg.eff.	Medium-term Marg.eff.	Short-term Marg.eff.	Medium-term Marg.eff.
University Education				
D: University Education (at least once)	-0.098***	-0.007	0.085	0.057
	(0.034)	(0.042)	(0.060)	(0.050)
D: University Education in November 2007		-0.155***		-0.070
		(0.045)		(0.076)
D: University Education in November 2008		-0.150***		0.055
		(0.042)		(0.071)
D: University Education in November 2009		-0.130***		0.086
		(0.043)		(0.062)
D: University Education in November 2010		-0.006		0.060
		(0.041)		(0.054)
Vocational Education				
D: Vocational Education (at least once)	0.091**	0.091**	-0.045	-0.050
	(0.041)	(0.041)	(0.058)	(0.063)
D: Vocational Education in November 2007		0.068**		-0.068
		(0.032)		(0.064)
D: Vocational Education in November 2008		0.101**		-0.006
		(0.041)		(0.070)
D: Vocational Education in November 2009		0.102**		-0.107
		(0.041)		(0.068)
D: Vocational Education in November 2010		0.026		-0.017
		(0.040)		(0.050)
University Subjects				
D: Humanities	-0.042	-0.045	–	-0.018
	(0.052)	(0.036)		(0.044)
D: Educational and Social Sciences	0.095**	0.068*	–	–
	(0.042)	(0.041)		
D: Law and Economics	0.022	0.000	-0.056	0.001
	(0.048)	(0.035)	(0.057)	(0.059)
D: Engineering	-0.009	-0.034	0.083	0.054
	(0.040)	(0.031)	(0.076)	(0.064)
D: Natural Sciences and Mathematics	-0.087**	-0.095***	-0.028	-0.044
	(0.041)	(0.033)	(0.062)	(0.056)
D: Medical Sciences	0.029	0.080***	–	–
	(0.048)	(0.031)		
D: STEM Subjects (narrow definition)	-0.073	-0.107**	0.007	0.031
	(0.059)	(0.042)	(0.081)	(0.074)
D: STEM Subjects (broad definition)	-0.054	-0.047	-0.070	0.026
	(0.062)	(0.045)	(0.082)	(0.075)
Number of Observations (Enrollment)	401	257 – 326	228	132 – 150
Number of Observations (Subjects)	158 – 267	269 – 322	129 – 143	122 – 146

· Dependent variable: dummy indicating enrollment in university or vocational education between July 2007 and March 2009 (1st wave) or December 2011 (2nd wave); dummy indicating that a student is enrolled in a university subject in March 2009 (1st wave) or is enrolled or has obtained a degree in a university subject in December 2011 (2nd wave).

· Regressions are separately run for each outcome. Regressions include further explanatory variables (school achievements until reform, educational background of family, age at school enrollment) and school fixed effects.

· Marginal effects are average marginal effects. All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below marginal effects. Stars denote significance of the estimates as follows: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Estimations with fewer than 100 observations are indicated by –. The number of observations varies depending on the outcome variable. Indicated are the minimum and maximum number of observations for the respective group of outcomes.

using two-stage least squares, with the instrumental variable being a dummy which takes the value 1 if the individual is born after 30 June 1988 (which was the cut-off date for being in the G13 cohort). The results from this approach are similar to the original estimates (see Table A.22 in Appendix A).

So far, students with grade repetition have been excluded from the analysis (see section 4.2.2). However, including them in the estimation sample does not change the previous findings, as it can be seen in Table A.23 in Appendix A. On the contrary, the short-term effect on females' enrollment in vocational education becomes significant at the 10%-level. Moreover, the effects on medium-term enrollment in university and vocational education of male students decrease slightly in size and significance, which underlines the conclusion that no clear effects can be found for male students.

6.5 Discussion and Summary

The empirical findings presented in this chapter show that female students are particularly affected by the reform, whereas no clear conclusions can be drawn with respect to males. Females are more likely to start vocational education and therefore delay university enrollment, and are less likely to study a STEM subject (especially natural sciences and mathematics)[5] than they would have been with one more year of schooling.

At first, the question arises as to whether the effects identified are due to the reform or just represent random variation between cohorts. However, in Germany there is only very little variation across cohorts in the share of students entering university education and in the distribution of university subjects chosen (see Tables 2.1 and A.1 in Appendix A). Hence, I conclude that the findings actually represent causal effects of the reform.

The reform effects work through two channels, namely the *performance effect* and the *orientation effect*. Although I cannot test both channels empirically, both seem to be relevant. The *orientation effect*, which means that high school graduates are less oriented with respect to their talents and occupational preferences, is a plausible reason for delayed university enrollment of females. This conclusion is supported firstly by the observation that affected males do not show delayed enrollment, possibly because they had one year more to make their decisions on postsecondary education, due to compulsory military or civilian service. Secondly, under

[5] In addition to section 4.7, it is unlikely that the effect on STEM subjects is a result of the double cohort, for example because too many students wanted to study these subjects, and thus applications were rejected, or students abstained from these subjects in fear of overcrowded lectures. STEM subjects are normally only chosen by a small number of female students and often have open admission.

the assumption that the opposite, the performance effect, is more relevant for students with lower school achievements, reform effects would be more pronounced for them. But separate estimations according to school achievement show that the effects on university and vocational enrollment exist over all levels of achievement (see Table 6.6). Affected females with higher school achievements are even significantly more likely to use the year after graduation for voluntary service or spending a year abroad. This underlines the importance of the orientation effect. This finding also supports my argumentation that the effects are not confounded by the double cohort of high school graduates because students with higher school achievements are less likely to have expected or experienced problems with restricted access to university education.

Nevertheless, enrollment decisions could also be influenced by the *performance effect*. As a consequence of negatively affected mathematical skills at school graduation (Büttner and Thomsen, 2015), students could be or feel less prepared for university and especially for university subjects with higher mathematical requirements. This might increase their expected costs of studying and/or reduce their expected success probability. However, it is not only performance but also the motivation to study at university or to study a math-related subject that could be reduced by the higher learning pressure at school (cf. Jürges and Schneider, 2010). Altogether, the performance effect can also partly explain delayed university enrollment of females and their lower probability of studying natural sciences and mathematics. However, no effect on the whole group of STEM subjects (including medical sciences) is found. This suggests that the reform has not led overall to a significant shift from mathematically intensive to less intensive subjects, although minor effects are present. In addition, the abovementioned negative effect on mathematics achievement at school graduation is found for both genders, but it is larger for male students.[6] If the performance effect were the main reason for the findings regarding postsecondary education decisions, males should be more affected than females. However, effects mainly exist for female students. Thus, I conclude that the findings can be better explained by the orientation effect.

Related to this conclusion, there are possible explanations as to why significant enrollment effects are found for females but no clear or even opposite effects for male students. First, females in Germany principally evaluate their probability of admission and success at university lower than males (Lörz et al., 2011, p. 40) and are therefore more likely to choose a lower level of postsecondary education as a precaution. This tendency could have been increased by the reform. Vocational education could also be seen more frequently as a preparation for subsequent university education. Second, females and males react differently to an increase

[6] The grade in the final examination in mathematics is reduced by approximately 0.30 standard deviations for male students on average, while female students experience a decrease of approximately 0.15 standard deviations.

in pressure. Performance of females is, compared to males, negatively affected by increased requirements of school exams (Azmat et al., 2016), by increased time constraints (Shurchkov, 2012) or by competitive pressure (e.g., Niederle and Vesterlund, 2007; Ors et al., 2013; Morin, 2015b). The reason for this gender difference could be that females, in contrast to males, become demotivated by competitive pressure (Hopland and Nyhus, 2016) or that males are more confident than females (Niederle and Vesterlund, 2007). Applying these findings to the shorter school duration could explain why the higher learning intensity has reduced short-term university enrollment of females but not of males.

As mentioned above, the reform includes a reduction of school duration as well as a reduction of students' age at school graduation. The reform effects represent a mixture of these two factors, the individual effects of which cannot be separately identified. Nevertheless, a comparison of older G12 students with younger G13 students can shed light on this issue. Estimations for the subgroup of students born in 1988 include students who are closer to each other with respect to age than in the original sample, but have still experienced a different school duration.[7] Results are presented in Table 6.8 and show that the reform effects on enrollment in university and vocational education decrease notably in magnitude and statistical significance. Further restricting (or conversely widening) the age range leads to an even larger (or conversely smaller) decrease in the effect size. In contrast, the effects on females' subject choice remain constant in size (they only decrease in statistical significance due to the smaller sample size). Therefore, I conclude that age plays an important role in explaining the findings on enrollment of female students in university and vocational education, whereas the duration of schooling is more relevant for the effects on university subject choice.

With respect to the objective of the reform, namely to reduce the total duration of secondary and tertiary education, delayed university enrollment of females represents a negative effect. However, this does not necessarily represent a negative effect overall. If 15% of female G12 students delay university enrollment by three years, their total duration of education would be prolonged by two years, while for 85%, the total duration would be reduced by one year. In total, the duration of education of university graduates in Germany would decrease by 0.55 years. Apart from duration of education, delayed enrollment could also represent a positive effect if the year is, for example, spent abroad or used for voluntary work, by which valuable experiences of life are acquired, for example in terms of social and intercultural skills.

Furthermore, there might be concerns that the effects identified only represent temporary or adjustment effects (see section 4.7). However, the effects regarding university subjects in the second wave should not be affected by temporary effects because they contain attainment and

[7] The cut-off birth date for a school year in Germany is 30 June. Hence, G13 students are mostly born between July 1987 and June 1988, while G12 students are mostly born between July 1988 and June 1989.

Table 6.8: Age Effects: Estimation with Students of a Narrower Age Range[a] (1st and 2nd Wave, Probit Estimates)

	Female Sample		Male Sample	
	Short-term Marg.eff.	Medium-term Marg.eff.	Short-term Marg.eff.	Medium-term Marg.eff.
University Education				
D: University Education (at least once)	-0.039	0.040	-0.038	0.005
	(0.060)	(0.059)	(0.053)	(0.056)
D: University Education in November 2007		-0.094		-0.175**
		(0.082)		(0.084)
D: University Education in November 2008		-0.041		-0.128
		(0.079)		(0.083)
D: University Education in November 2009		-0.035		-0.039
		(0.064)		(0.073)
D: University Education in November 2010		0.104		-0.042
		(0.065)		(0.073)
Vocational Education				
D: Vocational Education (at least once)	-0.018	0.003	0.122**	0.030
	(0.059)	(0.066)	(0.057)	(0.076)
D: Vocational Education in November 2007		-0.012		-0.055
		(0.052)		(0.073)
D: Vocational Education in November 2008		0.020		0.090
		(0.060)		(0.066)
D: Vocational Education in November 2009		0.066		-0.034
		(0.056)		(0.071)
D: Vocational Education in November 2010		-0.018		0.043
		(0.066)		(0.072)
University Subjects				
D: Humanities	-0.042	-0.053	0.223***	-0.052
	(0.062)	(0.059)	(0.074)	(0.059)
D: Educational and Social Sciences	0.023	0.050	–	0.104*
	(0.074)	(0.068)		(0.058)
D: Law and Economics	0.052	0.060	-0.134*	-0.048
	(0.075)	(0.068)	(0.075)	(0.071)
D: Engineering	0.038	0.005	0.135*	0.062
	(0.062)	(0.054)	(0.076)	(0.076)
D: Natural Sciences and Mathematics	-0.090	-0.087*	-0.190***	-0.110
	(0.061)	(0.051)	(0.073)	(0.081)
D: Medical Sciences	–	0.087	–	–
		(0.062)		
D: STEM Subjects (narrow definition)	-0.013	-0.057	0.033	-0.021
	(0.076)	(0.053)	(0.086)	(0.086)
D: STEM Subjects (broad definition)	0.019	-0.027	0.008	-0.010
	(0.081)	(0.068)	(0.080)	(0.099)
Number of Observations (Enrollment)	211	115–169	190	89 – 135
Number of Observations (Subjects)	98 – 142	93 – 165	97 – 127	96 – 131

[a] The female sample includes only individuals born in 1988. The male sample includes only individuals born between December 1987 and January 1989.

· Dependent variable: dummy indicating enrollment in university or vocational education between July 2007 and March 2009 (1st wave) or December 2011 (2nd wave); dummy indicating that a student is enrolled in a university subject in March 2009 (1st wave) or is enrolled or has obtained a degree in a university subject in December 2011 (2nd wave). Regressions are separately run for each outcome and include further explanatory variables and school fixed effects. Marginal effects are average marginal effects. All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below marginal effects. Stars denote significance of the estimates as follows: $^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$. Estimations with fewer than 80 observations are indicated by –. The number of observations varies depending on the outcome variable. Indicated are the minimum and maximum number of observations.

enrollment four and a half years after high school graduation. Moreover, it is also unlikely that the increased enrollment in vocational education as well as the delayed enrollment in university education of female students are temporary results of the double cohort. If students had delayed university enrollment as a consequence of being in the double cohort, for example because of feared competition for study places or because of having G13 students as their reference group, they would most likely have delayed by about one year (for example by doing a transitional activity for a year). However, it has been shown in this chapter that university education is in fact delayed by three years because of the higher probability of starting and completing (a three-year) vocational education. Altogether, I am quite confident to conclude that the identified reform effects are of general significance.

Finally, I think that the results have some degree of general validity not only for Germany. Although there are some differences in the postsecondary education systems, the tendency to delay enrollment or to choose a less demanding course of postsecondary education as a result of a reduced school duration could also occur in other countries. This presumption is supported by the abovementioned conclusion that the orientation function of education, which is internationally valid, plays an important role in explaining the reform effects. Consequently, reducing the duration of schooling could affect students' orientation with respect to further education also in other contexts than Germany. The question whether the gender differences in the reform effects would also apply to other countries, is difficult to answer. On the one hand, it has been confirmed by the literature for many countries that females and males react differently to an increase in pressure (which has been presented as a possible explanation for the different effects by gender above). On the other hand, it could be the case that effects are mainly found for female students because a large fraction of male students were obliged to do military or civilian service, which gave them a further year to make their decision on postsecondary education. If this year of compulsory service does not exist (as it is the case in many other countries and also in Germany since 2011), males and females are in the same decision situation after high schoool graduation. It can be supposed that in this case effects could also occur for male students.

By and large, the results presented in this chapter indicate that shortening and intensifying secondary schooling has some adverse effects on postsecondary education decisions. This emphasizes the fact that instructional time and learning intensity at school, and especially the orientation function of schooling by helping students to discover their talents and occupational plans, are relevant for subsequent choices of education.

Chapter 7

Reform Effects in Other German States

7.1 Overview[1]

The last chapter has shown that the reduced school duration has affected some postsecondary education decisions of graduates from the 2007 double cohort in Saxony-Anhalt. A number of arguments, provided in sections 4.7 and 6.5, support the general validity of the identified effects. Nevertheless, doubts might remain. Therefore, the analysis in the present chapter complements the evidence by evaluating the effects of the shortened school duration on a nationwide level.

For this purpose, a different methodological approach than the one described in chapter 4 is applied. Based on nationally representative data, namely the panel survey of high school graduates in Germany, which is conducted by the German Centre for Research on Higher Education and Science Studies (DZHW), the timing difference in the reform's implementation across states is used within a difference-in-differences (DiD) approach to identify causal effects of the reform. Different definitions of the treatment and control groups provide insights for different states on whether and how education decisions after graduation from high school are influenced by the reform and whether the effects are similar or heterogeneous by state.

[1] The analysis performed in this chapter is available as a discussion paper by Meyer et al. (2015).

7.2 Empirical Approach

7.2.1 The Data

The empirical analysis of reform effects on postsecondary education decisions is based on data of high school graduates from all German states that are provided by the DZHW. Every two or three years since 1976, students from randomly selected schools in all federal states (approximately 12% of all high schools) have been surveyed. Since 2006, the surveys have been conducted as short panels with a first wave half a year before high school graduation. Students are asked by means of a written questionnaire about their experiences at high school, their plans after school graduation, the process of information collection and related problems. In a second wave half a year after graduation, the same students are asked about their realized or firmly planned postsecondary education. The final and third wave for each cohort is conducted three and a half or four and a half years after graduation, by which the observations on postsecondary education are updated.[2] The data used in this chapter include the 2006, 2008, 2010 and 2012 cohorts of graduates. Data from the third wave are currently only available for the 2006 and 2008 cohorts. Thus, postsecondary education decisions can only be investigated with respect to the time period of half a year after school graduation. Despite this comparably short time horizon, education plans are sufficiently concrete at that point in time. Data from the 2006 and 2008 cohorts show that 93% of students who report in the second wave that they firmly plan to enroll in university education have realized this plan three or four and a half years after school graduation. Another 3% are still firmly planning to attend university. The correspondence between plans and realization is further supported by Ajzen (1991), who has shown that an intention is a basic precondition and usually a reliable predictor of eventual action. Therefore, information provided half a year after school graduation can be considered to represent the educational pathways of students in at least the first two to three years after school graduation.

Some modifications of the data are necessary for the analysis. First, students who did not graduate from high school (but graduated, e.g., from comprehensive schools or vocational high schools) or who did not obtain the general university admittance qualification (but obtained, e.g., only the qualification for admittance to universities of applied sciences) are excluded because the reform does not apply to vocational high schools, integrative comprehensive schools and, in some states, cooperative comprehensive schools. Students who do not belong to the respective birth cohorts are excluded as well (i.e., only students born between 1 July of the respective year and 30 June of the following year are included). Thus, students who repeated or skipped a grade are not considered. The estimation sample therefore includes 5,383 obser-

[2] A description of data collection can be found, for example, in Schneider and Franke (2014).

vations in 2006, 10,380 in 2008, 9,353 in 2010 and 13,374 in 2012 of students who participated in the first survey half a year before graduation. Unfortunately, the data are affected by panel attrition, and not all students participated in the second wave of the survey. Information on postsecondary education decisions is only available for 2,855 observations in 2006, 3,005 observations in 2008, 3,582 observations in 2010 and 5,690 observations in 2012.

To address concerns with respect to a potential panel attrition bias, Table A.24 in Appendix A shows mean values of students' characteristics in the samples of the first and second waves. The similarity of the figures indicates that a bias is unlikely to exist. A small exception is that students planning to start university education before high school graduation are a bit more likely to participate in the second wave. However, the differences between waves and years are not that large.

Enrollment in university and vocational education is observed half a year after school graduation and is analyzed in two dimensions. A first binary variable includes actual enrollment, while the second dummy indicates whether a student is actually enrolled or firmly plans to enroll in university or vocational education as first postsecondary education (e.g., after having completed military, civilian or voluntary service or some other activity in the year after school graduation). To minimize a potential bias from insecure plans and decisions, only students who have already decided on their postsecondary education are included in the second dummy variable. However, more than 97% of students have made this decision at the time of the survey, and in almost all cases, they intend to enroll one year after school graduation.[3]

Moreover, three other activities in the year after high school graduation are captured covering (1) military or civilian service, (2) internship or temporary work, and (3) voluntary service or a year abroad. Finally, the choice of university subjects is measured with regard to actual and firmly planned university enrollment. University subjects are categorized into six groups: (1) humanities, (2) education and social sciences, (3) law and economics, (4) engineering, (5) natural sciences and mathematics, and (6) medical sciences. Due to the particular importance of engineering, natural sciences and mathematics (the so-called STEM subjects), these subjects are additionally considered as a group. Medical sciences are content-related to STEM subjects but it is not clear whether they belong to this group. Therefore, STEM subjects are considered in the analysis first with a narrow definition (without medical sciences) and second with a broader definition (including medical sciences).

[3] The question in the survey from which the variable *firmly planned enrollment* is obtained, contains three response categories: (1) "I have decided to enroll in university/vocational education (or to do something else)", (2) "I have not finally decided, but I will probably enroll in university/vocational education (or do something else)", and (3) "I have until now absolutely no idea about my further education". Only category (1) is considered in the variable on planned enrollment, but it contains almost all students. Fewer than 3% of students belong to categories (2) and (3).

7.2.2 Identification Strategy

To evaluate the reform effects on postsecondary education decisions, I use a difference-in-differences approach. The different timing of reform introduction in the federal states provides regional variation, which enables a comparison of students who graduated under the old system with 13 years and under the new system with 12 years. Ten states completed the reform between 2007 and 2012, which means that the first students graduated from high school after 12 years of schooling (see Table 2.2).

Therefore, I can use 2012 as the post-reform year and the cohorts 2006, 2008 and 2010 as the pre-reform periods. However, I concentrate on 2008 as the pre-reform year because the education decisions of the 2010 graduation cohort could be influenced by the upcoming double cohorts in 2011 in two large federal states (Bavaria and Lower Saxony). Students from the 2010 cohort had an incentive to accelerate their enrollment in postsecondary education to avoid competition with the double cohort. This did in fact take place in the case of female students (see Figure 7.2 in the next section). Hence, estimates based on 2010 as the pre-reform year could be biased. However, the 2008 cohort is not affected by these or other influences and can therefore be used as the pre-reform period. Further including the year 2006 is therefore not necessary; moreover, the greater distance in time between 2006 and 2012 may potentially allow other unintended effects for the analysis. Nevertheless, I will carry out alternative estimations with the 2006 cohort.

In the main specification, the years 2008 and 2012 represent the pre- and post-reform periods. The treatment group consists of the three West-German states that completed the reform introduction in 2010 and 2011 – Bavaria, Hamburg and Lower Saxony *(treatment group 1)*. All other reform states are not included for the following reasons: Saxony-Anhalt and Mecklenburg-Western Pomerania completed the reform in 2007 and 2008 (i.e., before or in the pre-reform year). For the small state of Saarland (completed the reform in 2009), no observations are available in 2012. Finally, the four states with a double graduation cohort in 2012 (Baden-Wuerttemberg, Berlin, Brandenburg and Bremen) are not included because the first affected cohort could be viewed as a special situation, which may not be representative. The control group contains the states that did not change the school duration during the observation period: Hesse[4], Rhineland-Palatinate[5], Schleswig-Holstein, Saxony, and Thuringia.[6]

[4] Hesse introduced the reform in not one cohort but in three subsequent cohorts, depending on the school. In 10% of the schools, the first affected students graduated in 2012, whereas in 90% of the schools, the first cohort with only 12 years of schooling graduated in 2013 or 2014. The few students graduating after 12 years in 2012 are not included in the sample.

[5] Rhineland-Palatinate did not introduce the reform but kept constant its system with 12.5 years of schooling, which in practice is a system with 12.7 years and therefore more similar to graduation after 13 than after 12 years.

[6] Table A.25 in Appendix A contains information on the number of observations by federal state.

North Rhine-Westphalia is not considered because the upcoming double cohort 2013 increased the incentive for 2012 graduates from this state to accelerate university enrollment (as in the abovementioned case in 2010 in Bavaria and Lower Saxony).

Table 7.1: Treatment and Control Groups

	Double Cohort	Treatm. Group 1	Treatm. Group 2	Treatm. Group 3
Pre-Reform Year		2008	2008	2006
Post-Reform Year		2012	2012	2012
Saxony-Anhalt (ST)	2007			TG
Mecklenburg-Western Pomerania (MW)	2008			TG
Saarland (SL)	2009			
Hamburg (HA)	2010	TG	TG	
Bavaria (BA)	2011	TG	TG	
Lower Saxony (LS)	2011	TG	TG	
Baden-Wuerttemberg (BW)	2012		TG	
Bremen (BR)	2012		TG	
Berlin (BE)	2012		TG	
Brandenburg (BB)	2012		TG	
North Rhine-Westphalia (NW)	2013			
Hesse (HE)	2013-2014	CG	CG	CG
Schleswig-Holstein (SH)	2016	CG	CG	
Rhineland-Palatinate (RP)	–	CG	CG	
Saxony (SN)	–	CG	CG	CG
Thuringia (TH)	–	CG	CG	CG

· TG: state belongs to the treatment group; CG: state belongs to the control group.

In addition, I estimate the reform effects with alternative definitions of the treatment group (Table 7.1 and Figure 7.1 provide an overview of the different definitions). First, I additionally include the states with a double cohort in 2012 (Baden-Wuerttemberg, Berlin, Brandenburg and Bremen) in the treatment group *(treatment group 2)*. Of course, not the entire double cohort is included in 2012 but only the students with 12 years of schooling. This treatment group definition can be viewed as a test of whether the results change if the first affected cohort is considered (for example, due to implementation effects or potentially increased competition for study places). As a second alternative, I use Saxony-Anhalt and Mecklenburg-Western Pomerania, which completed the reform introduction in 2007 and 2008, as treatment states *(treatment group 3)*. Here, 2006 represents the pre-reform year. This treatment group is used to investigate whether potential effects occur only in the first years after reform introduction or persist in the long-term, because the 2012 cohort represents only the second or third affected cohort in Bavaria, Hamburg and Lower Saxony but the fifth or sixth affected cohort in Mecklenburg-Western Pomerania and Saxony-Anhalt. A further difference between treatment groups 1 and

(a) Treatment Group 1

(b) Treatment Group 2

(c) Treatment Group 3

Figure 7.1: The German States: Treatment Group (dark grey) and Control Group (light grey)

3 is that the former is focused on the effects of the reform in West Germany, while the latter analyzes the reform effects in East Germany.

The causal effect of the reform is then estimated by the following difference-in-differences probit model:

$$Prob(Y_{p,s,i} = 1) = \Phi(\beta_0 + \beta_1 TREATGR_i + \beta_2 POST_i + \beta_3 DID_i + \beta_4 \mathbf{X}_i + \gamma_s). \quad (7.1)$$

The binary outcome variable is denoted by $Y_{p,s,i}$. $Prob(Y_{p,s,i} = 1)$ is then the probability of individual i from state s being enrolled in a specific type of postsecondary education p (i.e., university education, vocational education, several other activities in the year after school graduation, and several university subjects). Each outcome is estimated separately. On the right hand side of equation (7.1), β_0 is the constant. $TREATGR_i$ is a dummy variable that takes the value 1 if an individual belongs to the treatment group and 0 if an individual belongs to the control group. Thus, the coefficient β_1 captures the non-reform difference between students from the treatment and control groups. $POST_i$ indicates the time period and equals 0 for the pre-reform (2008) and 1 for the post-reform period (2012), with the coefficient β_2. The interaction term between $TREATGR_i$ and $POST_i$ is denoted by DID_i, which is equal to 1 if an individual belongs to the treatment group in the post-reform year. The marginal effect, derived from the corresponding coefficient β_3, indicates the impact of the reform, namely the average treatment effect (ATE).[7]

To consider differences between years and groups and to increase the efficiency of the estimates, further variables influencing postsecondary education decisions are included in the regression in $\mathbf{X}_i$. These are dummy variables that indicate whether at least one parent has an academic degree, whether the student has a migration background, and whether the student belongs to the older group of students in the respective cohort (i.e., born between 1 July and 31 December). In addition, the number of books owned by parents as well as the current or most recent occupational position of parents (measured by the International Socio-Economic Index of Occupational Status, ISEI; see Ganzeboom et al., 1992) are considered by two dummy variables for the middle and upper category of each of the two categorical variables. Finally, state dummies γ_s capture the influence of characteristics of the federal state in which the students have graduated from high school.[8] The estimations are conducted separately for males and females as in the analysis based on Saxony-Anhalt.

[7] Puhani (2012) has shown that in nonlinear difference-in-differences models, the incremental effect of the coefficient of the interaction term represents the treatment effect.

[8] Dummies are included for each state except for one state from the treatment group and one state from the control group (reference states) due to multicollinearity with the treatment group indicator.

The general idea of the difference-in-differences estimation approach can be summarized as follows: At first, the outcomes of high school graduates in 2008 (pre-reform) and 2012 (post-reform) are compared within the treatment group (first difference). Then, this difference is compared with the respective difference in the outcomes of the control group, which is not affected by the reform. From this comparison (second difference), the causal effect of the reform is obtained. With this procedure, any common time trend between 2008 and 2012 as well as differences in the students' characteristics between the treatment and control groups are eliminated from the analysis.

As an alternative to the two-periods-approach, one could in principle also use the data from all four periods and states available. However, as mentioned above, postsecondary education decisions of the 2010 cohort are biased by the upcoming double cohorts 2011 in Bavaria and Lower Saxony. Thus, only three periods remain, and using 2006 in addition to 2008 does not bring much benefit. On the contrary, the 2006 values of some outcome variables represent outliers in some states. Therefore, I concentrate on 2008 and the two-period-framework. This has the advantage that standard errors do not have to be adjusted for serial correlation of error terms as it is necessary in DiD estimations with multiple periods (see Bertrand et al., 2004).

7.2.3 Validity of the Identification Strategy

Identification requires that no selection bias between groups is present. This requirement can be assumed to be fulfilled because from the students' perspective, the reform was randomly introduced. In the respective states, reform implementation took place within a short period of time (especially in Bavaria and Hamburg, see Table 2.2). Students had only very few possibilities to evade the reform. Evasion would only be possible by moving or commuting to another state, by switching to another type of school (in two of the three treatment states, it is still possible to graduate after 13 years at comprehensive schools), or by skipping a grade. As already discussed in section 4.6, moving or commuting to another state would include very high monetary and non-monetary costs. Moving to another school type would be easier but official statistics by the Federal Statistical Office (n.y.a) do not provide indications that more students in the treatment states moved to comprehensive schools relative to high schools *(Gymnasium)* after the introduction of the reform (see Table A.26 in Appendix A). Furthermore, the German education system normally does not provide the possibility of fast-tracking school by skipping a grade.

A selection bias may then only come from increased grade retention, which is suggested by Huebener and Marcus (2015b). To check this possibility, Table A.27 in Appendix A presents the shares of students dropping out of their cohort in the last two years of high school, based on

official statistics by the Federal Statistical Office (n.y.a). In contrast to Huebener and Marcus (2015b), this table does not show retention but total drop-out rates. In some federal states, for example Bavaria or Hamburg, drop-out rates have not risen, whereas an increase can be observed in other states (e.g., Berlin or Mecklenburg-Western Pomerania). For a third group of states, there is an increase but the time does not correspond to the reform introduction. For example, the increase started in Lower Saxony already in the 2008 graduation cohort. Therefore, the main specification using Bavaria, Hamburg and Lower Saxony as treatment states should not be affected by increased grade retention. In any case, even if a selection bias existed, the estimated effects could be interpreted as lower bounds. Because grade repetition is more likely to affect students with lower achievement, a detrimental effect of the reform would be underestimated.

There are further assumptions that must be fulfilled for identification (see, e.g., Meyer, 1995). There should be no interaction between time and groups except for the treatment, which means that all time trends must be equally existent in both groups, and any group impacts must be constant over time. This should be the case here because the analyzed period contains only four years, over which social and macroeconomic conditions have not changed differently across states. Furthermore, students' characteristics should not be too different between treatment and control groups, and any changes in these characteristics should be similar between groups. This will be checked in the next section.

However, an interaction between time and groups could occur if other education reforms have been introduced in the states at different points in time. An overview of other reforms is provided in Table 7.2. The first candidate would be other changes in the high school system that have been implemented a few years ago in several states (e.g., central final examinations, earlier tracking, changed curriculum). However, central final examinations have been in force in many states for a long period of time and in the remaining states since no later than 2008. Tracking has not been changed in the treatment and control states except for Lower Saxony, where tracking was moved forward from grade 7 to 5 since the 2011 graduation cohort. Nevertheless, earlier tracking should not have a large effect on upper secondary schooling. The changes in the high school curriculum (e.g., restricted subject choice, additional examination subjects) vary across states with respect to content and timing. In some states, the changes were already in place in 2008, in other states, they were introduced for graduation cohorts between 2008 and 2012, and in still other states, no changes have been made. Although these reforms were not as substantial as the shortened school duration, the different timing of introduction could potentially confound the analysis. Therefore, this issue will be checked in section 7.3.5.

A second reform to consider is the change of the study programs to the bachelor's and master's degrees (the so-called Bologna process). However, this reform was introduced almost simulta-

neously in all German states and had been largely completed by 2008. The share of university entrants being enrolled in a bachelor's program was approximately 68% in 2008 and 77% in 2012 (the difference from 100% results from the fact that not all study programs were subject to the Bologna process). These numbers are also valid for the subgroups of students from the treatment and control groups (c.f. Schneider and Franke, 2014, p. 155-159). Similarly, the abolition of military service in 2011 affects students from treatment and control states equally (cf. Table 7.4 in the next section).

A last, possibly relevant reform is the introduction of university tuition fees in some states. However, in most states under investigation, the introduction had already taken place in 2008 and was still valid in 2012 or fees had not been introduced in either of the two years. Moreover, empirical evidence suggests that the introduction of university tuition fees in Germany had no influence on university enrollment (e.g., Helbig et al., 2012; Bruckmeier and Wigger, 2014). Thus, conditions for postsecondary education decisions could be assumed to be the same in both years even in states with changes in tuition fees.

Table 7.2: Introduction of Other Education Reforms in Germany

	Reduced School Duration	Central Final Examinations	Tracking after Grade 4	Changed High School Curriculum	University Tuition Fees[a]
Treatment Group					
Bavaria	since 2011	since 1946	always	since 2011	2006 – 2012
Hamburg	since 2010	since 2005	always	since 2011	2006 – 2011
Lower Saxony	since 2011	since 2006	since 2012[b]	since 2008	2005 – 2013
Control Group					
Hesse	since 2013-14	since 2007	always	since 2005	2006 – 2008
Rhineland-Palatinate	never	never	always	never	never
Saxony	always	since 1991	always	since 2010	never
Schleswig-Holstein	since 2016	since 2008	always	since 2011	never
Thuringia	always	since 1991	always	since 2011	never

[a] The years correspond to the time when the introduction or elimination of tuition fees was resolved.
[b] Until 2010, students in Lower Saxony were tracked after grade 6. The 2011 cohort was tracked after grade 5.
· The years indicate the high school graduation cohorts which are affected by the respective reform.
· Source: Own investigations on the basis of school laws, high school regulations, information provided by the state ministries of education, and information provided by the standing conference of the ministers of education of the German states.

A key assumption in any difference-in-differences analysis is that the outcomes for students in the treatment and control groups would follow the same time trend in the absence of the treatment. Although the counterfactual outcome is unobservable, similar pre-treatment trends could be seen as a verification of this common trend assumption. Figure 7.2 shows the shares of students who started (or firmly plan to start) university education after high school graduation

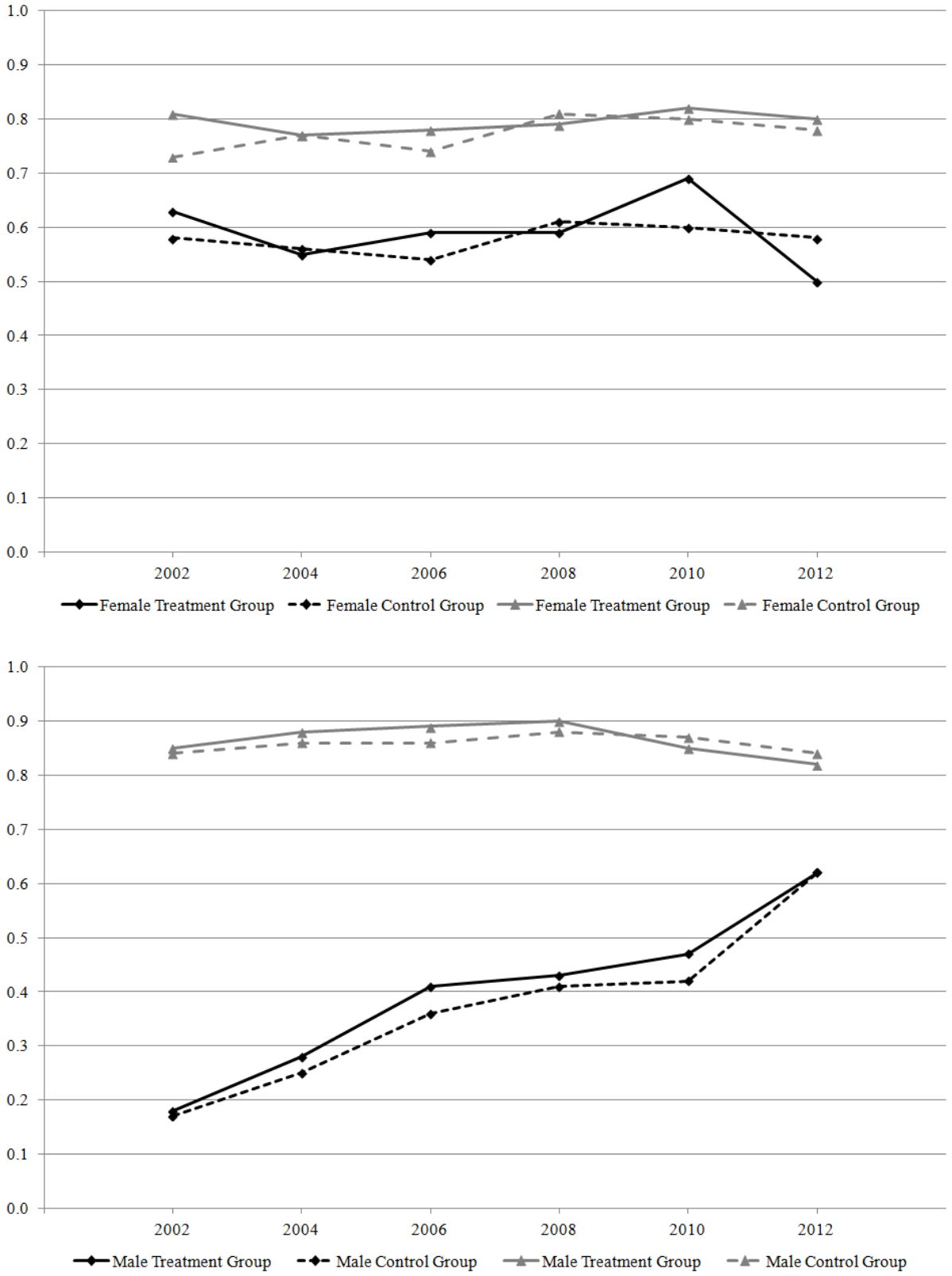


Figure 7.2: Shares of Students Enrolled in University Education (Black Line: Actual Enrollment; Grey Line: Actual and Firmly Planned Enrollment; Source: DZHW data, own calculation)

between 2002 and 2012. The outcomes have similar values and show similar development in the treatment and control groups until reform introduction. This is the case for female and male students as well as for actual and firmly planned enrollment. Only with respect to females' actual enrollment, the year 2010 shows an exception. In this year, students in Bavaria and Lower Saxony had a large incentive to start university as soon as possible due to the large expected inflow of high school graduates from the double cohort in 2011. Therefore, the 2010 graduation cohort is excluded from the analysis (as mentioned in the previous section). However, enrollment trends are parallel until 2008, which supports the common trend assumption.

The presented identification strategy has the advantage that the analyzed students do not represent the first affected cohort (except for a part of treatment group 2). This means that implementation effects or temporary effects, possibly caused by the double cohorts in 2010 and 2011, are unlikely to be still present in 2012. It is also not likely that access to university education is restricted above average in the analyzed states in 2012. According to official statistics from the Federal Statistical Office (n.y.c), the number of study places was increased in 2011 in Bavaria and Lower Saxony as well as in the neighboring states to take account of the larger number of university entrants from the double cohorts. In 2012, the situation in these states had largely normalized. Confounding influences from states with a double cohort 2012 are also unlikely to exist. The number of additional students from the small states of Berlin, Brandenburg and Bremen is too low to have a significant influence on university places in the treatment and control groups (approximately 9,000 additional high school graduates compared to a total of approximately 305,000 high school graduates in Germany in 2012). Also for the larger double cohort in Baden-Wuerttemberg, a significant influence on conditions for university enrollment within this state and in other states is very unlikely because the number of study places in Baden-Wuerttemberg was increased by approximately 20,000 (State Ministry of Baden-Wuerttemberg, 2010) in light of an increase of approximately 24,000 high school graduates in 2012 (Federal Statistical Office, n.y.a). For this reason, the double cohort from Baden-Wuerttemberg should have had no systematic influence on the neighboring state of Bavaria. The number of students from Baden-Wuerttemberg starting university in Bavaria 2012 is not significantly higher than the number in 2010 (an increase of 650 students from Baden-Wuerttemberg compared to approximately 64,000 university entrants in Bavaria). Finally, a comparison of admission grades at selected universities in Bavaria and Lower Saxony shows that grades remained relatively constant in most subjects between 2009 and 2012 (see Table A.28 in Appendix A), which indicates that competition for study places had not increased due to the double cohorts.[9]

[9] In a few subjects, an increase in admission grades can be observed. However, this should not be a problem because in some cases, admission grades also increased in other years, which are not related to the double cohorts (e.g., from 2009 to 2010). Furthermore, not only admission grades but also the average grades of high school graduation can vary slightly across years.

7.2.4 Descriptive Statistics

Table 7.3 contains a description of several characteristics of students from the treatment and control groups in the pre- and post-reform period. The age of students appears to be equally distributed within cohorts. Approximately 10 to 15% of students have a migration background, which is constant over time in the female groups and equally decreasing in both male groups.

Table 7.3: Means of Selected Background Characteristics of Students, According to Group, Cohort and Gender (DZHW Panel Survey of High School Graduates)

	Female Sample				
	Treatment Group		Control Group		Diff-in-
	2008	2012	2008	2012	Diff [a]
Born in the First Half Year of Cohort	0.52	0.52	0.51	0.52	-0.00
Migration Background[b]	0.13	0.13	0.10	0.09	0.00
High School Graduation of Parents[c]	0.51	0.50	0.51	0.45	0.04
Academic Degree of Parents[d]	0.59	0.54	0.63	0.59	-0.02
Occupational Status of Parents: low[e]	0.13	0.11	0.13	0.16	-0.04
Occupational Status of Parents: middle[e]	0.41	0.39	0.42	0.41	-0.02
Occupational Status of Parents: high[e]	0.45	0.50	0.44	0.43	0.06
Number of Books of Parents: 0 to 100	0.20	0.21	0.18	0.25	-0.07**
Number of Books of Parents: 101 to 500	0.48	0.53	0.50	0.49	0.06
Number of Books of Parents: more than 500	0.32	0.26	0.32	0.26	0.01
Number of Observations	416	839	543	824	
	Male Sample				
	Treatment Group		Control Group		Diff-in-
	2008	2012	2008	2012	Diff [a]
Born in the First Half Year of Cohort	0.47	0.51	0.55	0.54	0.05
Migration Background[b]	0.18	0.13	0.12	0.08	-0.02
High School Graduation of Parents[c]	0.53	0.50	0.56	0.55	-0.02
Academic Degree of Parents[d]	0.63	0.57	0.63	0.64	-0.06
Occupational Status of Parents: low[e]	0.07	0.11	0.12	0.12	0.04
Occupational Status of Parents: middle[e]	0.41	0.40	0.39	0.40	-0.02
Occupational Status of Parents: high[e]	0.53	0.49	0.50	0.48	-0.03
Number of Books of Parents: 0 to 100	0.17	0.22	0.21	0.23	0.02
Number of Books of Parents: 101 to 500	0.48	0.50	0.49	0.50	0.02
Number of Books of Parents: more than 500	0.35	0.28	0.30	0.27	-0.05
Number of Observations	201	408	222	401	

[a] Difference-in-Differences $= (TG_{2012} - TG_{2008}) - (CG_{2012} - CG_{2008})$. Stars denote the significance of the Diff-in-Diff as follows: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

[b] Migration background is defined as follows: Student is born abroad, or has foreign citizenship, or at least one parent is born abroad, or language at parental home is not only German.

[c] At least one parent has graduated from high school, i.e., has a university entrance qualification. (The share is lower than having an academic degree, because university education can be attended not only with high school graduation, but also with the entrance qualification to universities of applied sciences.)

[d] At least one parent has an academic degree.

[e] Occupational Status is measured by the International Socio-Economic Index of Occupational Status (ISEI). Low status is from 0 to 49, middle from 50 to 67, and high from 68 to 85.

· Treatment Group: Bavaria, Hamburg, Lower Saxony. Control Group: Hesse, Rhineland-Palatinate, Saxony, Schleswig-Holstein, Thuringia.

The educational background of students is also similar for both groups and years. The share of students whose father or mother had graduated from high school is approximately 50% in the female sample and approximately 55% in the male sample. Regarding academic education of parents, there is a small time trend (except for the male control group). Compared to 2008, slightly more students come from a non-academic family in 2012. This could be due to the increasing social openness of high schools in Germany for many years (see, e.g., Trautwein and Neumann, 2008). The third indicator of students' educational background (number of books at the parental home) has a similar distribution and development between groups. Only the share of students in the lowest category increased more in the female control group than in the treatment group. Finally, the occupational position of the parents, as measured by the International Socio-Economic Index of Occupational Status, is largely similar across time and groups. Altogether, students in the treatment and control groups have similar characteristics. If any, the differences in the male sample do not reveal a systematic pattern but are partly in favor of the treatment group and partly in favor of the control group. In the female sample, the abovementioned increasing social openness of high school seems to be slightly more pronounced in the control group. However, the differences are small and the values of most variables are comparable between groups and have developed similarly over time. Thus, the descriptive picture indicates that a selection bias is unlikely to exist. Nevertheless, the few small differences underscore that consideration of sociodemographic and family background characteristics in the analysis is reasonable.

A description of the outcome variables is shown in Table 7.4. Half a year after high school graduation, approximately 75% of females are enrolled in postsecondary education. This share declined to nearly 60% in the treatment group in 2012, while it remained constant in the control group. The decline is mainly driven by reduced university enrollment and a notably increased share of students engaging in voluntary service or spending a year abroad. In the case of male students, the enrollment shares in postsecondary education have increased from 50% in 2008 to more than 70% in 2012. The reason for the increase is that the obligation to perform military or civilian service was eliminated in 2011. Therefore, the share of male students performing an activity other than postsecondary education has decreased from approximately 50% to 25%.

The enrollment shares in postsecondary education increase for both genders to between 95 and 99% when firmly planned enrollment (which in almost all cases takes place one year after graduation, e.g., after completion of voluntary service) is included. Altogether, approximately 80% of female students start or firmly plan to start university education, and 15 to 20% choose vocational education. Male students are slightly more likely than females to enroll in university but show slightly lower participation in vocational education. With regard to the subject of university education, almost no differences exist between treatment and control groups.

Table 7.4: Means of Postsecondary Education Decisions, According to Group, Cohort and Gender (DZHW Panel Survey of High School Graduates)

	Female Sample				Male Sample			
	Treatment Gr.		Control Gr.		Treatment Gr.		Control Gr.	
	2008	2012	2008	2012	2008	2012	2008	2012
First Postsecondary Education[a]								
University Education started	0.59	0.50	0.61	0.58	0.43	0.62	0.41	0.62
University Education started/planned	0.79	0.80	0.81	0.78	0.90	0.82	0.88	0.84
Vocational Education started	0.16	0.12	0.14	0.15	0.07	0.12	0.05	0.11
Vocational Education started/planned	0.20	0.17	0.17	0.19	0.07	0.15	0.08	0.12
Postsecondary Education started	0.75	0.62	0.75	0.73	0.50	0.74	0.46	0.73
Postsecondary Education started/plan.	0.99	0.97	0.98	0.97	0.97	0.97	0.96	0.96
Other Activities in the Year after High School Graduation[b]								
Military or Civilian Service	0.00	0.00	0.00	0.00	0.41	0.01	0.41	0.01
Internship or Temporary Work	0.12	0.14	0.09	0.07	0.04	0.11	0.05	0.07
Voluntary Service or Stay Abroad	0.11	0.22	0.14	0.15	0.04	0.13	0.08	0.17
Sum of Other Activities	0.23	0.36	0.23	0.22	0.49	0.25	0.54	0.25
Subject of started/planned University Education[c]								
Humanities	0.13	0.12	0.13	0.11	0.07	0.05	0.07	0.06
Education and Social Sciences	0.23	0.24	0.27	0.29	0.14	0.11	0.11	0.16
Law and Economics	0.17	0.17	0.15	0.15	0.18	0.22	0.14	0.17
Engineering	0.06	0.09	0.08	0.06	0.30	0.25	0.34	0.26
Natural Sciences and Mathematics	0.12	0.11	0.11	0.10	0.16	0.20	0.19	0.19
Medical Sciences	0.10	0.08	0.08	0.10	0.06	0.02	0.07	0.06
Number of Observations	416	839	543	824	201	408	222	401

[a] Share of high school graduates being enrolled (or having decided to enroll in near future) in university or vocational education half a year after school graduation.
[b] Share of high school graduates participating in different activities half a year after school graduation.
[c] Share of high school graduates being enrolled or planning to enroll in a specific university subject.
· Treatment Gr.: Bavaria, Hamburg, Lower Saxony. Control Gr.: Hesse, Rhineland-Palatinate, Saxony, Schleswig-Holstein, Thuringia.

7.3 Estimation Results

7.3.1 Reform Effects on Postsecondary Education Decisions

The estimation results of the main specification are presented in columns (1) and (4) of Table 7.5. Only the reform effects are reported, but all other explanatory variables are considered in the estimations as well. Effects on university and vocational education are shown with respect to actual enrollment (i.e., already started six months after graduation) as well as actual and firmly planned enrollment (i.e., already started or firmly planned within the next year). The reform has significantly reduced females' enrollment in university education in the first year after high school graduation by approximately 10 percentage points. If enrollment plans are included, this effect disappears. There is also no significant effect on females' enrollment in vocational education. For male students, enrollment decisions – either in university or vocational education – are not affected.

Table 7.5: Difference-in-Differences Estimates of Reform Effects (DZHW Panel Survey, Probit Estimates, Marginal Effects)

	Female Sample			Male Sample		
Pre-/Post-Reform Year	2008/2012		2006/12	2008/2012		2006/12
Treatment Group	TG 1	TG 2	TG 3	TG 1	TG 2	TG 3
	(1)	(2)	(3)	(4)	(5)	(6)
University Education (started)[a]	-0.096**	-0.120***	-0.110*	-0.034	-0.037	-0.077
	(0.041)	(0.035)	(0.059)	(0.059)	(0.052)	(0.094)
University Educ. (started/plan.)[b]	0.005	-0.010	-0.030	-0.040	-0.048	-0.004
	(0.033)	(0.029)	(0.049)	(0.045)	(0.038)	(0.071)
Vocational Education (started)[a]	-0.030	-0.016	-0.016	-0.021	-0.010	0.075
	(0.028)	(0.024)	(0.044)	(0.038)	(0.032)	(0.074)
Vocational Educ. (started/plan.)[b]	-0.015	0.006	0.015	0.023	0.028	0.038
	(0.031)	(0.027)	(0.047)	(0.041)	(0.035)	(0.065)
Internship / Temporary Work[c]	0.061**	0.071***	0.020	0.030	0.050	0.041
	(0.026)	(0.025)	(0.029)	(0.034)	(0.032)	(0.063)
Voluntary Service / Stay Abroad[c]	0.096***	0.076***	0.131***	0.042	0.034	0.065
	(0.033)	(0.029)	(0.050)	(0.045)	(0.037)	(0.100)
STEM Subjects (narrow def.)[d]	0.036	0.014	-0.055	0.062	0.018	-0.211**
	(0.032)	(0.028)	(0.043)	(0.060)	(0.052)	(0.100)
STEM Subjects (broad def.)[d]	0.003	-0.030	-0.069	0.050	0.026	-0.223**
	(0.037)	(0.032)	(0.051)	(0.060)	(0.052)	(0.101)
Number of Observations	2,566	3,554	1,433	1,201	1,711	618

· Treatment group 1: Bavaria, Hamburg, Lower Saxony.
· Treatment group 2: Bavaria, Hamburg, Lower Saxony, Baden-Wuerttemberg, Berlin, Brandenburg, Bremen.
· Treatment group 3: Mecklenburg-Western Pomerania, Saxony-Anhalt.
· Control group 1 and 2: Hesse, Rhineland-Palatinate, Saxony, Schleswig-Holstein, Thuringia.
· Control group 3: Hesse, Saxony, Thuringia.
[a] Dependent variable: Dummy indicating actual enrollment in university/vocational education.
[b] Dependent variable: Dummy indicating actual or firmly planned enrollment in university/vocational education.
[c] Dependent variable: Dummy indicating participation in the year after high school graduation in an internship or temporary work / in a voluntary service or stay abroad.
[d] Dependent variable: Dummy indicating actual enrollment or firmly planned enrollment in a STEM university subject (STEM subjects narrowly defined include engineering, natural sciences and mathematics, STEM subjects broadly defined additionally include medical sciences).
· Regressions are separately run for each outcome.
· Regressions include further explanatory variables: post-reform-dummy, treatment-group-dummy, academic degree of parents, occupational status of parents, number of books of parents, migration background, half year of birth, and state dummies.
· Marginal effects are average marginal effects. Standard errors are shown in parenthesis below marginal effects. Stars denote significance of the estimates as follows: $^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$.

It should be noted that these results do not imply that no enrollment effects exist beyond the first year. Enrollment plans include only initial postsecondary education but not later revisions or participation in additional courses of education (e.g., attending university after vocational education, or vice versa). Therefore, it is still possible that the probability of starting university or vocational education is affected by the reform in the long-term.

In addition to starting university or vocational education, some students use the year after high school graduation for other activities. Performing military or civilian service (obligatory for many males until 2011), spending a year on voluntary service in social, ecological or cultural

institutions, spending a year abroad (e.g., work and travel, au pair), engaging in an internship or working temporarily are the most common activities. Military and civilian service is not affected by the reform because it is under the control of the official authorities. For female high school graduates, the probability of taking an internship or temporary work is slightly increased by 6 percentage points and the probability of spending a year abroad or performing voluntary service is increased by approximately 10 percentage points. For males, again no effect can be observed. Although all coefficients point into the same direction as in the case of females, they are rather small in size.

Finally, the choice of the field of study for actual or firmly planned university education is largely not changed by the reform. The effects on almost all subjects are small and statistically insignificant (regardless of whether all high school graduates are considered or only those who started or firmly plan to start university education). Exceptions are the probability of male students studying education sciences, in particular teaching professions, which is slightly reduced, and the probability of females studying engineering, which is slightly increased (results not shown). However, the coefficients of natural sciences and medical sciences are negative. Therefore, the whole group of STEM subjects (engineering, natural sciences, mathematics, medical sciences), which have particular importance for labor supply and macroeconomic prosperity, are not affected.

7.3.2 Estimations with Alternative Definitions of the Treatment Group

In addition to the results presented above, estimations with two alternative treatment group definitions are conducted (see section 7.2.2). The results are presented in the other columns of Table 7.5. At first, Baden-Wuerttemberg, Berlin, Brandenburg and Bremen, the states with a double cohort of graduates in 2012, are additionally included in the treatment group (TG 2). This does not change the results, as shown by columns (2) and (5). In particular, the effect on university enrollment becomes only slightly larger, which can be interpreted as evidence that the double cohorts have not restricted university access above average. The obtained patterns are robust regardless of whether all four states are additionally included or only the three small states (Berlin, Brandenburg, Bremen) or only the large state of Baden-Wuerttemberg (results not shown).

Second, 2006 is used as the pre-reform year (instead of 2008) and Mecklenburg-Western Pomerania and Saxony-Anhalt as treatment states (TG 3). This treatment group definition is intended to indicate whether the findings reflect only temporary instead of permanent effects of the reform. The results in columns (3) and (6) confirm the previous findings for both genders, suggesting permanent effects of the reform. In the male sample, the coefficients even become

larger in size. Only two differences occur. First, the probability of females to engage in an internship or to work temporarily is no longer increased. However, the effect on voluntary service or staying abroad is larger instead, so that the sum of both activities has the same size as before. The second difference concerns university subject choice. The coefficients in the female sample change their direction (but remain statistically insignificant), and a large negative effect on males' enrollment in a STEM subject can be observed. However, the latter result should be interpreted with caution because the share of male students in the treatment group choosing a STEM subject is unusually high in 2006 compared to the other years. Thus, the results with respect to subject choice based on 2008 as the pre-reform year provide a more regular picture of reform impacts.

7.3.3 Effect Heterogeneity according to Federal States

Although the reform implementation was in principle similar across the federal states, some differences exist. To investigate potential effect heterogeneity across states and to rule out that the reform effects are driven by a specific state, regressions are conducted, in each of which one state from the treatment group is excluded. This means that in the case of treatment group 1 only two treatment states (instead of three) are considered at a time. The results in Table 7.6 show that almost all effects of the reform remain valid. Nevertheless, some small effect heterogeneity across states can be observed. The effect on females' enrollment in university education decreases slightly if Lower Saxony is excluded from the treatment group, but the difference in size is not large. However, the effect on performing voluntary service or staying abroad loses its significance (although the coefficient is still positive), so the effect seems to be driven by Lower Saxony. This conclusion is reflected in the larger coefficient obtained from the sample without Bavaria. Moreover, if Bavaria is omitted, female students are not only less likely to start university education in the first year after school graduation but also vocational education. Overall, the main effect of the reform, namely reduced or delayed university enrollment of female students, exists in all analyzed states. With respect to the other activities (vocational education, voluntary service and staying abroad) slight effect heterogeneity across states can be observed.

7.3.4 Effect Heterogeneity according to Students' Family Background

The findings obtained so far represent average effects across all high school graduates. However, it could be the case that students with different characteristics are differently affected by the reform. It is therefore important to further examine the heterogeneity of the reform

Table 7.6: Difference-in-Differences Estimates of Reform Effects: Estimations Without One Treatment State (Treatment Group 1, DZHW Panel Survey, Probit Estimates, Marginal Effects)

	Female Sample			Male Sample		
	w/o BA	w/o HB	w/o LS	w/o BA	w/o HB	w/o LS
University Education (started)[a]	-0.094*	-0.109***	-0.081*	-0.047	-0.044	-0.015
	(0.050)	(0.042)	(0.048)	(0.079)	(0.060)	(0.066)
University Educ. (started/plan.)[b]	0.049	-0.006	-0.025	-0.033	-0.048	-0.037
	(0.041)	(0.034)	(0.039)	(0.059)	(0.046)	(0.051)
Vocational Education (started)[a]	-0.066*	-0.027	0.002	-0.023	-0.007	-0.039
	(0.035)	(0.029)	(0.034)	(0.049)	(0.039)	(0.041)
Vocational Educ. (started/plan.)[b]	-0.053	-0.012	0.026	0.039	0.033	-0.004
	(0.039)	(0.032)	(0.037)	(0.053)	(0.042)	(0.044)
Internship / Temporary Work[c]	0.055*	0.062**	0.058**	0.026	0.037	0.024
	(0.029)	(0.025)	(0.029)	(0.043)	(0.034)	(0.038)
Voluntary Service / Stay Abroad[c]	0.130***	0.099***	0.057	0.026	0.035	0.071
	(0.041)	(0.033)	(0.038)	(0.061)	(0.046)	(0.057)
STEM Subjects (narrow def.)[d]	0.026	0.033	0.047	0.030	0.062	0.081
	(0.039)	(0.033)	(0.038)	(0.079)	(0.061)	(0.068)
STEM Subjects (broad def.)[d]	-0.011	-0.005	0.023	0.010	0.056	0.069
	(0.045)	(0.038)	(0.044)	(0.080)	(0.061)	(0.068)
Number of Observations	1,949	2,443	2,079	857	1,153	1,005

[a] Dependent variable: dummy indicating actual enrollment in university/vocational education.
[b] Dependent variable: dummy indicating actual or firmly planned enrollment in university/vocational education.
[c] Dependent variable: dummy indicating participation in the year after high school graduation in an internship or temporary work / in a voluntary service or stay abroad.
[d] Dependent variable: dummy indicating actual enrollment or firmly planned enrollment in a STEM university subject (STEM subjects narrowly defined include engineering, natural sciences and mathematics, STEM subjects broadly defined additionally include medical sciences).
· Regressions are separately run for each outcome.
· Regressions include further explanatory variables: post-reform-dummy, treatment-group-dummy, academic degree of parents, occupational status of parents, number of books of parents, migration background, half year of birth, and state dummies.
· Marginal effects are average marginal effects. Standard errors are shown in parenthesis below marginal effects. Stars denote significance of the estimates as follows: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

effects. Because one of the main determinants of postsecondary education decisions is the educational family background of the students, the sample is split into students coming from a family in which at least one parent has an academic degree and students with a non-academic background.

The results from the separate estimations in Table 7.7 show considerably different reactions to the reform by both groups of students. While no effect is found for male students on average, those coming from non-academic families are significantly less likely to start university education, not only in the first year after high school graduation but also beyond that year. In contrast, male students with an academic background are not affected.

In the case of female students, the picture is a bit more complicated. The reduced university enrollment in the first year after high school graduation is also driven by students from a non-academic family background. The reduction is mostly due to an increased probability of taking

Table 7.7: Difference-in-Differences Estimates of Reform Effects: Separate Estimations for Students with Academic and Non-Academic Family Background (Treatment Group 1, DZHW Panel Survey, Probit Estimates, Marginal Effects)

	Female Sample		Male Sample	
	academic family[e]	non-academic family[e]	academic family[e]	non-academic family[e]
University Education (started)[a]	-0.066	-0.142**	0.016	-0.166*
	(0.053)	(0.064)	(0.076)	(0.096)
University Education (started/planned)[b]	0.066*	-0.092	0.011	-0.135*
	(0.040)	(0.057)	(0.054)	(0.081)
Vocational Education (started)[a]	-0.060*	0.028	-0.070	0.049
	(0.033)	(0.051)	(0.049)	(0.069)
Vocational Education (started/planned)[b]	-0.075**	0.085	-0.033	0.114
	(0.036)	(0.055)	(0.048)	(0.077)
Internship or Temporary Work[c]	0.037	0.102***	0.021	0.066
	(0.034)	(0.039)	(0.046)	(0.052)
Voluntary Service or Stay Abroad[c]	0.127***	0.032	0.020	0.119
	(0.044)	(0.050)	(0.058)	(0.082)
STEM Subjects (narrow definition)[d]	0.069	0.002	0.072	0.043
	(0.043)	(0.049)	(0.076)	(0.098)
STEM Subjects (broad definition)[d]	0.036	-0.027	0.080	-0.000
	(0.050)	(0.055)	(0.076)	(0.098)
Number of Observations	1,490	1,076	737	464

[a] Dependent variable: dummy indicating actual enrollment in university/vocational education.
[b] Dependent variable: dummy indicating actual or firmly planned enrollment in university/vocational education.
[c] Dependent variable: dummy indicating participation in the year after high school graduation in an internship or temporary work / in a voluntary service or stay abroad.
[d] Dependent variable: dummy indicating actual enrollment or firmly planned enrollment in a STEM university subject (STEM subjects narrowly defined include engineering, natural sciences and mathematics, STEM subjects broadly defined additionally include medical sciences).
[e] A student is defined to come from an academic family if at least one parent has an academic degree.
· Regressions are separately run for each outcome.
· Regressions include further explanatory variables: post-reform-dummy, treatment-group-dummy, occupational status of parents, number of books of parents, migration background, half year of birth, and state dummies.
· Marginal effects are average marginal effects. Standard errors are shown in parenthesis below marginal effects. Stars denote significance of the estimates as follows: $^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$.

an internship or temporary work. Compared to this, female students with an academic background show reduced participation in vocational education by approximately 6 to 8 percentage points (with respect to both actual and planned enrollment). In addition, they are more likely by 12 percentage points to perform voluntary service or to spend a year abroad. This leads to a statistically insignificant decrease of university enrollment in the first year after school graduation, while enrollment is slightly increased in the second year.

Altogether, students coming from non-academic families seem to be much more negatively affected by the reform than students with an academic family background. For the latter, no effect is observed in the male sample, while delayed but higher university enrollment of females represents a mixed finding.

7.3.5 Robustness Checks

Estimations Using a Weighting Procedure

Given the similarity of student characteristics between the first and second waves of the survey (see section 7.2.1), there is no reason to assume that the data are affected by a panel attrition bias. Nevertheless, the DZHW provides a weighting factor that takes into account panel attrition. The factor is calculated on the basis of school characteristics, gender, state, and university attendance in the first wave. I have reestimated all models in the paper with consideration of the weighting factor as a robustness check. The results do not change and I therefore refrain from presentation and discussion.

Estimations Using 2006 as the Pre-Reform-Year

As explained in section 7.2.2, 2008 can be assumed to be more suitable as the pre-reform year than 2006. However, to see whether the choice of the pre-reform year has an influence on the results, estimations are carried out with 2006 as the pre-reform period. The results in Table A.29 in Appendix A are similar to those obtained with 2008 as the pre-reform year. The effect on university enrollment becomes even larger in size, while the effects on internships/temporary work and voluntary service/staying abroad decrease slightly but remain statistically significant. Moreover, additional effects occur, but in most cases they only hold for one of the two treatment groups. Therefore – and because they have not occured in the main specification – these slight deviations are not considered further.

Estimations Without One Control State

To rule out that the effects are driven by a specific state in the control group, I adapt the control groups in the estimation by excluding step-by-step single states from the model (analogous to the estimations presented in section 7.3.3). As shown in Table A.30 in Appendix A, almost all effects remain constant. There is only one exception. The reduced university enrollment of females becomes insignificant if Saxony is excluded from the control group. However, the effect is close to the 10%-level of statistical significance (p-value of 0.13), and if Hamburg is additionally excluded from the treatment group (so that only Bavaria and Lower Saxony represent the treatment states), the effect becomes significant again.

Placebo Difference-in-Differences Estimation

A common sensitivity check in difference-in-differences analyses is to perform placebo tests, using observations not affected by the reform as if they were the treatment group. First, the West German states from the control group (Hesse, Rhineland-Palatinate, Schleswig-Holstein) are used as the placebo treatment group and compared to the East German states in the control group (Saxony, Thuringia). Second, I use the original treatment and control group but the years 2006 and 2008 as placebo pre- and post-reform years. Thirdly, students from the four states that had a double cohort of graduates in 2012 (Baden-Wuerttemberg, Berlin, Brandenburg, Bremen) are used as the placebo treatment group (but only students graduating after 13 years) and compared to the original control group. If the abovementioned findings represent causal effects of the reform, they should disappear in the placebo tests. This is the case, as the coefficients of all previously identified reform effects become small and statistically insignificant (Table A.31 in Appendix A).

However, some other outcome variables become significant in the placebo tests. This concerns enrollment in vocational education in placebo test 1, revealing slightly opposing trends between the West and East German control states. However, this applies only to vocational education but to none of the other outcomes. The significant coefficients in placebo test 2 reflect the problem mentioned in section 7.2.2 that the 2006 values of some variables are atypical high or low in some states. This was one reason for using 2008 as the pre-reform year instead of 2006, which is supported by this placebo tests. Finally, finding that there are no significant effects in placebo test 3 (i.e., for students with 13 years of schooling in the 2012 double cohorts) supports the assumption that the double cohorts have not intensified the competition for apprenticeship and study places.

Possible Confounding Effects of Other Reforms

As discussed in section 7.2.3, a few other education reforms have been introduced in the analyzed period. Because they could possibly confound the effects of the shortened school duration, several robustness checks are conducted. At first, the states that changed their high school curriculum between 2008 and 2012 are excluded from the analysis (Bavaria, Hamburg, Saxony, Schleswig-Holstein, Thuringia; see Table 7.2). As column (1) of Table A.32 in Appendix A shows, the reform effects remain stable. Only the effect on taking an internship or working temporarily becomes slightly insignificant for females but remains almost constant in size. In contrast, a significant effect on vocational education occurs, which, however, should not be overrated as only one treatment state and two control states are compared in this specification.

Secondly, only the state of Bavaria is used as the treatment group. In contrast to Lower Saxony and Hamburg, it is not possible in Bavaria to obtain the university admittance qualification at comprehensive schools (and almost no comprehensive schools exist). In addition, tracking was not changed and the reform was implemented very quickly. Although official statistics do not indicate a movement of students from high schools *(Gymnasium)* to comprehensive schools after reform introduction (as mentioned in section 7.2.3), this check can be seen as an additional test for a potential selection bias. However, the results in column (2) of Table A.32 largely confirm the original findings. Only the effect on voluntary service or staying abroad of female students is no longer significant. However, this does not necessarily point to a confounding influence but could also represent a state-specific effect, namely that engaging in voluntary service or spending a year abroad is chosen in Bavaria not as often as in Lower Saxony, as it was already indicated in section 7.3.3.

Furthermore, one might think that the introduction of university tuition fees in some federal states could have confounded the results. Nevertheless, it is unlikely that this is the case because no evidence is found for an influence of tuition fees on enrollment at university by Helbig et al. (2012) and Bruckmeier and Wigger (2014). Moreover, several states did not introduce tuition fees at all, and in other states, the introduction had already taken place in 2008 and was still valid in 2012. From the states in the main treatment group, only students in Hamburg had to pay tuition fees in 2008 that were abolished or going to be abolished in 2012.[10] At any time of the observation period, students had sufficient possibilities to study in a state without tuition fees. In addition, even if tuition fees reduced university attendance, the negative effect of the reform on university enrollment would represent a lower bound estimate. However, excluding the state of Hamburg from the treatment group does not change the results (see Table 7.6).

Finally, the original estimations are conducted with two additional control variables, which indicate whether a student in a given state and year graduated from high school according to the changed curriculum and whether a student was expecting university tuition fees in his home state. The results in column (3) of Table A.32 are very similar to the main findings discussed above.

Altogether, the various robustness checks largely confirm the obtained picture of the reform effects on postsecondary education decisions. Although some coefficients lose their statistical significance in a few cases, the tendency that female students are more likely to delay university enrollment and to engage in voluntary service or to spend a year abroad can be found in all robustness checks.

[10] In Hamburg, tuition fees were introduced in 2007, but the elimination was resolved in 2011 and implemented in 2013. In Table 7.2, Hesse is also indicated as having fees in 2008 but not in 2012. However, fees were eliminated in summer 2008, which means that high school graduates from the 2008 cohort were no longer affected.

7.4 Discussion and Summary

In this chapter, I have evaluated the impact of the reform on postsecondary education decisions in several German states. The evaluation is based on nationally representative data of high school graduates. The effects are identified using the different timing of the reform introduction in the German states (difference-in-differences estimation).

The results show that the reform has reduced enrollment of female students in university education in the first year after high school graduation by approximately 10 to 12 percentage points. At the same time, the probability of engaging in a year of voluntary service or spending a year abroad is increased by up to 13 percentage points. For male students, a similar tendency exists but the effects are small in size and statistically insignificant. Finally, no enrollment effects beyond the first year after high school graduation and almost no effect on university subject choice are found. The effects remain stable in the vast majority of specifications and robustness checks. Furthermore, the results based on states with a double cohort in 2012 do not differ substantially from the other results. More importantly, the identified effects can be considered as permanent ones because they do not only apply to the first affected cohorts but remain constant in later cohorts. The analysis of effect heterogeneity according to students' family background reveals that most effects are driven by students coming from a non-academic family. While no significant effects can be observed in the male sample as a whole, a large significant reduction of university attendance also beyond the first year after high school graduation occurs when only male students with a non-academic family background are considered.

Altogether, the analysis reveals that postsecondary education decisions are affected by the reduced school duration. Because the impacts are similar across a number of federal states, they can be considered to be generally valid. They also largely confirm the findings from the previous chapter based on data from Saxony-Anhalt. However, a few differences exist, which should be discussed. The first difference is that no effect on university enrollment beyond the first year and no effect on vocational education can be observed for female students. I conclude that the reform has delayed enrollment in university education in all cases, but the reason for delay differs. In the states and years analyzed, affected students decided more frequently to engage in voluntary service or to stay abroad by one year, whereas affected students in other states and years choose vocational education instead, which usually takes about three years. This interpretation is underlined by the investigation of effect heterogeneity and some robustness checks, which have revealed that effects with regard to vocational education differ slightly across specifications. The second difference, finding at least a tendency of reduced or delayed university enrollment for male students which was not observed in the previous chapter, may be explained by the elimination of compulsory military or civilian service in 2011. Before its

elimination, compulsory service gave many male students an additional year after high school graduation to think about their postsecondary education. However, after elimination, male students are in the same position in terms of their decision as female students. The question of why female students are nevertheless more affected than male students remains open. Possibly, females have a higher affinity for voluntary service or staying abroad than males, and therefore are more likely to take a gap year after school graduation. The third difference is related to university subject choice, where no effects have been identified in this chapter (if the main specification is used).[11] Therefore, it could be the case that the reform has an impact on subject choice only in some states, for example, Saxony-Anhalt. Altogether, the partly different findings underline that some effects of the reduced school duration could vary by state (depending on how the reform is introduced or on student characteristics). However, the main result of a reduced university enrollment in the short term and a corresponding increase in alternative activities or courses of education can be considered to be generally valid.

Referring to the explanations for the reform effects, which have been discussed at the end of the previous chapter (section 6.5), students graduating after a shortened and more compressed school duration in Germany could feel less prepared and/or less oriented with respect to university education. This may lead to lower university enrollment in the first years after high school graduation. Additional information in the DZHW data shows that the main reason for delayed enrollment in postsecondary education is that students affected by the reform wanted to take a break or do something else before continuing their educational career. It remains open whether this desire is caused by a higher degree of insecurity about the choice of postsecondary education or whether it is independent of school preparation and occupational orientation.

Because the analysis in this chapter covers only short-run effects of the reform, it is difficult to answer the question as to whether the final objective of the reform, namely to realize the same quality of education within a shorter time and thus an earlier labor market entry, will be achieved. For example, it cannot be ruled out that final participation and completion rates as well as the duration of university education will be affected by the reform.

To sum up, the analysis conducted in this chapter has shown that the reform effects, which in the previous chapter were identified for the double cohort in Saxony-Anhalt, also apply to later cohorts and other states. Therefore, it is unlikely that the previously obtained findings represent only temporary, implementation or state-specific effects. For example, the delayed university enrollment of G12 females from the 2007 cohort in Saxony-Anhalt can still be observed for the 2012 cohort.

[11] As mentioned above, the lower probability of male students studying a STEM subject, which has been found in the treatment group using 2006 as the pre-reform year, is due to an atypical high share of students in the treatment group choosing these subjects in 2006 compared to other years.

Taken together, the studies on Saxony-Anhalt and the analysis presented in this chapter provide a comprehensive picture on the impact of the reform. Both approaches, using different data and a different identification strategy, lead to similar results. The main result – reduced or delayed university enrollment and increased participation in other activities after high school graduation – can be found in all analyzed cohorts and states.

Chapter 8

Reform Effects on Academic Motivation and Abilities

8.1 Overview[1]

Having shown that the reform has an impact on the transition from high school to postsecondary education, the next step is to investigate whether further effects exist on students' success in postsecondary education. Such effects could occur because student achievement at the end of high school has been partly reduced by the reform. Moreover, it could be the case that the effects at the transition from high school to postsecondary education have further implications. The possibility that such effects may arise is suggested by the literature. School achievements have been found to be one of the most important determinants of success at university (see, e.g., Cunha, 2009; Cyrenne and Chan, 2012; Dooley et al., 2012). Students with higher achievements at school obtain, on average, better grades at university and have a lower dropout probability. These findings have been confirmed for Germany, for example, by Henn and Polaczek (2007), Erdel (2010), and Zwick (2012). Furthermore, other characteristics of high school, for example, the curriculum, also have an influence on students' success in university education (e.g., Adelman, 1999; Wolniak and Engberg, 2010; Cyrenne and Chan, 2012). In addition, as described in chapter 3, the duration of education is associated with the match quality of further education and occupational decisions (e.g., Malamud, 2011) and could thereby have an effect on persistence at university.

Therefore, in this chapter, I evaluate the effect of the reform in Saxony-Anhalt on success and persistence in university education expressed by students' perceptions of motivation and

[1] The results presented in this chapter are based on Meyer and Thomsen (2013).

ability. This analysis will shed light on the question of whether the aim of maintaining the level of education quality, which is partly affected in the short term (i.e., at high school graduation), will be achieved in the medium term. Success in vocational education cannot be analyzed because too few observations are available (information on experiences in vocational education is only available for 129 female and 52 male students in the sample).

8.2 Methodological Aspects

8.2.1 Outcome Variables

Detailed information on students' experiences in university education was collected from the 2007 double cohort of high school graduates in Saxony-Anhalt in the second survey wave. The reform effects are measured by a set of variables indicating perceptions of motivation and ability at university. All outcome variables are observed for persons who have been or are currently enrolled in university education. However, only the first university degree is analyzed because the majority of students (more than 60%) had started only one course of study by the time of the survey.

Motivation of studying includes three categorical variables indicating students' intensity of learning and studying, the personal importance of achieving a good degree, and the personal importance of achieving a degree fast. *Abilities* of students are categorized into three groups. The first one includes *learning abilities*, which are measured by two categorical variables indicating how organized and concentrated students are able to learn and how easy learning academic content is for them. These measures are, as the variables on motivation, self-assessed by the students on a four-point Likert scale, on which a higher value indicates that the respective statement is more applicable. The second ability dimension contains *subject-related skills*, which are operationalized by a dummy variable indicating the existence of skill deficits in university education. Third, the *ability to cope with stress* is measured by variables concerning the challenges, stress and burden of university education. The intensity of feeling pressure from performance requirements, orientation problems and personal problems is measured on a five-point Likert scale, ranging from 0 (problem non-existent) and 1 (feeling no pressure) to 4 (feeling strong pressure). These variables comprise a self-evaluation of how strongly students feel pressure from the problems. Personal problems thereby include, for example, mental disorders, anxieties, depression, problems with self-esteem as well as problems in one's own social environment (e.g., family, partner, friends). Furthermore, a score of health problems is considered that is calculated from three health complaints and two positive health-related feelings with regard to their average occurrence during university education. These subjectively

assessed experiences in university education are complemented by a variable that indicates *drop-out from university education* within the first three semesters.[2]

All indicators used are closely linked to students' success at university but also to their future labor productivity. A number of studies have shown that self-perceived abilities and motivation of university students have a strong impact on academic outcomes such as achievement or persistence (e.g., Greene and Miller, 1996; Ferla et al., 2010) and thereby on successful and timely completion of university education. In contrast, problems and difficulties during studies could lead to a longer duration of study or to more university drop-outs, which involve considerable economic costs. Besides these influences through academic achievements, the abilities with respect to learning and coping with stress could also have a direct link to future productivity in the labor market.

The reform could have various effects on these indicators. The *motivation* of studying could decrease due to the higher learning pressure at school. Students with graduation after 12 years of schooling could take more time to complete their studies due to the shorter school duration and the extra year of life available. The *abilities* of students with respect to learning and coping with stress could either be positively or negatively influenced by the more challenging learning environment at school. Students could be trained better to cope with higher learning requirements, but it could also be the case that abilities are impaired by the shorter school duration. Furthermore, it is possible that the level of subject-related skills obtained after 12 years of schooling differs from that after 13 years, although this was the aim of the reform. Finally, the probability of *dropping out of university* could be increased. This could result from an insufficient school preparation leading to skill deficits, or from orientation problems regarding postsecondary education decisions because affected students had one year less to discover their talents and occupational preferences.

8.2.2 Descriptive Statistics

A description of mean values of the outcome variables is presented in Table 8.1. Many variables show similar values for G12 and G13 students. In both cohorts it is important for the majority of students to achieve a good degree. Most students also report that they have good organizational and learning abilities. In general, many students report on the stress and burden of studying at university (see, e.g., Robotham, 2008, or Ramm et al., 2011). In the sample analyzed here, students feel most burdened by performance requirements, but also experience

[2] Due to the censored observation window, students who started university in 2010 could only be observed in the first three semesters (in 2011, only very few students started university education). However, students who started university in 2007 or 2008 show that approximately 75% of drop-outs occur in the first three semesters.

stress with orientation problems and problems related to their personal life. Furthermore, the share of students who have dropped out of university education is similar for G12 and G13 students.[3] However, some differences can be observed between G12 and G13 cohorts. Male students affected by the reform report easier learning of academic content. They also have less stress with orientation problems. Affected females feel less burdened by personal problems and show better health but are more often faced with skill deficits.

Table 8.1: Means of Motivation and Abilities in University Education, According to Cohort and Gender (2nd Survey Wave, Only University Students)

	Female Sample			Male Sample		
	G12	G13	p-value[a]	G12	G13	p-value[a]
Motivation[b]						
Working Hard and Intensively	2.82	2.92	(0.31)	2.68	2.57	(0.40)
Achieving a Good Degree is Important	3.36	3.35	(0.94)	3.18	3.16	(0.89)
Achieving a Degree Fast is Important	2.62	2.65	(0.84)	2.54	2.62	(0.62)
Abilities I: Learning[b]						
Having Good Organizational Abilities	2.92	2.98	(0.50)	2.65	2.74	(0.47)
Learning Academic Content Easily	2.71	2.78	(0.39)	**2.90**	**2.64**	**(0.03)**
Abilities II: Subject-related Skills[c]						
Existence of Skill Deficits	**0.73**	**0.61**	**(0.04)**	0.71	0.75	(0.53)
Abilities III: Coping with Stress[d]						
Burdened by Performance Requirements	2.83	2.86	(0.72)	3.00	2.86	(0.31)
Burdened by Orientation Problems	2.14	1.96	(0.16)	**1.60**	**2.01**	**(0.03)**
Burdened by Personal Problems	**1.72**	**2.10**	**(0.00)**	1.62	1.71	(0.61)
Score of Health Problems[e]	**7.94**	**8.85**	**(0.02)**	8.14	7.47	(0.24)
University Drop-out[f]						
Drop-out of University Education	0.17	0.13	(0.32)	0.16	0.19	(0.68)
Number of Observations	147	148		68	69	

[a] p-value from t-test on equality of means. Values are shown in parenthesis for better readability.
[b] Self-evaluation of studying in first university degree: mean value on a Likert-scale, ranging from 4 (fully applicable) to 1 (not applicable).
[c] Share of students with skill deficits or difficulties in first university degree.
[d] Self-evaluation of studying in first university degree: mean value on a Likert-scale, ranging from 4 (feeling strong pressure) to 1 (feeling no pressure) and 0 (problem non-existent).
[e] Total score of five subjective health dimensions (three health complaints, two positive health feelings): each dimension indicates average frequency of occurence during university education, ranging from 4 (more than 2 or 3 times a week) to 0 (never). Positive health feelings are subtracted from the sum of complaints. A higher score thus indicates worse health.
[f] Share of students dropping out of their first university degree within the first three semesters.
· Differences between cohorts, which are significant at a significance level of 10%, are highlighted in boldface.

[3] Other studies concerning Germany report drop-out rates of approximately 20% (e.g., Heublein et al., 2010, 2012). Here, the numbers are slightly lower because only a drop-out in the first three semesters is considered. However, when the whole period of study is considered (students having started university in 2007 or 2008), a drop-out rate of approximately 20% is also observed.

8.2.3 Selection into University Education

The estimation sample includes only students who have attended university education, which is a subsample of 432 students of 529 participants in the second survey wave. This could potentially bias the estimation results. However, the shares of enrollment in university education on overall do not differ significantly between treatment and control groups (see Table A.15). Furthermore, as in the whole sample, there are no systematic differences in background characteristics between groups in the subsample of university students (see Table 8.2).[4]

Table 8.2: Means of Background Characteristics of University Students and Means of Characteristics of University Education, According to Cohort and Gender (2nd Survey Wave, Only University Students)

	Female Sample			Male Sample		
	G12	G13	p-value[a]	G12	G13	p-value[a]
School Achievements Before Reform Introduction						
Age at School Enrollment	6.11	6.21	(0.04)	6.22	6.16	(0.46)
Average Grade in Year 7[b]	2.15	2.18	(0.69)	2.12	2.32	(0.03)
Mathematics Grade in Year 7[b]	2.30	2.26	(0.65)	2.05	2.13	(0.52)
Education of Parents and Siblings						
Academic Degree of Father	0.46	0.47	(0.95)	0.59	0.51	(0.34)
Academic Degree of Mother	0.54	0.48	(0.27)	0.53	0.64	(0.20)
Academic Degree of at least one Sibling	0.28	0.30	(0.73)	0.31	0.19	(0.10)
Number of Books of Parents (categorical)						
0 to 100	0.19	0.22		0.27	0.20	
101 to 500	0.56	0.55		0.36	0.43	
More than 500	0.25	0.23	(0.80)	0.37	0.36	(0.57)
Characteristics of University Education[c]						
Studying at a University	0.73	0.76	(0.66)	0.72	0.80	(0.30)
Studying in a Bachelor Program	0.72	0.77	(0.33)	0.79	0.71	(0.26)
Studying a Scientific-Technological Subject	0.33	0.36	(0.49)	0.66	0.62	(0.64)
Studying at a University in East Germany	0.73	0.76	(0.48)	0.79	0.78	(0.87)
Working during Semester (at least 10 h/week)	0.19	0.24	(0.31)	0.12	0.16	(0.50)
Vocational Education prior to University	0.13	0.05	(0.01)	0.05	0.08	(0.43)
Number of Observations	147	148		68	69	

[a] p-value from t-test on equality of means; for categorical variables: p-value from Pearson χ^2-test of independence. Values are shown in parenthesis for better readability.
[b] Grades range from 1 (excellent) to 6 (failed), i.e., lower grades indicate higher achievement.
[c] Share of students enrolled in university education studying at a university (compared to a university of applied sciences or a professional college), studying in a Bachelor program, studying a scientific-technological subject (engineering, natural sciences, mathematics or medical sciences), working more than 10 hours per week during the semester (for at least three semesters), and having completed a vocational education course before attending university.

[4] The few differences in the male sample are reduced by the introduction of sampling weights in the estimation (as explained in section 4.5).

Nevertheless, potential differences in the chosen course of university education have to be taken into account because the outcomes are likely to be influenced by characteristics of university education. However, this is also no problem for the identification of the reform effects as long as these characteristics are equally distributed across treatment and control groups. As Table 8.2 shows, this is largely the case. G12 and G13 students in the sample have similar shares of enrollment in the different types of university education. The only exception is that female G12 students are more likely to have completed a vocational education course before starting university, which leads to later (but not lower) enrollment. In addition, also within the subsamples of different types of university education, G12 and G13 students do not differ systematically with respect to background characteristics. Altogether, different characteristics of university education should not bias the estimates. Nevertheless, the issue will be addressed in a robustness check.

8.3 Estimation Results

8.3.1 Motivation and Abilities in University Education

The estimated effects of the reform on motivation and abilities in university education are shown as a summary in Table 8.3. In the case of binary outcomes, marginal effects are reported, while coefficients are shown for the categorical outcome variables. Only the effects (or coefficients) of the treatment dummy are shown, but the other explanatory variables are included in all regressions. In addition, results from regressions without control variables are provided in Table A.33 in Appendix A. They show nearly the same results, which can be interpreted as further evidence for the robustness of the random assignment assumption. Each coefficient in Table 8.3 refers to a single model. Significant treatment effects on the respective outcomes are found in six models only. The majority of models do not indicate significant reform effects. The *motivation* of studying is neither positively nor negatively affected by the reform. In particular, students with 12 years of schooling do not intend to study more slowly, which was one potential expectation. With respect to *learning abilities*, no effect is found on organizational capabilities. However, male students affected by the reform report significantly easier learning of academic content. The probability that the statement "I find/found it easy to learn academic content" is applicable or fully applicable (the upper two categories on the four-point Likert scale) is increased for G12 males by approximately 16 percentage points on average (see Table A.43 in Appendix A). Overall, these findings indicate that learning abilities are not impaired by the reform. However, no gain in terms of increased learning efficiency is

Table 8.3: Estimates of Reform Effects: Motivation and Abilities in University Education (2nd Wave, Ordered Probit Estimates / Probit Estimates)

	Female Sample Coeff./Marg.Eff.	Male Sample Coeff./Marg.Eff.
Motivation[a]		
D: Working Hard and Intensively	-0.171	0.194
	(0.125)	(0.170)
D: Achieving a Good Degree is Important	0.005	-0.094
	(0.116)	(0.246)
D: Achieving a Degree Fast is Important	0.009	-0.027
	(0.121)	(0.203)
Abilities I: Learning[b]		
D: Having Good Organizational Abilities	-0.124	-0.122
	(0.112)	(0.207)
D: Learning Academic Content Easily	-0.130	0.548**
	(0.115)	(0.217)
Abilities II: Subject-related Skills[c]		
D: Existence of Skill Deficits	0.140***	-0.060
	(0.046)	(0.084)
Abilities III: Coping with Stress[d]		
D: Burdened by Performance Requirements	-0.017	0.257
	(0.117)	(0.172)
D: Burdened by Orientation Problems	0.173	-0.460**
	(0.126)	(0.228)
D: Burdened by Personal Problems	-0.432***	-0.154
	(0.132)	(0.217)
D: Score of Health Problems	-0.256*	0.343**
	(0.136)	(0.143)
University Drop-out[e]		
D: Drop-out of University Education	0.046	-0.054
	(0.042)	(0.068)
Number of Observations	274	130

[a] Dependent variables indicate motivation of studying in first university degree on a four-point Likert scale (higher values indicate that the statement is more applicable).
[b] Dependent variables indicate abilities in first university degree on a four-point Likert scale (higher values indicate that the statement is more applicable).
[c] Dependent variable: dummy indicating the existence of skill deficits and difficulties in first university degree.
[d] Dependent variables indicate perceived study load in first university degree on a five-point Likert scale (higher values indicate that the statement is more applicable). The health score is the standardized value of a total score, derived from five subjective health dimensions (a higher value indicates worse health).
[e] Dependent variable: dummy indicating drop-out of first university degree within the first three semesters.
· Regressions are separately run for each outcome. Ordered probit estimation is applied for categorical outcomes (reported are coefficients), while probit estimation is applied for binary outcomes (reported are average marginal effects).
· Regressions include further explanatory variables: school achievements until reform, educational background of family, age at school enrollment and school-fixed effects.
· All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below coefficients. Stars denote significance of the estimates as follows: $^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$.

achieved for female students either. The results for male students remain inconclusive because for one variable a positive effect is found but not for the other outcome.

Compared with this, *subject-related skills* are affected by the reduced school duration. Many students experience skill deficits and difficulties during their studies (more than 60% of students, see Table 8.1 above). For females the reform has increased this probability by 14 percentage points. This is an indication that in the case of female students preparation for university has suffered somewhat with respect to subject-related skills. In contrast, male students are not more likely to experience skill deficits.

The *ability to cope with stress* is largely not negatively affected by the reform. In some cases, a positive effect can even be observed. G12 females feel significantly less burdened by personal problems (which include, for example, mental disorders, anxieties, depression or problems in social environments). The probability that students perceive a high level of stress caused by personal problems (the upper two categories on the five-point Likert scale) is decreased by approximately 16 percentage points (see Table A.43 in Appendix A). Male students from the G12 cohort feel less burdened by orientation problems (minus 15 percentage points). This shows that the reform has partly improved the ability of students to cope with stress. In line with this, female G12 students have a lower probability (or intensity) of health problems. In contrast, G12 students in the male sample report more health problems, which contradicts the other findings but is in accordance with the positive coefficient of stress caused by performance requirements.

Finally, the probability of *dropping out of university education* is not significantly changed by the reform. This is an important finding, given the fear that the drop-out probability could be increased (see hypotheses in section 8.2). However, a slightly higher probability can be observed for G12 females. This and the increase of skill deficits in the female sample indicate that the (perceived) challenges of university education have slightly changed due to the reform, but this change at the intensive margin is not large enough to have a significant effect on the extensive margin (i.e., the drop-out probability). Altogether, the results nonetheless suggest that students with only 12 years of schooling show similar motivation and abilities in university education as students with 13 years of schooling.

8.3.2 Effect Heterogeneity: Findings for Different Groups of Students

The investigation of effect heterogeneity is intended to answer two questions. First, are the identified reform effects driven by certain characteristics of the chosen university education? Second, are certain groups of students affected more strongly by the reform? Following the

methodology described in section 4.9, three approaches are carried out. First, the outcomes are estimated separately for four subsamples, which are restricted to students (1) enrolled in a Bachelor program, (2) enrolled at universities, (3) studying a scientific-technological subject (a so-called STEM subject), and (4) having started university education in 2007 or 2008. Second, interaction effects are estimated, which means that the treatment dummy is interacted with a certain characteristic of university education. These characteristics are the type of university, the university subject, and having completed vocational education before attending university (which is highly correlated with the year of university enrollment). The third approach includes an estimation of interaction effects according to students' school achievements (measured by average grade in year 7).[5]

The results from the estimations of subsamples (Table 8.4) and from estimations of interaction effects (Tables A.34 to A.37 in Appendix A) show that most effects identified above – with regard to skill deficits and personal problems (females), learning of academic content (males) and health problems (both genders) – remain stable in all subsamples based on different characteristics of university education. Furthermore, no significant interaction effects are found. Only the finding that male G12 students have less orientation problems is driven by the fact that treated students are slightly more likely to study at a university of applied sciences. On average, studying at a university of applied sciences is characterized by more structured and practically oriented learning than studying at a university. The effect becomes insignificant when only students enrolled at universities are considered (see column (2) of the male subsamples in Table 8.4), while the interaction effect of the treatment and studying at a university of applied sciences in column (1) of Table A.35 is significant.

Table 8.4 reveals further effect heterogeneity. G12 females studying a scientific-technological subject are less likely than female STEM students with graduation after 13 years of schooling to report that learning of academic content is easy for them and they feel notably more burdened by performance requirements and orientation problems (column 3). Therefore, in contrast to the whole group of students, females studying a scientific-technological subject are more negatively affected by the reform. In addition, slight negative effects on motivation and learning abilities exist for G12 females enrolled in a bachelor's program.

Differences in the effects according to previous school achievement (Tables A.36 and A.37) only exist for one outcome. The effect on learning academic content applies mainly to male students with higher school achievements. Regarding all other findings, estimation of interaction effects suggests that they are similarly existent over all achievement levels.

[5] For reasons of simplification, interaction effects of categorical variables are estimated by OLS.

Table 8.4: Estimates of Reform Effects: Motivation and Abilities in University Education, Separate Estimations for Different Subgroups (2nd Wave, Ordered Probit Estimates / Probit Estimates)

	Female Subsamples				Male Subsamples			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
	Coeff./ME.	Coeff./ME.	Coeff./ME.	Coeff./ME.	Coeff./ME.	Coeff./ME.	Coeff./ME.	Coeff./ME.
D: Working Hard and Intensively	-0.286*	-0.127	-0.370	-0.134	0.204	-0.048	0.356	0.005
	(0.148)	(0.145)	(0.264)	(0.134)	(0.194)	(0.216)	(0.280)	(0.193)
D: Achieving a Good Degree is Important	-0.120	-0.001	-0.103	-0.062	-0.212	-0.273	-0.157	-0.259
	(0.148)	(0.151)	(0.240)	(0.125)	(0.259)	(0.293)	(0.301)	(0.264)
D: Achieving a Degree Fast is Important	0.075	0.016	-0.125	-0.020	-0.204	-0.057	0.079	0.257
	(0.149)	(0.135)	(0.224)	(0.131)	(0.222)	(0.271)	(0.311)	(0.266)
D: Having Good Organizational Abilities	-0.229*	-0.031	-0.140	-0.100	-0.051	-0.379	0.165	-0.197
	(0.134)	(0.131)	(0.222)	(0.121)	(0.196)	(0.234)	(0.341)	(0.231)
D: Learning Academic Content Easily	-0.229*	-0.286*	-0.446*	-0.182	0.535**	0.520**	1.189***	0.543**
	(0.139)	(0.150)	(0.230)	(0.125)	(0.223)	(0.246)	(0.333)	(0.262)
D: Existence of Skill Deficits	0.167***	0.152***	0.159*	0.122**	-0.062	-0.030	-0.030	-0.081
	(0.051)	(0.054)	(0.088)	(0.049)	(0.100)	(0.097)	(0.104)	(0.087)
D: Burdened by Performance Requirements	-0.106	-0.047	0.526**	-0.030	0.321	-0.135	0.223	0.106
	(0.138)	(0.150)	(0.211)	(0.139)	(0.203)	(0.210)	(0.287)	(0.232)
D: Burdened by Orientation Problems	0.142	0.172	0.516**	0.111	-0.620**	-0.361	-0.432	-0.420
	(0.142)	(0.148)	(0.227)	(0.134)	(0.252)	(0.278)	(0.337)	(0.258)
D: Burdened by Personal Problems	-0.382***	-0.489***	-0.490*	-0.463***	-0.170	0.189	-0.430	-0.099
	(0.135)	(0.170)	(0.253)	(0.141)	(0.249)	(0.249)	(0.295)	(0.255)
D: Score of Health Problems	-0.275*	-0.278*	-0.201	-0.342**	0.406**	0.293*	0.355	0.326*
	(0.142)	(0.155)	(0.253)	(0.135)	(0.168)	(0.161)	(0.234)	(0.167)
D: Drop-out of University Education	0.067	0.042	-0.012	0.056	-0.004	-0.099	-0.066	-0.066
	(0.049)	(0.044)	(0.077)	(0.042)	(0.080)	(0.091)	(0.086)	(0.080)
Number of Observations	204	201	96	235	97	93	82	110

· Dependent variables are the same as in Table 8.3.

· Regressions are separately run for each subsample: (1) students enrolled in a Bachelor program, (2) students enrolled at universities, (3) students with a scientific-technological subject, (4) students having started university education in 2007 or 2008. Regressions are separately run for each outcome. Ordered probit estimation is applied for categorical outcomes (reported are coefficients), while probit estimation is applied for binary outcomes (reported are average marginal effects). Regressions include further explanatory variables: school achievements until reform, educational background of family, age at school enrollment and school-fixed effects. All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below coefficients. Stars denote significance of the estimates as follows: $^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$. Estimations with too few observations are indicated by –.

8.3.3 Robustness Analysis

To check the robustness of the results, a number of aspects potentially changing or affecting the findings are discussed in the following section.

a) Characteristics of University Education

One potential concern is related to differences in the timing of university enrollment or in the characteristics of university education. To check whether this affects the obtained results, an extended specification is used for the estimation that additionally contains variables on the characteristics of the chosen university education. These comprise dummy variables indicating different years of university enrollment, the type of university, the study program, the university subject, the region of university, working during semester, and having completed a vocational education before attending university. As Table A.38 in Appendix A shows, estimations yield nearly the same results. Only the coefficients indicating the burden of orientation problems in the female sample and the burden of performance requirements in the male sample become statistically significant.

b) Timing of University Enrollment

A further possible concern may refer to different points in time when outcomes are measured. Therefore, it is important to check whether outcomes differ between students with early and late enrollment. Estimations are carried out separately for treatment and control groups, which include a variable $E_{2007-2008}$ indicating early university enrollment in 2007 and 2008 (compared to later enrollment from 2009 to 2011). If the coefficients of this variable are not significant, outcomes will not be influenced by the time of enrollment and reform effects will not be biased. This check is only carried out in the female sample because male students do not show a different timing pattern of enrollment. Table A.39 in Appendix A shows that in the sample of female G12 students, those with late enrollment are significantly more likely than early starters to have difficulties or skill deficits. Hence, the overall effect seems to be driven by students with later enrollment. However, this only partly explains the effect because a significant reform effect still exists when only students with early enrollment are compared (see column (4) of Table 8.4 in the previous section). Compared with this, the effects on the burden of personal problems and on the score of health problems are independent of the time of university enrollment. The other three significant coefficients in Table A.39 should not represent a problem because no reform effect is observed in the original estimation.

c) Quality of University Education

Furthermore, results may be biased by differences in the quality of university education, for example between West and East Germany. This could indeed be the case because universities in East Germany have on average a higher staff-student ratio and less problems with overcrowded study programs than universities in West Germany (see, e.g., Heine et al., 2009). However, the existence of a bias is very unlikely because students in the sample are enrolled in equal shares at East and West German universities. To check this presumption, estimations are carried out with the subsample of individuals studying in East Germany.[6] As Table A.40 in Appendix A shows, all previously identified reform effects can also be observed in this subsample. Only the effect on skill deficits of female students is smaller and no longer significant. This could imply that the effect depends on the respective quality of university education. However, it is also possible that the disappearance is due to other characteristics of university education which are correlated with studying in West Germany.

d) Different Sampling Weights

To consider a potential panel attrition bias in the male sample, sampling weights have been included in the estimations (see section 4.5). Nevertheless, doubts could remain as to whether this approach completely solves the problem. Therefore, as a first robustness check, alternative sampling weights are included. The male sample of the second wave is not only adjusted to that of the first wave, but the male and female samples of G12 students are also adjusted to the respective sample of G13 students. This means that both groups are even more similar with respect to family background. However, this approach leads to the same results as above (see Table A.41 in Appendix A).

e) Heckman Selection Model

As a second check for the potential panel attrition bias, the Heckman selection correction is applied. The probability of participating in the second wave is estimated in a first step and the obtained inverse mills ratio is then included as an additional regressor in the outcome equations. As the exclusion restriction, a variable is used which indicates whether the address (mail or e-mail) of the student had been updated before the second survey wave started. The results in Table A.42 in Appendix A show that the previous findings remain stable, except for the effect on females' health score, which becomes slightly insignificant ($p = 0.11$). In addition, further

[6] Further restricting the sample to students enrolled in Saxony-Anhalt does not yield different results.

effects become significant. The burden of performance requirements is significantly increased for male students. In the case of female students, a decrease of working motivation and an increase in the burden of orientation problems occur. However, both effects should not be overrated because a potential panel attrition bias is less likely to exist in the female sample (see section 4.5); the Heckman selection model might therefore not be appropriate.

f) Specification of Outcome Variables

A further robustness check tests alternative specifications of the outcome measures. At first, binary variables indicating whether the value of the respective categorical outcome is in the upper two categories of the four- or five-point Likert scale are used instead of categorical variables. Estimations are then carried out using a probit model. Second, the analysis is repeated taking the stress and burden of university education into account but excluding the lowest response category (0, problem non-existent) so that only students who have already experienced the respective problems are considered in the analysis. As Table A.43 in Appendix A shows, the main findings, namely easier learning of academic content (males) and feeling less burdened by personal problems (females), remain stable. In contrast, the effect on orientation problems in the male sample disappears if the lowest response category is not considered. Three further effects occur in the male sample if dummy variables are used (lower organizational abilities, higher burden of performance requirements, but reduced burden of personal problems). However, these effects cannot be observed in the original analysis, except for the coefficient of performance requirements, which was sizeable but imprecisely estimated. Finally, alternative computations of robust standard errors are tested. Instead of clustering at the level of school classes, estimations are performed once with clustering at the level of universities and once without clustering. However, the significance of the findings remains mostly unchanged (results not shown).

g) Propensity Score Matching and Sensitivity Analysis

The final robustness check includes the estimation of reform effects using propensity score matching. Although treatment and control groups have very similar observable characteristics, matching is applied to make the two groups even more similar, and to investigate the potential influence of unobserved differences between groups using Rosenbaum's sensitivity analysis afterwards. The latter is important because there might be concerns that unobserved differences exist, for example, due to panel attrition. Several matching algorithms are used, which mostly lead to similar results. Table A.44 in Appendix A presents the results for nearest neighbor

matching (NN) with replacement and a caliper of 0.05 as well as for kernel matching with the Epanechnikov kernel. Results show that the findings are unlikely to be biased by differences in a few background characteristics. The effects on learning academic content for males and on the burden of personal problems for females remain stable, whereas the effects on orientation problems (males), skill deficits (females) and health problems (females) become insignificant if nearest neighbor matching is used. Furthermore, the health effect in the male sample completely disappears.

Because matching is based on observable characteristics, the sensitivity analysis of Rosenbaum measures how strongly treatment and control groups must differ with respect to an unobserved variable for results to change (Rosenbaum, 2002; DiPrete and Gangl, 2004). Rosenbaum bounds are calculated only for the effects on personal problems of female students and on learning academic content of male students because all other effects have been identified as becoming insignificant in several robustness checks. Table A.45 in Appendix A shows critical p-values for different factors of the unobserved difference γ. Even with an unobserved difference of a factor of 2.4, the reform effect on females' burden of personal problems would remain significant, whereas the effect on males' learning could be sensitive to unobservable differences (provided that such differences exist).

Summary of Robustness Checks

An overview of all robustness checks is provided in Table 8.5. It can be seen that the effect on females' perceived burden of personal problems remains stable in all checks. However, the effect on skill deficits disappears in some cases because it is driven by female students delaying university enrollment or studying in West Germany. Also the reduced score of health problems becomes statistically insignificant in two robustness checks. With respect to male students, the finding of an easier learning of academic content is confirmed by all robustness checks. The effects on orientation problems and on health problems remain stable in the majority of checks but lose their statistical significance in one or two cases. Compared with this, the coefficient regarding males' burden of performance requirements becomes statistically significant in some estimations.

Table 8.5: Summary of Robustness Checks

	Original Result	(a) Characteristics of University Ed.	(b) Timing of University Enrollment	(c) Quality of University Education	(d) Different Sampling Weights	(e) Heckman Selection Model	(f) Specification of Outcome Variable	(g) Propensity Score Matching
Female Sample								
D: Working Hard and Intensively	o	o	o	o	o	−	o	o
D: Achieving a Good Degree is Important	o	o	−/o	o	o	o	o	o
D: Achieving a Degree Fast is Important	o	o	o	o	o	o	o	o
D: Having Good Organizational Abilities	o	o	o	o	o	o	o	o
D: Learning Academic Content Easily	o	o	−/o	−	o	o	o	o
D: Existence of Skill Deficits	+	+	−/o	o	+	+	n/a	o/+
D: Burdened by Performance Requirements	o	o	o/+	o	o	o	o	o
D: Burdened by Orientation Problems	o	+	o	o	o	+	o	o
D: Burdened by Personal Problems	−	−	o	−	−	−	−	−
D: Score of Health Problems	−	−	o	−	−	o	n/a	o/−
D: Drop-out of University Education	o	o	o	o	o	o	n/a	o
Male Sample								
D: Working Hard and Intensively	o	o	n/a	o	o	o	o	o
D: Achieving a Good Degree is Important	o	o	n/a	o	o	o	o	o
D: Achieving a Degree Fast is Important	o	o	n/a	o	o	o	o	o
D: Having Good Organizational Abilities	o	o	n/a	o	o	o	−	o
D: Learning Academic Content Easily	+	+	n/a	+	+	+	+	+
D: Existence of Skill Deficits	o	o	n/a	o	o	o	n/a	o
D: Burdened by Performance Requirements	o	+	n/a	o	o	+	+/o	o
D: Burdened by Orientation Problems	−	−	n/a	−	−	−	−/o	o/−
D: Burdened by Personal Problems	o	o	n/a	o	o	o	−/o	o
D: Score of Health Problems	+	+	n/a	+	+	+	n/a	o
D: Drop-out of University Education	o	o	n/a	−	o	o	n/a	o

· (b) Treatment dummy is replaced by a dummy variable indicating early university enrollment (in 2007 and 2008, compared to later enrollment from 2009 to 2011). Regressions are then carried out separately for treatment and control groups. If outcomes are not influenced by the time of university enrollment, coefficients will be insignificant, which supports the orignial results.
· Direction of significant effects is indicated by + or −. Insignificant effects are indicated by o.
· Robustness checks, which are not applicable or not useful to be carried out, are indicated by n/a.

8.4 Summary

The results obtained in this chapter show that students' perceptions of motivation and ability as indicators for performance and success in university education are largely not influenced by the reform. Students graduating after 12 years of schooling show the same motivation of studying and similar abilities with respect to learning and coping with stress as students with 13 years of schooling. Furthermore, the probability of dropping out of university education is not significantly changed by the reform. Therefore, the fear that students with a shorter school duration are more likely to be overtaxed by university education cannot be confirmed. However, a few shifts at the intensive ability margin are observed. Male students report slightly more health problems. Female students are more likely to experience skill deficits at university, although the finding must be interpreted with caution because it is driven by individuals delaying university enrollment or studying in West Germany. Females studying a scientific-technological subject tend to have even more problems, in particular with learning requirements of university education. Finding an effect only for these students could possibly be due to the comparatively higher intellectual demands of these subjects, which could indicate that students affected by the reform are less prepared for mathematics-intensive university subjects. This interpretation is in line with the finding of reduced achievement in mathematics at high school graduation due to the reform (Büttner and Thomsen, 2015).

On the other hand, the expectation of positive effects is also largely not fulfilled. Although affected male students report easier learning of academic content and a lower burden of orientation problems, at least the latter effect can be explained by males' higher probability of studying at a university of applied sciences. However, the ability of females to cope with personal problems has been improved by the reform. A possible explanation is that students affected by the reform are used to a more challenging education environment due to the higher learning intensity in secondary school. Therefore, they could be trained better to cope with stress and challenges, at least with respect to their personal lives.

Altogether, it can be concluded that motivation and abilities of university students are neither positively nor negatively affected by the reform. However, a few improvements as well as a few adverse effects are found. The findings in the female sample with respect to skill deficits and studying STEM subjects should be taken into account by those responsible for education policy. Nevertheless, students affected by the reform are to a large extent equally able to cope with the requirements of university education. Therefore, they are expected to successfully complete their studies in the same way as students having graduated after a longer school duration. These results are in line with the two other studies that analyzed similar outcomes and also did not

find a substantial impact of the reform on success in university education (Kühn, 2014; Dörsam and Lauber, 2015).[7]

Given the expectation of negative reform effects, the finding that no systematic impact exists represents a positive result. The same level of skills is achieved within a shorter education period, which is an increase in the efficiency of human capital formation. Although negative reform effects exist with respect to student achievement at school graduation and the transition into university education after school graduation, only a few effects can be observed in the medium term when students are studying at university.

[7] Compared with this, the reduction of high school duration in Ontario, Canada, has been found to decrease students' academic achievement (Krashinsky, 2014). However, this reform slightly reduced the curriculum and is therefore not fully comparably to the German case which includes a maintained curriculum.

Chapter 9

Reform Effects on Labor Market Entry

9.1 Overview[1]

The concluding analysis is concerned with the ultimate objective of the reform, namely to enable an earlier but still successful labor market entry of high school graduates. I evaluate the impact of the reform on the time at which individuals enter the labor market as well as on the characteristics of the professional career that cover various aspects of professional success (e.g., wages, quality, content, status and security of the performed jobs).

With respect to the *time* of labor market entry, the introduction of the reform gives good reason to expect a significant reduction of the career start by one year. However, this might not be achieved, for example, because of a delayed start of postsecondary education (see chapters 6 and 7), a prolonged study duration, or a prolonged path of postsecondary education (e.g., if students choose to complete more courses of education or become more likely to switch between courses). These causes could counteract the intended aim of the reform. The *success* of labor market entry could be affected both directly and indirectly by the reform. A direct effect could occur, for example, as a consequence of differences between G12 and G13 graduates in performance, abilities or age. Indirect effects could be caused by differences between groups in the attended postsecondary education and the obtained qualifications.

[1] The analysis presented in this chapter has been worked out by Meyer and Thomsen (2016a).

9.2 Outcome Variables

The investigation in this chapter is based on the data collected from the double cohort in Saxony-Anhalt by the third survey wave seven and a half years after high school graduation (i.e., at the end of 2014). Several outcome variables that characterize the entry into the labor market are considered. Labor market entry includes employments that are performed as the main activity. So part-time jobs during university education or transitional jobs (e.g., to bridge a short waiting period) are not considered. The *time of labor market entry* is measured at certain points in time after graduation from high school and is defined as the rate of individuals that have started their professional career until that point in time. Dummy variables indicate (a) whether a person has entered the labor market (at least once) until the end of a specific year, and (b) whether a person is yet employed at the end of 2014. The *process of job search* is captured by categorical variables based on the self-assessed difficulty of searching and on the search area. In addition, dummy variables are considered which indicate the relevance of several motives for the choice of the first job.

These outcome measures are complemented by a set of *characteristics of labor market entry*. Several variables on the first job and the current job are taken into account that capture different aspects of labor market success. If only a few, possibly too highly aggregated variables were used, important heterogeneity in the reform impact could remain undetected. As individuals strive to get jobs which optimally meet their preferences and educational investments, the different aspects of professional success include monetary returns, such as wages, as well as non-monetary returns, such as quality, content, status and security of jobs (see, e.g., Müller, 2005). First, the quality and security of the job are captured by two binary variables on the employment contract indicating whether the job is a permanent position (compared to a temporary job, legal clerkship or self-employment; only available with respect to the first job) and whether it is a full-time job (defined as working at least 35 hours per week). Second, a categorical variable contains the education degree which has been obtained before the start of the respective job. Third, the question of whether this education attainment matches the content and position of the performed job (the so-called adequacy) is investigated. This is done by use of three categorical variables which contain a self-assessment of whether the occupation is adequate to the obtained level of education, the subject area, and the own expectations (categories: yes, rather yes, rather no, no), and a variable indicating how much a university degree is required or important for the job.[2] Fourth, the occupational status is measured by the *International Socio-Economic Index of Occupational Status* (ISEI-08). This measure is derived from the job titles

[2] The research on job mismatch and overqualification has proposed a number of different measures, each of them with specific strengths and weaknesses (see, e.g., Leuven and Oosterbeek, 2011; Berlingieri and Erdsiek, 2012). It is therefore advisable to use different measures.

collected in the questionnaire, which are categorized according to the ISCO-08 classification of occupations. According to Ganzeboom et al. (1992), the ISEI measures how occupations convert individuals' education into earnings. The score takes values between 16 (low status) and 90 (high status).[3] Fifth, the earned wage is analyzed with respect to the first and current monthly net wage, which has been collected in 14 intervals of 200 Euro (from less than 1,000 Euro to 3,400 Euro or more).

9.3 Descriptive Statistics

As a starting point of the analysis, Table 9.1 provides information on participation in postsecondary education for a period of up to seven and a half years after high school graduation. The numbers are largely in line with those presented in chapter 6 for the first four and a half years after school graduation. All students in the sample have participated in postsecondary education. Students in the treatment and control groups have a similar probability of university attendance, enrollment in a master's programme, and dropping-out of the first chosen course of university education. At the end of 2014, most students have obtained a degree of postsecondary education, and approximately 65% have achieved a university degree. The subject areas (majors) of the completed university education differ only slightly between groups. However, the rate of females with any degree from postsecondary eduation and the rate of females with a master's degree are significantly lower in the treatment group than in the control group (90 vs. 97% and 35 vs. 45%). This finding could be explained by at least three related effects. First, G12 students more often delay university education. Second, G12 females are more likely to study medicine, which on average takes longer until completion than other courses of study.[4] Third, although there is no difference in the drop-out rate, female G12 students have a slightly longer study duration until drop-out.

From the 598 individuals in the sample, 395 have already entered the labor market, and 354 are currently employed at the end of 2014; the 41 individuals finished employment mainly to (re-)start university education. Figure 9.1 shows the shares of individuals being employed at specific points in time. The first individuals enter the labor market in 2009 and 2010 after graduation from vocational education or a bachelor's programme. In the following years, the share of labor market entrants continuously increases so that at the end of 2014 approximately 65% of women and 48% of men are employed. In total (including that some individuals have

[3] Another variable, which is derived from the occupational classification, contains the four skill levels of ISCO-08. However, the ISEI-08 converts the occupations into a larger range of scores and therefore provides a more precise measure. Because the skill level measure does not lead to different results, it is left aside in the following.

[4] A master's degree is usually obtained after five years of study, while completion of medicine with the *Staatsexamen* degree takes at least six years.

Table 9.1: Means of Attendance and Completion of Postsecondary Education, According to Cohort and Gender (3rd Survey Wave)

	Female Sample			Male Sample		
	G12	G13	p-value[a]	G12	G13	p-value[a]
Participation in Postsecondary Education						
Any Postsecondary Education	1.00	1.00	–	1.00	1.00	–
University Education (at least once)	0.86	0.82	(0.27)	0.87	0.91	(0.41)
University Enrollment in 2007 or 2008	0.65	0.71	(0.17)	0.63	0.73	(0.13)
Enrollment in a Master's Programme	0.59	0.65	(0.23)	0.65	0.61	(0.55)
Drop-out of University Education	0.19	0.18	(0.74)	0.25	0.21	(0.57)
Completion of Postsecondary Education						
Any Degree of Postsecondary Education	0.90	0.97	(0.01)	0.87	0.88	(0.89)
University Degree (at least Bachelor's Degree)	0.64	0.69	(0.26)	0.59	0.64	(0.48)
Master's Degree (or equivalent)	0.35	0.45	(0.04)	0.30	0.27	(0.62)
Subject Area of Completed University Education						
Humanities	0.13	0.16	(0.46)	0.10	0.06	(0.33)
Education and Social Sciences	0.19	0.19	(0.92)	0.04	0.06	(0.49)
Law and Economics	0.17	0.18	(0.78)	0.11	0.17	(0.19)
Engineering	0.09	0.12	(0.31)	0.33	0.26	(0.27)
Natural Sciences and Mathematics	0.04	0.08	(0.13)	0.06	0.08	(0.54)
Medical Sciences	0.05	0.04	(0.64)	0.00	0.01	(0.31)
Number of Observations	200	199		101	98	

[a] p-value from t-test on equality of means. Values are shown in parenthesis for better readability.
· Numbers denote the shares of individuals who attended/completed the respective course of postsecondary education.

left employment), approximately 70% of women and 56% of men have entered the labor market during the first seven and a half years after graduation. The employment rates as well as the average number of months of labor market participation do not show significant differences between treatment and control groups, although the rates are slightly lower in the treatment group (see Table A.46 in Appendix A). This unconditional difference indicates that the reform can have achieved its goal in terms of earlier labor market entry. However, differences may apply with respect to the type and quality of employment.

Characteristics of the first and current job are described in Table 9.2. Many of the characteristics have similar values between treatment and control groups, which means that no effect of the reform can be supposed at first glance. However, a few differences can be observed. The obtained degree by which individuals enter the labor market, differs between groups in the female sample. G12 women start their career more often with a bachelor's degree, whereas G13 women have a higher probability of holding a master's degree. This difference is further reflected in the lower relevance of a university degree for G12 women's first job and in the occupational status. Moreover, the adequacy of the job differs between groups in a few cases. Furthermore, the share of those being currently employed full-time is higher in the female treatment group but lower in the male treatment group. Finally, some differences can be observed

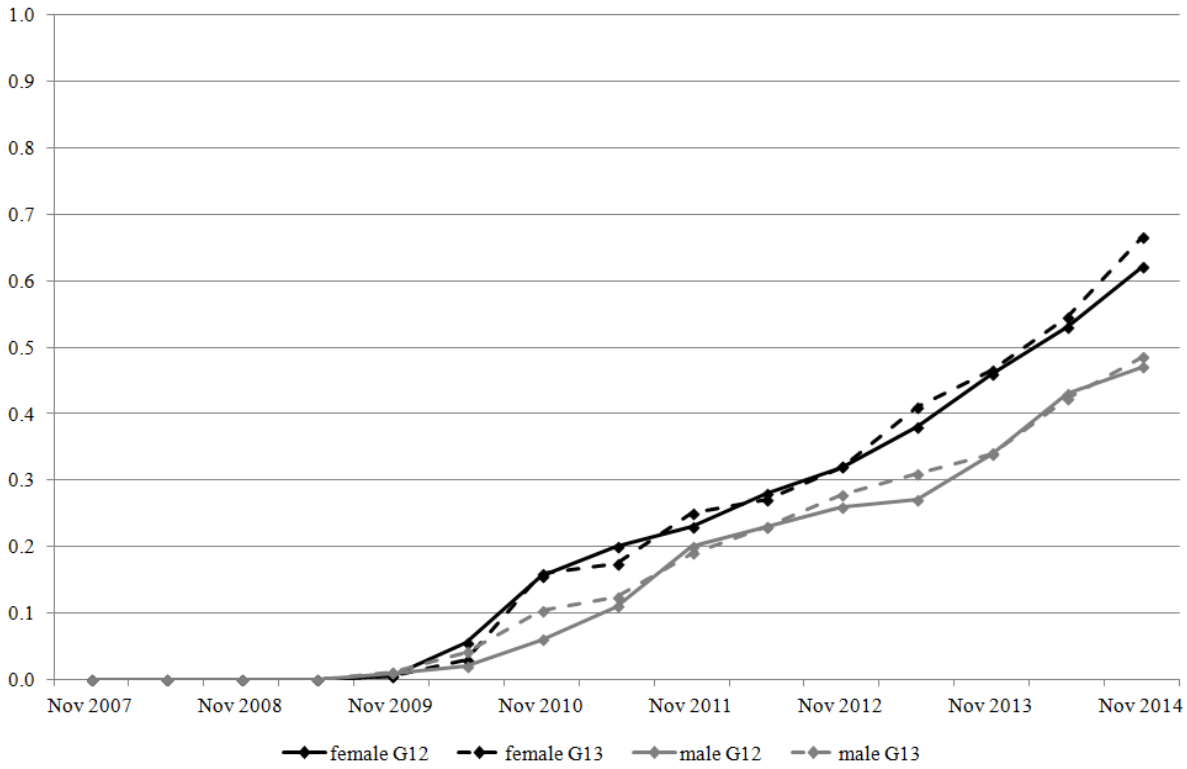


Figure 9.1: Share of Individuals Being in Employment, According to Cohort and Gender, November 2007 – November 2014

with respect to the wages, although the p-values are statistically insignificant. Compared with this, the distribution of regions of workplace differs only slightly between groups (see Table A.47 in Appendix A).

9.4 Estimation Results

9.4.1 Time of Labor Market Entry

Figure 9.1 above has indicated that the shares of individuals who have entered the labor market at several points in time are similar in the treatment and control groups. This descriptive finding is confirmed by the estimation results (Table 9.3). The probability of having entered the labor market at least once until the end of a given year (2010 to 2014) is not significantly different between individuals affected and unaffected by the reform. Especially in the female sample, the coefficients are very small, whereas they indicate a slight decrease in the male sample. However, except for one year (2010), the effects are statistically insignificant.[5] As some individuals leave the labor market after some time, it is important to investigate also the probability

[5] It cannot be ruled out that an effect exists, due to the imprecise estimates.

Table 9.2: Means of Characteristics of Labor Market Entry, According to Cohort and Gender (3rd Survey Wave)

	Female Sample			Male Sample		
	G12	G13	p-value[a]	G12	G13	p-value[a]
Characteristics of the First Job						
Permanent Position	0.45	0.43	(0.72)	0.47	0.52	(0.63)
Full-time Job	0.82	0.80	(0.67)	0.91	0.91	(0.95)
Education Degree before Start of Job[b]						
Vocational Degree	0.41	0.36		0.40	0.36	
Bachelor's Degree	0.22	0.14		0.20	0.27	
Master's Degree (or equivalent)	0.35	0.50	(0.03)	0.40	0.38	(0.70)
Adequacy w.r.t. Education Level[c]	0.89	0.87	(0.48)	0.93	0.84	(0.16)
Adequacy w.r.t. Subject Area[c]	0.89	0.90	(0.82)	0.93	0.82	(0.09)
Adequacy w.r.t. Own Expectations[c]	0.76	0.79	(0.62)	0.91	0.80	(0.12)
Importance of a University Degree[d]	0.44	0.53	(0.13)	0.56	0.56	(0.93)
Occupational Status (ISEI-08)[e]	62.87	65.59	(0.19)	64.14	61.82	(0.49)
Net monthly Wage[f]	1,391	1,349	(0.41)	1,567	1,636	(0.43)
Net monthly Wage (weighted)[g]	1,594	1,597	(0.96)	1,699	1,801	(0.29)
Number of Observations	139	145		55	56	
Characteristics of the Current Job						
Full-time Job	0.80	0.74	(0.21)	0.87	0.96	(0.13)
Education Degree before Start of Job[b]						
Vocational Degree	0.34	0.31		0.34	0.27	
Bachelor's Degree	0.23	0.15		0.19	0.29	
Master's Degree (or equivalent)	0.41	0.54	(0.07)	0.47	0.44	(0.49)
Adequacy w.r.t. Education Level[c]	0.88	0.88	(0.93)	0.89	0.85	(0.59)
Adequacy w.r.t. Subject Area[c]	0.83	0.91	(0.05)	0.89	0.77	(0.11)
Adequacy w.r.t. Own Expectations[c]	0.83	0.85	(0.77)	0.89	0.83	(0.40)
Importance of a University Degree[d]	0.52	0.58	(0.34)	0.70	0.68	(0.88)
Occupational Status (ISEI-08)[e]	65.55	67.25	(0.41)	66.15	63.65	(0.49)
Net monthly Wage[f]	1,665	1,576	(0.18)	1,848	1,909	(0.55)
Net monthly Wage (weighted)[g]	1,924	1,869	(0.46)	2,018	1,985	(0.80)
Number of Observations	125	134		47	48	

[a] p-value from t-test on equality of means. Values are shown in parenthesis for better readability.
[b] Share of individuals who obtained the respective degree before job start (as percentage of those who entered the labor market).
[c] Dummy variable equal to 1 if the upper two categories of the four-scale measure of adequacy (yes, rather yes) apply.
[d] Dummy variable equal to 1 if a university degree is mandatory or normally required for the job.
[e] International Socio-Economic Index of Occupational Status: values between 16 (low status) and 90 (high status).
[f] Wage (in Euro) is measured in intervals, the total mean is calculated with the means of the intervals.
[g] Wage (in Euro) weighted by regional index of incomes and by working time.
· Numbers denote the share of individuals as percentage of those who entered the labor market (first job) or who are employed at the end of 2014 (current job).

of being currently employed at the end of the year 2014. Although a slight decrease is again observed in the male sample, this outcome is not significantly affected as well. Estimations of additional outcomes capturing the process of job search show that the subjectively perceived difficulty of finding a job is also not influenced by the reform (see Table A.48 in Appendix A).

Altogether, the estimation results indicate that until the end of a period of seven and a half years after high school graduation, individuals in the treatment and control groups have entered the

Table 9.3: Estimates of Reform Effects: Time of Labor Market Entry (3rd Wave, Probit Estimates)

	Female Sample Marg.eff.	Male Sample Marg.eff.
D: Labor Market Entry until 12/2010	-0.006	-0.073*
	(0.035)	(0.044)
D: Labor Market Entry until 12/2011	0.012	-0.078
	(0.042)	(0.063)
D: Labor Market Entry until 12/2012	0.024	-0.078
	(0.046)	(0.068)
D: Labor Market Entry until 12/2013	0.016	-0.102
	(0.045)	(0.071)
D: Labor Market Entry until 12/2014	-0.020	-0.069
	(0.043)	(0.074)
D: Labor Market Participation in 12/2014	-0.037	-0.097
	(0.044)	(0.067)
Number of Observations	375	186

· Dependent variables: dummies indicating whether an individual has entered the labor market at least once until the end of the respective year / whether an individual is currently employed at the end of 2014; probit estimation.
· Regressions are separately run for each outcome.
· Regressions include further explanatory variables: education background of family, occupational background of parents, school and preschool experiences before reform introduction, school fixed effects.
· Marginal effects are average marginal effects. All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below marginal effects. Stars denote significance of the estimates as follows: $^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$.

labor market at similar rates and at similar points in time. With respect to the objective of the reform, entering the labor market at the same time means that individuals who experienced the shortened school duration start their professional career at a younger age. This in turn means that they receive an additional annual wage and gain professional experiences earlier. From a macroeconomic perspective, it leads to additional revenues from taxes and social security contributions and involves an earlier utilization of the human capital of young professionals.

9.4.2 Characteristics of Labor Market Entry

Having shown that the age at labor market entry is reduced by the reform as intended, Table 9.4 presents the effects on the characteristics of the practiced occupation. The first two outcomes are related to the employment contract, whether it is a permanent position and performed in full-time. With respect to the first job, no reform effect can be observed. In the current job (which in more than 50% of the cases is identical with the first job), full-time employment is slightly more likely in the female treatment group but the effect is statistically insignificant. In the male sample, a reverse tendency exists (i.e., G12 men are less likely to have a full-time position). However, the reliability of this effect is questionable due to a very low number of observations in the male sample working part-time. Therefore, the effect is not displayed.

Table 9.4: Estimates of Reform Effects: Characteristics of Labor Market Entry (3rd Wave)

	Female Sample		Male Sample	
	First Job	Current Job	First Job	Current Job
	Marg./Coeff.	Marg./Coeff.	Marg./Coeff.	Marg./Coeff.
D: Permanent Position[a]	0.024	–	-0.124	–
	(0.063)		(0.105)	
D: Full-time Job[b]	0.005	0.081	0.015	–
	(0.049)	(0.055)	(0.062)	
D: Education Degree before Start of Job[c]	-0.328**	-0.276*	0.285	0.473
	(0.150)	(0.157)	(0.365)	(0.412)
Marginal Effects: D: Vocational Degree	0.072	0.044	0.008	0.025
D: Bachelor's Degree	0.079*	0.061	-0.056	-0.087
D: Master's Degree	-0.151***	-0.131**	0.048	0.062
D: Adequacy w.r.t. Education Level[d]	0.099	-0.158	0.503*	0.115
	(0.146)	(0.132)	(0.264)	(0.268)
D: Adequacy w.r.t. Subject Area[d]	-0.182	-0.436***	0.401	0.005
	(0.154)	(0.158)	(0.278)	(0.294)
D: Adequacy w.r.t. Own Expectations[d]	-0.121	-0.098	0.629**	0.350
	(0.126)	(0.134)	(0.273)	(0.259)
D: Importance of a University Degree[e]	-0.288**	-0.184	0.069	0.246
	(0.141)	(0.144)	(0.321)	(0.332)
D: Occupational Status (ISEI-08)[f]	-0.197	-0.132	0.203	0.144
	(0.123)	(0.114)	(0.268)	(0.256)
D: Net monthly Wage (log)[g]	0.028	0.063	-0.022	-0.038
	(0.039)	(0.045)	(0.071)	(0.059)
Number of Observations (max.)	271	245	108	92
Number of Observations (min.)	253	227	100	83

[a] Dependent variable: dummy indicating whether the job is a permanent position (only available for the first job); probit estimation, reported are marginal effects.
[b] Dependent variable: dummy indicating whether the job is a full-time job; probit estimation, reported are marginal effects.
[c] Dependent variable: categorical variable indicating the education degree obtained before start of the first/current job; ordered probit estimation, reported are coefficients.
[d] Dependent variable: categorical variable indicating the adequacy of the job with respect to the obtained level of education / the subject area / the own expectations (four-scale measure: $0 =$ no, $1 =$ rather no, $2 =$ rather yes, $3 =$ yes); ordered probit estimation, reported are coefficients.
[e] Dependent variable: categorical variable indicating the importance of a university degree for the job (four-scale measure: $0 =$ university degree is absolutely not necessary, $1 =$ university degree is not the rule but of advantage, $2 =$ university degree is the rule, $3 =$ university degree is mandatory); ordered probit estimation, reported are coefficients.
[f] Dependent variable: standardized value of the *International Socio-Economic Index of Occupational Status*, which originally ranges between 16 (low status) and 90 (high status); OLS regression, reported are marginal effects.
[g] Dependent variable: log of net monthly wage; interval regression, reported are marginal effects.
· Regressions are separately run for each outcome.
· Regressions include further explanatory variables: education background of family, occupational background of parents, school and preschool experiences before reform introduction, school fixed effects.
· Marginal effects are average marginal effects. All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below marginal effects. Stars denote significance of the estimates as follows: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Estimations, which are not available or not applicable, are indicated by –.

A second key result is that women affected by the reform enter the labor market on average with a lower education degree. They are significantly less likely to hold a master's degree before starting their professinal career (minus 15 percentage points) but more frequently start a job while holding a vocational degree (plus 7 percentage points) or a bachelor's degree (plus 8 percentage points). One reason is that affected women are more likely to enter the labor market

after completion of a bachelor's degree instead of continuing their education to obtain a master's degree. The effect decreases slightly with respect to the current job, because some of those who started their career with a vocational degree have left the labor market in the meantime to start university education. This is a bit more likely in the treatment group. Nevertheless, the effect on G12 women's education degree remains nearly constant in size and is still statistically significant. In the male sample, the effects point in the opposite direction as in the case of females. The probability of holding a master's degree is slightly increased (and the probability of holding a bachelor's degree is slightly decreased). However, these effects are far away from statistical significance.

A further group of outcomes address the question of whether individuals affected by the reform work in a job which is adequate to their obtained qualification. No influence of the reform can be observed in the female sample. Women in the treatment and control groups have a similar probability of being employed in a job that requires the level of their attained postsecondary education. It should be noted that this does not imply that they are employed, on average, at the same level of education. As a result of the lower education degree due to the reform, G12 women are more likely to start their career in a job for which a university degree is less relevant. The highest category of this variable, which is the probability of being employed in a job that requests a university degree, is decreased by approximately 9 percentage points (result not shown). With respect to the other two dimensions of job adequacy, the probability of working in a job that corresponds to the own expectations is not influenced by the reform. Affected women are also not less likely to start their professional career in the subject area for which they have been trained. Only in the current job, G12 women state more often that they are not adequately employed with respect to the subject area of their education. In the male sample, job adequacy is positively affected. Men in the treatment group are more likely to start their career in a job which is above their own expectations and their education level. However, these effects decrease largely in the current job, so that at the end of 2014 men in the treatment and control groups are similarly likely to have a job that is adequate to their postsecondary education.

As the next variable, the occupational status (ISEI) is not significantly affected by the reform, although women in the treatment group start their career with a lower education attainment. However, the coefficient has a negative sign and is near to the 10%-level of statistical significance in the case of womens' first job.

The final and from an economic perspective most interesting outcome is the net monthly wage. First, the reform has no significant impact on the initial wage in the first job, neither for men nor for women. However, although statistically insignificant, the wage of women is slightly increased by 3%, while the wage of men is reduced by 2%. At the end of the year 2014, the

effect increases to 6% in the female sample and 4% in the male sample, possibly because of the different probabilities of working full-time in the current job. Even such small differences in the monthly wage can lead to substantial absolute amounts over the working life. In the case of women, the absolute value of the wage differential is approximately 55 Euro per month in the first job and 120 Euro per month in the current job (numbers obtained by estimating the absolute value of the wage). As a back-of-the-envelope calculation, this would, ceteris paribus, accumulate to an amount of 26,000 to 57,000 Euro over a working life of 40 years, plus the additional annual wage generated by the one-year increase of working life. The wage differential in the male sample is smaller than in the case of women and is approximately minus 30 Euro per month (in the first and current job). This would amount to nearly 15,000 Euro over the working life but this wage loss will be compensated or even overcompensated by the additional annual wage. However, as the occupational status measured by the ISEI-Score is not significantly different between cohorts and its signs point in the opposite direction than the wage effects, the initial wage differences should not be overinterpreted. Moreover, the data do not allow to evaluate whether the identified wage differentials represent short-term effects or will last and indicate long-term differences. Despite the necessary caution required for interpretation of the calculations, it is striking that the wage effects on men and women point into the opposite direction and moreover show the opposite sign than expected from the previous results (lower education degree of affected women, slightly better job characteristics of affected men). Possible reasons will be discussed below.

9.4.3 Effect Mechanisms: Characteristics of Labor Market Entry

The results presented in the previous section show that the reform has some effects on labor market entry. To gain further insights into the mechanisms behind these effects, the models of Table 9.4 are reestimated in this section with additional covariates. Until now, the characteristics of the attended course of postsecondary education have not been included as explanatory variables in the estimations, although they are likely to influence labor market outcomes. This is due to the aim of the analysis to identify the overall effect of the reform. Because selection into different pathways of postsecondary education is affected by the reform, only pre-reform characteristics have been considered in the estimations so far. But now, potential effect channels through postsecondary education are investigated. The set of explanatory variables is extended by variables on the characteristics of education, namely the highest degree obtained before labor market entry and the corresponding subject area. A further specification includes other conditions related to employment: the year of labor market entry, the employment of the (marriage) partner, the existence of own children and, in the case of wages, the region of workplace and the working time.

The results are presented in Tables 9.5 and 9.6 (specification (1) represents the original results from Table 9.4, while specification (2) additionally contains characteristics of postsecondary education, and specification (3) additionally includes other conditions related to employment). Most effects remain constant after the inclusion of additional variables. Leaving potential endogeneity issues aside, this means that the effects are not caused by differences in postsecondary education or the timing of labor market entry. Instead, they are directly affected by the reform. Only the reduced relevance of a university degree disappears as expected when characteristics of postsecondary education are considered. This effect is caused by the lower education attainment in the female treatment group as explained above.

The results with respect to wages reveal some interesting insights. In the case of women, the effect becomes larger and statistically significant if postsecondary education attainment is controlled for (specification 2). Given a certain education degree, women in the treatment group earn higher wages. This explains why affected women, on average, earn higher wages despite their lower education attainment. However, the effect on the current wage decreases notably in the female sample and disappears almost completely in the male sample when the working time is considered (specification 3). Thus, the higher (lower) probability of working full-time seems to be the main driver of women's higher wage (men's lower wage) in the current job. Nevertheless, the effects on the starting wage in the first job and a small effect on women's current wage remain.

Therefore, the effects of a number of further explanatory variables (e.g., regional index of incomes, occupational fields, economic sectors, job change, marital status) are tested. The corresponding results in Table A.49 in Appendix A show that none of them can explain the remaining wage differential in women's current job or the differential in men's first job. However, the wage effect in women's first job decreases to zero if the regional index of incomes is included. Thus, the regional distribution of workplaces explains the difference in the female starting wage. Women from the G12 cohort work more frequently in the Northern states of West Germany compared to women from the G13 cohort who are more likely to work in East Germany where wages are lower on average (see Table A.47 in Appendix A). This explanation is in line with a result from Table 9.2, where the mean value of the weighted wage in the first job is equal for female groups. Similarly, estimating the wage weighted according to the regional index of incomes (as the outcome variable) with the original specification leads to a zero effect.

Table 9.5: Estimates of Reform Effects Including Additional Covariates: Characteristics of Labor Market Entry (3rd Wave) – Part I

	Female Sample: First Job			Female Sample: Current Job		
	(1)	(2)	(3)	(1)	(2)	(3)
	Marg./Coeff.	Marg./Coeff.	Marg./Coeff.	Marg./Coeff.	Marg./Coeff.	Marg./Coeff.
D: Permanent Position[a]	0.024	-0.017	0.013	–	–	–
	(0.063)	(0.057)	(0.060)			
D: Full-time Job[b]	0.005	0.008	0.005	0.081	0.084	0.068
	(0.049)	(0.051)	(0.048)	(0.055)	(0.055)	(0.054)
D: Adequacy w.r.t. Education Level[c]	0.099	0.256	0.058	-0.158	-0.112	-0.191
	(0.146)	(0.163)	(0.150)	(0.132)	(0.138)	(0.128)
D: Adequacy w.r.t. Subject Area[c]	-0.182	-0.202	-0.258*	-0.436***	-0.444***	-0.476***
	(0.154)	(0.157)	(0.156)	(0.158)	(0.159)	(0.158)
D: Adequacy w.r.t. Own Expectations[c]	-0.121	-0.101	-0.178	-0.098	-0.099	-0.133
	(0.126)	(0.130)	(0.128)	(0.134)	(0.139)	(0.132)
D: Importance of a University Degree[d]	-0.288**	-0.117	-0.316**	-0.184	0.002	-0.228
	(0.141)	(0.141)	(0.141)	(0.144)	(0.147)	(0.141)
D: Occupational Status (ISEI-08)[e]	-0.197	-0.042	-0.177	-0.132	-0.013	-0.148
	(0.123)	(0.103)	(0.116)	(0.114)	(0.094)	(0.107)
D: Net monthly Wage (log)[f]	0.028	0.062*	0.039	0.063	0.078*	0.035
	(0.039)	(0.038)	(0.037)	(0.045)	(0.040)	(0.042)
Number of Observations (max.)	271	269	271	245	245	245
Number of Observations (min.)	253	251	253	227	227	227

[a] Dependent variable: dummy indicating whether the job is a permanent position (only available for the first job); probit estimation, reported are marginal effects.
[b] Dependent variable: dummy indicating whether the job is a full-time job; probit estimation, reported are marginal effects.
[c] Dependent variable: categorical variable indicating the adequacy of the job with respect to the obtained level of education / the subject area / the own expectations (four-scale measure: 0 = no, 1 = rather no, 2 = rather yes, 3 = yes); ordered probit estimation, reported are coefficients.
[d] Dependent variable: categorical variable indicating the importance of a university degree for the job (four-scale measure: 0 = university degree is absolutely not necessary, 1 = university degree is not the rule but of advantage, 2 = university degree is the rule, 3 = university degree is mandatory); ordered probit estimation, reported are coefficients.
[e] Dependent variable: standardized value of the *International Socio-Economic Index of Occupational Status*, which originally ranges between 16 (low status) and 90 (high status); OLS regression, reported are marginal effects.
[f] Dependent variable: log of net monthly wage; interval regression, reported are marginal effects.
· Regressions are separately run for each outcome. Regressions include further explanatory variables: Specification (1) includes education background of family, occupational background of parents, school and preschool experiences before reform introduction, and school fixed effects (original specification of Table 9.4). Specification (2) includes in addition to Specification (1) the obtained education degree before the start of the job and the subject area of the completed postsecondary education. Specification (3) includes in addition to Specification (1) the year of labor market entry and, in the case of the current job, the employment of the partner and the existence of own children. In the case of the wage variable, the working time is additionally included.
· Marginal effects are average marginal effects. All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below marginal effects. Stars denote significance of the estimates as follows: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Estimations, which are not available or not applicable, are indicated by –.

Table 9.6: Estimates of Reform Effects Including Additional Covariates: Characteristics of Labor Market Entry (3rd Wave) – Part II

	Male Sample: First Job			Male Sample: Current Job		
	(1)	(2)	(3)	(1)	(2)	(3)
	Marg./Coeff.	Marg./Coeff.	Marg./Coeff.	Marg./Coeff.	Marg./Coeff.	Marg./Coeff.
D: Permanent Position[a]	-0.124	-0.132	-0.114	–	–	–
	(0.105)	(0.092)	(0.101)			
D: Full-time Job[b]	0.015	0.051	0.044	–	–	–
	(0.062)	(0.049)	(0.066)			
D: Adequacy w.r.t. Education Level[c]	0.503*	0.600**	0.609**	0.115	0.256	-0.089
	(0.264)	(0.267)	(0.292)	(0.268)	(0.278)	(0.298)
D: Adequacy w.r.t. Subject Area[c]	0.401	0.410	0.664**	0.005	-0.038	-0.088
	(0.278)	(0.301)	(0.315)	(0.294)	(0.345)	(0.331)
D: Adequacy w.r.t. Own Expectations[c]	0.629**	0.657**	0.779***	0.350	0.331	0.275
	(0.273)	(0.273)	(0.262)	(0.259)	(0.274)	(0.275)
D: Importance of a University Degree[d]	0.069	-0.020	0.055	0.246	0.229	0.251
	(0.321)	(0.258)	(0.308)	(0.332)	(0.264)	(0.330)
D: Occupational Status (ISEI-08)[e]	0.203	0.087	0.179	0.144	0.022	0.159
	(0.268)	(0.166)	(0.237)	(0.256)	(0.145)	(0.250)
D: Net monthly Wage (log)[f]	-0.022	-0.053	-0.030	-0.038	-0.049	-0.008
	(0.071)	(0.045)	(0.059)	(0.059)	(0.049)	(0.057)
Number of Observations (max.)	108	108	108	92	92	92
Number of Observations (min.)	100	99	99	83	83	83

[a] Dependent variable: dummy indicating whether the job is a permanent position (only available for the first job); probit estimation, reported are marginal effects.
[b] Dependent variable: dummy indicating whether the job is a full-time job; probit estimation, reported are marginal effects.
[c] Dependent variable: categorical variable indicating the adequacy of the job with respect to the obtained level of education / the subject area / the own expectations (four-scale measure: 0 = no, 1 = rather no, 2 = rather yes, 3 = yes); ordered probit estimation, reported are coefficients.
[d] Dependent variable: categorical variable indicating the importance of a university degree for the job (four-scale measure: 0 = university degree is absolutely not necessary, 1 = university degree is not the rule but of advantage, 2 = university degree is the rule, 3 = university degree is mandatory); ordered probit estimation, reported are coefficients.
[e] Dependent variable: standardized value of the *International Socio-Economic Index of Occupational Status*, which originally ranges between 16 (low status) and 90 (high status); OLS regression, reported are marginal effects.
[f] Dependent variable: log of net monthly wage; interval regression, reported are marginal effects.
· Regressions are separately run for each outcome. Regressions include further explanatory variables: Specification (1) includes education background of family, occupational background of parents, school and preschool experiences before reform introduction, and school fixed effects (original specification of Table 9.4). Specification (2) includes in addition to Specification (1) the obtained education degree before the start of the job and the subject area of the completed postsecondary education. Specification (3) includes in addition to Specification (1) the year of labor market entry and, in the case of the current job, the employment of the partner and the existence of own children. In the case of the wage variable, the working time is additionally included.
· Marginal effects are average marginal effects. All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below marginal effects. Stars denote significance of the estimates as follows: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Estimations, which are not available or not applicable, are indicated by –.

With the exception of women's starting wage, the wage differentials are explained at least partly by the different rates of full-time work. But why does the probability of working full-time differ between treatment and control groups? Table A.49 shows that the effect in the female sample is related to the slightly lower probability of affected women to work in occupations of the highest skill level. In this occupational group, part-time work is significantly more likely than in occupations with a lower skill level, which can be observed in both treatment and control groups. However, the lower rate of full-time work of men cannot be explained by any of the variables, possibly due to the low number of observations working part-time.

9.4.4 Robustness Checks

A potential cause for concern about the presented analysis could be the decrease in the number of observations between the first wave and the third wave. Although a panel attrition bias is unlikely to exist according to section 4.5, the Heckman selection model is applied as a robustness check. This means that the participation probability in the third wave is estimated in a first step. The obtained inverse mills ratio is then included as an additional regressor in the outcome equation (second step) using only observations who have already participated in the first and/or second wave. The variable on the updated address is used as the exclusion restriction. Table 9.7 presents the results which are in most cases very similar to the original findings. Only a few exceptions exist. First, females affected by the reform are also currently employed in jobs which on average have a lower importance of a university degree and a lower occupational status. The same tendency exists also in the first job, although the effect on the occupational status is not statistically significant. These findings are in line with the previous result that affected women enter the labor market with a lower education degree. Second, the insignificant decreases in men's labor market participation rates (see section 9.4.1) are now close to zero. Third, the reform increases males' probability of working in a job that is adequate to their education and expectations and has a higher occupational status, especially in the first job. Finally, the sign of the wage effect in men's first job changes. However, the findings for males have to be interpreted with caution due to the relatively low number of observations. Altogether, the robustness check suggests that a bias from panel attrition is unlikely to exist.

Furthermore, several specification tests are performed. In particular, the wage, which is measured in intervals, is estimated by interval regression with and without censored values in the lowest and highest categories, by OLS regression on the midpoints of the intervals, and by regressions using the absolute and standardized values of the wage. All approaches lead to similar findings (results not shown).

Table 9.7: Robustness Check: Heckman Selection Model (3rd Wave)

	Female Sample		Male Sample	
	First Job	Current Job	First Job	Current Job
	Marg./Coeff.	Marg./Coeff.	Marg./Coeff.	Marg./Coeff.
D: Labor Market Entry until 12/2014[a]	-0.000	–	-0.019	–
	(0.045)		(0.076)	
D: Labor Market Participation in 12/2014[a]	–	-0.009	–	-0.037
		(0.048)		(0.070)
D: Permanent Position[b]	0.050	–	-0.146	–
	(0.069)		(0.120)	
D: Full-time Job[c]	-0.022	0.059	-0.042	–
	(0.053)	(0.063)	(0.052)	
D: Education Degree before Start of Job[d]	-0.352**	-0.313*	0.516	0.470
	(0.176)	(0.177)	(0.366)	(0.381)
D: Adequacy w.r.t. Education Level[e]	0.089	-0.159	0.738**	0.358
	(0.162)	(0.153)	(0.292)	(0.284)
D: Adequacy w.r.t. Subject Area[e]	-0.141	-0.346**	0.513*	0.251
	(0.161)	(0.168)	(0.276)	(0.293)
D: Adequacy w.r.t. Own Expectations[e]	-0.081	-0.030	0.679**	0.577*
	(0.134)	(0.147)	(0.264)	(0.333)
D: Importance of a University Degree[f]	-0.310*	-0.276*	0.478	0.517
	(0.164)	(0.168)	(0.336)	(0.344)
D: Occupational Status (ISEI-08)[g]	-0.221	-0.208*	0.450*	0.361
	(0.136)	(0.120)	(0.229)	(0.245)
D: Net monthly Wage (log)[h]	0.028	0.075	0.022	-0.057
	(0.047)	(0.053)	(0.069)	(0.062)
Number of Observations (labor market entry)	330	330	163	163
Number of Observations (max.)	243	221	92	78
Number of Observations (min.)	226	203	86	72

[a] Dependent variable: dummy indicating whether an individual has entered the labor market at least once until the end of 2014 / is currently employed at the end of 2014; probit estimation, reported are marginal effects.

[b] Dependent variable: dummy indicating whether the job is a permanent position (only available for the first job); probit estimation, reported are marginal effects.

[c] Dependent variable: dummy indicating whether the job is a full-time job; probit estimation, reported are marginal effects.

[d] Dependent variable: categorical variable indicating the education degree obtained before the start of the first/current job; ordered probit estimation, reported are coefficients.

[e] Dependent variable: categorical variable indicating the adequacy of the job with respect to the obtained level of education / the subject area / the own expectations (four-scale measure: 0 = no, 1 = rather no, 2 = rather yes, 3 = yes); ordered probit estimation, reported are coefficients.

[f] Dependent variable: categorical variable indicating the importance of a university degree for the job (four-scale measure: 0 = university degree is absolutely not necessary, 1 = university degree is not the rule but of advantage, 2 = university degree is the rule, 3 = university degree is mandatory); ordered probit estimation, reported are coefficients.

[g] Dependent variable: standardized value of the *International Socio-Economic Index of Occupational Status*, which originally ranges between 16 (low status) and 90 (high status); OLS regression, reported are marginal effects.

[h] Dependent variable: log of net monthly wage; interval regression, reported are marginal effects.

· Regressions are separately run for each outcome.

· Regressions include further explanatory variables: education background of family, occupational background of parents, school and preschool experiences before reform introduction, school fixed effects.

· The selection equation of the Heckman Selection Model additionally includes a dummy variable indicating whether the address of an individual was updated before the start of the third survey wave.

· Marginal effects are average marginal effects. All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below marginal effects. Stars denote significance of the estimates as follows: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Estimations, which are not available or not applicable, are indicated by –.

The reform effects presented above have been estimated with consideration of several explanatory variables in addition to the treatment indicator. These variables have been included to obtain more precise estimates, but inclusion or omission should not bias the treatment effects. This assumption is supported by the results from estimations without any explanatory variables other than the treatment, presented in Table A.50 in Appendix A. Almost all treatment effects are in line with the ones obtained above. Although a few effects lose their statistical significance, they remain roughly the same in size. The only difference compared to Table 9.4 is that affected men tend to be more likely to have an adequate employment not only in the first but also in the current job.

Finally, the results from Tables 9.7 and A.50 can remove concerns about the estimation of job characteristics in the male sample which might result from the slightly lower labor market participation rate of affected men (see Table 9.3). As this lower rate is not present in the two robustness checks, which confirm the previous results, it can be concluded that this issue should not be a problem for the identification of reform effects in the male sample.

9.5 Summary

In this chapter, I have estimated the impact of the reform on the time and the success of labor market entry, using data from the 2007 double cohort in Saxony-Anhalt that cover a time period of seven and a half years after high school graduation (until the end of 2014).

As a first result, individuals in the treatment and control groups enter the labor market in similar shares until several points in time. This means that the reform has in fact reduced the age of high school graduates at labor market entry by one year as intended. Moreover, in the case of men, the labor market is not only entered at similar times but also with similar degrees. However, a slight quantity-quality trade-off exists for females. Affected women enter the labor market with a lower degree, that is, they are more likely to start their professional career with a vocational degree or a bachelor's degree than with a master's degree. At first glance, this seems to be counterintuitive because individuals graduating after the shortened school duration have one year more of lifetime that they could use for postsecondary education. Hence, an obvious explanation is difficult to find. A first conceivable explanation could be that affected students achieve a lower performance in the bachelor's program and therefore are less likely to be admitted to a master's program. However, this is not the case as females in the treatment and control groups have on average very similar final grades in their bachelor's degree (result not shown). Another reason could be that affected women strive less for professional success, at least in monetary terms. This is suggested by one additional finding, namely that the wage is

assessed as a less important motive in the career choice of affected women (see Table A.48 in Appendix A). However, this could be a reason but also a result of the lower education degree. A more appropriate explanation is related to a finding from chapter 6 that women affected by the reform are more likely to initially choose a lower level of postsecondary education, maybe as a precaution. Possibly, this effect persists to the end of the bachelor's degree so that a master's degree is less frequently pursued.[6]

The lower education attainment of affected women is also reflected in a lower probability of working in a job for which a university degree is important. The results of the Heckman selection model additionally indicate a slight decrease in the occupational status of the current job. In contrast, men affected by the reform tend to start their professional career in jobs with more favorable characteristics, although most effects are statistically insignificant. In their job choice, affected men also attach less importance to the security of the job (i.e., security with respect to unemployment) and the compatibility of the job with private life (see Table A.48 in Appendix A). It could be the case that male students who experienced a more challenging school career are more willing to take demanding or insecure jobs. Compared with this, several other characteristics of labor market entry are not influenced. Finally and maybe most importantly, a slight increase in women's wage by approximately 3 to 6% and a slight decrease in men's wage by 2 to 4% can be observed. Although these differences are statistically insignificant, they are not insignificant in absolute terms over the whole working life. They can be partly explained by differences in the probability of working full-time (in the case of the current job) and by differences in the regional distribution of workplaces (in the case of women's first job). Therefore, it is unclear whether they represent temporary or permanent effects.

To sum up, it can be concluded that the reform has largely succeeded in enabling an earlier but still successful entry into the labor market. This shows that it is possible to use the human capital of high school graduates more efficiently by such reforms. However, the intended efficiency gain is not fully achieved. Affected men experience a slight decrease in wages and affected women enter the labor market with a lower education attainment, although the latter does not translate into lower wages, at least at present.

[6] It should be noted that I cannot rule out with the available data that women will catch up at a later time by completing a master's degree (or a bachelor's degree, for those having obtained only a vocational degree) after some time in the labor market. In addition, final conclusions with respect to the time of labor market entry cannot be made yet because the entry is not observed for approximately 30% of women and 45% of men by now. (At the time of the survey, approximately 70% of them planned to enter the labor market in 2015 and 20% planned to start in 2016.)

Chapter 10

Conclusion

In this thesis, I have evaluated a major education reform in Germany that reduced the duration of high school by one year (from 13 to 12 years) but kept constant graduation requirements, which means that the curriculum has to be taught and learned in a shorter time. The objective of the reform was to reduce the comparably long duration of education in Germany and to allow an earlier labor market entry of university graduates, while maintaining the level of education. Thereby, the trade-off between the length of schooling and the length of labor market participation should be resolved or at least reduced.

However, it is not clear whether this aim is achieved. As shown in chapter 2, the reform could have positive and negative effects on several outcome dimensions. While proponents of the reform expect the skill level to remain constant or even an increase in the ability of coping with academic requirements, opponents fear, among other things, that the higher learning intensity decreases learning outcomes and thereby impaires the preparation for university education. Furthermore, there is a possibility that students graduating after a shorter school duration and at a younger age are less oriented with respect to their future career plans.

Some of these expectations are in line with findings from the literature, which have been presented in chapter 3. Several studies have shown that student achievement is in fact influenced by the amount of instructional time and by some features of the curriculum. However, only little evidence is available with respect to the combination of both, namely the amount of curriculum per unit of instructional time (i.e., the learning intensity). Although there is a growing number of studies on the effects of the German reform, the findings reveal a mixed picture. More importantly, the studies are focused mainly on outcomes within high school. Therefore, the question of whether and which effects occur after high school graduation is largely unanswered.

The empirical analysis conducted in the present thesis was based on data from the double cohort of high school graduates in Saxony-Anhalt, which have been described in chapter 4. In this state, the reform was introduced in 2003. The first affected cohort completed high school in 2007 after the shortened school duration of 12 years, together with the last cohort graduating after 13 years of schooling. This provided a natural experiment that allowed me to identify the effects of a reduced school duration and an increased learning intensity by comparing the outcomes of affected and unaffected students. The data have been collected in three waves in spring 2009 and at the end of the years 2011 and 2014. They include detailed information on students' family background, experiences and achievements in primary and especially secondary school, participation in and completion of postsecondary education, and characteristics of occupations. In total, 1,014 students from the double cohort have participated in at least one survey wave. It has been shown in chapter 4 that the sample can be considered as representative. A number of concerns regarding the internal and external validity of the analysis have been addressed. A potential bias resulting from nonresponse, panel attrition or selection into the treatment group is unlikely to exist (for example, because students in the treatment and control groups do not differ systematically with respect to background characteristics). This supports the assumption of a natural experiment. Furthermore, it has been shown that the transition into postsecondary education was not more restricted for the double cohort than for other cohorts.

The first set of results in chapter 5 show that the higher learning intensity has significantly increased students' perceived level of stress. The results also show that the increased number of school hours per week has not been substituted by a reduction of time spent on homework and learning outside school, which means that the reform has in fact reduced the time available for leisure activities. As a consequence, the probability and intensity of students' participation in some extracurricular activities, especially working in a side job and doing voluntary work, are decreased.

The findings with respect to postsecondary education decisions (chapter 6) reveal some effect heterogeneity according to gender. Female G12 students do not show lower participation in university education overall but are significantly more likely to delay university enrollment by three years. The reason is that females' probability of starting vocational education before attending university is increased. For male students, no clear effect on enrollment in university and vocational education can be observed. If any, the probability of university attendance is slightly increased. With respect to the choice of university subjects, females become less likely to study natural sciences and mathematics but more likely to choose medical sciences, whereas males' decision on a field of study is not affected.

The general validity of these findings is supported by chapter 7 where similar outcomes are analyzed for several other states and graduation cohorts using nationwide data. The main result of delayed university enrollment and increased participation in other activities after high school graduation applies to all analyzed states and cohorts. This can also be seen as support for the assumption that also the other analyses based on Saxony-Anhalt are of quite general significance. However, a difference in the reform's impact between West and East Germany occurs, at least in the case of female students. While students affected by the reform in West Germany delay university enrollment because they are more likely to spend a year abroad or to engage in a year of voluntary service after high school graduation, affected students in East Germany have a higher probability of starting vocational education instead of university education. Therefore, university enrollment is delayed in West Germany by one year but in East Germany by three years. Another interesting result is observed for male students. While no effect on university attendance is found until the graduation cohorts 2010, enrollment of affected male graduates 2012 is reduced similar to females. A reasonable explanation is the elimination of compulsory military or civilian service for men in 2011, which previously gave them one more year to make their decision on further education.

Altogether, the results regarding transition into postsecondary education could be attributed to two main channels of impact. The first one, a *performance effect*, is related to a worse subject-related preparation for university education (e.g., lower skill level). Second, students with a shorter school duration and a younger graduation age could have a higher insecurity regarding their decision because they had one year less to discover their tastes and talents, which is an *orientation effect*. A number of reasons have been discussed in chapter 6, which suggest that the latter is more important, although the former could also matter.

Having analyzed enrollment decisions, the investigation in chapter 8 shows that students' motivation and abilities in university education are largely not influenced by the reform. Students have a similar motivation to study and similar abilities of learning and coping with stress regardless of whether they have graduated after 12 or 13 years of schooling. Nevertheless, a few effects can be observed, for example, female students from the G12 cohort are more likely to experience skill deficitis. On the other hand, they feel less burdened by personal problems, and G12 males report easier learning of academic content. However, these changes at the intensive margin do not lead to a significant impact on the extensive margin, which means that the probability of dropping out of university is not significantly increased.

Finally, the results regarding labor market effects presented in chapter 9 indicate that the reform has achieved its main objective of an earlier but still successful labor market entry to a large extent. The shares of graduates having entered the labor market seven and a half years after high school are similar in the treatment and control groups. This means that individuals start

their professional career at a younger age as intended. They also have not more difficulties with finding a job, and the probability of working in a job that is adequate to the attended postsecondary education is similar between groups. However, a few adverse effects are found. Affected women enter the labor market on average with a lower education degree, that is, they are more likely to start their career holding a vocational degree or a bachelor's degree, while their probability of starting a job after completion of a master's degree is notably reduced. This means that the reform – at least so far – was not fully able to keep constant the level of education. Interestingly, this has so far not lead to a wage loss of women affected by the reform.

Altogether, the findings reveal a mixed picture indicating that the reform has affected some aspects of postsecondary education and labor market entry. More generally, this provides evidence that the duration and/or intensity of university preparatory schooling is important for subsequent education. This relevance results from the fact that time spent in school contributes to the development of skills and the discovery and development of talents and concepts of life, as shown in the literature. This is particularly important at the end of high school (see Büttner and Thomsen, 2015) and at the transition into higher education (see chapters 6 and 7 of this thesis), while negative effects decrease in the long-run (see chapters 8 and 9). This is a plausible result and also in line with some related findings in the literature. For example, Pischke (2007) found that an increased learning intensity in primary school has an effect on secondary track choice but not on earnings and employment later in life. Similarly, there is evidence that central exit examinations affect school achievements (and probably education attainment) but not earnings of high school graduates (Piopiunik et al., 2013). The age at school entry was also found to have larger effects on performance in school which decrease or even disappear with regard to education attainment and earnings (e.g., Dobkin and Ferreira, 2010; Fredriksson and Öckert, 2014).

With respect to the success of the reform, the question is whether the objective of resolving the trade-off between shortening the duration of high school and maintaining the quality of schooling has been achieved. The results obtained in the present thesis confirm some fears of reform opponents, which recommends to adjust the shortened school duration. The increased level of stress and the reduced participation of students in some extracurricular activities should be taken seriously. It seems advisable to reorganize the curriculum and learning requirements of the shortened school duration in order to reduce the risk of overstress. Furthermore, an excessive level of stress should be avoided in order to give students enough time for extracurricular activities which contribute to their personal development and the formation of social capital. In the same way, the effects on postsecondary education decisions of especially female students should be taken into account. Policymakers and decision-makers in schools should focus on the content of upper secondary schooling and its teaching in order to ensure that future G12-

graduates will have the same capabilities and are equally prepared and motivated for vocational and university education as the former G13-graduates. Furthermore, care should be taken that the shortened school duration sufficiently includes career guidance because insecurity regarding future education and occupational decisions can have adverse effects on further education outcomes.

Despite these findings and recommendations, the reform could be seen as an efficiency gain in education production. Although approximately 15% of students delay university enrollment, the majority of students start university education one year earlier as intended. In addition, the increased probability of using the year after high school graduation for other activities could have positive effects if students acquire social and intercultural experiences. Furthermore, the motivation and abilities of studying in university education are largely not affected by the reform. Finally, the results on labor market entry suggest that the main objective of the reform has been largely achieved. Nevertheless, the few adverse effects should be further observed.

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Appendix A

Additional Tables to Chapter 2

Table A.1: Choice of University Subjects in Germany

	Humanities	Education/ Social Sc.	Law and Economics	Engineering	Natural Sciences	Medical Sciences
Female Students						
2002	0.17	0.35	0.19	0.05	0.16	0.09
2004	0.16	0.37	0.16	0.05	0.13	0.12
2006	0.12	0.36	0.18	0.05	0.15	0.11
2008	0.14	0.30	0.23	0.08	0.14	0.12
2010	0.12	0.33	0.21	0.08	0.13	0.12
2012	0.13	0.29	0.23	0.09	0.15	0.11
Male Students						
2002	0.09	0.15	0.23	0.19	0.26	0.06
2004	0.09	0.15	0.21	0.21	0.26	0.09
2006	0.06	0.15	0.22	0.24	0.23	0.10
2008	0.07	0.14	0.23	0.25	0.23	0.07
2010	0.05	0.14	0.24	0.25	0.24	0.06
2012	0.06	0.13	0.24	0.27	0.25	0.05

· Distribution of university subjects across high school graduates having started or firmly planned to start university education. Source: German Centre for Research on Higher Education and Science Studies (DZHW), based on Schneider and Franke (2014, p. 149).
· There is a slight break in the time series between 2006 and 2008 because some professional colleges are included from 2008 on. This might explain the change in the share of some subjects between 2006 and 2008 (e.g., because most study programmes at professional colleges are in the field of economics and engineering).

Table A.2: Choice of University Subjects in Germany and OECD Countries

	Humanities, Arts and Education	Health and Welfare	Social Sc., Business, Law and Services	Engineering, Manufact. and Construction	Natural Sciences and Mathematics
Females: Germany	0.30	0.27	0.26	0.06	0.10
Females: OECD Average	0.26	0.19	0.38	0.07	0.09
Males: Germany	0.15	0.09	0.26	0.30	0.20
Males: OECD Average	0.14	0.08	0.36	0.25	0.16

· Distribution of university subjects across new entrants into university education in 2012. Source: OECD (2014, Table C3.3b Web).

Table A.3: Education Degrees and Occupational Positions (ISCO-08 Major Groups) at Labor Market Entry

	Elementary Occupations	Office and Service Workers	Technicians and Associate Professionals	Academic Professionals
Vocational Degree	0.01	0.41	0.42	0.16
Bachelor's Degree	0.00	0.08	0.39	0.53
Master's Degree (or equivalent)	0.00	0.04	0.18	0.78

· Numbers denote the share of individuals with the respective education degree that are employed in the respective occupational group.
· Source: Own sample (see section 4.2).

Additional Tables to Chapter 4

Table A.4: Means of Further Background Characteristics of Students, According to Cohort and Gender (1st Survey Wave)

	Female Sample			Male Sample		
	G12	G13	p-value[a]	G12	G13	p-value[a]
Main Region of Residence during Childhood (categorical)						
Magdeburg and Surrounding Area	0.69	0.73		0.72	0.70	
Halberstadt and Surrounding Area	0.26	0.22		0.23	0.21	
Other Regions of Saxony-Anhalt	0.05	0.06		0.04	0.07	
Outside Saxony-Anhalt	0.00	0.00	(0.52)	0.01	0.01	(0.57)
Items at Home[b]						
Own Room	0.96	0.98	(0.22)	0.94	0.97	(0.33)
Desk	0.94	0.90	(0.19)	0.89	0.92	(0.45)
Workbench (or the like)	0.12	0.12	(1.00)	0.40	0.38	(0.79)
Own Computer	0.48	0.54	(0.17)	0.70	0.76	(0.34)
Own Mobile Phone	0.93	0.95	(0.33)	0.91	0.92	(0.71)
Internet Access	0.88	0.92	(0.14)	0.92	0.92	(0.96)
Classical Literature	0.49	0.51	(0.64)	0.32	0.44	(0.05)
Reference Books	0.93	0.94	(0.56)	0.87	0.90	(0.41)
Regional Newspaper	0.59	0.57	(0.69)	0.57	0.68	(0.07)
National Newspaper	0.11	0.12	(0.75)	0.17	0.18	(0.92)
Leisure Activities of Father[c]						
Cultural	0.23	0.20	(0.45)	0.24	0.23	(0.94)
Art/Music	0.14	0.10	(0.18)	0.16	0.20	(0.41)
Sports	0.49	0.40	(0.08)	0.48	0.53	(0.43)
Voluntary Work	0.15	0.14	(0.78)	0.16	0.25	(0.10)
Politics	0.04	0.04	(0.85)	0.03	0.06	(0.40)
Religious	0.02	0.02	(0.94)	0.08	0.08	(0.89)
Leisure Activities of Mother[c]						
Cultural	0.33	0.33	(0.87)	0.38	0.39	(0.92)
Art/Music	0.17	0.15	(0.55)	0.20	0.19	(0.86)
Sports	0.52	0.48	(0.44)	0.57	0.46	(0.09)
Voluntary Work	0.15	0.13	(0.42)	0.12	0.16	(0.39)
Politics	0.03	0.02	(0.63)	0.01	0.03	(0.29)
Religious	0.07	0.04	(0.20)	0.12	0.08	(0.37)
Number of Observations	220	236		138	123	

[a] p-value from t-test on equality of means; for categorical variables: p-value from Pearson χ^2-test of independence. Values are shown in parentheses for better readability.
[b] Items available at students' home and used by students during school education.
[c] Activity performed at least once a month.

Table A.5: Comparison of the Own Sample with SOEP Data[a] (Regression Estimates)

	1st Wave & SOEP		1st Wave & SOEP		2nd Wave & SOEP	
	Germany	East Germany	Germany	East Germany	Germany	East Germany
Independent Variables	Marg.eff.	Marg.eff.	Marg.eff.	Marg.eff.	Marg.eff.	Marg.eff.
School-Leaving Degree of Father[b]	-0.033	-0.168**	-0.061	-0.014	-0.045	0.023
	(0.036)	(0.067)	(0.055)	(0.068)	(0.054)	(0.079)
School-Leaving Degree of Mother[b]	0.083**	0.025	0.096*	0.075	0.077	0.023
	(0.035)	(0.062)	(0.051)	(0.060)	(0.049)	(0.074)
Occupational Degree of Father[b]	0.032	0.012	0.073	-0.023	0.024	-0.054
	(0.035)	(0.066)	(0.058)	(0.071)	(0.053)	(0.078)
Occupational Degree of Mother[b]	-0.226***	-0.083	-0.300***	-0.173***	-0.282***	-0.175***
	(0.029)	(0.054)	(0.039)	(0.054)	(0.038)	(0.060)
Occupational Position of Father[c]	0.028	0.036	0.066	0.017	–	–
	(0.030)	(0.054)	(0.043)	(0.065)		
Occupational Position of Mother[c]	-0.042	-0.086	-0.057	-0.032	–	–
	(0.033)	(0.060)	(0.045)	(0.065)		
Leading Occ. Position of Father	-0.004	-0.033	-0.057	-0.019	–	–
	(0.032)	(0.057)	(0.044)	(0.061)		
Leading Occ. Position of Mother	0.020	-0.080	0.019	-0.043	–	–
	(0.036)	(0.063)	(0.050)	(0.063)		
Childhood Leisure Activity: Sport[d]	–	–	-0.027	-0.128***	-0.001	-0.124**
			(0.042)	(0.046)	(0.040)	(0.055)
Childhood Leisure Activity: Music[d]	–	–	0.033	-0.045	0.043	-0.063
			(0.038)	(0.044)	(0.037)	(0.053)
Gender	0.046*	0.032	0.060	-0.056	0.104***	-0.024
	(0.026)	(0.046)	(0.039)	(0.050)	(0.037)	(0.060)
McFadden's R^2	0.050	0.041	0.073	0.078	0.078	0.068
N	2,092	1,026	1,390	802	1,318	689
n	1,174	784	913	694	802	567

[a] SOEP panel data from 2000 to 2008.
[b] Education of parents (categorical variable; reference: no degree).
[c] Occupation of parents (categorical variable; reference: not employed).
[d] Leisure activities during childhood (dummy variable; reference: no activity).
· Dependent variable: Dummy variable indicating whether an observation belongs to the own sample ($y = 0$) or SOEP data ($y = 1$). All standard errors are clustering-robust based on personal number. Standard errors of coefficient estimates are reported below coefficients. Stars denote significance of the estimates as follows: $^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$. Variables not included in specification are indicated by –.

Table A.6: Share of High School Students Not Successfully Passing Final Examinations

High School Graduation Cohort	Number of Students Entering Last Year	Successful Graduation	Drop-Out Rate
2003	8,771	8,276	5.6%
2004	8,723	8,243	5.5%
2005	8,752	8,003	8.6%
2006	8,451	7,575	10.4%
2007 (G13)	8,472	7,879	7.0%
2007 (G12)	7,385	6,648	10.0%
2008	8,877	7,860	11.5%
2009	6,931	6,281	9.4%
2010	4,604	4,073	11.5%
2011	4,150	3,787	8.7%

· Source: Federal Statistical Office (n.y.a).
· The decrease in the number of high school students is a result of a large decrease in birth cohorts between 1985 and 1995 (Statistical Office of Saxony-Anhalt, 2014).

Table A.7: Admission Grades in Selected Subjects at Universities and Universities of Applied Sciences in Saxony-Anhalt, 2006 – 2008

	Winter Semester 2006/2007			Winter Semester 2007/2008			Winter Semester 2008/2009		
	New Students	Average Grade	Waiting Semesters	New Students	Average Grade	Waiting Semesters	New Students	Average Grade	Waiting Semesters
Martin Luther University Halle-Wittenberg	2,096			2,569			2,882		
Business Management	121	1.7/2.4	2/6	215	1.8/2.3	0/2	191	all admitted	
Bio-Chemistry	81	1.4/1.9	0/2	103	1.5/2.2	0/2	91	1.4/1.9	0/2
Chemistry	51	1.1/2.5	0/6	51	all admitted		91	all admitted	
Education	72	1.6/3.4	0/8	31	1.7/3.3	5/8	40	1.8/2.6	4/6
Law	234	1.8/3.2	0/2	301	all admitted		–	–	–
Psychology	50	1.2/2.0	0/10	42	1.2/3.3	0/16	57	1.3/2.9	0/9
Teaching in Primary School	53	1.4/3.2	0/10	53	1.4/2.9	2/8	60	1.4/2.1	0/6
Otto von Guericke University Magdeburg	2,332			2,491			2,554		
Computer Science	–	all admitted		–	all admitted		–	all admitted	
Electrical Engineering	–	all admitted		–	all admitted		–	all admitted	
Mechanical Engineering	–	all admitted		–	all admitted		–	all admitted	
Magdeburg-Stendal University of Applied Sciences	953			1,084			1,096		
Business Management	–	all admitted		–	all admitted		–	all admitted	
Electrical Engineering	–	all admitted		–	all admitted		–	all admitted	
Industrial Engineering	–	1.6	6	–	2.6	4	–	2.5	6
Mechanical Engineering	–	1.8	4	–	2.5	6	–	2.7	2
Social Work	–	1.5	10	–	2.0	10	–	2.0	9
Merseburg University of Applied Sciences	725			555			567		
Business Management	–	all admitted		–	2.7	2	–	all admitted	
Electrical Engineering	–	all admitted		–	all admitted		–	all admitted	
Industrial Engineering	–	all admitted		–	all admitted		–	all admitted	
Mechanical Engineering	–	all admitted		–	all admitted		–	all admitted	
Anhalt University of Applied Sciences	1,034			1,291			1,342		
Business Management	–	2.6	7	–	2.9	5	–	all admitted	
Economic Law	–	2.8	5	–	2.9	4	–	all admitted	

· Admission to university is based on two factors: *average grade at high school graduation* (ranging between 1 [very good] and 4 [sufficient], i.e., lower grades indicate better achievement) and *number of semesters waiting for university enrollment.* Both factors are considered in different combinations, depending on the university. The information on University Halle-Wittenberg has to be read as follows: For example, admission requirements for business management in 2006 have been either a grade of 1.7 and 2 waiting semesters or a grade of 2.4 and 6 waiting semesters.

· Information on admission grades and waiting semesters has been provided by the respective universities. Information on the number of new students per university has been provided by Statistical Office of Saxony-Anhalt (n.y.). Information not available is indicated by –.

Table A.8: Labor Market in Germany between 2010 and 2014

	2010	2011	2012	2013	2014
Employed Persons (in 1,000)	41,020	41,577	42,060	42,328	42,703
Employees covered by Social Security (in 1,000)	28,008	28,687	29,341	29,713	30,197
Labor Force Potential (in 1,000)	45,236	45,191	45,219	45,598	45,727
Unemployment Rate	7.7	7.1	6.8	6.9	6.7
Real GDP Growth (p.a.)	4.1	3.7	0.4	0.3	1.6

· Source: Fuchs et al. (2015). Numbers denote yearly averages.

Additional Tables to Chapter 5

Table A.9: Means of Work in a Side Job and Voluntary Work, According to Cohort and Gender (1st Survey Wave)

	Female Sample			Male Sample		
	G12	G13	p-value[a]	G12	G13	p-value[a]
Leisure Activity: Working in a Side Job						
Daily	0.01	0.04		0.01	0.01	
At least once a Week	0.15	0.25		0.10	0.29	
At least once a Month	0.04	0.07		0.04	0.07	
Less Frequent	0.10	0.13		0.15	0.14	
Never	0.70	0.51	(0.01)	0.70	0.49	(0.01)
Leisure Activity: Voluntary Work						
Daily	0.01	0.01		0.01	0.01	
At least once a Week	0.07	0.08		0.06	0.13	
At least once a Month	0.01	0.05		0.04	0.06	
Less Frequent	0.09	0.11		0.08	0.13	
Never	0.82	0.75	(0.14)	0.81	0.67	(0.13)
Number of Observations	219	232		139	127	

[a] p-value from Pearson χ^2-test of independence. Values are shown in parentheses for better readability.

Table A.10: Estimates of Reform Effects: Perceived Stress in the Last Three Years of High School, Separately for Different Subgroups of Students (1st Wave, Ordered Probit Estimates)

	Female Sample				Male Sample			
	School Achievements		Family Background		School Achievements		Family Background	
	higher	lower	academic	non-academic	higher	lower	academic	non-academic
	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.
D: Stress caused by the	0.915***	1.108***	1.063***	0.882***	0.644***	1.242***	0.864***	1.134***
Number of School Lessons	(0.183)	(0.175)	(0.156)	(0.181)	(0.215)	(0.211)	(0.202)	(0.256)
Marginal Effect: $y = 1$	–	-0.015	–	-0.016	-0.036**	-0.023	-0.045**	–
$y = 2$	-0.046**	-0.031*	-0.051**	-0.019	-0.078**	-0.062**	-0.081***	-0.083***
$y = 3$	-0.252***	-0.288***	-0.288***	-0.229***	-0.112***	-0.292***	-0.164***	-0.251***
$y = 4$	0.090***	0.086***	0.092***	0.069***	0.090***	0.130***	0.117***	0.122***
$y = 5$	0.208***	0.249***	0.247***	0.194***	0.136***	0.247***	0.174***	0.211***
D: Stress caused by the	0.817***	0.614***	0.600***	0.710***	-0.057	1.231***	0.591***	0.652**
Amount of Learning Contents	(0.152)	(0.154)	(0.137)	(0.176)	(0.204)	(0.233)	(0.184)	(0.258)
Marginal Effect: $y = 1$	–	–	–	–	0.001	–	-0.011	–
$y = 2$	-0.069***	-0.022*	-0.042***	-0.041**	0.007	-0.080***	-0.069***	-0.029
$y = 3$	-0.200***	-0.155***	-0.157***	-0.169***	0.012	-0.290***	-0.126***	-0.174***
$y = 4$	0.049***	-0.006	0.030*	-0.006	-0.007	0.061**	0.051***	0.053**
$y = 5$	0.220***	0.183***	0.169***	0.216***	-0.012	0.309***	0.155***	0.150**
D: Stress caused by the	0.466***	0.584***	0.535***	0.224	-0.133	1.147***	0.506**	0.716**
Amount of Homework	(0.147)	(0.187)	(0.118)	(0.191)	(0.237)	(0.237)	(0.207)	(0.287)
Marginal Effect: $y = 1$	-0.010	–	-0.010	-0.003	0.019	-0.078**	-0.066**	-0.041*
$y = 2$	-0.087***	-0.070***	-0.085***	-0.031	0.020	-0.222***	-0.087**	-0.141***
$y = 3$	-0.068***	-0.120***	-0.089***	-0.041	0.004	-0.056**	-0.011	-0.060*
$y = 4$	0.083***	0.103***	0.103***	0.035	-0.024	0.194***	0.095**	0.120**
$y = 5$	0.087***	0.095***	0.087***	0.040	-0.019	0.163***	0.069**	0.123**
Number of Observations	225	207	270	162	116	141	162	95

· Dependent variable: categorical variable indicating perceived level of stress, ranging between 1 (very low) to 5 (very high).
· Students with higher achievements are characterized by an average grade in year 7 of good or very good, students with lower achievements by an average grade in year 7 of satisfactory or below.
· Students' family background is characterized as academic if at least one parent has an academic degree, otherwise as non-academic.
· Regressions are separately run for each outcome.
· Regressions include further explanatory variables (school achievements until reform, educational background of family, age at school enrollment) and school fixed effects.
· All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below marginal effects. Stars denote significance of the estimates as follows: $^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$.

Table A.11: Estimates of Reform Effects: Time Use in the Last Year of High School, Separately for Different Subgroups of Students (1st Wave, OLS Estimates)

	Female Sample				Male Sample			
	School Achievements		Family Background		School Achievements		Family Background	
	higher	lower	academic	non-academic	higher	lower	academic	non-academic
	Marg.eff.	Marg.eff.	Marg.eff.	Marg.eff.	Marg.eff.	Marg.eff.	Marg.eff.	Marg.eff.
D: Hours per Week spent on	0.825	0.143	-0.058	0.917	-1.691	2.581*	0.551	1.097
Homework and Learning	(1.208)	(1.299)	(1.245)	(1.519)	(1.726)	(1.318)	(1.423)	(1.315)
D: Hours per Week spent on	-0.287**	0.371	0.098	0.005	-0.015	0.625**	0.274	0.491**
Remedial Lessons	(0.130)	(0.313)	(0.201)	(0.204)	(0.219)	(0.248)	(0.230)	(0.224)
D: Hours per Week spent on	-1.879**	0.029	-0.856	-0.909	-1.546**	-2.026***	-1.891***	-1.579**
Working in a Side Job	(0.757)	(0.641)	(0.653)	(0.777)	(0.610)	(0.629)	(0.552)	(0.756)
D: Hours per Week spent on	-0.847	1.474**	-0.115	0.881	-0.601	-1.060	-1.116*	-0.898
Housework and Family Work	(0.646)	(0.736)	(0.689)	(0.745)	(0.863)	(0.638)	(0.579)	(0.756)
Number of Observations	222	202	270	162	116	138	159	95

· Dependent variable: average number of hours per week spent on the respective activity during the last year of high school.
· Students with higher achievements are characterized by an average grade in year 7 of good or very good, students with lower achievements by an average grade in year 7 of satisfactory or below.
· Students' family background is characterized as academic if at least one parent has an academic degree, otherwise as non-academic.
· Regressions are separately run for each outcome.
· Regressions include further explanatory variables (school achievements until reform, educational background of family, age at school enrollment) and school fixed effects.
· All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below marginal effects. Stars denote significance of the estimates as follows: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.12: Estimates of Reform Effects: Leisure Activities in the Last Year of High School, Separately for Different Subgroups of Students (1st Wave, Ordered Probit Estimates) – Part I

	Female Sample				Male Sample			
	School Achievements		Family Background		School Achievements		Family Background	
	higher	lower	academic	non-academic	higher	lower	academic	non-academic
	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.
D: Spending Time with Friends	-0.178	0.066	0.012	-0.146	-0.048	-0.538**	-0.293	-0.389*
	(0.166)	(0.167)	(0.141)	(0.166)	(0.215)	(0.237)	(0.196)	(0.236)
D: Watching TV, Films, Internet	-0.386**	-0.115	–	–	0.210	-0.546**	–	–
	(0.165)	(0.178)			(0.266)	(0.269)		
D: Reading	0.081	0.114	0.116	0.080	-0.342*	-0.093	-0.171	-0.276
	(0.161)	(0.151)	(0.135)	(0.175)	(0.205)	(0.181)	(0.157)	(0.207)
D: Doing Nothing, Listening Music	-0.085	0.053	0.017	0.061	-0.341*	-0.141	-0.302*	-0.187
	(0.146)	(0.179)	(0.145)	(0.189)	(0.200)	(0.171)	(0.163)	(0.235)
D: Artistic or Music Activity	0.222*	0.061	0.223	-0.093	-0.064	-0.077	-0.096	0.046
	(0.130)	(0.154)	(0.149)	(0.171)	(0.240)	(0.213)	(0.189)	(0.258)
D: Visiting Cinema/Disco/Concert	-0.096	0.174	-0.038	-0.001	-0.048	-0.162	-0.146	-0.213
	(0.167)	(0.159)	(0.141)	(0.186)	(0.211)	(0.186)	(0.165)	(0.224)
D: Active Sports	-0.039	0.082	0.079	-0.140	-0.026	-0.113	-0.037	-0.367
	(0.148)	(0.162)	(0.125)	(0.178)	(0.258)	(0.225)	(0.180)	(0.239)
Number of Observations	212	199	258	153	109	132	151	90

· Dependent variable: categorical variable indicating frequency of leisure activity during the last year of high school (4= daily, 3= at least once a week, 2= at least once a month, 1= less frequent, 0= never).
· Students with higher achievements are characterized by an average grade in year 7 of good or very good, students with lower achievements by an average grade in year 7 of satisfactory or below.
· Students' family background is characterized as academic if at least one parent has an academic degree, otherwise as non-academic.
· Regressions are separately run for each outcome.
· Regressions include further explanatory variables (school achievements until reform, educational background of family, age at school enrollment) and school fixed effects.
· All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below marginal effects. Stars denote significance of the estimates as follows: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.13: Estimates of Reform Effects: Leisure Activities in the Last Year of High School, Separately for Different Subgroups of Students (1st Wave, Ordered Probit Estimates) – Part II

	Female Sample				Male Sample			
	School Achievements		Family Background		School Achievements		Family Background	
	higher	lower	academic	non-academic	higher	lower	academic	non-academic
	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.
D: Working in a Side Job	-0.547***	-0.585***	-0.444***	-0.598***	-0.914***	-0.501***	-0.794***	-0.411
	(0.191)	(0.169)	(0.149)	(0.197)	(0.259)	(0.189)	(0.182)	(0.270)
Marginal Effect: $y = 0$	0.193***	0.192***	0.154***	0.209***	0.252***	0.181***	0.262***	0.132
$y = 1$	-0.024**	-0.018***	-0.023***	-0.014**	-0.048**	-0.026**	-0.043***	-0.022
$y = 2$	-0.012**	-0.029***	-0.019**	-0.015**	-0.040**	-0.013*	-0.025**	-0.016
$y = 3$	-0.121***	-0.114***	-0.087***	-0.142***	-0.165***	-0.126**	-0.180***	-0.080
$y = 4$	-0.036**	-0.030**	-0.025**	-0.038**	–	-0.017	-0.013	-0.014
D: Voluntary Work	-0.384*	-0.171	-0.268	-0.353	0.032	-0.891***	-0.552***	–
	(0.213)	(0.168)	(0.194)	(0.238)	(0.247)	(0.258)	(0.195)	
Marginal Effect: $y = 0$	0.105*	0.040	0.071	0.075	-0.010	0.207***	0.173***	–
$y = 1$	-0.031*	-0.015	-0.024	-0.020	0.002	-0.061***	-0.042***	–
$y = 2$	-0.013	-0.008	-0.011	-0.010	0.002	-0.032**	-0.029**	–
$y = 3$	-0.048*	-0.018	-0.028	-0.045	0.005	-0.114***	-0.094***	–
$y = 4$	-0.013	–	-0.008	–	0.001	–	-0.008	–
Number of Observations	212	199	258	153	109	132	151	90

· Dependent variable: categorical variable indicating frequency of leisure activity during the last year of high school (4= daily, 3= at least once a week, 2= at least once a month, 1= less frequent, 0= never).
· Students with higher achievements are characterized by an average grade in year 7 of good or very good, students with lower achievements by an average grade in year 7 of satisfactory or below.
· Students' family background is characterized as academic if at least one parent has an academic degree, otherwise as non-academic.
· Regressions are separately run for each outcome.
· Regressions include further explanatory variables (school achievements until reform, educational background of family, age at school enrollment) and school fixed effects.
· All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below marginal effects. Stars denote significance of the estimates as follows: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Additional Tables to Chapter 6

Table A.14: Means of Postsecondary Education Decisions, According to Cohort and Gender (1st Survey Wave)

	Female Sample			Male Sample		
	G12	G13	p-value[a]	G12	G13	p-value[a]
High School Graduation						
Age at High School Graduation	**18.45**	**19.48**	**(0.00)**	**18.55**	**19.49**	**(0.00)**
Average Grade at Graduation[b]	**2.43**	**2.33**	**(0.09)**	2.56	2.51	(0.47)
Mathematics Grade at Graduation[b]	**3.30**	**3.11**	**(0.05)**	**3.36**	**3.07**	**(0.02)**
Mathematics or Science at Advanced Level[c]	0.25	0.31	(0.16)	0.54	0.56	(0.65)
Military, Civilian or Voluntary Service[d]						
Military or Civilian Service	0.00	0.01	(0.17)	0.52	0.47	(0.46)
Voluntary Year of Social/Ecological Service	0.12	0.10	(0.61)	0.07	0.06	(0.58)
Spending a Year Abroad[e]	0.11	0.09	(0.50)	0.04	0.02	(0.19)
Any Postsecondary Education[f]						
Postsecondary Education in November 2007	0.72	0.76	(0.37)	0.40	0.43	(0.71)
Postsecondary Education in May 2008	0.70	0.74	(0.31)	0.40	0.43	(0.62)
Postsecondary Education in November 2008	0.94	0.94	(0.82)	0.87	0.91	(0.37)
Postsecondary Education in March 2009	0.95	0.96	(0.90)	0.90	0.91	(0.86)
University Education[g]						
University Education (at least once)	**0.65**	**0.72**	**(0.10)**	0.72	0.69	(0.64)
University Education in November 2007	**0.47**	**0.55**	**(0.08)**	0.27	0.27	(0.98)
University Education in May 2008	**0.44**	**0.54**	**(0.03)**	0.27	0.28	(0.86)
University Education in November 2008	0.63	0.69	(0.15)	0.68	0.66	(0.80)
University Education in March 2009	0.63	0.70	(0.15)	0.68	0.65	(0.70)
Vocational Education[h]						
Vocational Education (at least once)	0.35	0.29	(0.22)	0.26	0.28	(0.66)
Vocational Education in November 2007	0.26	0.21	(0.26)	0.14	0.17	(0.51)
Vocational Education in May 2008	0.26	0.20	(0.15)	0.14	0.17	(0.52)
Vocational Education in November 2008	**0.32**	**0.25**	**(0.10)**	0.21	0.27	(0.26)
Vocational Education in March 2009	0.32	0.26	(0.15)	0.22	0.27	(0.32)
University Subjects[i]						
Humanities	0.24	0.21	(0.57)	0.13	0.06	(0.13)
Education and Social Sciences	0.23	0.18	(0.27)	**0.05**	**0.13**	**(0.07)**
Law and Economics	0.26	0.24	(0.72)	0.13	0.19	(0.24)
Engineering	0.13	0.14	(0.75)	0.53	0.42	(0.14)
Natural Sciences and Mathematics	**0.09**	**0.15**	**(0.10)**	0.12	0.17	(0.33)
Medical Sciences	0.09	0.06	(0.30)	0.02	0.05	(0.33)
Number of Observations	219	232		139	127	

[a] p-value from t-test on equality of means. Values are shown in parentheses for better readability.
[b] Grades range from 1 (excellent) to 6 (failed), i.e., lower grades indicate higher achievement.
[c] In two subjects, final examinations were taken at an advanced level, whereas all other subjects were examined at a basic level.
[d] Share of students carrying out military, civilian or voluntary service up to December 2008.
[e] Share of students spending at least 6 months abroad up to December 2008.
[f] Share of students enrolled in any postsecondary education.
[g] Share of students enrolled in a university, a university of applied sciences or a professional college.
[h] Share of students enrolled in an apprenticeship or a vocational/professional school.
[i] Share of university subjects (as percentage of total university students) in March 2009. Some students reported more than one subject, which explains differences in the sum of all subjects.
· Differences between cohorts, which are significant at a significance level of 10%, are highlighted in boldface.

Table A.15: Means of Postsecondary Education Decisions, According to Cohort and Gender (2nd Survey Wave)

	Female Sample			Male Sample		
	G12	G13	p-value[a]	G12	G13	p-value[a]
University Education[b]						
University Education (enrolled at least once)	0.82	0.82	(0.82)	0.88	0.81	(0.17)
University Education in November 2007	**0.44**	**0.59**	**(0.00)**	0.23	0.27	(0.54)
University Education in November 2008	**0.59**	**0.72**	**(0.02)**	0.71	0.66	(0.52)
University Education in November 2009	**0.63**	**0.73**	**(0.06)**	0.77	0.70	(0.27)
University Education in November 2010	0.69	0.69	(0.99)	0.77	0.72	(0.43)
University Education in November 2011	0.64	0.63	(0.82)	0.71	0.66	(0.53)
Drop-out of University Education[c]	0.20	0.18	(0.77)	0.23	0.21	(0.77)
Vocational Education[d]						
Vocational Education (enrolled at least once)	0.39	0.32	(0.14)	0.29	0.35	(0.43)
Vocational Education in November 2007	0.23	0.17	(0.17)	0.13	0.18	(0.34)
Vocational Education in November 2008	**0.31**	**0.23**	**(0.07)**	0.25	0.27	(0.81)
Vocational Education in November 2009	0.33	0.26	(0.13)	**0.19**	**0.30**	**(0.09)**
Vocational Education in November 2010	0.14	0.14	(0.95)	0.13	0.17	(0.45)
Vocational Education in November 2011	0.08	0.06	(0.44)	0.06	0.10	(0.38)
Drop-out of Vocational Education[e]	0.11	0.12	(0.86)	0.26	0.06	(0.05)
Vocational Education before University Education						
Vocational Educ. started before University Educ.[f]	**0.16**	**0.08**	**(0.03)**	0.12	0.11	(0.97)
Vocational Educ. completed before University Educ.[g]	**0.13**	**0.04**	**(0.00)**	0.05	0.09	(0.33)
Any Postsecondary Education[h]						
University or Vocational Education started until 2007	**0.68**	**0.76**	**(0.08)**	0.36	0.45	(0.24)
University or Vocational Education started until 2008	0.93	0.96	(0.27)	0.95	0.92	(0.48)
University or Vocational Education started until 2009	0.99	0.99	(0.42)	1.00	1.00	(–)
University or Vocational Education started until 2010	0.99	0.99	(0.56)	1.00	1.00	(–)
University or Vocational Education started until 2011	1.00	1.00	(–)	1.00	1.00	(–)
Institution of University Education[i]						
University	0.63	0.66	(0.64)	0.65	0.63	(0.70)
University of Applied Sciences	0.16	0.18	(0.74)	0.29	0.19	(0.13)
Professional College	0.06	0.04	(0.35)	0.05	0.05	(0.86)
University Subjects[j]						
Humanities	**0.12**	**0.19**	**(0.07)**	0.08	0.09	(0.75)
Education and Social Sciences	**0.23**	**0.15**	**(0.07)**	0.08	0.07	(0.83)
Law and Economics	0.18	0.19	(0.85)	0.18	0.16	(0.73)
Engineering	0.08	0.11	(0.45)	0.36	0.31	(0.48)
Natural Sciences and Mathematics	**0.06**	**0.11**	**(0.05)**	0.12	0.13	(0.85)
Medical Sciences	**0.12**	**0.05**	**(0.03)**	0.04	0.02	(0.56)
Number of Observations	182	179		79	89	

[a] p-value from t-test on equality of means. Values are shown in parentheses for better readability.
[b] Share of students enrolled in a university, a university of applied sciences or a professional college.
[c] Share of university students dropping out of their university education (or changing subjects).
[d] Share of students enrolled in an apprenticeship or a vocational/professional school.
[e] Share of vocational students dropping out of their vocational education.
[f] Share of students enrolled in vocational education before enrollment in university education.
[g] Share of students completed vocational education before enrollment in university education.
[h] Share of students having started any postsecondary education (university or vocational education) until November of the respective year.
[i] Share of students enrolled in each type of university (at least once between July 2007 and December 2011).
[j] Share of students being enrolled or having obtained a degree in the respective university subject at the end of 2011.
· Differences between cohorts, which are significant at a significance level of 10%, are highlighted in boldface.

Table A.16: Estimates of Reform Effects: Vocational Education before University Education (2nd Wave, Probit Estimates)

	Female Sample Medium-term 07/2007 – 12/2011 Marginal effect	Male Sample Medium-term 07/2007 – 12/2011 Marginal effect
D: Vocational Education Started	0.080***	0.026
before University Education	(0.029)	(0.062)
N	339	116
D: Vocational Education Completed	0.106***	-0.189**
before University Education	(0.030)	(0.085)
N	311	87

· Dependent variable: dummy indicating enrollment in vocational education before enrollment in university education (between July 2007 and December 2011).
· Regressions are separately run for each outcome.
· Regressions include further explanatory variables (school achievements until reform, educational background of family, age at school enrollment) and school fixed effects.
· Marginal effects are average marginal effects. All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below marginal effects. Stars denote significance of the estimates as follows: $^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$.

Table A.17: Estimates of Reform Effects: Type of University Education (2nd Wave, Probit Estimates)

	Female Sample Medium-term 07/2007 – 12/2011 Marginal effect	Male Sample Medium-term 07/2007 – 12/2011 Marginal effect
D: University	-0.033	0.041
	(0.044)	(0.066)
N	342	162
D: University of Applied Sciences	-0.005	0.150***
	(0.032)	(0.057)
N	342	151
D: Professional College	0.007	-0.034
	(0.025)	(0.038)
N	304	111

· Dependent variable: dummy indicating enrollment in each type of university (at least once between July 2007 and December 2011).
· Regressions are separately run for each outcome.
· Regressions include further explanatory variables (school achievements until reform, educational background of family, age at school enrollment) and school fixed effects.
· Marginal effects are average marginal effects. All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below marginal effects. Stars denote significance of the estimates as follows: $^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$.

Table A.18: Estimates of Reform Effects: University Education and Vocational Education (1st and 2nd Wave, Regression Estimates, Pooled Sample)

	Pooled Sample	
	Short-term	Medium-term
	07/2007 – 03/2009	07/2007 – 12/2011
	Marginal effect	Marginal effect
University Education		
D	-0.069*	-0.016
	(0.038)	(0.036)
D × Gender (Male)	0.123*	0.099
	(0.071)	(0.071)
N	696	504
Vocational Education		
D	0.060	0.087*
	(0.043)	(0.044)
D × Gender (Male)	-0.104	-0.158*
	(0.071)	(0.085)
N	696	506

· Dependent variable: dummy indicating enrollment in university or vocational education at least once between July 2007 and March 2009 (1st wave)/ between July 2007 and December 2011 (2nd wave).
· Regressions are separately run for each outcome.
· Regressions include further explanatory variables (school achievements until reform, educational background of family, age at school enrollment) and school fixed effects.
· Marginal effects are average marginal effects. All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below marginal effects. Stars denote significance of the estimates as follows: $^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$.

Table A.19: Gender Differences in Reform Effects

	Female Sample Marg.eff.	Male Sample Marg.eff.	p-value[a]
University Education			
D: University Education (Short-term)	-0.077**	0.062	**0.044**
D: University Education (Medium-term)	-0.027	0.098*	0.145
Vocational Education			
D: Vocational Education (Short-term)	0.061	-0.052	**0.100**
D: Vocational Education (Medium-term)	0.096**	-0.098	**0.019**
University and Vocational Education, according to Semester			
D: University Education 11/2007	-0.166***	-0.026	0.505
D: University Education 11/2008	-0.145***	0.103	**0.021**
D: University Education 11/2009	-0.127***	0.115*	**0.005**
D: University Education 11/2010	-0.012	0.080	0.241
D: University Education 11/2011	-0.003	0.071	0.252
D: Vocational Education 11/2007	0.073**	-0.070	**0.027**
D: Vocational Education 11/2008	0.103**	-0.047	**0.080**
D: Vocational Education 11/2009	0.100**	-0.145**	**0.007**
D: Vocational Education 11/2010	0.015	-0.063	0.267
D: Vocational Education 11/2011	0.031	-0.035	0.340
University Subjects			
D: Humanities (Short-term)	-0.010	0.031	0.411
D: Humanities (Medium-term)	-0.052	-0.040	0.846
D: Education/Social Sciences (Short-term)	0.047	-0.120*	**0.025**
D: Education/Social Sciences (Medium-term)	0.057	0.013	0.572
D: Law and Economics (Short-term)	0.049	-0.035	0.110
D: Law and Economics (Medium-term)	0.000	-0.011	0.398
D: Engineering (Short-term)	-0.011	0.110	**0.094**
D: Engineering (Medium-term)	-0.033	0.090	**0.063**
D: Natural Sciences/Mathematics (Short-term)	-0.068**	-0.058	0.712
D: Natural Sciences/Mathematics (Medium-term)	-0.086***	-0.031	0.213
D: Medical Sciences (Short-term)	0.028	–	–
D: Medical Sciences (Medium-term)	0.073***	–	–
D: STEM (Narrow Definition, Short-term)	-0.061	0.026	0.239
D: STEM (Narrow Definition, Medium-term)	-0.102***	0.074	**0.013**
D: STEM (Broad Definition, Short-term)	-0.042	-0.026	0.767
D: STEM (Broad Definition, Medium-term)	-0.045	0.072	**0.086**

[a] p-value from test on equality of effects between male and female students.

· Dependent variable: dummy indicating enrollment in university or vocational education between July 2007 and March 2009 (1st wave) or December 2011 (2nd wave). Dummy indicating that a student is enrolled in a university subject in March 2009 (1st wave) or is enrolled or has obtained a degree in a university subject in December 2011 (2nd wave).

· Regressions are separately run for each outcome.

· Regressions include further explanatory variables (school achievements until reform, educational background of family, age at school enrollment) and school fixed effects.

· Marginal effects are average marginal effects. Stars denote significance of the estimates as follows: $^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$.

Table A.20: Robustness Check: Estimation with Weighted Background Characteristics[a] (1st and 2nd Wave, Probit Estimates)

	Female Sample		Male Sample	
	Short-term Marg.eff.	Medium-term Marg.eff.	Short-term Marg.eff.	Medium-term Marg.eff.
University Education				
D: University Education (at least once)	-0.063*	-0.013	0.023	0.099*
	(0.035)	(0.040)	(0.056)	(0.052)
D: University Education in November 2007		-0.181***		-0.046
		(0.047)		(0.071)
D: University Education in November 2008		-0.141***		0.096
		(0.042)		(0.075)
D: University Education in November 2009		-0.130***		0.112*
		(0.040)		(0.058)
D: University Education in November 2010		-0.015		0.085
		(0.041)		(0.055)
Vocational Education				
D: Vocational Education (at least once)	0.048	0.096***	-0.026	-0.096
	(0.040)	(0.037)	(0.052)	(0.064)
D: Vocational Education in November 2007		0.075**		-0.099*
		(0.030)		(0.056)
D: Vocational Education in November 2008		0.087**		-0.049
		(0.040)		(0.063)
D: Vocational Education in November 2009		0.089**		-0.142**
		(0.040)		(0.065)
D: Vocational Education in November 2010		0.021		-0.062
		(0.038)		(0.047)
University Subjects				
D: Humanities	-0.019	-0.056*	0.064	-0.058
	(0.043)	(0.033)	(0.060)	(0.043)
D: Educational and Social Sciences	0.049	0.045	-0.134**	0.038
	(0.047)	(0.042)	(0.063)	(0.048)
D: Law and Economics	0.040	0.008	-0.059	-0.037
	(0.048)	(0.035)	(0.047)	(0.052)
D: Engineering	-0.012	-0.027	0.085	0.103*
	(0.035)	(0.030)	(0.071)	(0.054)
D: Natural Sciences and Mathematics	-0.063*	-0.075***	-0.038	-0.026
	(0.033)	(0.028)	(0.045)	(0.056)
D: Medical Sciences	0.023	0.075***	–	–
	(0.040)	(0.027)		
D: STEM Subjects (narrow definition)	-0.050	-0.094**	0.024	0.093
	(0.051)	(0.037)	(0.075)	(0.068)
D: STEM Subjects (broad definition)	-0.036	-0.035	-0.017	0.109
	(0.054)	(0.036)	(0.074)	(0.069)
Number of Observations (Enrollment)	437	344	258	145
Number of Observations (Subjects)	199 – 291	295 – 341	119 – 171	134 – 158

[a] Data weighted in order to equalize differences between cohorts in some background variables.

· Dependent variable: dummy indicating enrollment in university or vocational education between July 2007 and March 2009 (1st wave) or December 2011 (2nd wave); dummy indicating that a student is enrolled in a university subject in March 2009 (1st wave) or is enrolled or has obtained a degree in a university subject in December 2011 (2nd wave). Regressions are separately run for each outcome. Regressions include further explanatory variables (school achievements until reform, educational background of family, age at school enrollment) and school fixed effects. Marginal effects are average marginal effects. All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below marginal effects. Stars denote significance of the estimates as follows: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Estimations with fewer than 100 observations are indicated by –. The number of observations varies depending on the outcome variable. Indicated are the minimum and maximum number of observations for the respective group of outcomes.

Table A.21: Robustness Check: Seemingly Unrelated Regression (1st and 2nd Wave, Estimates of Joint Significance)

	Female Sample		Male Sample	
	Short-term	Medium-term	Short-term	Medium-term
	Marg.eff.	Marg.eff.	Marg.eff.	Marg.eff.
D: University Education (at least once)	-0.071*	-0.019	0.067	0.080
	(0.042)	(0.041)	(0.054)	(0.056)
D: Vocational Education (at least once)	0.058	0.092*	-0.049	-0.066
	(0.043)	(0.049)	(0.054)	(0.069)
p-value[a]	0.240	0.115	0.465	0.354
D: University Education in November 2007		-0.161***		-0.077
		(0.052)		(0.067)
D: Vocational Education in November 2007		0.066		-0.061
		(0.041)		(0.056)
p-value[a]		0.008		0.228
D: University Education in November 2008		-0.142***		0.045
		(0.049)		(0.067)
D: Vocational Education in November 2008		0.101**		-0.034
		(0.046)		(0.065)
p-value[a]		0.014		0.799
D: University Education in November 2009		-0.122**		0.075
		(0.048)		(0.064)
D: Vocational Education in November 2009		0.096**		-0.126**
		(0.047)		(0.064)
p-value[a]		0.039		0.117
D: University Education in November 2010		-0.004		0.069
		(0.049)		(0.062)
D: Vocational Education in November 2010		0.010		-0.068
		(0.037)		(0.053)
p-value[a]		0.959		0.397
D: Humanities	-0.012	-0.055	0.049	-0.028
	(0.048)	(0.039)	(0.044)	(0.045)
D: Educational and Social Sciences	0.043	0.064	-0.079*	-0.003
	(0.046)	(0.041)	(0.045)	(0.040)
D: Law and Economics	0.056	0.005	-0.043	-0.007
	(0.050)	(0.042)	(0.055)	(0.058)
D: Engineering	-0.011	-0.029	0.128*	0.112
	(0.040)	(0.031)	(0.074)	(0.071)
D: Natural Sciences and Mathematics	-0.058	-0.065**	-0.065	-0.025
	(0.038)	(0.029)	(0.054)	(0.051)
D: Medical Sciences	0.020	0.064**	-0.040	0.020
	(0.031)	(0.029)	(0.028)	(0.026)
p-value[a]	0.473	0.041	0.160	0.680
Number of Observations (Enrollment)	438	343	258	161
Number of Observations (Subjects)	292	343	171	161

[a] p-value from test of joint significance of the effects.

· Dependent variable: dummy indicating enrollment in university or vocational education between July 2007 and March 2009 (1st wave) or December 2011 (2nd wave); dummy indicating that a student is enrolled in a university subject in March 2009 (1st wave) or is enrolled or has obtained a degree in a university subject in December 2011 (2nd wave).

· Seemingly unrelated regression models are applied for estimation of joint significance of enrollment in university education and vocational education (at least once), of enrollment in university education and vocational education at different points in time, and of enrollment in university subjects.

· Regressions include further explanatory variables (school achievements until reform, educational background of family, age at school enrollment) and school fixed effects. Marginal effects are average marginal effects. Standard errors are shown in parentheses below marginal effects. Stars denote significance of the estimates as follows: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.22: Robustness Check: Instrumental Variable Estimation (1st and 2nd Wave, Two-Stage Least Squares Regression Estimates)

	Female Sample		Male Sample	
	Short-term Marg.eff.	Medium-term Marg.eff.	Short-term Marg.eff.	Medium-term Marg.eff.
University Education				
D: University Education (at least once)	-0.082**	-0.025	0.063	0.085
	(0.038)	(0.035)	(0.061)	(0.059)
D: University Education in November 2007		-0.152***		-0.028
		(0.047)		(0.076)
D: University Education in November 2008		-0.147***		0.098
		(0.047)		(0.080)
D: University Education in November 2009		-0.126***		0.083
		(0.045)		(0.066)
D: University Education in November 2010		-0.015		0.055
		(0.043)		(0.063)
Vocational Education				
D: Vocational Education (at least once)	0.069	0.094**	-0.030	-0.071
	(0.044)	(0.042)	(0.058)	(0.073)
D: Vocational Education in November 2007		0.075**		-0.069
		(0.035)		(0.060)
D: Vocational Education in November 2008		0.113**		-0.042
		(0.045)		(0.069)
D: Vocational Education in November 2009		0.107**		-0.131*
		(0.044)		(0.072)
D: Vocational Education in November 2010		0.013		-0.054
		(0.034)		(0.051)
University Subjects				
D: Humanities	-0.006	-0.047	0.015	-0.043
	(0.044)	(0.034)	(0.055)	(0.050)
D: Educational and Social Sciences	0.047	0.065	-0.076	-0.004
	(0.049)	(0.042)	(0.056)	(0.039)
D: Law and Economics	0.042	0.002	-0.027	0.004
	(0.047)	(0.035)	(0.054)	(0.059)
D: Engineering	-0.015	-0.027	0.160*	0.106
	(0.037)	(0.028)	(0.089)	(0.064)
D: Natural Sciences and Mathematics	-0.063*	-0.073***	-0.043	-0.023
	(0.033)	(0.027)	(0.055)	(0.049)
D: Medical Sciences	0.016	0.057**	-0.065	0.001
	(0.026)	(0.025)	(0.041)	(0.020)
D: STEM Subjects (narrow definition)	-0.072	-0.113***	0.086	0.073
	(0.049)	(0.036)	(0.089)	(0.076)
D: STEM Subjects (broad definition)	-0.056	-0.062	0.012	0.075
	(0.052)	(0.038)	(0.090)	(0.078)
Number of Observations (Enrollment)	437	343	257	160
Number of Observations (Subjects)	292	343	170	160

· Dependent variable: dummy indicating enrollment in university or vocational education between July 2007 and March 2009 (1st wave) or December 2011 (2nd wave); dummy indicating that a student is enrolled in a university subject in March 2009 (1st wave) or is enrolled or has obtained a degree in a university subject in December 2011 (2nd wave).

· Regressions are separately run for each outcome. Regressions include further explanatory variables (school achievements until reform, educational background of family, age at school enrollment) and school fixed effects. Date of birth is used as an instrument for assignment to treatment group (first-stage estimation). Marginal effects are average marginal effects. All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below marginal effects. Stars denote significance of the estimates as follows: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.23: Robustness Check: Estimation Including Students with Grade Repetition (1st and 2nd Wave, Probit Estimates)

	Female Sample		Male Sample	
	Short-term Marg.eff.	Medium-term Marg.eff.	Short-term Marg.eff.	Medium-term Marg.eff.
University Education				
D: University Education (at least once)	-0.076**	-0.009	0.045	0.067
	(0.035)	(0.037)	(0.052)	(0.055)
D: University Education in November 2007		-0.152***		-0.069
		(0.044)		(0.072)
D: University Education in November 2008		-0.124***		0.029
		(0.043)		(0.071)
D: University Education in November 2009		-0.105***		0.085
		(0.040)		(0.064)
D: University Education in November 2010		0.005		0.072
		(0.041)		(0.057)
Vocational Education				
D: Vocational Education (at least once)	0.069*	0.079**	-0.019	-0.071
	(0.040)	(0.038)	(0.048)	(0.068)
D: Vocational Education in November 2007		0.074**		-0.006
		(0.031)		(0.058)
D: Vocational Education in November 2008		0.096**		0.002
		(0.040)		(0.058)
D: Vocational Education in November 2009		0.086**		-0.128**
		(0.039)		(0.065)
D: Vocational Education in November 2010		0.000		-0.082
		(0.036)		(0.051)
University Subjects				
D: Humanities	-0.001	-0.050	0.034	-0.007
	(0.046)	(0.036)	(0.038)	(0.043)
D: Educational and Social Sciences	0.027	0.054	-0.122**	0.018
	(0.045)	(0.040)	(0.059)	(0.038)
D: Law and Economics	0.059	0.002	-0.033	-0.033
	(0.047)	(0.034)	(0.047)	(0.056)
D: Engineering	-0.013	-0.031	0.107	0.070
	(0.032)	(0.027)	(0.067)	(0.063)
D: Natural Sciences and Mathematics	-0.070**	-0.080***	-0.054	-0.022
	(0.032)	(0.028)	(0.053)	(0.051)
D: Medical Sciences	0.026	0.065**	–	–
	(0.037)	(0.026)		
D: STEM Subjects (narrow definition)	-0.065	-0.110***	0.025	0.048
	(0.046)	(0.036)	(0.073)	(0.072)
D: STEM Subjects (broad definition)	-0.047	-0.061*	-0.024	0.049
	(0.051)	(0.037)	(0.074)	(0.074)
Number of Observations (Enrollment)	462	317 – 364	277	152 – 174
Number of Observations (Subjects)	202 – 300	311 – 361	125 – 178	144 – 168

· Dependent variable: dummy indicating enrollment in university or vocational education between July 2007 and March 2009 (1st wave) or December 2011 (2nd wave); dummy indicating that a student is enrolled in a university subject in March 2009 (1st wave) or is enrolled or has obtained a degree in a university subject in December 2011 (2nd wave).

· Regressions are separately run for each outcome. Regressions include further explanatory variables (school achievements until reform, educational background of family, age at school enrollment) and school fixed effects. Marginal effects are average marginal effects. All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below marginal effects. Stars denote significance of the estimates as follows: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Estimations with fewer than 100 observations are indicated by –. The number of observations varies depending on the outcome variable. Indicated are the minimum and maximum number of observations for the respective group of outcomes.

Additional Tables to Chapter 7

Table A.24: Means of Background Characteristics of Students w.r.t. Panel Attrition (DZHW Panel Survey of High School Graduates)

	Female Sample				Male Sample			
	1st Wave		2nd Wave		1st Wave		2nd Wave	
	2008	2012	2008	2012	2008	2012	2008	2012
Born in First Half Year of Cohort	0.53	0.49	0.51	0.48	0.55	0.52	0.53	0.50
Migration Background[a]	0.06	0.06	0.06	0.04	0.07	0.06	0.06	0.04
Academic Degree of Parents[b]	0.59	0.59	0.61	0.58	0.66	0.64	0.65	0.62
University Education Planned[c]	0.69	0.76	0.77	0.79	0.75	0.80	0.83	0.86
N	6,349	7,906	2,095	3,785	4,031	5,468	910	1,905

[a] Migration background is defined as follows: Student is born abroad or has foreign citizenship (sligthly different definition than in the rest of the chapter because not all variables are available in the 1st wave).
[b] At least one parent has an academic degree.
[c] Attendance of university education is firmly or probably planned half a year before high school graduation.
· Further background variables cannot be compared because they were only collected in the second wave.

Table A.25: Composition of Treatment and Control Groups (DZHW Panel Survey of High School Graduates, Number of Observations)

	Female Sample			Male Sample		
	TG 1	TG 2	TG 3	TG 1	TG 2	TG 3
	2008/ 2012	2008/ 2012	2006/ 2012	2008/ 2012	2008/ 2012	2006/ 2012
Saxony-Anhalt	–	–	302	–	–	144
Mecklenburg-Western Pomerania	–	–	194	–	–	74
Hamburg	125	125	–	50	50	–
Bavaria	636	636	–	351	351	–
Lower Saxony	494	494	–	208	208	–
Baden-Wuerttemberg	–	650	–	–	336	–
Bremen	–	85	–	–	34	–
Berlin	–	131	–	–	60	–
Brandenburg	–	151	–	–	86	–
Hesse	312	312	302	140	140	145
Schleswig-Holstein	153	153	–	77	77	–
Rhineland-Palatinate	279	279	–	139	139	–
Saxony	363	363	448	163	163	175
Thuringia	260	260	219	104	104	100
Treatment Group	1,255	2,272	496	609	1,125	218
Control Group	1,367	1,367	969	623	623	420

Table A.26: Numbers and Shares of Students Attending High School and Comprehensive School after Primary School

	Grade 4	Grade 5		Grade 5		Graduation	
	Primary S.	High School		Comprehensive School		High School	
Graduation	Number of	Number of	Share of	Number of	Share of	Number of	Share of
Cohort	Students	Students	Grade 4	Students	Grade 4	Graduates	Grade 4
Bavaria							
2008	133,094	47,040	35%	524	0%	31,072	23%
2009	134,583	47,161	35%	535	0%	32,782	24%
2010	138,619	48,568	35%	379	0%	34,928	25%
2011 G13	135,764	47,919	35%	328	0%	36,971	27%
2011 G12	132,927	46,578	35%	319	0%	31,147	23%
2012	130,061	47,291	36%	334	0%	36,016	28%
2013	126,742	47,324	37%	342	0%	36,828	29%
Hamburg							
2008	15,054	6,331	42%	3,851	26%	5,151	34%
2009	15,321	6,671	44%	3,835	25%	5,511	36%
2010 G13	15,574	6,798	44%	3,941	25%	6,217	40%
2010 G12	15,652	6,772	43%	4,023	26%	4,373	28%
2011	14,699	6,286	43%	4,028	27%	5,080	35%
2012	14,441	6,313	44%	4,049	28%	5,119	35%
2013	14,238	6,404	45%	4,104	29%	5,109	36%
Lower Saxony							
2008[a]	88,709	27,505	31%	3,531	4%	19,208	22%
2009[a]	90,279	28,588	32%	3,621	4%	20,752	23%
2010[a]	93,104	31,515	34%	3,807	4%	22,872	25%
2011 G13[a]	91,857	31,236	34%	3,715	4%	22,963	25%
2011 G12[a]	89,211	33,063	37%	4,038	5%	16,951	19%
2012	87,679	34,817	40%	4,076	5%	23,983	27%
2013	84,090	34,676	41%	4,149	5%	23,162	28%

[a] Until the graduation cohort 2011, the transition into high school or comprehensive school took place after grade 6.

· The decrease in the graduation rate of G12 students from the double cohorts is not necessarily due to increased grade repetition but could also be caused by changed conditions for spending a school year abroad.

· Source: Federal Statistical Office (n.y.a).

Table A.27: Share of Students Dropping Out of Cohort in the Last Two Years of High School

	Graduation Cohort									
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Saxony	0.12	0.13	0.15	0.13	0.10	0.13	0.13	0.11	0.11	0.11
Thuringia	0.09	0.10	0.11	0.12	0.12	0.09	0.11	0.10	0.10	0.09
Saxony-Anhalt	0.12	0.13	0.14	0.19	0.18	0.20	0.17	0.18	0.21	0.19
Mecklenburg-Western Pom.	0.11	0.10	0.09	0.14	0.18	0.19	0.21	0.17	0.20	0.18
Saarland	0.11	0.10	0.08	0.10	0.14	0.08	0.14	0.14	0.18	0.18
Hamburg	0.13	0.14	0.15	0.13	0.12	0.14	0.20	0.13	0.12	0.11
Bavaria	0.07	0.07	0.08	0.08	0.08	0.07	0.06	0.09	0.08	–
Lower Saxony	0.11	0.14	0.14	0.17	0.18	0.16	0.19	0.20	0.19	0.18
Baden-Wuerttemberg	0.05	0.05	0.05	0.06	0.05	0.06	0.06	0.07	0.09	0.10
Bremen	0.14	0.15	0.16	0.15	0.18	0.18	0.19	0.20	0.23	0.23
Berlin	0.15	0.15	0.17	0.14	0.17	0.17	0.14	0.25	0.25	0.24
Brandenburg	0.11	0.09	0.09	0.11	0.09	0.10	0.10	0.17	0.15	0.20
North Rhine-Westphalia	0.14	0.14	0.16	0.14	0.14	0.12	0.12	0.10	0.13	0.13
Hesse	0.13	0.12	–	0.12	0.11	0.12	0.12	0.12	0.13	0.14
Schleswig-Holstein	0.12	0.12	0.11	0.12	0.12	0.08	0.13	0.13	0.13	0.12
Rhineland-Palatinate	0.09	0.11	0.11	0.12	0.12	0.12	0.12	0.11	0.11	0.11

· Share of students who entered the second last year of high school but did not graduate from high school on time (i.e. two years after entry).
· Shares for double graduation cohorts are presented for both cohorts together because separate numbers for G12/G13 students are either not contained or unclear/unreliable in Federal Statistical Office (n.y.a).
· Shares not available are indicated by –.
· The exceptional high number in Hamburg 2011 could be due to the implementation of a new type of secondary school in 2010/2011 in this state, which could have led to some statistical reporting errors in this year.
· Source: Own calculation on the basis of Federal Statistical Office (n.y.a).

Table A.28: Admission Grades in Selected Subjects at Universitities and Universities of Applied Sciences in Bavaria and Lower Saxony, 2009 – 2012

	WS 2009/10	WS 2010/11	WS 2011/12	WS 2012/13
University of Bamberg				
Business Administration and Economics	all admitted	all admitted	all admitted	all admitted
Psychology	1.8	1.6	1.7	1.6
Teaching in Primary School	1.9	1.8	1.6	1.9
Teaching in High School	1.4	1.2	1.5	1.6
Ludwig-Maximilians University Munich				
Business Administration and Economics	not available	2.2	1.7	1.8
Geography	3.1	2.8	3.1	3.1
Law	2.2	2.3	2.2	2.1
Psychology	1.4	1.4	1.3	1.3
Teaching in Primary School	2.5	2.3	2.4	2.4
University of Passau				
Business Administration and Economics	all admitted	all admitted	2.6	2.4
Business Informatics	all admitted	all admitted	all admitted	all admitted
Political Sciences	2.5	all admitted	all admitted	all admitted
Teaching in Primary School	2.5	2.5	2.5	2.7
East Bavarian Technical University Regensburg				
Business Administration	3.0	2.6	2.7	2.4
Business Informatics	all admitted	3.0	3.1	2.9
Engineering	3.0	2.9	2.7	2.7
Social Work	2.4	2.1	2.2	2.1
Leibniz University Hannover				
Biology	2.3	2.3	2.1	2.4
Business Administration and Economics	3.1	3.0	3.3	3.4
Business Engineering	2.6	2.4	2.6	2.9
Engineering	all admitted	all admitted	all admitted	all admitted
Geography	2.7	2.7	2.6	2.4
Law	3.1	2.7	3.1	3.0
Political Science	2.5	2.7	2.7	all admitted
University of Osnabrück				
Biology	2.1	2.1	2.1	2.2
Business Administration and Economics	all admitted	all admitted	3.2	2.9
Geography	all admitted	2.8	2.8	all admitted
Law	all admitted	2.8	3.3	all admitted
Psychology	1.6	1.5	1.4	1.4

· Admission to university education is based on at least two factors: (1) average grade at high school graduation (ranging between 1 [very good] and 4 [sufficient], i.e., lower grades indicate higher achievement), and (2) number of semesters waiting for university enrollment. Both factors are considered with different weighting, depending on the university. The grades shown above represent admission grades without waiting semesters, i.e., for students attending university in the same year as they graduated from high school.
· WS denotes the winter semester, starting in October of the respective year.
· Source: Information provided by the respective universities.

Table A.29: Robustness Check: Estimations Using 2006 as the Pre-Reform Year (DZHW Panel Survey, DiD Probit Estimates, Marginal Effects)

	Female Sample		Male Sample	
Pre-/Post-Reform Year	2006/2012		2006/2012	
Treatment Group	TG 1	TG 2	TG 1	TG 2
University Education (started)[a]	-0.135***	-0.131***	-0.061	-0.028
	(0.041)	(0.036)	(0.059)	(0.053)
University Education (started/planned)[b]	-0.029	-0.026	-0.052	-0.022
	(0.034)	(0.030)	(0.046)	(0.041)
Vocational Education (started)[a]	0.027	0.024	0.013	-0.002
	(0.029)	(0.024)	(0.041)	(0.034)
Vocational Education (started/planned)[b]	0.045	0.047*	0.077*	0.049
	(0.032)	(0.028)	(0.042)	(0.036)
Internship or Temporary Work[c]	0.042*	0.057**	0.104**	0.056*
	(0.026)	(0.025)	(0.042)	(0.033)
Voluntary Service or Stay Abroad[c]	0.079**	0.051*	0.001	-0.017
	(0.033)	(0.030)	(0.045)	(0.040)
STEM Subjects (narrow definition)[d]	-0.027	-0.017	-0.102*	-0.039
	(0.032)	(0.028)	(0.061)	(0.054)
STEM Subjects (broad definition)[d]	-0.033	-0.029	-0.139**	-0.069
	(0.037)	(0.032)	(0.061)	(0.054)
Number of Observations	2,498	3,472	1,186	1,669

· Treatment group 1: Bavaria, Hamburg, Lower Saxony.
· Treatment group 2: Bavaria, Hamburg, Lower Saxony, Baden-Wuerttemberg, Berlin, Brandenburg, Bremen.
· Control group 1 and 2: Hesse, Rhineland-Palatinate, Saxony, Schleswig-Holstein, Thuringia.
[a] Dependent variable: Dummy indicating actual enrollment in university/vocational education.
[b] Dependent variable: Dummy indicating actual or firmly planned enrollment in university/vocational education.
[c] Dependent variable: Dummy indicating participation in the year after high school graduation in an internship or temporary work / in a voluntary service or stay abroad.
[d] Dependent variable: Dummy indicating actual enrollment or firmly planned enrollment in a STEM university subject (STEM subjects narrowly defined include engineering, natural sciences and mathematics, STEM subjects broadly defined additionally include medical sciences).
· Regressions are separately run for each outcome.
· Regressions include further explanatory variables: post-reform-dummy, treatment-group-dummy, academic degree of parents, occupational status of parents, number of books of parents, migration background, half year of birth, and state dummies.
· Marginal effects are average marginal effects. Standard errors are shown in parenthesis below marginal effects. Stars denote significance of the estimates as follows: $^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$.

Table A.30: Robustness Check: Estimations Without One Control State (Treatment Group 1, DZHW Panel Survey, DiD Probit Estimates, Marginal Effects)

	Female Sample					Male Sample				
	w/o SH	w/o HE	w/o RP	w/o SN	w/o TH	w/o SH	w/o HE	w/o RP	w/o SN	w/o TH
University Education (started)[a]	-0.102**	-0.091**	-0.109**	-0.067	-0.105**	-0.030	-0.019	-0.027	-0.036	-0.055
	(0.042)	(0.044)	(0.044)	(0.043)	(0.043)	(0.061)	(0.064)	(0.064)	(0.064)	(0.062)
University Education (started/plan.)[b]	0.002	-0.005	-0.002	0.024	0.008	-0.030	-0.022	-0.039	-0.059	-0.050
	(0.034)	(0.036)	(0.036)	(0.035)	(0.035)	(0.045)	(0.049)	(0.049)	(0.048)	(0.047)
Vocational Education (started)[a]	-0.026	-0.024	-0.023	-0.035	-0.045	-0.027	-0.034	-0.022	-0.020	-0.004
	(0.029)	(0.031)	(0.030)	(0.029)	(0.030)	(0.039)	(0.043)	(0.043)	(0.042)	(0.040)
Vocational Education (started/plan.)[b]	-0.012	0.001	-0.009	-0.033	-0.024	0.006	0.007	0.024	0.036	0.042
	(0.032)	(0.034)	(0.033)	(0.033)	(0.033)	(0.041)	(0.045)	(0.045)	(0.044)	(0.042)
Internship or Temporary Work[c]	0.058**	0.064**	0.062**	0.053*	0.070**	0.031	0.054	0.023	0.025	0.018
	(0.026)	(0.028)	(0.028)	(0.029)	(0.028)	(0.034)	(0.036)	(0.037)	(0.037)	(0.037)
Voluntary Service or Stay Abroad[c]	0.098***	0.081**	0.102***	0.088**	0.109***	0.043	0.026	0.029	0.050	0.053
	(0.033)	(0.035)	(0.035)	(0.034)	(0.034)	(0.045)	(0.048)	(0.049)	(0.047)	(0.046)
STEM Subjects (narrow definition)[d]	0.037	0.059*	0.017	0.035	0.033	0.078	0.032	0.094	0.041	0.059
	(0.033)	(0.034)	(0.034)	(0.035)	(0.034)	(0.062)	(0.065)	(0.065)	(0.064)	(0.063)
STEM Subjects (broad definition)[d]	0.003	0.023	-0.017	0.005	0.001	0.062	0.033	0.083	0.016	0.050
	(0.038)	(0.039)	(0.039)	(0.039)	(0.039)	(0.062)	(0.065)	(0.065)	(0.064)	(0.063)
Number of Observations	2,417	2,260	2,294	2,212	2,308	1,124	1,063	1,064	1,044	1,097

[a] Dependent variable: Dummy indicating actual enrollment in university/vocational education.
[b] Dependent variable: Dummy indicating actual or firmly planned enrollment in university/vocational education.
[c] Dependent variable: Dummy indicating participation in the year after high school graduation in an internship or temporary work / in a voluntary service or stay abroad.
[d] Dependent variable: Dummy indicating actual enrollment or firmly planned enrollment in a STEM university subject (STEM subjects narrowly defined include engineering, natural sciences and mathematics, STEM subjects broadly defined additionally include medical sciences).
· Regressions are separately run for each outcome.
· Regressions include further explanatory variables: post-reform-dummy, treatment-group-dummy, academic degree of parents, occupational status of parents, number of books of parents, migration background, half year of birth, and state dummies.
· Marginal effects are average marginal effects. Standard errors are shown in parenthesis below marginal effects. Stars denote significance of the estimates as follows: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.31: Robustness Check: Placebo Tests (DZHW Panel Survey, DiD Probit Estimates, Marginal Effects)

	Female Sample			Male Sample		
	(1) Control Gr. West/East 2008/12	(2) TG 1 / CG 1 2006/08	(3) G13 stud. BB, BE, BR, BW	(1) Control Gr. West/East 2008/12	(2) TG 1 / CG 1 2006/08	(3) G13 stud. BB, BE, BR, BW
University Education (started)[a]	-0.054	-0.041	0.054	0.075	-0.012	0.072
	(0.057)	(0.047)	(0.043)	(0.084)	(0.069)	(0.061)
University Education (started/planned)[b]	-0.075	-0.034	0.042	0.098	-0.006	0.028
	(0.046)	(0.039)	(0.035)	(0.065)	(0.045)	(0.043)
Vocational Education (started)[a]	0.075*	0.063*	-0.022	-0.056	0.016	-0.033
	(0.040)	(0.034)	(0.030)	(0.056)	(0.031)	(0.036)
Vocational Education (started/planned)[b]	0.090**	0.057	-0.045	-0.106*	0.034	-0.010
	(0.043)	(0.037)	(0.033)	(0.059)	(0.037)	(0.038)
Internship or Temporary Work[c]	0.005	-0.021	-0.006	0.054	0.051*	0.049
	(0.030)	(0.029)	(0.025)	(0.045)	(0.030)	(0.036)
Voluntary Service or Stay Abroad[c]	-0.019	-0.012	-0.025	-0.073	-0.015	-0.027
	(0.043)	(0.033)	(0.033)	(0.065)	(0.033)	(0.043)
STEM Subjects (narrow definition)[d]	0.015	-0.067*	0.008	0.063	-0.191***	0.069
	(0.044)	(0.036)	(0.034)	(0.087)	(0.069)	(0.063)
STEM Subjects (broad definition)[d]	0.000	-0.047	-0.016	0.096	-0.208***	0.076
	(0.051)	(0.042)	(0.039)	(0.087)	(0.068)	(0.063)
Number of Observations	1,339	1,814	2,247	613	818	1,080

(1) Placebo-Test: Using the West German control states as treatment group (Hesse, Rhineland-Palatinate, Schleswig-Holstein), compared to the East German states from the control group (Saxony, Thuringia).
(2) Placebo-Test: Using the original treatment and control groups but the years 2006 and 2008 as pre- and post-reform-years.
(3) Placebo-Test: Using the G13 students from the states with a double cohort in 2012 (Baden-Wuerttemberg, Berlin, Brandenburg, Bremen) as treatment group, compared to the original control group.
[a] Dependent variable: dummy indicating actual enrollment in university/vocational education.
[b] Dependent variable: dummy indicating actual or firmly planned enrollment in university/vocational education.
[c] Dependent variable: dummy indicating participation in the year after high school graduation in an internship or temporary work / in a voluntary service or stay abroad.
[d] Dependent variable: dummy indicating actual enrollment or firmly planned enrollment in a STEM university subject (STEM subjects narrowly defined include engineering, natural sciences and mathematics, STEM subjects broadly defined additionally include medical sciences).
· Regressions are separately run for each outcome. Regressions include further explanatory variables: post-reform-dummy, treatment-group-dummy, academic degree of parents, occupational status of parents, number of books of parents, migration background, half year of birth, and state dummies. Marginal effects are average marginal effects. Standard errors are shown in parenthesis below marginal effects. Stars denote significance of the estimates as follows: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.32: Robustness Check: Potential Influence of Other Education Reforms (Treatment Group 1, DZHW Panel Survey, DiD Probit Estimates, Marginal Effects)

	Female Sample			Male Sample		
	(1) w/o BA, HB, SH SN, TH	(2) Treatment Group only BA	(3) Additional Control Variables	(1) w/o BA, HB, SH SN, TH	(2) Treatment Group only BA	(3) Additional Control Variables
University Education (started)[a]	-0.102*	-0.102**	-0.106**	-0.112	-0.029	-0.042
	(0.060)	(0.051)	(0.042)	(0.093)	(0.068)	(0.061)
University Education (started/planned)[b]	0.071	-0.057	-0.006	-0.089	-0.049	-0.047
	(0.050)	(0.043)	(0.034)	(0.070)	(0.053)	(0.046)
Vocational Education (started)[a]	-0.093**	0.020	-0.026	0.031	-0.019	-0.008
	(0.043)	(0.037)	(0.030)	(0.059)	(0.043)	(0.039)
Vocational Education (started/planned)[b]	-0.102**	0.044	-0.013	0.093	0.007	0.031
	(0.047)	(0.040)	(0.033)	(0.062)	(0.046)	(0.042)
Internship or Temporary Work[c]	0.056	0.060**	0.063**	0.032	0.032	0.045
	(0.038)	(0.029)	(0.026)	(0.055)	(0.038)	(0.036)
Voluntary Service or Stay Abroad[c]	0.158***	0.057	0.097***	0.045	0.062	0.034
	(0.049)	(0.041)	(0.033)	(0.067)	(0.058)	(0.046)
STEM Subjects (narrow definition)[d]	0.010	0.043	0.032	0.010	0.084	0.058
	(0.048)	(0.040)	(0.033)	(0.093)	(0.071)	(0.062)
STEM Subjects (broad definition)[d]	-0.028	0.013	-0.005	-0.013	0.082	0.056
	(0.054)	(0.046)	(0.038)	(0.094)	(0.071)	(0.062)
Number of Observations	1,065	1,956	2,566	471	957	1,201

(1) Estimations including only states which did not change high school curriculum between 2008 and 2012 (i.e., estimations without Bavaria, Hamburg, Saxony, Schleswig-Holstein, and Thuringia).
(2) Estimations including only Bavaria as treatment state, because Bavaria had almost no comprehensive schools, no change in tracking, and a very fast reform introduction.
(3) Estimations including additional control variables which consider university tuition fees and a changed high school curriculum.
[a] Dependent variable: Dummy indicating actual enrollment in university/vocational education.
[b] Dependent variable: Dummy indicating actual or firmly planned enrollment in university/vocational education.
[c] Dependent variable: Dummy indicating participation in the year after high school graduation in an internship or temporary work / in a voluntary service or stay abroad.
[d] Dependent variable: Dummy indicating actual enrollment or firmly planned enrollment in a STEM university subject (STEM subjects narrowly defined include engineering, natural sciences and mathematics, STEM subjects broadly defined additionally include medical sciences).
· Regressions are separately run for each outcome. Regressions include further explanatory variables: post-reform-dummy, treatment-group-dummy, academic degree of parents, occupational status of parents, number of books of parents, migration background, half year of birth, and state dummies. Marginal effects are average marginal effects. Standard errors are shown in parenthesis below marginal effects. Stars denote significance of the estimates as follows: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Additional Tables to Chapter 8

Table A.33: Estimates of Reform Effects: Motivation and Abilities in University Education (2nd Wave, Ordered Probit Estimates / Probit Estimates, Without Control Variables)

	Female Sample Coeff./Marg.Eff.	Male Sample Coeff./Marg.Eff.
Motivation[a]		
D: Working Hard and Intensively	-0.127	0.146
	(0.124)	(0.155)
D: Achieving a Good Degree is Important	0.024	0.000
	(0.124)	(0.211)
D: Achieving a Degree Fast is Important	-0.030	-0.072
	(0.113)	(0.175)
Abilities I: Learning[b]		
D: Having Good Organizational Abilities	-0.093	-0.163
	(0.119)	(0.192)
D: Learning Academic Content Easily	-0.117	0.363*
	(0.135)	(0.193)
Abilities II: Subject-related Skills[c]		
D: Existence of Skill Deficits	0.111**	-0.051
	(0.052)	(0.082)
Abilities III: Coping with Stress[d]		
D: Burdened by Performance Requirements	-0.035	0.182
	(0.111)	(0.161)
D: Burdened by Orientation Problems	0.172	-0.419**
	(0.121)	(0.190)
D: Burdened by Personal Problems	-0.370**	-0.108
	(0.134)	(0.208)
D: Score of Health Problems	-0.276*	0.204
	(0.141)	(0.162)
University Drop-out[e]		
D: Drop-out of University Education	0.042	-0.026
	(0.042)	(0.067)
Number of Observations	287	133

[a] Dependent variables indicate motivation of studying in first university degree on a four-point Likert scale (higher values indicate that the statement is more applicable).
[b] Dependent variables indicate abilities in first university degree on a four-point Likert scale (higher values indicate that the statement is more applicable).
[c] Dependent variable: dummy indicating the existence of skill deficits and difficulties in first university degree.
[d] Dependent variables indicate perceived study load in first university degree on a five-point Likert scale (higher values indicate that the statement is more applicable). The health score is the standardized value of a total score, derived from five subjective health dimensions (a higher value indicates worse health).
[e] Dependent variable: dummy indicating drop-out of first university degree within the first three semesters.
· Regressions are separately run for each outcome. Ordered probit estimation is applied for categorical outcomes (reported are coefficients), while probit estimation is applied for binary outcomes (reported are average marginal effects).
· Regressions include only the treatment dummy, but no further explanatory variables.
· All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below coefficients. Stars denote significance of the estimates as follows: $^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$.

Table A.34: Estimates of Reform Effects: Motivation and Abilities in University Education, Interaction Effects with respect to Characteristics of University Education (2nd Wave, Regression Estimates) – Part I

		Female Sample			Male Sample		
		(1)	(2)	(3)	(1)	(2)	(3)
		Coeff./M.E.	Coeff./M.E.	Coeff./M.E.	Coeff./M.E.	Coeff./M.E.	Coeff./M.E.
Motivation: Working Hard and Intensively[a]	D	-0.184	-0.092	-0.159	0.022	-0.071	0.083
		(0.136)	(0.136)	(0.127)	(0.181)	(0.281)	(0.176)
	D × C	0.166	-0.138	0.413	0.161	0.219	-0.052
		(0.327)	(0.295)	(0.489)	(0.374)	(0.334)	(0.744)
Motivation: Achieving a Good Degree is Important[a]	D	0.013	-0.076	-0.055	-0.317	-0.125	-0.153
		(0.117)	(0.140)	(0.103)	(0.266)	(0.305)	(0.234)
	D × C	-0.053	0.179	0.696	0.766*	-0.081	0.181
		(0.359)	(0.279)	(0.560)	(0.421)	(0.337)	(0.426)
Motivation: Achieving a Degree Fast is Important[a]	D	0.055	0.072	-0.045	-0.078	-0.169	-0.003
		(0.124)	(0.156)	(0.127)	(0.208)	(0.254)	(0.187)
	D × C	0.022	-0.077	0.921***	-0.262	0.097	-1.353
		(0.340)	(0.250)	(0.277)	(0.463)	(0.327)	(0.992)
Abilities I: Having Good Organizational Abilities[b]	D	-0.072	-0.131	-0.113	-0.301	-0.253	-0.150
		(0.120)	(0.129)	(0.111)	(0.185)	(0.294)	(0.182)
	D × C	-0.158	0.054	0.275	0.649*	0.228	-0.002
		(0.344)	(0.276)	(0.301)	(0.326)	(0.412)	(0.525)
Abilities I: Learning Academic Content Easily[b]	D	-0.164	-0.088	-0.157	0.283	0.143	0.364*
		(0.122)	(0.137)	(0.112)	(0.205)	(0.321)	(0.209)
	D × C	0.259	-0.104	0.070	0.342	0.479	0.178
		(0.325)	(0.281)	(0.220)	(0.416)	(0.432)	(0.542)
Number of Observations		278	278	278	133	133	133

[a] Dependent variable indicates motivation of studying in first university degree on a four-point Likert scale (higher values indicate that the statement is more applicable).

[b] Dependent variable indicates abilities in first university degree on a four-point Likert scale (higher values indicate that the statement is more applicable).

· Estimation of interaction effects between treatment dummy (D) and characteristics of university education (C); C denotes (1) type of university ($D \times UniversityOfAppliedSciences$), (2) university subject ($D \times STEMsubject$), and (3) completed vocational education before attending university ($D \times VocationalEducation$). For the binary outcomes, effects are mean interaction effects.

· Regressions are separately run for each outcome. Regressions include further explanatory variables: school achievements until reform, educational background of family, age at school enrollment and school-fixed effects.

· All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below coefficients. Stars denote significance of the estimates as follows: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Estimations with too few observations are indicated by –.

Table A.35: Estimates of Reform Effects: Motivation and Abilities in University Education, Interaction Effects with respect to Characteristics of University Education (2nd Wave, Regression Estimates) – Part II

		Female Sample			Male Sample		
		(1)	(2)	(3)	(1)	(2)	(3)
		Coeff./M.E.	Coeff./M.E.	Coeff./M.E.	Coeff./M.E.	Coeff./M.E.	Coeff./M.E.
Abilities II: Existence of Skill Deficits[c]	D × C	-0.086	0.072	0.201	-0.180	0.302*	-0.006
		(0.154)	(0.120)	(0.230)	(0.199)	(0.172)	(0.355)
Abilities III: Burdened by Performance Requirements[d]	D	-0.055	-0.169	-0.059	0.161	0.442	0.236
		(0.136)	(0.148)	(0.119)	(0.194)	(0.278)	(0.188)
	D × C	0.099	0.447*	0.666*	0.603*	-0.264	1.364*
		(0.327)	(0.251)	(0.342)	(0.356)	(0.401)	(0.750)
Abilities III: Burdened by Orientation Problems[d]	D	0.058	0.105	0.104	-0.161	-0.282	-0.319*
		(0.125)	(0.136)	(0.134)	(0.237)	(0.310)	(0.190)
	D × C	0.500	0.127	1.133***	-0.888**	-0.145	-0.284
		(0.310)	(0.236)	(0.330)	(0.416)	(0.377)	(0.505)
Abilities III: Burdened by Personal Problems[d]	D	-0.367**	-0.291*	-0.379***	0.024	-0.074	-0.220
		(0.150)	(0.162)	(0.129)	(0.216)	(0.296)	(0.208)
	D × C	0.023	-0.157	0.325	-0.904**	-0.246	0.198
		(0.282)	(0.239)	(0.319)	(0.386)	(0.395)	(0.589)
Abilities III: Score of Health Problems[d]	D	-0.210	-0.202	-0.235*	0.282	0.114	0.088
		(0.146)	(0.152)	(0.132)	(0.185)	(0.273)	(0.174)
	D × C	0.009	0.002	-0.061	-0.384	0.132	1.833***
		(0.285)	(0.272)	(0.476)	(0.364)	(0.369)	(0.629)
Drop-out of University Education[e]	D × C	-0.019	-0.073	0.009	0.283	0.008	–
		(0.117)	(0.103)	(0.135)	(0.218)	(0.142)	
Number of Observations		271	271	271	123	123	123

[c] Dependent variable: dummy indicating the existence of skill deficits and difficulties in first university degree.

[d] Dependent variable indicates perceived study load in first university degree on a five-point Likert scale (higher values indicate that the statement is more applicable). The health score is the standardized value of a total score, derived from five subjective health dimensions (a higher value indicates worse health).

[e] Dependent variable: dummy indicating drop-out of first university degree within the first three semesters.

· Estimation of interaction effects between treatment dummy (D) and characteristics of university education (C); C denotes (1) type of university ($D \times UniversityOfAppliedSciences$), (2) university subject ($D \times STEMsubject$), and (3) completed vocational education before attending university ($D \times VocationalEducation$). For the binary outcomes, effects are mean interaction effects.

· Regressions are separately run for each outcome. Regressions include further explanatory variables: school achievements until reform, educational background of family, age at school enrollment and school-fixed effects. All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below coefficients. Stars denote significance of the estimates as follows: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Estimations with too few observations are indicated by –.

Table A.36: Estimates of Reform Effects: Motivation and Abilities in University Education, Interaction Effects with respect to School Achievements (2nd Wave, Regression Estimates) – Part I

	Female Sample Coeff./Marg.Eff.	Male Sample Coeff./Marg.Eff.
Motivation: Working Hard and Intensively[a]		
D	-0.127	-0.058
	(0.149)	(0.232)
D × Grade 7 very good	0.119	-0.145
	(0.461)	(0.554)
D × Grade 7 satisfactory/fair	-0.133	0.406
	(0.318)	(0.382)
Motivation: Achieving a Good Degree is Important[a]		
D	-0.096	-0.206
	(0.145)	(0.293)
D × Grade 7 very good	0.484	0.417
	(0.452)	(0.636)
D × Grade 7 satisfactory/fair	0.133	0.056
	(0.237)	(0.405)
Motivation: Achieving a Degree Fast is Important[a]		
D	-0.016	-0.239
	(0.158)	(0.197)
D × Grade 7 very good	-0.436	-0.534
	(0.387)	(1.296)
D × Grade 7 satisfactory/fair	0.505	0.499
	(0.320)	(0.406)
Abilities I: Having Good Organizational Abilities[b]		
D	-0.254*	-0.025
	(0.140)	(0.221)
D × Grade 7 very good	0.783*	-0.869
	(0.469)	(0.543)
D × Grade 7 satisfactory/fair	0.180	-0.153
	(0.265)	(0.372)
Abilities I: Learning Academic Content Easily[b]		
D	-0.215	0.386
	(0.133)	(0.258)
D × Grade 7 very good	0.191	1.235**
	(0.403)	(0.466)
D × Grade 7 satisfactory/fair	0.283	-0.104
	(0.293)	(0.464)
Number of Observations	271	123

[a] Dependent variable indicates motivation of studying in first university degree on a four-point Likert scale (higher values indicate that the statement is more applicable).

[b] Dependent variable indicates abilities in first university degree on a four-point Likert scale (higher values indicate that the statement is more applicable).

· Estimation of interaction effects between treatment dummy and previous school achievements (average grade in year 7).

· Regressions are separately run for each outcome. Regressions include further explanatory variables: school achievements until reform, educational background of family, age at school enrollment and school-fixed effects.

· All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below coefficients. Stars denote significance of the estimates as follows: $^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$.

Table A.37: Estimates of Reform Effects: Motivation and Abilities in University Education, Interaction Effects with respect to School Achievements (2nd Wave, Regression Estimates) – Part II

	Female Sample Coeff./Marg.Eff.	Male Sample Coeff./Marg.Eff.
Abilities II: Existence of Skill Deficits[c]		
D × Grade 7	0.072	0.036
	(0.104)	(0.184)
Abilities III: Burdened by Performance Requirements[d]		
D	0.055	0.358
	(0.148)	(0.226)
D × Grade 7 very good	0.054	-0.322
	(0.368)	(0.561)
D × Grade 7 satisfactory/fair	-0.357	-0.272
	(0.283)	(0.347)
Abilities III: Burdened by Orientation Problems[d]		
D	0.063	-0.321
	(0.124)	(0.222)
D × Grade 7 very good	0.283	-0.355
	(0.434)	(0.873)
D × Grade 7 satisfactory/fair	0.205	-0.117
	(0.281)	(0.504)
Abilities III: Burdened by Personal Problems[d]		
D	-0.259*	-0.415*
	(0.149)	(0.213)
D × Grade 7 very good	-0.353	1.484***
	(0.347)	(0.404)
D × Grade 7 satisfactory/fair	-0.193	0.498
	(0.237)	(0.422)
Abilities III: Score of Health Problems[d]		
D	-0.015	0.178
	(0.146)	(0.219)
D × Grade 7 very good	-0.503	0.552
	(0.433)	(0.772)
D × Grade 7 satisfactory/fair	-0.453*	-0.053
	(0.245)	(0.483)
Drop-out of University Education[e]		
D × Grade 7	0.021	0.186
	(0.087)	(0.171)
Number of Observations	271	123

[c] Dependent variable: dummy indicating the existence of skill deficits and difficulties in first university degree.
[d] Dependent variable indicates perceived study load in first university degree on a five-point Likert scale (higher values indicate that the statement is more applicable). The health score is the standardized value of a total score, derived from five subjective health dimensions (a higher value indicates worse health).
[e] Dependent variable: dummy indicating drop-out of first university degree within the first three semesters.
· Estimation of interaction effects between treatment dummy and previous school achievements (average grade in year 7). For the binary outcomes, effects are mean interaction effects (with average grade ranging from 1 [very good] to 4 [fair]).
· Regressions are separately run for each outcome. Regressions include further explanatory variables: school achievements until reform, educational background of family, age at school enrollment and school-fixed effects.
· All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below coefficients. Stars denote significance of the estimates as follows: $^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$.

Table A.38: Robustness Check: Specification Including Characteristics of University Education (2nd Wave, Ordered Probit Estimates / Probit Estimates)

	Female Sample Coeff./Marg.Eff.	Male Sample Coeff./Marg.Eff.
Motivation[a]		
D: Working Hard and Intensively	-0.165	0.243
	(0.135)	(0.181)
D: Achieving a Good Degree is Important	-0.066	-0.119
	(0.119)	(0.254)
D: Achieving a Degree Fast is Important	-0.020	0.063
	(0.135)	(0.227)
Abilities I: Learning[b]		
D: Having Good Organizational Abilities	-0.117	-0.174
	(0.123)	(0.217)
D: Learning Academic Content Easily	-0.166	0.648***
	(0.113)	(0.234)
Abilities II: Subject-related Skills[c]		
D: Existence of Skill Deficits	0.145***	-0.077
	(0.051)	(0.079)
Abilities III: Coping with Stress[d]		
D: Burdened by Performance Requirements	0.043	0.331*
	(0.127)	(0.195)
D: Burdened by Orientation Problems	0.252**	-0.604**
	(0.128)	(0.246)
D: Burdened by Personal Problems	-0.454***	-0.216
	(0.134)	(0.209)
D: Score of Health Problems	-0.227*	0.321**
	(0.125)	(0.152)
University Drop-out[e]		
D: Drop-out of University Education	0.047	-0.061
	(0.044)	(0.061)
Number of Observations	262	129

[a] Dependent variables indicate motivation of studying in first university degree on a four-point Likert scale (higher values indicate that the statement is more applicable).

[b] Dependent variables indicate abilities in first university degree on a four-point Likert scale (higher values indicate that the statement is more applicable).

[c] Dependent variable: dummy indicating the existence of skill deficits and difficulties in first university degree.

[d] Dependent variables indicate perceived study load in first university degree on a five-point Likert scale (higher values indicate that the statement is more applicable). The health score is the standardized value of a total score, derived from five subjective health dimensions (a higher value indicates worse health).

[e] Dependent variable: dummy indicating drop-out of first university degree within the first three semesters.

· Regressions are separately run for each outcome. Ordered probit estimation is applied for categorical outcomes (reported are coefficients), while probit estimation is applied for binary outcomes (reported are average marginal effects). Regressions include further explanatory variables: school achievements until reform, educational background of family, age at school enrollment, school-fixed effects; institution, type, region, subject and starting year of university education, working during semester and completed vocational education before attending university.

· All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below coefficients. Stars denote significance of the estimates as follows: $^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$.

Table A.39: Robustness Check: Timing of University Enrollment (2nd Wave, Ordered Probit Estimates / Probit Estimates)

	Female Sample	
	Treatment Group	Control Group
	Coeff./Marg.Eff.	Coeff./Marg.Eff.
Motivation[a]		
$E_{2007-2008}$: Working Hard and Intensively	0.323	0.604
	(0.233)	(0.438)
$E_{2007-2008}$: Achieving a Good Degree is Important	-0.475**	0.180
	(0.241)	(0.460)
$E_{2007-2008}$: Achieving a Degree Fast is Important	-0.163	0.178
	(0.266)	(0.285)
Abilities I: Learning[b]		
$E_{2007-2008}$: Having Good Organizational Abilities	0.126	0.058
	(0.246)	(0.280)
$E_{2007-2008}$: Learning Academic Content Easily	-0.409*	-0.461
	(0.225)	(0.351)
Abilities II: Subject-related Skills[c]		
$E_{2007-2008}$: Existence of Skill Deficits	-0.173**	-0.139
	(0.084)	(0.170)
Abilities III: Coping with Stress[d]		
$E_{2007-2008}$: Burdened by Performance Requirements	0.216	1.014***
	(0.250)	(0.248)
$E_{2007-2008}$: Burdened by Orientation Problems	-0.146	0.490
	(0.208)	(0.385)
$E_{2007-2008}$: Burdened by Personal Problems	0.016	-0.114
	(0.284)	(0.254)
$E_{2007-2008}$: Score of Health Problems	-0.203	-0.014
	(0.191)	(0.256)
University Drop-out[e]		
$E_{2007-2008}$: Drop-out of University Education	0.005	-0.003
	(0.079)	(0.090)
Number of Observations	135	133

[a] Dependent variables indicate motivation of studying in first university degree on a four-point Likert scale (higher values indicate that the statement is more applicable).

[b] Dependent variables indicate abilities in first university degree on a four-point Likert scale (higher values indicate that the statement is more applicable).

[c] Dependent variable: dummy indicating the existence of skill deficits and difficulties in first university degree.

[d] Dependent variables indicate perceived study load in first university degree on a five-point Likert scale (higher values indicate that the statement is more applicable). The health score is the standardized value of a total score, derived from five subjective health dimensions (a higher value indicates worse health).

[e] Dependent variable: dummy indicating drop-out of first university degree within the first three semesters.

· Regressions are separately run for each outcome. Ordered probit estimation is applied for categorical outcomes (reported are coefficients), while probit estimation is applied for binary outcomes (reported are average marginal effects). Regressions include further explanatory variables: school achievements until reform, educational background of family, age at school enrollment and school-fixed effects.

· All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below coefficients. Stars denote significance of the estimates as follows: $^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$.

Table A.40: Robustness Check: Students Enrolled at Universities in East Germany (2nd Wave, Ordered Probit Estimates / Probit Estimates)

	Female Sample Coeff./Marg.Eff.	Male Sample Coeff./Marg.Eff.
Motivation[a]		
D: Working Hard and Intensively	-0.181	0.295
	(0.142)	(0.215)
D: Achieving a Good Degree is Important	0.007	-0.197
	(0.128)	(0.268)
D: Achieving a Degree Fast is Important	0.027	0.107
	(0.134)	(0.222)
Abilities I: Learning[b]		
D: Having Good Organizational Abilities	-0.194	-0.097
	(0.136)	(0.268)
D: Learning Academic Content Easily	-0.264*	0.583**
	(0.138)	(0.250)
Abilities II: Subject-related Skills[c]		
D: Existence of Skill Deficits	0.082	-0.060
	(0.059)	(0.090)
Abilities III: Coping with Stress[d]		
D: Burdened by Performance Requirements	-0.114	0.284
	(0.125)	(0.206)
D: Burdened by Orientation Problems	0.161	-0.627**
	(0.147)	(0.263)
D: Burdened by Personal Problems	-0.406***	-0.156
	(0.148)	(0.254)
D: Score of Health Problems	-0.281*	0.427**
	(0.159)	(0.185)
University Drop-out[e]		
D: Drop-out of University Education	0.059	-0.127*
	(0.046)	(0.077)
Number of Observations	205	104

[a] Dependent variables indicate motivation of studying in first university degree on a four-point Likert scale (higher values indicate that the statement is more applicable).

[b] Dependent variables indicate abilities in first university degree on a four-point Likert scale (higher values indicate that the statement is more applicable).

[c] Dependent variable: dummy indicating the existence of skill deficits and difficulties in first university degree.

[d] Dependent variables indicate perceived study load in first university degree on a five-point Likert scale (higher values indicate that the statement is more applicable). The health score is the standardized value of a total score, derived from five subjective health dimensions (a higher value indicates worse health).

[e] Dependent variable: dummy indicating drop-out of first university degree within the first three semesters.

· Regressions are separately run for each outcome. Ordered probit estimation is applied for categorical outcomes (reported are coefficients), while probit estimation is applied for binary outcomes (reported are average marginal effects). Regressions include further explanatory variables: school achievements until reform, educational background of family, age at school enrollment and school-fixed effects.

· All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below coefficients. Stars denote significance of the estimates as follows: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.41: Robustness Check: Estimation with Weighted Background Characteristics (2nd Wave, Ordered Probit Estimates / Probit Estimates)

	Female Sample Coeff./Marg.Eff.	Male Sample Coeff./Marg.Eff.
Motivation[a]		
D: Working Hard and Intensively	-0.168	0.219
	(0.127)	(0.172)
D: Achieving a Good Degree is Important	0.044	-0.230
	(0.118)	(0.252)
D: Achieving a Degree Fast is Important	0.024	-0.092
	(0.123)	(0.210)
Abilities I: Learning[b]		
D: Having Good Organizational Abilities	-0.106	-0.114
	(0.113)	(0.209)
D: Learning Academic Content Easily	-0.118	0.679***
	(0.115)	(0.229)
Abilities II: Subject-related Skills[c]		
D: Existence of Skill Deficits	0.125***	-0.024
	(0.046)	(0.081)
Abilities III: Coping with Stress[d]		
D: Burdened by Performance Requirements	-0.031	0.244
	(0.119)	(0.174)
D: Burdened by Orientation Problems	0.166	-0.373*
	(0.123)	(0.221)
D: Burdened by Personal Problems	-0.438***	-0.013
	(0.133)	(0.227)
D: Score of Health Problems	-0.262*	0.398***
	(0.137)	(0.147)
University Drop-out[e]		
D: Drop-out of University Education	0.044	-0.066
	(0.042)	(0.083)
Number of Observations	274	121

[a] Dependent variables indicate motivation of studying in first university degree on a four-point Likert scale (higher values indicate that the statement is more applicable).

[b] Dependent variables indicate abilities in first university degree on a four-point Likert scale (higher values indicate that the statement is more applicable).

[c] Dependent variable: dummy indicating the existence of skill deficits and difficulties in first university degree.

[d] Dependent variables indicate perceived study load in first university degree on a five-point Likert scale (higher values indicate that the statement is more applicable). The health score is the standardized value of a total score, derived from five subjective health dimensions (a higher value indicates worse health).

[e] Dependent variable: dummy indicating drop-out of first university degree within the first three semesters.

· Regressions are separately run for each outcome. Ordered probit estimation is applied for categorical outcomes (reported are coefficients), while probit estimation is applied for binary outcomes (reported are average marginal effects). Regressions include further explanatory variables: school achievements until reform, educational background of family, age at school enrollment and school-fixed effects. Sampling weights are included, which make G12 and G13 students more similar with respect to several background variables.

· All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below coefficients. Stars denote significance of the estimates as follows: $^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$.

Table A.42: Robustness Check: Heckman Selection Model (2nd Wave, Ordered Probit Estimates / Probit Estimates)

	Female Sample Coeff./Marg.Eff.	Male Sample Coeff./Marg.Eff.
Motivation[a]		
D: Working Hard and Intensively	-0.248*	-0.224
	(0.137)	(0.200)
D: Achieving a Good Degree is Important	-0.072	-0.150
	(0.135)	(0.302)
D: Achieving a Degree Fast is Important	-0.088	-0.244
	(0.130)	(0.226)
Abilities I: Learning[b]		
D: Having Good Organizational Abilities	-0.173	-0.083
	(0.125)	(0.226)
D: Learning Academic Content Easily	-0.200	0.495*
	(0.133)	(0.287)
Abilities II: Subject-related Skills[c]		
D: Existence of Skill Deficits	0.168***	-0.043
	(0.052)	(0.097)
Abilities III: Coping with Stress[d]		
D: Burdened by Performance Requirements	-0.033	0.442**
	(0.138)	(0.206)
D: Burdened by Orientation Problems	0.312**	-0.408*
	(0.153)	(0.248)
D: Burdened by Personal Problems	-0.316**	-0.126
	(0.125)	(0.257)
D: Score of Health Problems	-0.239	0.312*
	(0.146)	(0.186)
University Drop-out[e]		
D: Drop-out of University Education	0.052	0.012
	(0.046)	(0.072)
Number of Observations	225	102

[a] Dependent variables indicate motivation of studying in first university degree on a four-point Likert scale (higher values indicate that the statement is more applicable).

[b] Dependent variables indicate abilities in first university degree on a four-point Likert scale (higher values indicate that the statement is more applicable).

[c] Dependent variable: dummy indicating the existence of skill deficits and difficulties in first university degree.

[d] Dependent variables indicate perceived study load in first university degree on a five-point Likert scale (higher values indicate that the statement is more applicable). The health score is the standardized value of a total score, derived from five subjective health dimensions (a higher value indicates worse health).

[e] Dependent variable: dummy indicating drop-out of first university degree within the first three semesters.

· Regressions are separately run for each outcome. Ordered probit estimation is applied for categorical outcomes (reported are coefficients), while probit estimation is applied for binary outcomes (reported are average marginal effects). Regressions include further explanatory variables: school achievements until reform, educational background of family, age at school enrollment and school-fixed effects. The selection equation of the Heckman Selection Model additionally includes as an explanatory variable the availability of a valid e-mail-address before starting the second survey wave (because this makes participation more likely).

· All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below coefficients. Stars denote significance of the estimates as follows: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.43: Robustness Check: Specification of Outcome Variables (2nd Wave, Probit Estimates / Ordered Probit Estimates)

	Female Sample Marg.Eff./Coeff.	Male Sample Marg.Eff./Coeff.
Motivation (Dummy Variables)[a]		
D: Working Hard and Intensively	-0.051	0.014
	(0.056)	(0.069)
D: Achieving a Good Degree is Important	-0.002	-0.044
	(0.042)	(0.082)
D: Achieving a Degree Fast is Important	0.048	0.043
	(0.052)	(0.081)
Abilities I: Learning (Dummy Variables)[b]		
D: Having Good Organizational Abilities	-0.009	-0.153**
	(0.047)	(0.072)
D: Learning Academic Content Easily	-0.011	0.162**
	(0.049)	(0.082)
Abilities III: Coping with Stress (Dummy Variables)[c]		
D: Burdened by Performance Requirements	-0.047	0.124*
	(0.048)	(0.068)
D: Burdened by Orientation Problems	-0.007	-0.132*
	(0.056)	(0.078)
D: Burdened by Personal Problems	-0.162***	-0.216***
	(0.053)	(0.073)
Abilities III: Coping with Stress (Categorical Variables)[d]		
D: Burdened by Performance Requirements	-0.017	0.257
	(0.117)	(0.172)
D: Burdened by Orientation Problems	0.071	-0.120
	(0.125)	(0.235)
D: Burdened by Personal Problems	-0.386***	-0.208
	(0.149)	(0.278)
Number of Observations	246	112

[a] Dependent variables: dummies indicating that the statement regarding motivation of studying in first university degree is applicable or fully applicable (the upper two categories of the four-point Likert scale).

[b] Dependent variables: dummies indicating that the statement regarding abilities in first university degree is applicable or fully applicable (the upper two categories of the four-point Likert scale).

[c] Dependent variables: dummies indicating that the statement regarding perceived study load in first university degree is applicable or fully applicable (the upper two categories of the five-point Likert scale).

[d] Dependent variables: categorical variables indicating perceived study load in first university degree on a four-point Likert scale (higher values indicate that the statement is more applicable; the lowest category of the original variable is not considered).

· Regressions are separately run for each outcome. Ordered probit estimation is applied for categorical outcomes (reported are coefficients), while probit estimation is applied for binary outcomes (reported are average marginal effects). Regressions include further explanatory variables: school achievements until reform, educational background of family, age at school enrollment and school-fixed effects.

· All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below coefficients. Stars denote significance of the estimates as follows: $^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$.

Table A.44: Robustness Check: Propensity Score Matching (2nd Wave)

	Female Sample		Male Sample	
	NN (WR, caliper 0.05) Coeff./M.E.	Kernel (Epanechnikov) Coeff./M.E.	NN (WR, caliper 0.05) Coeff./M.E.	Kernel (Epanechnikov) Coeff./M.E.
Motivation[a]				
D: Working Hard and Intensively	0.004	-0.097	-0.063	0.073
	(0.146)	(0.095)	(0.205)	(0.151)
D: Achieving a Good Degree is Important	0.137	0.012	-0.075	-0.065
	(0.141)	(0.087)	(0.214)	(0.145)
D: Achieving a Degree Fast is Important	-0.080	0.009	-0.038	-0.072
	(0.189)	(0.118)	(0.231)	(0.183)
Abilities I: Learning[b]				
D: Having Good Organizational Abilities	0.206	-0.057	-0.098	-0.139
	(0.142)	(0.092)	(0.240)	(0.145)
D: Learning Academic Content Easily	-0.097	-0.062	0.404**	0.282**
	(0.126)	(0.082)	(0.194)	(0.140)
Abilities II: Subject-related Skills[c]				
D: Existence of Skill Deficits	0.026	0.133**	0.036	-0.072
	(0.085)	(0.055)	(0.113)	(0.078)
Abilities III: Coping with Stress[d]				
D: Burdened by Performance Requirements	0.043	-0.042	0.107	0.169
	(0.161)	(0.105)	(0.187)	(0.153)
D: Burdened by Orientation Problems	0.218	0.149	-0.386	-0.422*
	(0.223)	(0.142)	(0.313)	(0.225)
D: Burdened by Personal Problems	-0.474**	-0.453***	0.188	-0.003
	(0.196)	(0.129)	(0.252)	(0.202)
D: Score of Health Problems	-0.182	-0.267**	-0.030	0.225
	(0.190)	(0.123)	(0.286)	(0.193)
University Drop-out[e]				
D: Drop-out of University Education	0.022	0.037	-0.080	-0.014
	(0.072)	(0.048)	(0.098)	(0.073)
Number of Observations	274	274	130	130

[a] Dependent variables indicate motivation of studying in first university degree on a four-point Likert scale (higher values indicate that the statement is more applicable).

[b] Dependent variables indicate abilities in first university degree on a four-point Likert scale (higher values indicate that the statement is more applicable).

[c] Dependent variable: dummy indicating the existence of skill deficits and difficulties in first university degree.

[d] Dependent variables indicate perceived study load in first university degree on a five-point Likert scale (higher values indicate that the statement is more applicable). The health score is the standardized value of a total score, derived from five subjective health dimensions (a higher value indicates worse health).

[e] Dependent variable: dummy indicating drop-out of first university degree within the first three semesters.

· Propensity score matching (nearest neighbor matching with replacement and caliper 0.05, kernel matching) is applied separately for each outcome. Further explanatory variables are included: school achievements until reform, educational background of family, age at school enrollment and school-fixed effects.

· Standard errors (shown in parentheses) are bootstrapped with 400 replications. Stars denote significance of the estimates as follows: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.45: Robustness Check: Sensitivity Analysis after Propensity Score Matching (2nd Wave)

	Female Sample NN (WR, caliper 0.05) Coeff.	Male Sample NN (WR, caliper 0.05) Coeff.
D: Learning Academic Content Easily[a]	-0.097	0.404**
	(0.126)	(0.194)
Rosenbaum Bounds: $p(\gamma = 1.0)$		0.03
$p(\gamma = 1.1)$		0.06
$p(\gamma = 1.2)$		0.09
$p(\gamma = 1.3)$		0.13
$p(\gamma = 1.4)$		0.18
D: Burdened by Personal Problems[b]	-0.474**	0.188
	(0.196)	(0.252)
Rosenbaum Bounds: $p(\gamma = 1.0)$	0.00	
$p(\gamma = 1.2)$	0.00	
$p(\gamma = 1.4)$	0.00	
$p(\gamma = 1.6)$	0.00	
$p(\gamma = 1.8)$	0.00	
$p(\gamma = 2.0)$	0.01	
$p(\gamma = 2.2)$	0.03	
$p(\gamma = 2.4)$	0.06	
$p(\gamma = 2.6)$	0.10	
$p(\gamma = 2.8)$	0.17	
Number of Observations	274	130

[a] Dependent variable indicates learning ability in first university degree on a four-point Likert scale (higher values indicate that the statement is more applicable).

[b] Dependent variable indicates perceived study load by personal problems in first university degree on a five-point Likert scale (higher values indicate that the statement is more applicable).

· Propensity score matching (nearest neighbor matching with replacement and caliper 0.05) is applied separately for each outcome. Further explanatory variables are included: school achievements until reform, educational background of family, age at school enrollment and school-fixed effects.

· Standard errors (shown in parentheses) are bootstrapped with 400 replications. Stars denote significance of the estimates as follows: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

· p-values for Rosenbaum bounds are calculated using the STATA procedure *rbounds* (DiPrete and Gangl, 2004). Rosenbaum bounds can only be calculated after nearest neighbour matching.

Additional Tables to Chapter 9

Table A.46: Means of the Time of Labor Market Entry, According to Cohort and Gender (3rd Survey Wave)

	Female Sample			Male Sample		
	G12	G13	p-value[a]	G12	G13	p-value[a]
Labor Market Participation (at least once)[b]						
Labor Market Entry until 12/2010	0.18	0.18	(0.91)	0.07	0.11	(0.29)
Labor Market Entry until 12/2011	0.27	0.27	(0.98)	0.21	0.22	(0.78)
Labor Market Entry until 12/2012	0.39	0.38	(0.79)	0.31	0.33	(0.77)
Labor Market Entry until 12/2013	0.55	0.55	(0.96)	0.42	0.44	(0.75)
Labor Market Entry until 12/2014	0.69	0.73	(0.46)	0.54	0.57	(0.70)
Labor Market Participation (currently)[c]						
In Employment in 12/2014	0.63	0.67	(0.31)	0.47	0.49	(0.73)
Duration of Labor Market Participation						
Months of Employment	18.18	18.74	(0.77)	13.49	14.49	(0.69)
Number of Observations	200	199		101	98	

[a] p-value from t-test on equality of means. Values are shown in parenthesis for better readability.
[b] Share of individuals who entered the labor market at least once until the end of the respective year.
[c] Share of individuals who are currently employed at the end of the year 2014.

Table A.47: Distribution of the Region of Labor Market Entry, According to Cohort and Gender (3rd Survey Wave)

	Female Sample			Male Sample		
	G12	G13	p-value[a]	G12	G13	p-value[a]
Primary Area of Job Search						
Home Town	0.52	0.49		0.40	0.42	
Place of Postsecondary Education	0.22	0.22		0.35	0.20	
Germany-wide	0.22	0.25		0.23	0.36	
International	0.04	0.04	(0.95)	0.02	0.02	(0.33)
Number of Observations	127	136		52	50	
Place/Region of the First Job						
Saxony-Anhalt	0.42	0.46		0.45	0.47	
Other States of East Germany (South)[b]	0.09	0.09		0.06	0.04	
Other States of East Germany (North)[c]	0.07	0.12		0.10	0.13	
Northern States of West Germany[d]	0.25	0.16		0.27	0.23	
Central States of West Germany[e]	0.06	0.07		0.06	0.09	
Southern States of West Germany[f]	0.10	0.08		0.06	0.04	
Abroad	0.02	0.03	(0.51)	0.00	0.00	(0.92)
Number of Observations	124	135		51	53	
Place/Region of the Current Job						
Saxony-Anhalt	0.42	0.45		0.38	0.41	
Other States of East Germany (South)[b]	0.06	0.07		0.07	0.05	
Other States of East Germany (North)[c]	0.06	0.11		0.10	0.11	
Northern States of West Germany[d]	0.27	0.18		0.31	0.27	
Central States of West Germany[e]	0.06	0.07		0.07	0.09	
Southern States of West Germany[f]	0.09	0.09		0.07	0.05	
Abroad	0.03	0.03	(0.70)	0.00	0.02	(0.95)
Number of Observations	108	123		42	44	

[a] p-value from t-test on equality of means. Values are shown in parenthesis for better readability.
[b] East Germany (South) includes Saxony and Thuringia.
[c] East Germany (North) includes Berlin, Brandenburg, and Mecklenburg-Western Pomerania.
[d] West Germany (North) includes Bremen, Hamburg, Lower Saxony, and Schleswig-Holstein.
[e] West Germany (Central) includes Hesse, North Rhine-Westphalia, Rhineland-Palatinate, and Saarland.
[f] West Germany (South) includes Baden-Wuerttemberg and Bavaria.
· Numbers denote the share of individuals as percentage of those who entered the labor market (first job) or who are employed at the end of 2014 (current job).

Table A.48: Estimates of Reform Effects: Process of Job Search (3rd Wave)

	Female Sample Marg.eff./Coeff.	Male Sample Marg.eff./Coeff.
D: Experienced Difficulty of Searching[a]	0.107	-0.106
	(0.127)	(0.192)
D: Motive: Contents of Job	-0.006	-0.078
	(0.059)	(0.099)
D: Motive: Wage	-0.086*	0.061
	(0.050)	(0.080)
D: Motive: Career Perspective	0.025	-0.004
	(0.048)	(0.064)
D: Motive: Gaining Experience	0.034	0.069
	(0.055)	(0.083)
D: Motive: Security of Job	0.000	-0.114*
	(0.047)	(0.060)
D: Motive: Attractiveness of Employer	-0.007	0.041
	(0.038)	(0.067)
D: Motive: Attractiveness of Work Place	-0.021	0.023
	(0.035)	(0.054)
D: Motive: Proximity to Home Region	0.063	-0.037
	(0.055)	(0.079)
D: Motive: Compatibility with Private Life	0.003	-0.099*
	(0.040)	(0.059)
Number of Observations	261	108

[a] Dependent variable: categorical variable indicating the experienced difficulty of job search, ranging between 5 (very easy) and 0 (very difficult); ordered probit estimation, reported are coefficients.

· Dependent variables: dummies indicating whether the respective motive was decisive for the job choice of an individual; probit estimation, reported are marginal effects.

· Regressions are separately run for each outcome.

· Regressions include further explanatory variables: education background of family, occupational background of parents, school and preschool experiences before reform introduction. School fixed effects are not included in order to obtain a sufficient number of observations.

· Marginal effects are average marginal effects. All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below marginal effects. Stars denote significance of the estimates as follows: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.49: Estimates of Reform Effects Including Additional Covariates: Working Time and Wages (3rd Wave)

	Female Sample (Marginal Effects)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
D: Net monthly Wage (first job)	0.028	0.034	0.033	-0.003	0.013	0.025	–	–
	(0.039)	(0.038)	(0.039)	(0.036)	(0.037)	(0.036)		
D: Net monthly Wage (current job)	0.063	0.064	0.036	0.061	0.073*	0.075*	0.063	0.059
	(0.045)	(0.044)	(0.042)	(0.044)	(0.043)	(0.043)	(0.044)	(0.044)
D: Full-time Work (current job)	0.081	0.081	–	0.081	0.036	0.046	0.075	0.075
	(0.055)	(0.056)		(0.060)	(0.057)	(0.057)	(0.056)	(0.055)
Number of Observations (first job)	259	259	257	236	239	239	251	–
Number of Observations (current job)	237	237	237	210	216	216	237	237
	Male Sample (Marginal Effects)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
D: Net monthly Wage (first job)	-0.022	-0.031	-0.017	-0.062	-0.081	-0.073	-0.032	–
	(0.071)	(0.066)	(0.067)	(0.049)	(0.055)	(0.051)	(0.069)	
D: Net monthly Wage (current job)	-0.038	-0.044	-0.010	-0.076	-0.045	-0.069	-0.038	-0.037
	(0.059)	(0.062)	(0.049)	(0.049)	(0.048)	(0.047)	(0.060)	(0.057)
D: Full-time Work (current job)	-0.116**	-0.207***	–	-0.125**	–	–	-0.117*	-0.144***
	(0.059)	(0.076)		(0.056)			(0.060)	(0.048)
Number of Observations (first job)	103	103	103	98	96	96	96	–
Number of Observations (current job)	87	87	87	80	80	80	87	87

(1) Further explanatory variables: original specification.
(2) Further explanatory variables: original specification and year of labor market entry.
(3) Further explanatory variables: original specification and full-time job.
(4) Further explanatory variables: original specification and regional index of incomes.
(5) Further explanatory variables: original specification and occupational fields.
(6) Further explanatory variables: original specification and economic sectors.
(7) Further explanatory variables: original specification and job change.
(8) Further explanatory variables: original specification and marital status, employment of partner and existence of own children.

· Dependent variable: log of net monthly wage; interval regression; dummy indicating whether the job is performed in full-time; probit estimation, reported are marginal effects.
· Regressions are separately run for each outcome.
· Marginal effects are average marginal effects. All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below marginal effects. Stars denote significance of the estimates as follows: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Estimations, which are not available or not applicable, are indicated by –.

Table A.50: Robustness Check: Estimates of Reform Effects Without Other Explanatory Variables (Only Treatment Dummy, 3rd Wave)

	Female Sample		Male Sample	
	First Job	Current Job	First Job	Current Job
	Marg./Coeff.	Marg./Coeff.	Marg./Coeff.	Marg./Coeff.
D: Labor Market Entry until 12/2014[a]	-0.034	–	-0.027	–
	(0.048)		(0.072)	
D: Labor Market Participation in 12/2014[a]	–	-0.048	–	-0.024
		(0.049)		(0.070)
D: Permanent Position[b]	0.021	–	-0.046	–
	(0.064)		(0.097)	
D: Full-time Job[c]	0.020	0.067	-0.003	–
	(0.045)	(0.052)	(0.060)	
D: Education Degree before Start of Job[d]	-0.267*	-0.237	0.053	0.059
	(0.142)	(0.146)	(0.266)	(0.293)
D: Adequacy w.r.t. Education Level[e]	0.171	-0.065	0.401*	0.281
	(0.143)	(0.136)	(0.225)	(0.238)
D: Adequacy w.r.t. Subject Area[e]	-0.193	-0.411***	0.428*	0.269
	(0.145)	(0.141)	(0.222)	(0.264)
D: Adequacy w.r.t. Own Expectations[e]	-0.096	-0.059	0.535**	0.455*
	(0.116)	(0.127)	(0.223)	(0.246)
D: Importance of a University Degree[f]	-0.256**	-0.125	0.080	0.062
	(0.124)	(0.119)	(0.239)	(0.279)
D: Occupational Status (ISEI-08)[g]	-0.161	-0.105	0.137	0.154
	(0.125)	(0.120)	(0.214)	(0.227)
D: Net monthly Wage (log)[h]	0.014	0.043	-0.047	-0.055
	(0.043)	(0.046)	(0.061)	(0.058)
Number of Observations (labor market entry)	399	399	199	199
Number of Observations (max.)	281	255	110	94
Number of Observations (min.)	263	237	102	85

[a] Dependent variable: dummy indicating whether an individual has entered the labor market at least once until the end of 2014 / is currently employed at the end of 2014; probit estimation, reported are marginal effects.

[b] Dependent variable: dummy indicating whether the job is a permanent position (only available for the first job); probit estimation, reported are marginal effects.

[c] Dependent variable: dummy indicating whether the job is a full-time job; probit estimation, reported are marginal effects.

[d] Dependent variable: categorical variable indicating the education degree obtained before the start of the first/current job; ordered probit estimation, reported are coefficients.

[e] Dependent variable: categorical variable indicating the adequacy of the job with respect to the obtained level of education / the subject area / the own expectations (four-scale measure: 0 = no, 1 = rather no, 2 = rather yes, 3 = yes); ordered probit estimation, reported are coefficients.

[f] Dependent variable: categorical variable indicating the importance of a university degree for the job (four-scale measure: 0 = university degree is absolutely not necessary, 1 = university degree is not the rule but of advantage, 2 = university degree is the rule, 3 = university degree is mandatory); ordered probit estimation, reported are coefficients.

[g] Dependent variable: standardized value of the *International Socio-Economic Index of Occupational Status*, which originally ranges between 16 (low status) and 90 (high status); OLS regression, reported are marginal effects.

[h] Dependent variable: log of net monthly wage; interval regression, reported are marginal effects.

· Regressions are separately run for each outcome.

· Marginal effects are average marginal effects. All standard errors are clustering-robust based on class as the sampling unit. Standard errors are shown in parentheses below marginal effects. Stars denote significance of the estimates as follows: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Estimations, which are not available or not applicable, are indicated by –.

Appendix B

This Appendix includes the questionnaires of the three survey waves.

Questionnaire of 1st Survey Wave

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Turbo-Abitur: Welche Auswirkungen hat die Verkürzung der Gymnasialschulzeit?

Befragung der Absolventen des Abiturjahrgangs 2006/2007 in Sachsen-Anhalt

Fragebogen: Abiturienten des Abiturjahrgangs 2006/2007

Dieser Fragebogen richtet sich an die Abiturienten des Abiturjahrganges 2006/2007. Ihre Mitarbeit ist freiwillig. Die wissenschaftliche Aussagekraft dieser Untersuchung hängt aber entscheidend von Ihrer Mitarbeit ab. Darum bitten wir Sie herzlich, den Fragebogen sorgfältig auszufüllen. Mit Ihrer Hilfe erhoffen wir uns von dieser Umfrage substanzielle Erkenntnisse über die Auswirkungen der Verkürzung des gymnasialen Bildungsganges.

Diese groß angelegte Umfrage wird an den Lehrstühlen für Arbeitsmarktökonomik und für Internationale Wirtschaft an der Otto-von-Guericke-Universität Magdeburg durchgeführt und hat zum Ziel, die Auswirkungen der Bildungsreform empirisch zu untersuchen.

Wir arbeiten nach den Vorschriften des Bundesdatenschutzgesetzes (BDSG) und allen anderen datenschutzrechtlichen Bestimmungen. Die Ergebnisse werden ausschließlich in anonymisierter Form dargestellt. **Das bedeutet:** Niemand kann aus den Ergebnissen erkennen, von welcher Person die Angaben gemacht worden sind!

Was geschieht mit Ihren Angaben?
Alle Angaben werden selbstverständlich vertraulich behandelt, nur zu wissenschaftlichen Zwecken eingesetzt, nicht an Dritte weitergegeben und nach Abschluss des Projekts vernichtet. Ihre persönlichen Daten werden getrennt von den Antworten im Fragebogen aufbewahrt und die entsprechenden Angaben im Fragebogen anonymisiert, so dass für die wissenschaftliche Untersuchung nicht erkennbar ist, von welchem Absolventen die Antworten stammen.

In verschiedenen Testläufen hat sich gezeigt, dass das Ausfüllen etwa eine Stunde Zeit in Anspruch nimmt. Wir bitten Sie sehr herzlich, sich diese Zeit zu nehmen und den Fragebogen vollständig ausgefüllt an uns zurückzusenden. Der Rückumschlag liegt diesem Schreiben bei und muss **nicht frankiert** werden. Für die Analyse ist es wichtig, dass Sie uns die ausgefüllten Fragebögen bis zum **31. März 2009** (**Termin für die Rücksendung)** zurücksenden.

Für Ihren Aufwand möchten wir uns mit 10€ bedanken,
die wir Ihnen nach Rücksendung des Fragebogens überweisen.

Um repräsentative Aussagen über die Wirkungen einer solchen Bildungsreform machen zu können, müssen möglichst alle Absolventen berücksichtigt werden. Hierzu tragen Sie mit Ihrer Teilnahme bei!

Bei Fragen können Sie sich jederzeit per Email oder telefonisch an uns wenden (Kontakt siehe oben).

Für Ihre Mitarbeit danken wir Ihnen!

Wie wird es gemacht?

Bitte füllen Sie den Fragebogen aus, indem Sie

- In die weißen Kästchen ein Kreuz machen
Beispiel: Geschlecht: männlich ..... ☒ weiblich .....☐

- In die etwas größeren weißen Felder Zahlen eintragen, und zwar rechtbündig

Beispiel: Bankleitzahl:

8	1	5	4	3	7	2	3

- In die unterstrichenen Felder Text in **Druckschrift** schreiben
Beispiel: Wohnort: EGELN

Das ☞ Zeichen steht vor Erläuterungen zu einzelnen Fragen.

Gehen Sie bitte der Reihe nach vor, Frage für Frage. Überspringen Sie Fragen nur dann, wenn im Text ausdrücklich ein entsprechender Hinweis gegeben ist.

Der Fragebogen wird mit der modernen Scanner-Technik ausgewertet. Damit das funktioniert, ist es sehr wichtig,

- dass Sie nur einen schwarzen oder blauen Stift verwenden
- dass Ihre Angaben gut lesbar sind
- und dass Ihre Markierung innerhalb der Kästchen bleibt.

Dadurch erleichtern Sie uns sehr die Arbeit. **Vielen Dank!**

Adressenteil

Bitte füllen Sie die nachfolgenden Angaben zur Person **unbedingt** und in Druckbuchstaben aus! Bitte geben Sie eine Adresse an, unter der wir Sie **längerfristig** erreichen können.

Name: _____ **Vorname:** _____

Straße: _____ **Hausnummer:** _____

Postleitzahl: _____ **Wohnort:** _____

e-mail Adresse: _____

Haben Sie das Abitur im 12. oder im 13. Jahrgang abgelegt?

12. Jahrgang .....☐ 13. Jahrgang .....☐

Geben Sie die Bezeichnung Ihrer Abschlussklasse an:

_____

Name der Schule, an der Sie das Abitur abgelegt haben:

_____

Falls Sie nach der 9. Klasse die Schule gewechselt haben, geben Sie bitte den Namen und den Ort der Schule an, <u>von der</u> Sie gewechselt haben:

_____

Sind sie bereit, an <u>einer</u> Folgebefragung zu dieser Studie teilzunehmen?

Ja .....☐ Nein .....☐

Für das Ausfüllen und Rücksenden des Fragebogens überweisen wir Ihnen 10 €. Dafür benötigen wir Ihre Bankverbindung:

Name der Bank: _____

Bankleitzahl:											

Kontonummer:											

Fragenteil
Abschnitt A: Allgemeine Fragen zur Person

Frage 1: Wann sind Sie geboren?

Tag Monat Jahr

Frage 2: Welches Geschlecht haben Sie?

männlich .....☐ weiblich ..... ☐

Frage 3: Sind Sie in Deutschland geboren?
☞ *Gemeint ist Deutschland in seinen heutigen Grenzen.*

Ja .....☐ Nein ..... ☐ ➡ Sie springen auf Frage 5!
⇩

Frage 4: In welchem Bundesland sind Sie geboren?

In Sachsen-Anhalt ..... ☐
In Baden-Württemberg ..... ☐
In Bayern ..... ☐
In Berlin ..... ☐
In Brandenburg ..... ☐
In Bremen ..... ☐
In Hamburg ..... ☐
In Hessen ..... ☐
In Mecklenburg-Vorpommern ..... ☐
In Niedersachsen ..... ☐
In Nordrhein-Westfalen ..... ☐
In Rheinland-Pfalz ..... ☐
In Saarland ..... ☐
In Sachsen ..... ☐
In Schleswig-Holstein ..... ☐
In Thüringen ..... ☐

➡Unabhängig von Ihrer Antwort in Frage 4 springen Sie nun auf Frage 9!

Frage 5: In welchem Land sind Sie geboren?

Antwort: _____

Frage 6: Wann sind Sie in die Bundesrepublik Deutschland zugezogen?

Jahr

Frage 7: Zu welcher der folgenden Zuwanderergruppen gehörten Sie, als Sie nach Deutschland kamen?

Deutsche, die längere Zeit im Ausland gelebt haben ..... ☐
Bürger eines EU-Mitgliedsstaates ..... ☐
Aussiedler, d.h. deutschstämmige Person aus osteuropäischen Staaten ..... ☐
Sonstiger Ausländer aus: _____
(Bitte Herkunftsland eintragen)

Frage 8: Welche Sprache sprachen Sie überwiegend zu Hause?

Deutsch ☐
Andere Sprache: _____
(Bitte Sprache eintragen)

Frage 9: Wo haben Sie den <u>größten Teil</u> Ihrer Kindheit und Jugendzeit (bis zum Abitur) verbracht? War das in

Magdeburg (Stadt) .....☐
Umland von Magdeburg (bis 5 km und Eingemeindungen) .....☐
Quedlinburg, Wernigerode, Halberstadt .....☐
Umland v. Quedlinburg, Wernigerode, Halberstadt (bis 5 km und Eingemeindungen) .....☐
Übriges Sachsen-Anhalt .....☐
Außerhalb Sachsen-Anhalts .....☐

Frage 10: Wie oft sind Sie während Ihrer Kindheit und Jugendzeit (bis zum Abitur) umgezogen?

Gar nicht ☐
[ ] mal.

Frage 11: Wo wohnen Sie gegenwärtig überwiegend? (nur eine Antwort ankreuzen)

Wohngemeinschaft ..... ☐
Eigene Wohnung ..... ☐
Zimmer zur Untermiete ..... ☐
Wohnheim ..... ☐
Bei den Eltern ..... ☐
Bei Freunden / Verwandten ..... ☐

Frage 12: Haben Sie gegenwärtig noch ein Zimmer bei Ihren Eltern?

Ja ..... ☐ Nein ..... ☐

Frage 13: Was würden Sie sagen: Wie viele enge Freunde haben Sie (d.h. Freunde, denen Sie persönliche Dinge wie CDs, Geld, Bücher ausleihen würden)?

[ ] enge Freunde.

Abschnitt B: Fragen zur Familie

Frage 14: Haben Sie Geschwister?

Ja, ich habe ☐☐ Geschwister. Nein .....☐ ➡ Sie springen auf Frage 18!

Frage 15: Das wievielte Kind in der Geschwisterreihenfolge sind Sie? (Erstgeborene tragen 1. ein, Zweitgeborene 2., etc.)

Das ☐ Kind.

Frage 16: Bitte füllen Sie folgende Tabelle (nur) für Ihre Geschwister aus und beginnen Sie mit dem Ältesten in absteigender Reihenfolge. Kreuzen Sie alle Bildungsstufen an, die Ihre Geschwister <u>abgeschlossen</u> haben.

	Männl.	Weibl.	Alter	Kindergarten	Schule	Ausbildung	Studium
1. Geschwisterkind	☐	☐	☐☐	☐	☐	☐	☐
2. Geschwisterkind	☐	☐	☐☐	☐	☐	☐	☐
3. Geschwisterkind	☐	☐	☐☐	☐	☐	☐	☐
4. Geschwisterkind	☐	☐	☐☐	☐	☐	☐	☐
5. Geschwisterkind	☐	☐	☐☐	☐	☐	☐	☐

Frage 17: Welche Schulform besuchen bzw. besuchten Ihre Geschwister?
☞ *Bitte alles Zutreffende ankreuzen!*

	Grund-schule	Förder-schule	Sekundar-schule	Gesamt-schule	Gymnasium	Waldorf-schule
1. Geschwisterkind	☐	☐	☐	☐	☐	☐
2. Geschwisterkind	☐	☐	☐	☐	☐	☐
3. Geschwisterkind	☐	☐	☐	☐	☐	☐
4. Geschwisterkind	☐	☐	☐	☐	☐	☐
5. Geschwisterkind	☐	☐	☐	☐	☐	☐

Frage 18: Wie viele von Ihren Lebensjahren bis zum Abitur haben Sie bei folgenden Personen gelebt?

☞ *Bitte auf ganze Jahre runden*! *Hinweis: Adoptiveltern gelten wie leibliche Eltern.*

Bei Ihren beiden (leiblichen) Eltern ..... ☐☐ Jahre
Bei Ihrer Mutter allein (ohne Partner)..... ☐☐ Jahre
Bei Ihrer Mutter mit (neuem) Partner ..... ☐☐ Jahre
Bei Ihrem Vater allein (ohne Partnerin) ..... ☐☐ Jahre
Bei Ihrem Vater mit (neuer) Partnerin ..... ☐☐ Jahre
Bei anderen Verwandten ..... ☐☐ Jahre
Bei Pflegeeltern ..... ☐☐ Jahre
Im Heim ..... ☐☐ Jahre

Frage 19: Wie alt sind Ihre Eltern heute?

Mutter ☐☐ Jahre Verstorben ..... ☐ Unbekannt .....☐
Vater ☐☐ Jahre Verstorben ..... ☐ Unbekannt .....☐

Frage 20: Welchen Schulabschluss haben Ihr Vater/Ihre Mutter erworben?

☞ *Bitte nur den höchsten Abschluss ankreuzen!*

	Vater	**Mutter**
Keinen Schulabschluss	☐	☐
Volks-/Hauptschulabschluss (DDR: 8. Klasse POS)	☐	☐
Mittlere Reife, Realschulabschluss (DDR: 10. Klasse POS)	☐	☐
Abitur/Hochschulreife (DDR: EOS)	☐	☐
Anderen Schulabschluss	☐	☐
Weiß nicht	☐	☐

Frage 21: Haben Ihr Vater / Ihre Mutter eine berufliche Ausbildung oder ein Studium oder eine Promotion abgeschlossen?

☞ *Bitte alles Zutreffende ankreuzen!*

	Vater	**Mutter**
Nein, keine berufliche Ausbildung.....	☐	☐
Ja, berufliche Ausbildung.....	☐	☐
Ja, Hochschulstudium.....	☐	☐
Ja, Promotion.....	☐	☐
Weiß nicht	☐	☐

Frage 22: Hatten Sie während der Schulzeit ein eigenes Zimmer?

Ja, eigenes Zimmer ..... ☐
Nein ..... ☐ ➡ Sie springen auf Frage 24!

Frage 23: Seit dem wievielten Lebensjahr hatten Sie Ihr eigenes Zimmer?

Seit dem ☐☐ . Lebensjahr.

Frage 24: Welche der folgenden Dinge gab es bei Ihnen während Ihrer Schulzeit zu Hause und welche davon haben Sie genutzt?
☞ *Mehrfachnennungen sind möglich!*

	Gab es	**habe ich genutzt**
Einen eigenen Schreibtisch	☐	☐
Einen ruhigen Platz zum Lernen	☐	☐
Handarbeitsutensilien (Strickzeug, Nähmaschine, etc.)	☐	☐
Eine Möglichkeit zum Handwerken (Werkbank, Lötstation, etc.)	☐	☐
Experimentierkästen (Chemie, Elektronik, Mikroskop, etc.)	☐	☐
Einen gemeinsamen Computer, der (auch) für Schularbeiten genutzt werden konnte	☐	☐
Ein eigenes Handy	☐	☐
Einen eigenen Computer	☐	☐
Lernsoftware	☐	☐
Internetzugang	☐	☐
Einen eigenen Fernseher	☐	☐
Klassische Literatur (z.B. Goethe, Shakespeare, Brecht)	☐	☐
Gedichtbände	☐	☐
Kunstgegenstände (z.B. Bilder, Grafiken, Skulpturen)	☐	☐
Nachschlagewerke	☐	☐
Wörterbücher	☐	☐
Regionale Tageszeitung (z.B. Volksstimme)	☐	☐
Überregionale Tageszeitung (z.B. FAZ, Süddeutsche, Welt, etc.)	☐	☐

Frage 25: Wie viele Bücher gibt es in Ihrem Elternhaus?

0-50 Bücher ☐
50-100 Bücher ☐
100-250 Bücher ☐
250-500 Bücher ☐
500-2000 Bücher ☐
> 2000 Bücher ☐

Frage 26: Wie viele Bücher besitzen Sie selbst (inklusive Kinderbücher, Jugendbücher, Fachliteratur)?

0-50 Bücher ☐
50-100 Bücher ☐
100-200 Bücher ☐
200-500 Bücher ☐
> 500 Bücher ☐

Frage 27: In welcher beruflichen Stellung waren Ihr Vater/Ihre Mutter <u>während Ihrer Abiturzeit</u> überwiegend tätig?

	Vater	Mutter
Arbeiter(in) (auch in der Landwirtschaft)	☐	☐
Angestellte(r)	☐	☐
Beamte(r)/Staatsverwaltung (einschl. Richter und Berufssoldaten)	☐	☐
Selbstständig	☐	☐
Ruhestand	☐	☐
Arbeitslos	☐	☐
War nicht erwerbstätig	☐	☐
Nichts von dem vorher genannten	☐	☐

Frage 28: Übten Ihre Eltern <u>diese</u> Tätigkeit (siehe Frage 27) in <u>leitender Position</u> aus?

	Ja	Nein	Trifft nicht zu
Mutter	☐	☐	☐
Vater	☐	☐	☐

Frage 29: Waren Ihre Eltern während Ihrer Kinder- und Jugendzeit arbeitslos? Eventuelle Dauer bitte in Monaten angeben, gegebenenfalls schätzen.

	Mutter	Vater
Nein	☐	☐
Ja, Kinderkrippe/garten	☐☐ Monate	☐☐ Monate
Ja, Grundschule	☐☐ Monate	☐☐ Monate
Ja, Mittelstufe	☐☐ Monate	☐☐ Monate
Ja, Oberstufe	☐☐ Monate	☐☐ Monate

Frage 30: Gehören Ihr Vater/Ihre Mutter/Sie selbst einer Kirche oder Religionsgemeinschaft an?

	Vater	Mutter	Sie selbst
Ja, und zwar:			
der evangelischen Kirche	☐	☐	☐
der katholischen Kirche	☐	☐	☐
einer anderen christl. Religionsgemeinschaft	☐	☐	☐
einer islamischen Religionsgemeinschaft	☐	☐	☐
einer anderen Religionsgemeinschaft	☐	☐	☐
Nein, konfessionslos	☐	☐	☐

Frage 31: Welche der folgenden Tätigkeiten übten Ihr Vater und Ihre Mutter in ihrer Freizeit aus, während Sie die gymnasiale Oberstufe besuchten. Geben Sie bitte getrennt an, wie oft Ihr Vater und Ihre Mutter das machten: jede Woche, jeden Monat, seltener oder nie? Wenn Sie es nicht wissen, kreuzen Sie bitte „weiß ich nicht“ an.

Vater	**Jede Woche**	**Jeden Monat**	**Seltener**	**Nie**	**„Weiß ich nicht“**
Besuch von kulturellen Veranstaltungen (z.B. Konzerte, Theater, Vorträge, Kino)	☐	☐	☐	☐	☐
Tanzveranstaltungen, Discos, Sportveranstaltungen	☐	☐	☐	☐	☐
Lesen von Büchern (z.B. Romane, Spezialliteratur, etc.)	☐	☐	☐	☐	☐
Aktiver Sport	☐	☐	☐	☐	☐
Künstlerische und musische Tätigkeiten (Musizieren, Singen, Tanzen, Theater spielen, Malen, Fotografieren)	☐	☐	☐	☐	☐
Geselligkeit mit / Mithelfen bei Freunden, Verwandten oder Nachbarn	☐	☐	☐	☐	☐
Ehrenamtliche Tätigkeiten in Vereinen, Verbänden, Kirchen oder sozialen Diensten	☐	☐	☐	☐	☐
Beteiligung in Bürgerinitiativen, in Parteien, in der Kommunalpolitik	☐	☐	☐	☐	☐
Kirchgang, Besuch religiöser Veranstaltungen	☐	☐	☐	☐	☐

Mutter	**Jede Woche**	**Jeden Monat**	**Seltener**	**Nie**	**„Weiß ich nicht“**
Besuch von kulturellen Veranstaltungen (z.B. Konzerte, Theater, Vorträge, Kino)	☐	☐	☐	☐	☐
Tanzveranstaltungen, Discos, Sportveranstaltungen	☐	☐	☐	☐	☐
Lesen von Büchern (z.B. Romane, Spezialliteratur, etc.)	☐	☐	☐	☐	☐
Aktiver Sport	☐	☐	☐	☐	☐
Künstlerische und musische Tätigkeiten (Musizieren, Singen, Tanzen, Theater spielen, Malen, Fotografieren)	☐	☐	☐	☐	☐
Geselligkeit mit / Mithelfen bei Freunden, Verwandten oder Nachbarn	☐	☐	☐	☐	☐
Ehrenamtliche Tätigkeiten in Vereinen, Verbänden, Kirchen oder sozialen Diensten	☐	☐	☐	☐	☐
Beteiligung in Bürgerinitiativen, in Parteien, in der Kommunalpolitik	☐	☐	☐	☐	☐
Kirchgang, Besuch religiöser Veranstaltungen	☐	☐	☐	☐	☐

Abschnitt C: Eckdaten Bildungsweg

Frage 32: Haben Sie eine Kinderkrippe besucht?

☞ *Mehrfachnennungen sind möglich!*

Nein ..... ☐ ➡ Sie springen auf Frage 34!
Ja, im Gebiet des Landes Sachsen-Anhalt..... ☐
Ja, in Baden-Württemberg ..... ☐
Ja, in Bayern ..... ☐
Ja, in Berlin ..... ☐
Ja, in Brandenburg ..... ☐
Ja, in Bremen ..... ☐
Ja, in Hamburg ..... ☐
Ja, in Hessen ..... ☐
Ja, in Mecklenburg-Vorpommern ..... ☐
Ja, in Niedersachsen ..... ☐
Ja, in Nordrhein-Westfalen ..... ☐
Ja, in Rheinland-Pfalz ..... ☐
Ja, in Saarland ..... ☐
Ja, in Sachsen ..... ☐
Ja, in Schleswig-Holstein ..... ☐
Ja, in Thüringen ..... ☐
Ja, außerhalb von Deutschland ..... ☐
Weiß nicht ..... ☐

Frage 33: Wie lange haben Sie insgesamt die Kinderkrippe besucht?

Weniger als 1 Jahr ..... ☐
1-2 Jahre ..... ☐
mehr als 2 Jahre ..... ☐
Weiß nicht ..... ☐

Frage 34: Haben Sie einen Kindergarten besucht?

☞ *Mehrfachnennungen sind möglich!*

Nein ..... ☐ ➡ Sie springen auf Frage 36!
Ja, im Gebiet des Landes Sachsen-Anhalt..... ☐
Ja, in Baden-Württemberg ..... ☐
Ja, in Bayern ..... ☐
Ja, in Berlin ..... ☐
Ja, in Brandenburg ..... ☐
Ja, in Bremen ..... ☐
Ja, in Hamburg ..... ☐
Ja, in Hessen ..... ☐
Ja, in Mecklenburg-Vorpommern ..... ☐
Ja, in Niedersachsen ..... ☐
Ja, in Nordrhein-Westfalen ..... ☐
Ja, in Rheinland-Pfalz ..... ☐
Ja, in Saarland ..... ☐
Ja, in Sachsen ..... ☐
Ja, in Schleswig-Holstein ..... ☐
Ja, in Thüringen ..... ☐
Ja, im Ausland ..... ☐
Weiß nicht ..... ☐

Frage 35: Wie lange haben Sie insgesamt den Kindergarten besucht?

Weniger als 1 Jahr ..... ☐
1-2 Jahre ..... ☐
mehr als 2 Jahre ..... ☐
Weiß nicht ..... ☐

Frage 36: In welchem Alter sind Sie eingeschult worden?

Im Alter von
5 Jahren ..... ☐
6 Jahren ..... ☐
7 Jahren ..... ☐

Frage 37: Wo haben Sie die Grundschule besucht?
☞ *Mehrfachnennungen sind möglich!*

In Sachsen-Anhalt ..... ☐
In Baden-Württemberg ..... ☐
In Bayern ..... ☐
In Berlin ..... ☐
In Brandenburg ..... ☐
In Bremen ..... ☐
In Hamburg ..... ☐
In Hessen ..... ☐
In Mecklenburg-Vorpommern ..... ☐
In Niedersachsen ..... ☐
In Nordrhein-Westfalen ..... ☐
In Rheinland-Pfalz ..... ☐
In Saarland ..... ☐
In Sachsen ..... ☐
In Schleswig-Holstein ..... ☐
In Thüringen ..... ☐
Im Ausland ..... ☐

Frage 38: Haben Sie eine besondere Grundschule (Waldorfschule, Freie Schule, Kirchliche Schule, etc.) besucht?

Ja ..... ☐
Nein ..... ☐

Frage 39: Wo haben Sie die Mittelstufe besucht?

☞ *Mehrfachnennungen sind möglich!*

In Sachsen-Anhalt ..... ☐
In Baden-Württemberg ..... ☐
In Bayern ..... ☐
In Berlin ..... ☐
In Brandenburg ..... ☐
In Bremen ..... ☐
In Hamburg ..... ☐
In Hessen ..... ☐
In Mecklenburg-Vorpommern ..... ☐
In Niedersachsen ..... ☐
In Nordrhein-Westfalen ..... ☐
In Rheinland-Pfalz ..... ☐
In Saarland ..... ☐
In Sachsen ..... ☐
In Schleswig-Holstein ..... ☐
In Thüringen ..... ☐
Im Ausland ..... ☐

Frage 40: Haben Sie während der <u>Mittelstufe</u> überwiegend im Internat gewohnt?

Ja ..... ☐ ➡ Sie springen auf Frage 43!
Nein ..... ☐

Frage 41: Wie weit war Ihr durchschnittlicher Schulweg während der <u>Mittelstufe</u>?

0-5 km ..... ☐
5-10 km ..... ☐
10-20km ..... ☐
Mehr als 20km ..... ☐

Frage 42: Wie haben Sie Ihren Schulweg während der <u>Mittelstufe</u> hauptsächlich zurückgelegt?

☞ *Mehrfachnennungen sind möglich!*

Zu Fuß ..... ☐
Mit dem Fahrrad ..... ☐
Mit dem Auto ..... ☐
Mit öffentlichen Verkehrsmitteln ..... ☐

Frage 43: Geben Sie bitte Ihre Noten des Endjahreszeugnisses der <u>7. Klasse</u> in den folgenden Fächern an:

Deutsch:..... ☐
Mathematik: ..... ☐
Englisch: ..... ☐

Frage 44: Haben Sie während der <u>Oberstufe</u> überwiegend im Internat gewohnt?

Ja ..... ☐ ➡ Sie springen auf Frage 47!
Nein ..... ☐

Frage 45: Wie weit war Ihr durchschnittlicher Schulweg während der <u>Oberstufe</u>?

0-5 km ..... ☐
5-10 km ..... ☐
10-20km ..... ☐
Mehr als 20km ..... ☐

Frage 46: Wie haben Sie Ihren Schulweg während der <u>Oberstufe</u> hauptsächlich zurückgelegt?
☞ *Mehrfachnennungen sind möglich!*

Zu Fuß ..... ☐
Mit dem Fahrrad ..... ☐
Mit dem Auto ..... ☐
Mit öffentlichen Verkehrsmitteln ..... ☐

Frage 47: In welcher Klasse sind Sie auf das Gymnasium bzw. in den Gymnasialzweig (der Gesamtschule) gewechselt?

In der ☐☐ Klasse.

Frage 48: Welche der folgenden Gründe waren wichtig, dass Sie Ihre Schule als Schule ausgesucht haben, um dort das Abitur abzulegen?
☞ *Bitte alles Zutreffende ankreuzen!*

Gut erreichbar ..... ☐
Guter Ruf der Schule ..... ☐
Stadtteilzuordnung ..... ☐
Spezieller fachlicher Schwerpunkt der Schule ..... ☐
Spezifisches pädagogisches Konzept ..... ☐
Andere Familienmitglieder besuchten die Schule ..... ☐
Freunde besuchten die Schule ..... ☐
Andere Gründe ..... ☐
⇩z.B.: _____

Frage 49: Haben Sie in Ihrer Schulzeit einmal eine Klasse übersprungen?

Ja ..... ☐ ⇩ Nein ..... ☐ ➡ Sie springen auf Frage 50!

Frage 50: Welche Klasse(n) haben Sie übersprungen?

☐☐ Klasse, (und die ☐☐ Klasse)

Frage 51: Haben Sie in Ihrer Schulzeit einmal eine Klasse wiederholt (z.B. wegen eines Auslandsaufenthalts, Krankheit, schlechter Leistungen, etc.)?

Ja ..... ☐ Nein ..... ☐ ➡ Sie springen auf Frage 53!

Frage 52: Welche Klasse(n) haben Sie wiederholt?

☐☐ Klasse, (und die ☐☐ Klasse)

Frage 53: Haben Sie <u>irgendwann nach der 9. Klasse</u> die Schule gewechselt und wenn ja aus welchem Grund?

Nein ..... ☐
Ja, auf eine Schule mit speziellem Schwerpunkt ..... ☐
Ja, um ein besseres Abitur machen zu können ..... ☐
Ja, aufgrund des besseren Rufes der Schule ..... ☐
Ja, aufgrund des sozialen Umfeldes in der alten Schule ..... ☐
Ja, aufgrund eines Umzugs ..... ☐
Ja, anderer Grund, und zwar: _____

Frage 54: Haben Sie nach der 9. Klasse in einem anderen Land, also nicht Deutschland, die Schule besucht?

Ja, für kurze Zeit (bis zu 6 Monaten) ..... ☐
Ja, für längere Zeit (mehr als 6 Monate) ..... ☐
Nein ..... ☐ ➡ Sie springen auf Frage 56!

Frage 55: Sind sie alleine oder mit Ihren Eltern ins Ausland gegangen?

Alleine ..... ☐
Mit meinen Eltern ..... ☐

Abschnitt D: Details der Schulausbildung

Frage 56: Welche Fremdsprachen haben Sie in der Schule gelernt und wie viele Jahre? Welches war Ihre erste Fremdsprache? Und welches Ihre zweite bzw. dritte, sofern Sie eine dritte Fremdsprache hatten?

	erste Fremd-sprache	Dauer in Jahren	zweite Fremd-sprache	Dauer in Jahren	dritte Fremd-sprache	Dauer in Jahren
Englisch	☐	☐☐	☐	☐	☐	☐
Französisch	☐	☐☐	☐	☐	☐	☐
Spanisch	☐	☐☐	☐	☐	☐	☐
Russisch	☐	☐☐	☐	☐	☐	☐
Italienisch	☐	☐☐	☐	☐	☐	☐
Latein	☐	☐☐	☐	☐	☐	☐
Altgriechisch ..	☐	☐☐	☐	☐	☐	☐
Sonstige	☐	☐☐	☐	☐	☐	☐

Keine dritte Fremdsprache ..... ☐

Frage 57: Wie schätzen Sie Ihre Kenntnisse in den folgenden Sprachen zum jetzigen Zeitpunkt ein?

Antworten Sie bitte anhand der folgenden Skala, der Wert 1 bedeutet geringe Kenntnisse, der Wert 7 verhandlungssichere Kenntnisse. Mit den Werten zwischen 1 und 7 können Sie Abstufungen vornehmen.

	Keine Kenntnisse	Geringe Kenntnisse					Verhandlungssicher
		1	**2**	**3**	**4**	**5**	**6**	**7**
Englisch	☐	☐	☐	☐	☐	☐	☐	☐
Französisch	☐	☐	☐	☐	☐	☐	☐	☐
Spanisch	☐	☐	☐	☐	☐	☐	☐	☐
Russisch	☐	☐	☐	☐	☐	☐	☐	☐
Italienisch	☐	☐	☐	☐	☐	☐	☐	☐
_____	☐	☐	☐	☐	☐	☐	☐	☐
_____	☐	☐	☐	☐	☐	☐	☐	☐

(Andere Sprachen, in denen Sie Kenntnisse besitzen)

Frage 58: Welche nachfolgenden Fächer haben Sie in der Schule gelernt und wie viele Jahre?

	Belegt	Dauer in Jahren
Biologie	☐	☐☐
Physik	☐	☐☐
Chemie	☐	☐☐
Informatik	☐	☐☐

Frage 59: Wurden Leistungs- und/oder Grundkurse an Ihrer Schule jahrgangsübergreifend unterrichtet?

	Ja	Nein
Grundkurse	☐	☐
Leistungskurse	☐	☐

Frage 60:

a) In welchem Maße verfügen Sie über die nachfolgend aufgeführten Fähigkeiten und Kenntnisse?

b) In welchem Maße wurde in den <u>letzten beiden</u> Schuljahren auf deren Vermittlung Wert gelegt?

In jeder Zeile die beiden zutreffenden Skalenwerte ankreuzen.

	a) Einschätzung der <u>eigenen</u> Fähigkeiten				**b) <u>Wertschätzung</u> im Schulunterricht**			
	gar nicht			in hohem Maße	gar nicht			in hohem Maße
	1	**2**	**3**	**4**	**1**	**2**	**3**	**4**
komplexe Sachverhalte gedanklich klar strukturiert darstellen	☐	☐	☐	☐	☐	☐	☐	☐
abwägendes und schlüssiges Argumentieren	☐	☐	☐	☐	☐	☐	☐	☐

	a) Einschätzung der <u>eigenen</u> Fähigkeiten				**b) <u>Wertschätzung</u> im Schulunterricht**			
	gar nicht			in hohem Maße	gar nicht			in hohem Maße
	1	2	3	4	1	2	3	4
mit anderen zusammen Aufgaben bearbeiten, in Gruppenarbeit Aufgaben lösen	☐	☐	☐	☐	☐	☐	☐	☐
konstruktives Austragen von Konflikten	☐	☐	☐	☐	☐	☐	☐	☐
Gruppenarbeit koordinieren	☐	☐	☐	☐	☐	☐	☐	☐
Mitverantwortung gegenüber der Gemeinschaft übernehmen	☐	☐	☐	☐	☐	☐	☐	☐
überzeugendes Vorbringen der eigenen Argumente gegenüber Anderen	☐	☐	☐	☐	☐	☐	☐	☐
Mitsprache- und Mitgestaltungsrechte wahrnehmen	☐	☐	☐	☐	☐	☐	☐	☐
neue Ideen und Gedanken im Austausch mit Anderen entwickeln	☐	☐	☐	☐	☐	☐	☐	☐
Herausarbeiten der Kernaussagen umfangreicher Texte, Diskussionen etc.	☐	☐	☐	☐	☐	☐	☐	☐
Systematische Beschaffung, Strukturierung und Nutzung von Informationen und Materialien	☐	☐	☐	☐	☐	☐	☐	☐
komplexe Arbeiten nach Prioritäten und nach Abfolge sinnvoller Arbeitsschritte organisieren	☐	☐	☐	☐	☐	☐	☐	☐
schematische Übersichten von komplexen Sachverhalten/Arbeitsergebnissen anfertigen	☐	☐	☐	☐	☐	☐	☐	☐
verschiedene Aufgaben zur gleichen Zeit koordinieren	☐	☐	☐	☐	☐	☐	☐	☐
eigene Gedanken und einen eigenständigen Standpunkt entwickeln	☐	☐	☐	☐	☐	☐	☐	☐
Verständnis- und Wissenslücken durch eigenständige Arbeit ausfüllen	☐	☐	☐	☐	☐	☐	☐	☐
Unterscheidung von Wesentlichem und Unwesentlichem auch bei Arbeit unter Zeitdruck	☐	☐	☐	☐	☐	☐	☐	☐
Tätigkeiten zielgerichtet, zügig und ohne Ablenkung erledigen	☐	☐	☐	☐	☐	☐	☐	☐
Fähigkeit zum selbstverantwortlichen Handeln	☐	☐	☐	☐	☐	☐	☐	☐
eigene Leistungsfähigkeit und –grenzen einschätzen	☐	☐	☐	☐	☐	☐	☐	☐

Frage 61: Kreuzen Sie bitte die Fächer an, in denen Sie während Ihrer Oberstufenzeit freiwillig zusätzlichen Unterricht besucht haben (kein Förderunterricht bzw. keine Nachhilfe)!

Naturwissenschaften ..... ☐
Mathematik, Informatik und Technik ..... ☐
Kunst, Musik, Theater etc. ..... ☐
Sport ..... ☐
Sprachen (Fremdsprachen, Literatur, etc.) ..... ☐
Geisteswissenschaften (Philosophie, etc.) ..... ☐
Wirtschaft ..... ☐
Sonstiges: _____
(Fach eintragen)

Frage 62: Schätzen Sie bitte die eigene Belastung (Gesamtstundenanzahl, Stoffumfang, Hausaufgaben) während der Oberstufenzeit ein!

	sehr niedrig				**sehr hoch**
	1	2	3	4	5
Gesamtstundenanzahl in der Schulwoche	☐	☐	☐	☐	☐
Stoffumfang des Unterrichts	☐	☐	☐	☐	☐
Umfang der Hausaufgaben	☐	☐	☐	☐	☐

Frage 63: Wenn Sie an Ihre gymnasiale Oberstufenzeit zurückdenken, wie oft pro Woche kamen Sie durchschnittlich zu spät zu den Unterrichtsstunden?

Weniger als einmal ..... ☐
einmal ..... ☐
zwei-dreimal ..... ☐
viermal und öfter ..... ☐

Frage 64: Wie häufig haben Sie in Ihrer gymnasialen Oberstufenzeit

	sehr oft	oft	gelegentlich	selten	nie
sich über den empfohlenen Umfang hinaus mit den Fächern beschäftigt?	☐	☐	☐	☐	☐
eigene Gedanken zur Lösung eines Problems entwickelt?	☐	☐	☐	☐	☐
herauszufinden versucht, wie ein Ergebnis zustande gekommen ist?	☐	☐	☐	☐	☐
selbst Interessenschwerpunkte gebildet und selbstständig daran weitergearbeitet?	☐	☐	☐	☐	☐
selbst ein kleines Experiment / eine kleine Untersuchung zu einem bestimmten Thema durchgeführt?	☐	☐	☐	☐	☐
an überregionalen Wettbewerben teilgenommen (z.B. Jugend musiziert, Jugend forscht, Matheolympiade, etc.)	☐	☐	☐	☐	☐
An überregionalen Sportwettkämpfen teilgenommen	☐	☐	☐	☐	☐

Abschnitt E: Bildungsaktivitäten außerhalb des Unterrichts

Frage 65: Haben Sie während Ihrer Kinder- und Jugendzeit bis zum Abitur aktiv...

	Nein	**Ja**	**Wenn ja, wie viele Jahre insgesamt?**
...Musik gemacht, gemeint ist Gesang (z.B. im Chor) oder Spielen eines Instrumentes?	☐	☐	☐☐ **Jahre**
...Sport getrieben, gemeint ist Sport außerhalb des Sportunterrichts?	☐	☐	☐☐ **Jahre**
...sich künstlerisch betätigt, gemeint ist Tanzen in einer Tanzgruppe, Redakteur bei einer Schülerzeitung, Besuch eines Malzirkels, Theatergruppe u.ä.?	☐	☐	☐☐ **Jahre**
...sich naturwissenschaftlich/mathematisch betätigt, gemeint ist Mitglied in einer AG u.ä.?	☐	☐	☐☐ **Jahre**
...sich ehrenamtlich/freiwillig betätigt, gemeint ist z.B. Engagement in Naturschutzverbänden, bei der freiw. Feuerwehr, im Sportverein (z.B. als Nachwuchstrainer), in der Kirchgemeinde (z.B. in der Kinder/Jugendarbeit), in der Schule/im Jahrgang (z.B. kostenlose Nachhilfe, Abiballvorbereitung, etc.) u.ä.?	☐	☐	☐☐ **Jahre**
...sich politisch engagiert, gemeint ist Engagement als Klassen- bzw. Schulsprecher, in Schülervertretungen, in Jugendverbänden der Parteien bzw. parteinahen Jugendorganisationen u.ä.?	☐	☐	☐☐ **Jahre**
...sich unternehmerisch betätigt, gemeint ist Mitarbeit in einer Schülerfirma, Entwicklung einer Geschäftsidee, Gründung einer eigenen Firma u.ä. ?	☐	☐	☐☐ **Jahre**

Frage 66: Haben Sie während Ihrer Schulzeit einen Führerschein erworben?

Ja..... ☐ Nein..... ☐

Abschnitt F: Abschlussjahr und Abitur

Frage 67: Wie groß war Ihre Abiturklasse ungefähr?

☐☐ Schüler.

Frage 68: Geben Sie bitte an, ob Sie die aufgeführten Fächer als Grundkurs, Leistungskurs oder gar nicht belegt hatten. War das Fach Bestandteil Ihres schriftlichen Abiturs, dann geben Sie bitte die Punktzahl des <u>schriftlichen</u> Abiturs an.

	Nicht belegt	Grundkurs	Leistungskurs	kein schriftliches Abitur	Punktzahl
Deutsch	☐	☐	☐	☐	☐☐
Mathematik	☐	☐	☐	☐	☐☐
Englisch	☐	☐	☐	☐	☐☐
Französisch	☐	☐	☐	☐	☐☐
Spanisch	☐	☐	☐	☐	☐☐
Physik	☐	☐	☐	☐	☐☐
Biologie	☐	☐	☐	☐	☐☐
Chemie	☐	☐	☐	☐	☐☐
Geschichte	☐	☐	☐	☐	☐☐

Frage 69: Mit welcher Durchschnittsnote und Punktezahl haben Sie das Abitur abgelegt?

Durchschnittsnote ..... ☐☐ , ☐

Frage 70: Wie viele Stunden haben Sie während des <u>letzten Schuljahres</u> durchschnittlich pro laufender Schulwoche mit folgenden Tätigkeiten verbracht (einschließlich Zeiten am Wochenende)? Wenn Sie durchschnittlich eine Stunde täglich Hausaufgaben gemacht haben, dann tragen Sie eine „7“ ein.

Hausaufgaben	☐☐
Lernen	☐☐
Zusätzliche Fördermaßnahmen in der Schule (z.B. Förderunterricht)	☐☐
Bezahlte Nebentätigkeit	☐☐
Hilfe im Haushalt und Garten	☐☐
Betreuung der Geschwister	☐☐

Frage 71: Wenn Sie sich an die letzten vier Wochen der unmittelbaren Vorbereitung auf die schriftlichen Abiturprüfungen zurückerinnern, wie oft hatten Sie folgende Beschwerden:

	Öfter als 2-3 mal pro Woche	2-3 mal pro Woche	einmal pro Woche	seltener	nie
Kopfschmerzen	☐	☐	☐	☐	☐
Schlafstörungen	☐	☐	☐	☐	☐
Augenflimmern	☐	☐	☐	☐	☐
Husten, Schnupfen, Halsschmerzen	☐	☐	☐	☐	☐
Erschöpfung, Müdigkeit	☐	☐	☐	☐	☐
Verdauungsbeschwerden	☐	☐	☐	☐	☐
Rückenschmerzen, Verspannungen	☐	☐	☐	☐	☐
Konzentrationsstörungen	☐	☐	☐	☐	☐
Herzklopfen	☐	☐	☐	☐	☐

Frage 72: Bitte denken Sie an Ihr letztes Schuljahr. Wie oft kam es in dieser Zeit vor,

	Öfter als 2-3 mal pro Woche	2-3 mal pro Woche	einmal pro Woche	seltener	nie
dass Sie sich gehetzt oder unter Zeitdruck fühlten?	☐	☐	☐	☐	☐
dass Sie sich ruhig und ausgeglichen fühlten?	☐	☐	☐	☐	☐
dass Sie sich niedergeschlagen und trübsinnig fühlten?	☐	☐	☐	☐	☐
dass Sie jede Menge Energie verspürten?	☐	☐	☐	☐	☐
dass Sie starke körperliche Schmerzen hatten?	☐	☐	☐	☐	☐

Frage 73: Geben Sie bitte zu jeder Freizeitbeschäftigung an, wie oft Sie diese während Ihres letzten Schuljahres (12. bzw. 13. Klasse) ausübten:

	Täglich	mind. 1mal pro Woche	mind. 1mal pro Monat	seltener	nie
Mit Freunden (Clique) zusammensein (auch mit festem Freund/Freundin)	☐	☐	☐	☐	☐
Beteiligung in Parteien, in der Kommunalpolitik, Bürgerinitiativen	☐	☐	☐	☐	☐
Ehrenamtliche Tätigkeiten in Vereinen, Verbänden oder sozialen Diensten	☐	☐	☐	☐	☐
Internet, Fernsehen, Video, DVD	☐	☐	☐	☐	☐
Künstlerische und musische Tätigkeiten (Malerei, Musizieren, Chor, Fotografie, Theater, Tanz)	☐	☐	☐	☐	☐
Technische Arbeiten, naturwissenschaftliche AGs, Computer programmieren	☐	☐	☐	☐	☐
Aktive sportliche Betätigung	☐	☐	☐	☐	☐
Kinobesuch, Besuch von Popkonzerten, Sport- oder Tanzveranstaltungen, Disko	☐	☐	☐	☐	☐
Besuch von Veranstaltungen wie Oper, klassische Konzerte, Theater, Ausstellungen	☐	☐	☐	☐	☐
Lesen	☐	☐	☐	☐	☐
Einfach nichts tun, abhängen, Musik hören	☐	☐	☐	☐	☐
Mit aktuellen Nachrichten beschäftigen	☐	☐	☐	☐	☐
Tätigkeit im Nebenjob ausgeübt	☐	☐	☐	☐	☐
Kirchgang, Besuch religiöser Veranstaltungen	☐	☐	☐	☐	☐

Frage 74: Wie häufig tranken Sie im letzten Schuljahr die folgenden Getränke?

	Öfter als 2-3 mal pro Woche	2-3 mal pro Woche	einmal pro Woche	seltener	nie
Bier	☐	☐	☐	☐	☐
Wein, Sekt	☐	☐	☐	☐	☐
Spirituosen (Schnaps, Weinbrand etc.)	☐	☐	☐	☐	☐
alkoh. Mischgetränke (Cocktails etc.)	☐	☐	☐	☐	☐

Frage 75: Rauchten Sie im letzten Schuljahr (seien es Zigaretten oder Zigarillos)?

Nein ..... ☐
Ja, schon vorher ..... ☐
Ja, seit dem letzten Schuljahr ... ☐ Wie viele?

☐☐.... Zigaretten / Zigarillos pro Tag.

Abschnitt G: Unterstützung durch Eltern / Lehrer / weitere Förderer

Frage 76: Haben Ihre Eltern Interesse an Ihrem Schulalltag gezeigt?

	Grundschule	Mittelstufe	Oberstufe
täglich nachgefragt	☐	☐	☐
häufig nachgefragt	☐	☐	☐
unregelmäßig nachgefragt	☐	☐	☐
selten nachgefragt	☐	☐	☐
nie nachgefragt	☐	☐	☐

Frage 77: Durch wen wurden Sie in der Zeit <u>bis zur</u> Oberstufe bei den Hausaufgaben und beim Lernen unterstützt und / oder hatten Sie bezahlte Nachhilfe? (Gemeint ist nicht das Abschreiben von Hausaufgaben.)
☞ *Bitte alles Zutreffende ankreuzen!*

	Regelmäßig	ab und zu	selten	nie
Mutter	☐	☐	☐	☐
Vater	☐	☐	☐	☐
Geschwister	☐	☐	☐	☐
Andere Verwandte	☐	☐	☐	☐
Freunde / Mitschüler	☐	☐	☐	☐
Bezahlte Nachhilfe	☐	☐	☐	☐

Frage 78: Durch wen wurden Sie <u>in Ihrer</u> Oberstufenzeit bei den Hausaufgaben und beim Lernen unterstützt und / oder hatten Sie bezahlte Nachhilfe? (Gemeint ist nicht das Abschreiben von Hausaufgaben.)
☞ *Bitte alles Zutreffende ankreuzen!*

	Regelmäßig	ab und zu	selten	nie
Mutter	☐	☐	☐	☐
Vater	☐	☐	☐	☐
Geschwister	☐	☐	☐	☐
Andere Verwandte	☐	☐	☐	☐
Freunde / Mitschüler	☐	☐	☐	☐
Bezahlte Nachhilfe	☐	☐	☐	☐

Frage 79: Gab es Meinungsverschiedenheiten in Ihrem Elternhaus wegen Ihrer schulischen Leistungen während der <u>Oberstufenzeit</u>?

	Regelmäßig	ab und zu	selten
Ja, mit Vater und Mutter	☐	☐	☐
Ja, aber nur mit Mutter	☐	☐	☐
Ja, aber nur mit Vater	☐	☐	☐
Nein	☐		

Frage 80: In welcher Form haben sich Ihre Eltern während Ihrer Schulzeit in der Schule engagiert?
☞ *Bitte alles Zutreffende ankreuzen!*

Regelmäßige Teilnahme am Elternabend ☐
Regelmäßige Besuche von Elternsprechtagen ☐
Aufsuchen des Lehrers/der Lehrerin auch außerhalb von Sprechtagen ☐
Engagement als Elternvertreter ☐
Sach- oder Geldspende ☐
Schüler bei Schüleraustauschen aufgenommen ☐
Konzerte / Theater / Sportveranstaltungen (oder ähnliches) der Schule besucht ☐
Nichts davon ☐

Abschnitt H: Bildungsentscheidung nach der Schule

Frage 81: Und nun denken Sie bitte an die 18 Monate nach dem Abitur (Juli 2007-Dezember 2008). Wir haben hier einen Kalender abgebildet. Links steht, was Sie in dieser Zeit gemacht haben könnten.
Bitte gehen Sie die Liste durch und kreuzen alle Monate an, in denen Sie zum Beispiel Zivildienst leisteten, studierten, usw.
Falls eine oder mehrere dieser Tätigkeiten im Ausland stattfanden, kreuzen Sie bitte <u>zusätzlich</u> die Zeile „Auslandsaufenthalt“ an.

	07 2007	08	09	10	11	12	01 2008	02	03	04	05	06	07	08	09	10	11	12
Wehrdienst abgeleistet																		
Zivildienst																		
Freiwilliges soziales (oder kulturelles oder ökologisches Jahr)																		
Praktikum																		
Studium																		
Berufsausbildung																		
Vollzeit-/ oder Teilzeitbeschäftigung																		
Erziehung eigener Kinder																		
Urlaub, Reisen, Entspannen																		
Auslandsaufenthalt																		

Frage 82: Wie finanzieren Sie zurzeit Ihre Lebenshaltung?
☞ *Bitte alles Zutreffende ankreuzen!*

Durch eigenes Gehalt ..... ☐
Durch einen Nebenjob ..... ☐
Durch Jobben in den Semesterferien ..... ☐
Durch Unterstützung der Eltern ..... ☐
Durch Einkommen des Ehepartners/Ehepartnerin ..... ☐
Durch BAföG ..... ☐
Durch Kindergeld ..... ☐
Durch Studienkredit/Bildungskredit ..... ☐
Durch andere Stipendien (Begabtenförderung, Stiftungen, Firmen) ..... ☐
Durch Arbeitslosengeld ..... ☐
Durch anderes ..... ☐

Frage 83: Welchen der folgenden Abschlüsse streben Sie an?
☞ *Bitte alles Zutreffende ankreuzen!*

Abschluss einer Lehre ..... ☐
Berufsfachschule oder Schule des Gesundheitswesens ..... ☐
Fachschule (z.B. Technikerschule) ..... ☐
Beamtenausbildung ..... ☐
Anerkannte Berufsakademie ..... ☐
Fachhochschule ..... ☐
Universität Bachelor ..... ☐
Universität Master ..... ☐
Universität Diplom ..... ☐
Universität Magister ..... ☐
Promotion ..... ☐

Frage 84: Sind Sie derzeit in Ausbildung? Das heißt: Besuchen Sie eine Schule oder Hochschule/Universität, machen Sie eine Berufsausbildung oder nehmen Sie an einem Weiterbildungslehrgang teil?

Ja ..... ☐ Nein ..... ☐ ➔ Sie springen auf Frage 88!

Frage 85: Was für eine Ausbildung oder Weiterbildung ist das?

Studium an Universität oder sonstiger Hochschule ..... ☐
Besuch einer Berufsschule **ohne** Lehre ..... ☐
Lehre ..... ☐
Besuch einer Berufsfachschule oder Handelsschule ..... ☐
Besuch einer Schule des Gesundheitswesens ..... ☐
Besuch einer Fachschule (z.B. Technikerschule) ..... ☐
Beamtenausbildung ..... ☐
Sonstige ..... ☐
Und zwar: _____

Frage 86: Welche Motive waren für die Berufswahl/Studienfachwahl wichtig?
☞ *Bitte alles Zutreffende ankreuzen!*

	unwichtig			Sehr wichtig
	1	**2**	**3**	**4**
Spezielles Fachinteresse	☐	☐	☐	☐
Eigene Begabung, Fähigkeiten	☐	☐	☐	☐
Sicherer Arbeitsplatz	☐	☐	☐	☐
Einkommenschancen	☐	☐	☐	☐
Fester Berufswunsch	☐	☐	☐	☐
Berufliche Möglichkeiten	☐	☐	☐	☐
Gesellschaftliches Ansehen	☐	☐	☐	☐
Gute Aussichten, später in eine Führungsposition zu kommen	☐	☐	☐	☐

Frage 87: Wer unterstützte Sie bei Ihrer Wahl der Ausbildung / des Studienfachs?
☞ *Bitte alles Zutreffende ankreuzen!*

Anregung durch Eltern ☐
Anregung durch Freunde / Bekannte ☐
Anregung durch die Schule / Lehrer ☐
Berufsberatung / Eignungstests ☐
Praktikum / Arbeit ☐
Sonstiges ☐

Frage 88: In welchem Alter spätestens wollen Sie wirtschaftlich auf eigenen Beinen stehen?

Im Alter von ☐☐ Jahren
- oder -
Ich stehe bereits heute wirtschaftlich auf eigenen Beinen ☐

Alle <u>Nichtstudenten</u> springen auf Frage 95!

Frage 89: Welches Studienfach studieren Sie im Hauptfach?
☞ *Bitte alles Zutreffende ankreuzen!*

Sprach- und Kulturwissenschaften (u.a. Sprachen, Geschichte, Theologie,..) ☐
Psychologie ☐
Erziehungswissenschaften, Sozialwesen ☐
Sportwissenschaft, Sportpädagogik ☐
Rechtswissenschaft, Jura ☐
Sozialwissenschaften ☐
Wirtschaftswissenschaften ☐
Mathematik, Naturwissenschaften ☐
Medizin ☐
Agrar- , Forst-, Ernährungswissenschaften ☐
Ingenieurwissenschaften ☐
Kunst, Kunstwissenschaft, Musik ☐
Andere Studienfächer ☐

Frage 90: Welche der folgenden Gründe waren Ihnen bei der Wahl ihrer jetzigen Hochschule wichtig?
☞ *Bitte alles Zutreffende ankreuzen!*

Eigene Erfahrung (z.B. durch Besuche bei Hochschultagen) ..... ☐
Erfahrung im Freundes- und Familienkreis ..... ☐
Tradition und Ruf der Hochschule ..... ☐
Persönliche Kontakte zu Freunden/Bekannten ..... ☐
Attraktivität von Stadt und Umgebung ..... ☐
Regionale Nähe zum Heimatort ..... ☐
Gewünschte Fachrichtung ..... ☐
Finanzielle Überlegungen ..... ☐
Guter Platz des Faches in Rankinglisten ..... ☐
Internationale Ausrichtung des Studienangebotes ..... ☐
Zuweisung durch ZVS ..... ☐
Andere Gründe ..... ☐

Frage 91: Erwägen Sie im weiteren Verlauf Ihres Studiums...
☞ *Bitte alles Zutreffende ankreuzen!*

die Hochschule zu wechseln ..... ☐
ein Praktikum im Inland zu absolvieren ..... ☐
ein weiterführendes Studium / zu promovieren ..... ☐
eine Unterbrechung des Studiums ..... ☐
eine Hochschulart zu wechseln (von Uni zu FH oder umgekehrt) ..... ☐
nichts davon ..... ☐

Frage 92: Erwägen Sie im weiteren Verlauf Ihres Studiums Auslandsaktivitäten wie…
☞ *Bitte alles Zutreffende ankreuzen!*

während des Erststudiums im Ausland studieren ..... ☐
nach dem ersten Abschluss im Ausland studieren ..... ☐
einen Sprachaufenthalt im Ausland (z.B. in den Semesterferien) ..... ☐
ein Praktikum im Ausland zu absolvieren ..... ☐
im Ausland einen Studienabschluss zu erwerben ..... ☐
im Ausland zu promovieren ..... ☐
nichts davon ..... ☐

Frage 93: Sind Sie gegenwärtig interessiert an den Aktivitäten folgender Gruppen an Ihrer Hochschule, und nehmen Sie aktiv daran teil?

☞ *Bitte alles Zutreffende ankreuzen!*

	Nicht Interessiert	Interessiert	Aktiv
Fachschaften	☐	☐	☐
Studentische Selbstverwaltung/Vertretung	☐	☐	☐
Offizielle Selbstverwaltungsgremien (Senat, Konzil, u.ä.)	☐	☐	☐
Politische Studentenvereinigungen	☐	☐	☐
Informelle Aktionsgruppen	☐	☐	☐
Studentenverbindungen	☐	☐	☐
Studentensport, Sportgruppen	☐	☐	☐
Kulturelle Aktivitäten (z.B. Theater-, Musik-, Orchestergruppen)	☐	☐	☐

Frage 94: In welchem Bereich möchten Sie nach dem Studium tätig sein?

☞ *Bitte alles Zutreffende ankreuzen!*

im Schulbereich ☐
in der Forschung (Hochschule, Forschungsinstitut, Forschungsabteilung, etc.) ☐
im öffentlichen Dienst ☐
in Organisationen ohne Erwerbscharakter (z.B. Rundfunk, Gewerkschaften) ☐
in der Privatwirtschaft ☐
als Freiberufler (Praxis, Kanzlei u.ä.) ☐
als Unternehmer (eigener Betrieb, Gewerbe, Dienstleistung) ☐

Abschnitt I: Beurteilung der Schule

Frage 95: Geben Sie bitte an, inwieweit Sie in den folgenden Bereichen während der gymnasialen Schulzeit durch Ihre Schule gefördert worden sind:

	nicht gefördert				**stark gefördert**
	1	**2**	**3**	**4**	**5**
Fachliche Kenntnisse	☐	☐	☐	☐	☐
Berufs-/Praxisbezug	☐	☐	☐	☐	☐
Fachübergreifendes Wissen / Interdisziplinarität	☐	☐	☐	☐	☐
Sprachliche, rhetorische Fähigkeiten/Diskussionsbeteiligung	☐	☐	☐	☐	☐
Intellektuelle Fähigkeiten (logisches, methodisches Denken)	☐	☐	☐	☐	☐
Teamfähigkeit / Zusammenarbeit und Aufgabenlösung mit anderen	☐	☐	☐	☐	☐
Arbeitstechnische Fähigkeiten, systematisches Arbeiten	☐	☐	☐	☐	☐
Planungs-, Organisationsfähigkeit	☐	☐	☐	☐	☐
Allgemeinbildung, breites Wissen	☐	☐	☐	☐	☐
Autonomie und Selbstständigkeit	☐	☐	☐	☐	☐
Fähigkeit, Probleme zu analysieren und zu lösen	☐	☐	☐	☐	☐
Kritikfähigkeit, kritisches Denken	☐	☐	☐	☐	☐
Soziales Verantwortungsbewusstsein	☐	☐	☐	☐	☐
Fähigkeit, selbstständig forschend tätig zu sein	☐	☐	☐	☐	☐

Frage 96: Denken Sie an die Lehrer Ihrer Schule: In welchem Umfang stimmen Sie den folgenden Aussagen zu?
Bitte ein Kreuz pro Zeile!

	stimme überhaupt nicht zu				stimme voll und ganz zu
	1	**2**	**3**	**4**	**5**
Die Schüler verstanden sich mit den meisten Lehrern gut	☐	☐	☐	☐	☐
Die meisten Lehrer waren daran interessiert, dass es den Schülern gut geht	☐	☐	☐	☐	☐
Die meisten Lehrer hörten den Schülern aufmerksam zu, was diese zu sagen hatten	☐	☐	☐	☐	☐
Wenn ein Schüler zusätzliche Unterstützung benötigte, konnte er diese von den meisten Lehrern bekommen.	☐	☐	☐	☐	☐
Die meisten Lehrer haben mich fair behandelt.	☐	☐	☐	☐	☐

Abschnitt J: Gesundheit, Einstellungen, Eigenschaften und Meinungen

Frage 97: Die folgenden Aussagen kennzeichnen verschiedene Einstellungen zum Leben und zur Zukunft. Bitte sagen Sie uns, inwieweit Sie jeweils zustimmen.
☞*Antworten Sie bitte anhand der folgenden Skala.*

*Der Wert 1 bedeutet**: stimme überhaupt nicht zu**.* *Der Wert 7 bedeutet**: stimme voll zu**.* *Mit den Werten zwischen 1 und 7 können Sie Ihre Meinung abstufen.*	**Stimme überhaupt nicht zu.**						**Stimme voll zu.**
	1	**2**	**3**	**4**	**5**	**6**	**7**
Wie mein Leben verläuft, hängt von mir selbst ab.	☐	☐	☐	☐	☐	☐	☐
Im Vergleich mit anderen habe ich nicht das erreicht, was ich verdient habe.	☐	☐	☐	☐	☐	☐	☐
Was man im Leben erreicht, ist in erster Linie eine Frage von Schicksal oder Glück.	☐	☐	☐	☐	☐	☐	☐
Ich mache häufig die Erfahrung, dass andere über mein Leben bestimmen.	☐	☐	☐	☐	☐	☐	☐
Erfolg muss man sich hart erarbeiten.	☐	☐	☐	☐	☐	☐	☐
Wenn ich im Leben auf Schwierigkeiten stoße, zweifle ich oft an meinen Fähigkeiten.	☐	☐	☐	☐	☐	☐	☐
Welche Möglichkeiten ich im Leben habe, wird von den sozialen Umständen bestimmt.	☐	☐	☐	☐	☐	☐	☐
Wichtiger als alle Anstrengungen sind die Fähigkeiten, die man mitbringt.	☐	☐	☐	☐	☐	☐	☐
Ich habe wenig Kontrolle über die Dinge, die in meinem Leben passieren.	☐	☐	☐	☐	☐	☐	☐
Wenn man sich sozial oder politisch engagiert, kann man die sozialen Verhältnisse beeinflussen.	☐	☐	☐	☐	☐	☐	☐

Frage 98: Bitte kreuzen Sie für jede der folgenden Aussagen spontan an, wie sehr sie für Sie persönlich zutrifft!

☞*Antworten Sie bitte anhand der folgenden Skala.*

Der Wert 1 bedeutet: ***trifft überhaupt nicht zu****.*
Der Wert 7 bedeutet: ***trifft voll zu****.*
Mit den Werten zwischen 1 und 7 können Sie Ihre Meinung abstufen.

	Trifft überhaupt nicht zu.						**Trifft voll zu.**
	1	**2**	**3**	**4**	**5**	**6**	**7**
Es fällt mir leicht, Versuchungen zu widerstehen.	☐	☐	☐	☐	☐	☐	☐
Es fällt mir schwer, schlechte Gewohnheiten aufzugeben.	☐	☐	☐	☐	☐	☐	☐
Mir passiert es oft, dass ich etwas Unpassendes sage.	☐	☐	☐	☐	☐	☐	☐
Wenn es Spaß macht, tue ich Dinge, die mir im Grunde nicht gut tun.	☐	☐	☐	☐	☐	☐	☐
Ungesunde Dinge lehne ich ab.	☐	☐	☐	☐	☐	☐	☐
Ich würde mich freuen, wenn ich mich besser selbst kontrollieren könnte.	☐	☐	☐	☐	☐	☐	☐
Bekannte sagen, ich habe eine gute Selbstdisziplin.	☐	☐	☐	☐	☐	☐	☐
Vergnügungen halten mich manchmal von der Arbeit ab.	☐	☐	☐	☐	☐	☐	☐
Es fällt mir schwer, mich zu konzentrieren.	☐	☐	☐	☐	☐	☐	☐
Ich arbeite stets auf ein Ziel hin.	☐	☐	☐	☐	☐	☐	☐
Manchmal kann ich mich einfach nicht beherrschen etwas zu tun, auch wenn ich weiß, dass es nicht gut ist.	☐	☐	☐	☐	☐	☐	☐

Frage 99: Hier sind unterschiedliche Eigenschaften, die eine Person haben kann. Wahrscheinlich werden einige Eigenschaften auf Sie persönlich voll zutreffen und andere überhaupt nicht. Bei wieder anderen sind Sie vielleicht unentschieden.

☞*Antworten Sie bitte anhand der folgenden Skala.*

Der Wert 1 bedeutet: ***stimme überhaupt nicht zu****.*
Der Wert 7 bedeutet: ***stimme voll zu****.*
Mit den Werten zwischen 1 und 7 können Sie Ihre Meinung abstufen.

	Stimme überhaupt nicht zu.						**Stimme voll zu.**
	1	**2**	**3**	**4**	**5**	**6**	**7**
Ich bin jemand, der...							
- gründlich arbeitet	☐	☐	☐	☐	☐	☐	☐
- kommunikativ, gesprächig ist	☐	☐	☐	☐	☐	☐	☐
- manchmal etwas grob zu anderen ist	☐	☐	☐	☐	☐	☐	☐
- originell ist, neue Ideen einbringt	☐	☐	☐	☐	☐	☐	☐
- sich oft Sorgen macht	☐	☐	☐	☐	☐	☐	☐
- verzeihen kann	☐	☐	☐	☐	☐	☐	☐
- aus sich herausgehen kann, gesellig ist	☐	☐	☐	☐	☐	☐	☐
- künstlerische, ästhetische Erfahrungen schätzt	☐	☐	☐	☐	☐	☐	☐
- leicht nervös wird	☐	☐	☐	☐	☐	☐	☐
- Aufgaben wirksam und effizient erledigt	☐	☐	☐	☐	☐	☐	☐
- Zurückhaltend ist	☐	☐	☐	☐	☐	☐	☐
- rücksichtsvoll und freundlich mit anderen umgeht	☐	☐	☐	☐	☐	☐	☐
- Eine lebhafte Phantasie, Vorstellungen hat	☐	☐	☐	☐	☐	☐	☐
- eher faul ist	☐	☐	☐	☐	☐	☐	☐
- entspannt ist, mit Stress gut umgehen kann	☐	☐	☐	☐	☐	☐	☐
- wissbegierig ist	☐	☐	☐	☐	☐	☐	☐

Frage 100: In welchem Maße treffen die folgenden Aussagen auf Sie persönlich zu?
☞*Antworten Sie bitte anhand der folgenden Skala.*

*Der Wert 1 bedeutet**: trifft überhaupt nicht zu**.* *Der Wert 7 bedeutet**: trifft voll zu**.* *Mit den Werten zwischen 1 und 7 können Sie Ihre Meinung abstufen.*	**trifft überhaupt nicht zu.**						**trifft voll zu.**
	1	**2**	**3**	**4**	**5**	**6**	**7**
Wenn mir jemand einen Gefallen tut, bin ich bereit, dies zu erwidern.	☐	☐	☐	☐	☐	☐	☐
Wenn mir schweres Unrecht zuteil wird, werde ich mich um jeden Preis bei der nächsten Gelegenheit dafür rächen.	☐	☐	☐	☐	☐	☐	☐
Wenn mich jemand in eine schwierige Lage bringt, werde ich das Gleiche mit ihm machen.	☐	☐	☐	☐	☐	☐	☐
Ich strenge mich besonders an, um jemandem zu helfen, der mir früher schon mal geholfen hat.	☐	☐	☐	☐	☐	☐	☐
Wenn mich jemand beleidigt, werde ich mich ihm gegenüber auch beleidigend verhalten.	☐	☐	☐	☐	☐	☐	☐
Ich bin bereit, Kosten auf mich zu nehmen, um jemandem zu helfen, der mir früher einmal geholfen hat.	☐	☐	☐	☐	☐	☐	☐

Frage 101: Wie schätzen Sie sich persönlich ein: Sind Sie im Allgemeinen ein risikobereiter Mensch oder versuchen Sie, Risiken zu vermeiden?

Gar nicht risikobereit — **sehr risikobereit**

∈--∈--∈--∈--∈--∈--∈--∈--∈--∈--∈
0 1 2 3 4 5 6 7 8 9 10

Wenn Sie noch Ergänzungen, Anmerkungen oder Hinweise haben, bitten wir Sie, uns diese mitzuteilen:

Vielen Dank für Ihre Mitarbeit!

Questionnaire of 2nd Survey Wave

Turbo-Abitur: Die Zeit danach

Untersuchung der Auswirkungen der Verkürzung der Gymnasialschulzeit auf den weiteren Bildungsweg

2. Erhebung 2011

Folgebefragung der Absolventen des Doppelabiturjahrgangs 2006/2007 in Sachsen-Anhalt

Projektträger:

Niedersächsisches Institut für Wirtschaftsforschung

OTTO VON GUERICKE UNIVERSITÄT MAGDEBURG
FAKULTÄT FÜR WIRTSCHAFTSWISSENSCHAFT

Gefördert durch:

DFG Deutsche Forschungsgemeinschaft

Kontaktadresse:

Niedersächsisches Institut für Wirtschaftsforschung e.V., Königstraße 53, 30175 Hannover,
Dipl.-Volksw. Tobias Meyer, Tel. 0511 / 123316-31, Mail: meyer@niw.de / turbo-abitur@ovgu.de

Liebe Absolventinnen und Absolventen,

etwa viereinhalb Jahre ist es her, dass Sie im Sommer 2007 Ihr Abitur abgelegt haben. Sie waren damit die ersten „Turbo-Abiturienten“ in Deutschland. Viele offene Fragen, die damit in Verbindung stehen, waren ungeklärt. Im Frühjahr 2009 haben wir Sie darum schon einmal zu Ihrer Schul- und Abiturzeit und zu verschiedenen damit zusammenhängenden Themen befragt, um die Auswirkungen der Verkürzung der Gymnasialschulzeit von neun auf acht Jahre zu untersuchen.

Mit der Auswertung Ihrer Antworten konnten wir einige wesentliche Effekte erstmals empirisch belegen und damit wichtige bildungspolitische Empfehlungen aussprechen. Die Untersuchungsergebnisse fanden überdies wissenschaftliche und gesellschaftliche Beachtung. So konnten wir einige Ergebnisse auf wichtigen internationalen und nationalen Konferenzen vorstellen, daneben wurden sie in der Presse und im Rundfunk zitiert. Für Ihre Mitarbeit möchten wir uns an dieser Stelle noch einmal herzlich bedanken!

Worum geht es heute?

Nun möchten wir gerne mit Hilfe einer weiteren Erhebung insbesondere die weitergehenden Auswirkungen der Verkürzung des gymnasialen Bildungsganges untersuchen – vor allem die Auswirkungen auf Ihren weiteren Bildungs- und Berufsweg.

Ihre Mitarbeit ist selbstverständlich freiwillig. Die wissenschaftliche Aussagekraft der Untersuchung hängt aber entscheidend von Ihrer Beteiligung ab, daher möchten wir Sie herzlich bitten, den Fragebogen sorgfältig und vollständig auszufüllen.

Wer sind wir?

Durchgeführt wird diese zweite Umfrage nun vom Niedersächsischen Institut für Wirtschaftsforschung (NIW) in Hannover. Als Forschungsteam waren wir bis vor kurzem an der Stiftungsjuniorprofessur für Arbeitsmarktökonomik der Otto-von-Guericke-Universität Magdeburg tätig. Seit dem 1. Oktober 2011 arbeiten wir an unserer neuen Wirkungsstätte. Wir kooperieren mit dem Lehrstuhl für Internationale Wirtschaft der Otto-von-Guericke-Universität Magdeburg.

Gefördert wird das Projekt aus Mitteln der Deutschen Forschungsgemeinschaft (DFG, www.dfg.de). Diese Förderung unterstreicht das hohe gesellschaftliche Interesse an der Untersuchung, zu der Sie mit Ihrer Beteiligung beitragen.

Was geschieht mit Ihren Angaben?

Wir arbeiten nach den Vorschriften des Bundesdatenschutzgesetzes (BDSG) und allen anderen datenschutzrechtlichen Bestimmungen. Die Ergebnisse werden ausschließlich in anonymisierter Form dargestellt. Das bedeutet: Niemand kann aus den Ergebnissen erkennen, von welcher Person die Angaben gemacht worden sind! Alle Angaben werden selbstverständlich vertraulich behandelt, nur zu wissenschaftlichen Zwecken eingesetzt, nicht an Dritte weitergegeben und nach Abschluss des Projekts und der gesetzlich vorgeschriebenen Aufbewahrungspflicht vernichtet. Ihre persönlichen Daten werden getrennt von den Antworten im Fragebogen aufbewahrt und die entsprechenden Angaben im Fragebogen anonymisiert, so dass für die wissenschaftliche Untersuchung nicht erkennbar ist, von welchem Absolventen die Antworten stammen.

Weitere Informationen über das Projekt und die beteiligten Personen bzw. Einrichtungen finden Sie auf unserer Homepage http://www.niw.de/index.php?page=Turbo-Abitur.

Wir bitten Sie sehr herzlich, den ausgefüllten Fragebogen im beigefügten und bereits frankierten Rückumschlag an uns zurückzusenden. Alternativ können Sie den Fragebogen auch elektronisch beantworten; hierfür schreiben Sie bitte eine E-Mail an turbo-abitur@ovgu.de – wir senden Ihnen dann einen personalisierten Link zum Online-Fragebogen per E-Mail zu.

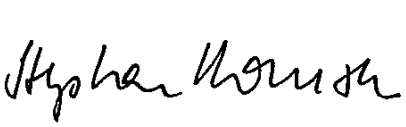
Für die Analyse ist es wichtig, dass Sie uns den ausgefüllten Fragebogen bis Dienstag, den **20. Dezember 2011** elektronisch beantworten oder postalisch zurücksenden.

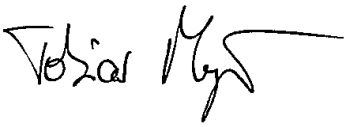
Für Ihren Aufwand möchten wir uns mit 10 Euro bedanken, die wir Ihnen nach Rücksendung des Fragebogens überweisen (Banküberweisung oder Scheck).

Um repräsentative Aussagen über die Wirkungen einer solchen Bildungsreform machen zu können, müssen möglichst alle Absolventen berücksichtigt werden. Hierzu tragen Sie mit Ihrer Teilnahme bei!

Bei Fragen können Sie sich jederzeit per Email (meyer@niw.de) oder telefonisch (0511 / 123316-31) an uns wenden.

Für Ihre Mitarbeit danken wir Ihnen!





Prof. Dr. Stephan L. Thomsen

Dipl.-Volkswirt Tobias Meyer

Wie wird es gemacht?

Bitte füllen Sie den Fragebogen aus, indem Sie

- in die weißen Kästchen ein Kreuz machen.

  Beispiel: Geschlecht: männlich .....☒ weiblich .....☐

  Falls Sie eine Antwort korrigieren möchten, füllen Sie bitte das fälschlich angekreuzte Kästchen vollständig aus und kreuzen Sie anschließend das „richtige“ Kästchen an.

  Beispiel: Führerschein: ja .....■ nein .....☒

- in die etwas größeren weißen Felder Zahlen eintragen, und zwar rechtsbündig.

  Beispiel: Bankleitzahl:

8	1	5	4	3	7	2	3

- in die unterstrichenen Felder Text in **Druckschrift** schreiben.

  Beispiel: Wohnort: MAGDEBURG

Das ☞ Zeichen steht vor Erläuterungen zu einzelnen Fragen.

Gehen Sie bitte der Reihe nach vor, Frage für Frage. Überspringen Sie Fragen nur dann, wenn im Text ausdrücklich ein entsprechender Hinweis gegeben ist.

Lesen Sie bitte Text und Fragen sehr genau und sorgfältig.

Der Fragebogen wird mit der modernen Scanner-Technik ausgewertet. Damit das funktioniert, ist es sehr wichtig,

- dass Sie nur einen schwarzen oder blauen Stift verwenden,
- dass Ihre Angaben gut lesbar sind und
- dass Ihre Markierung innerhalb der Kästchen bleibt.

Dadurch erleichtern Sie uns sehr die Arbeit. **Vielen Dank!**

Angaben zu Ihrer Person

Bitte füllen Sie die nachfolgenden Angaben zur Person **unbedingt** und in Druckbuchstaben aus! Bitte geben Sie eine Adresse an, unter der wir Sie **längerfristig** erreichen können.

Der Adressenteil wird separat gespeichert. Die Daten werden vertraulich behandelt und nach Abschluss des Projekts nach Ablauf der gesetzlich vorgeschriebenen Aufbewahrungsfrist vernichtet.

Name: _____ **Vorname: _____**

Geburtsdatum: _____

Name zum Zeitpunkt des Abiturs (falls abweichend von „Name"): _____

Straße: _____ **Hausnummer: _____**

Postleitzahl: _____ **Wohnort: _____**

E-Mail Adresse: _____

Haben Sie das Abitur im 12. oder im 13. Jahrgang abgelegt?

12. Jahrgang .....☐ 13. Jahrgang .....☐

Name der Schule, an der Sie das Abitur abgelegt haben:

_____

Sind Sie bereit, an einer weiteren Folgebefragung zu dieser Studie teilzunehmen?

Ja ..... ☐ Nein .....☐

Sind Sie an den Ergebnissen der Untersuchung (Kurzinformation per E-Mail) interessiert?

Ja ..... ☐ Nein .....☐

Für das Ausfüllen und Rücksenden des Fragebogens möchten wir uns bei Ihnen gerne mit 10 € bedanken. Sie können sich das Geld entweder überweisen oder einen Verrechnungsscheck zusenden lassen.

Zusendung eines Schecks .....☐ ➔ *Hierfür benötigen wir Ihre vollständige Anschrift (s.o.)!*

Überweisung .....☐ ➔ *Hierfür benötigen wir Ihre Bankverbindung!*

Name der Bank: _____

Bankleitzahl:

Kontonummer:

Kontoinhaber: _____

Abschnitt A: Fragen zur Familie

Die folgenden Fragen zu Ihrer Familie sind allgemein formuliert. Bitte beantworten Sie die Fragen bzw. Fragenteile nur für die Familienangehörigen, die Sie haben bzw. zu denen Sie ein persönliches Verhältnis haben.

Frage 1: Welchen höchsten beruflichen Abschluss hat Ihr Vater / Ihre Mutter?

☞ *Bitte nur eine Antwort pro Spalte ankreuzen!*

	Vater	Mutter	
Universitäts-/Hochschul-/Fachhochschulabschluss	☐	☐	➔ *Weiter mit Frage 2!*
Abschluss einer beruflichen Ausbildung	☐	☐	➔ *Weiter mit Frage 3!*
Keinen beruflichen Abschluss	☐	☐	➔ *Weiter mit Frage 4!*

Frage 2: Zu welcher Studienrichtung gehört der akademische Abschluss Ihres Vaters / Ihrer Mutter?

☞ *Bitte nur eine Antwort pro Spalte ankreuzen!*

	Vater	Mutter
Geistes- und Kulturwissenschaften (auch Sprachen, Geschichte, Theologie, Sport)	☐	☐
Sozial- und Erziehungswissenschaften, Psychologie (nicht Lehramt)	☐	☐
Lehramt	☐	☐
Rechtswissenschaften	☐	☐
Wirtschaftswissenschaften	☐	☐
Ingenieurwissenschaften (auch Wirtschaftsingenieurwesen)	☐	☐
Mathematik, Informatik	☐	☐
Naturwissenschaften	☐	☐
Medizin, Gesundheitswissenschaften (auch Pharmazie)	☐	☐
Agrar- , Forst- und Ernährungswissenschaften	☐	☐
Kunst, Kunstwissenschaft, Musik	☐	☐
Anderer Fachbereich	☐	☐

und zwar: _____

Frage 3: Zu welchem Berufsfeld gehört der Berufsabschluss Ihres Vaters / Ihrer Mutter?

☞ *Bitte nur eine Antwort pro Spalte ankreuzen!*

	Vater	Mutter
Banken und Versicherungen	☐	☐
Einzel- und Großhandel	☐	☐
Sonstige kaufmännische Berufe (ohne Banken/Versicherungen/Einzel-/Großhandel)	☐	☐
Öffentliche Verwaltung, Sozialversicherung	☐	☐
Gesundheits- und Pflegebereich	☐	☐
Erziehung und Sozialbereich	☐	☐
Druck, Medien, Bibliothekswesen, Fremdsprachen	☐	☐
Design, Werbung, Fotografie, Kunst, Musik	☐	☐

	Vater	Mutter
IT-Berufe	☐	☐
Technische Berufe (Metall-/Elektrotechnik, Maschinen-/Fahrzeugbau, Techn. Zeichner)	☐	☐
Handwerk und Bauberufe	☐	☐
Verkehrsberufe, Luftfahrtberufe, Transport, Logistik	☐	☐
Naturwissenschaft und Labor	☐	☐
Land- und Forstwirtschaft, Gartenbau	☐	☐
Ernährung und Lebensmittel, Hotel- und Gaststättenberufe	☐	☐
Anderes Berufsfeld	☐	☐

und zwar: _____

Frage 4: Haben Sie Geschwister?

Ja, ich habe ☐☐ Geschwister.

Nein ..... ☐ ➔ *Sie springen auf Frage 6!*

Frage 5: Bitte füllen Sie folgende Tabelle (nur) für Ihre Geschwister aus und beginnen Sie mit dem Ältesten in absteigender Reihenfolge. Geben Sie bitte an, welche Bildungs-/Berufsabschlüsse Ihre Geschwister abgeschlossen haben bzw. anstreben.

☞ *Bitte alles Zutreffende ankreuzen!*

☞ *Zu einer Berufsausbildung zählen (hier und im Folgenden): betriebliche Ausbildung / Lehre im dualen System, Berufsschule, Berufsfachschule, Schule des Gesundheitswesens, Fachschule.*

☞ *Zu einem Studium zählen (hier und im Folgendem): das Studium an einer Universität, Hochschule, Fachhochschule, Verwaltungsfachhochschule, Kunsthochschule, Berufsakademie, Verwaltungs- und Wirtschaftsakademie oder an einer anderen (einer Hochschule gleichgestellten) Akademie.*

	Alter	derzeit in Berufsausbildung	abgeschlossene Berufsausbildung	derzeit in Studium	abgeschlossenes Studium
1. Geschwisterkind	☐☐	☐	☐	☐	☐
2. Geschwisterkind	☐☐	☐	☐	☐	☐
3. Geschwisterkind	☐☐	☐	☐	☐	☐
4. Geschwisterkind	☐☐	☐	☐	☐	☐
5. Geschwisterkind	☐☐	☐	☐	☐	☐

Frage 6: Wohnen Sie derzeit bei Ihren Eltern?

Ja ..... ☐ Nein ..... ☐

Abschnitt B: Weiterer Bildungsweg

Frage 7: Denken Sie nun bitte an die Zeit seit Ihrem Abitur bis heute. Wir haben hier einen Kalender abgebildet (nach Quartalen; [1] Januar – März; [2] April – Juni; [3] Juli – September; [4] Oktober – Dezember). Bitte gehen Sie die Liste durch und kreuzen alle Quartale an, in denen Sie die in der linken Spalte genannten Tätigkeiten gemacht haben.
Falls eine oder mehrere dieser Tätigkeiten im Ausland stattfanden, kreuzen Sie bitte zusätzlich die Zeile „Auslandsaufenthalt" an. Falls Sie umgezogen sind, kreuzen Sie bitte zusätzlich in der Zeile „Wohnortwechsel" das Quartal an, in dem der Wohnortwechsel stattgefunden hat.

☞ *Mehrere Antworten sind möglich! Bitte alles Zutreffende ankreuzen!*

Jahr	**2007**		**2008**				**2009**				**2010**				**2011**			
Quartal	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Wehrdienst																		
Zivildienst																		
Freiwilliges soziales / ökologisches Jahr o.ä.																		
Praktikum																		
Studium (Vollzeit)																		
Studium (Teilzeit)																		
Berufsausbildung																		
Vollzeitbeschäftigung (mind. 35 Std./Woche)																		
Teilzeitbeschäftigung (20 – 34 Std./Woche)																		
Geringfügige Beschäftigung (< 20 Std./Woche)																		
Selbstständigkeit																		
Arbeitslosigkeit																		
Mutterschutz, Elternzeit, Erziehungsurlaub																		
Pflege von Angehörigen																		
Orientierungsphase, Auszeit o.ä.																		
Wohnortwechsel																		
Auslandsaufenthalt																		

Frage 8: Welche beruflichen Pläne hatten Sie zum Zeitpunkt Ihres Abiturs?
(Pläne, die Sie sobald wie möglich, also auch nach Absolvieren des Wehr- oder Zivildienstes oder eines Pflichtpraktikums etc., umsetzen wollten)

☞ *Bitte nur eine Antwort ankreuzen!*

Absolvieren eines Studiums ..... ☐

Absolvieren einer beruflichen Ausbildung ..... ☐

Absolvieren einer Berufsausbildung und anschließendes Studium ..... ☐

Absolvieren eines Dualen Studiums ..... ☐
(z.B. Studium mit festen Praxisphasen in Unternehmen; Berufsakademie)

Absolvieren einer Beamtenausbildung ..... ☐
(z.B. Vorbereitungsdienst für gehobenen Dienst, Verwaltungsfachhochschule)

Berufstätigkeit (ohne spezielle Ausbildung; nicht: Jobben o.ä.) ..... ☐

Sonstiges (nicht: Wehrdienst, Zivildienst, Freiwilligendienst o.ä.) ..... ☐
und zwar: _____

Ich hatte keine konkreten Pläne ..... ☐

Frage 9: Haben Sie Ihre beruflichen Pläne (Frage 8) bzw. den ersten Schritt davon wie gewünscht verwirklicht (z.B. Studium begonnen)?

Ja, sofort ..... ☐ ➔ *Sie springen auf Frage 12!*

Ja, nach _____ Monaten ..... ☐ ➔ *Sie springen auf Frage 11!*

Nein ..... ☐

Frage 10: Was haben Sie stattdessen gemacht?

☞ *Bitte nur eine Antwort ankreuzen!*

Anderer Ausbildungsberuf ..... ☐
Anderer Studiengang ..... ☐
Berufliche Ausbildung statt Studium ..... ☐
Studium statt beruflicher Ausbildung ..... ☐
Jobben / Praktikum (zur Überbrückung der Zeit bis zum nächsten Termin) ..... ☐
Wehr-, Zivil-, Freiwilligendienst ..... ☐
Sonstiges ..... ☐
und zwar: _____

Frage 11: Aus welchem hauptsächlichen Grund konnten oder wollten Sie Ihre beruflichen Pläne zunächst nicht verwirklichen?

☞ *Bitte nur eine Antwort ankreuzen!*

Keine Ausbildungsstelle für den gewünschten Ausbildungsberuf erhalten ..... ☐
Zulassungsbeschränkungen im gewünschten Studiengang ..... ☐
Gesundheitliche oder familiäre Gründe ..... ☐
Andere Gründe ..... ☐
und zwar: _____

Frage 12: Welche Motive waren für die von Ihnen seit dem Abitur getroffenen Entscheidungen der Berufswahl/Studienfachwahl wichtig?

☞ *Bitte machen Sie in jeder Zeile ein Kreuz!*

	sehr wichtig	wichtig	weniger wichtig	unwichtig
Spezielles Fachinteresse	☐	☐	☐	☐
Eigene Begabung, Fähigkeiten	☐	☐	☐	☐
Sicherer Arbeitsplatz	☐	☐	☐	☐
Einkommenschancen	☐	☐	☐	☐
Fester Berufswunsch	☐	☐	☐	☐
Vielfältige Berufsmöglichkeiten	☐	☐	☐	☐
Gesellschaftliches Ansehen	☐	☐	☐	☐
Gute Aussicht auf spätere Führungsposition	☐	☐	☐	☐
Beitrag zum Gemeinwohl	☐	☐	☐	☐
Vereinbarkeit von Beruf und Privatleben	☐	☐	☐	☐
Wunsch der Eltern/Familie	☐	☐	☐	☐
Finanzielle Einschränkungen (z.B. Studium nicht finanzierbar)	☐	☐	☐	☐
Weitere Motive	☐	☐	☐	☐

und zwar: _____

Frage 13: Haben Sie Wehrdienst, Zivildienst oder einen Freiwilligendienst geleistet?

Ja ☐

Nein ☐ ➔ *Sie springen auf Frage 15!*

Frage 14: Wurde Ihre ursprüngliche Berufswahl (d.h. die Entscheidung für einen bestimmten Ausbildungsberuf oder einen bestimmten Studiengang) durch den Wehr-, Zivil- oder Freiwilligendienst verändert oder gestärkt?

☞ *Bitte nur eine Antwort ankreuzen!*

Hatte keinen Einfluss auf Berufswahl ☐

Berufswahl gestärkt ☐

Berufswahl geändert ☐

Keine konkreten Pläne vorher ☐

Abschnitt C: Details zur Berufsausbildung

Frage 15: Haben Sie eine berufliche Ausbildung begonnen oder absolviert?

☞ *Zu einer beruflichen Ausbildung zählen: betriebliche Ausbildung / Lehre im dualen System, Berufsschule, Berufsfachschule, Schule des Gesundheitswesens, Fachschule.*

Ja .....☐ ➔ *Bitte beantworten Sie die folgenden Fragen zu Ihrer Berufsausbildung!*

Nein .....☐ ➔ *Sie springen auf Frage 26!*

Bitte beachten Sie folgende Hinweise:

- ⇨ Wenn Sie genau eine Ausbildung begonnen oder absolviert haben, beantworten Sie bitte alle Fragen bei *Ausbildung 1*!
- ⇨ Falls Sie denselben Ausbildungsberuf bei verschiedenen Unternehmen oder ausbildenden Einrichtungen lernen oder gelernt haben, betrachten Sie dies bitte als eine Ausbildung.
- ⇨ Ein Wechsel in einen anderen oder ähnlichen Ausbildungsberuf gilt als Beginn einer neuen Ausbildung (beantworten Sie bitte alle Fragen bei *Ausbildung 1* und *Ausbildung 2*).
- ⇨ Wenn Sie zwei unterschiedliche Berufsausbildungen begonnen oder absolviert haben, beantworten Sie bitte die Fragen separat für jede Ausbildung (*Ausbildung 1* und *Ausbildung 2*).

Ausbildung 1

Frage 16: Bitte geben Sie Beginn und Ende (bzw. geplantes Ende) Ihrer ersten Berufsausbildung an!

Beginn: Monat: ☐☐ Jahr: 2 0 ☐☐

Ende:	☐ bereits abgeschlossen	Monat: ☐☐	Jahr: 2 0 ☐☐
	☐ Abschluss geplant	Monat: ☐☐	Jahr: 2 0 ☐☐
	☐ Abbruch / vorzeitiges Ende	Monat: ☐☐	Jahr: 2 0 ☐☐
	☐ unterbrochen	Monat: ☐☐	Jahr: 2 0 ☐☐

Frage 17: Um was für eine Ausbildung handelt/handelte es sich bei Ihrer ersten Berufsausbildung?

☞ *Bitte nur eine Antwort ankreuzen!*

Lehre (im dualen System) ..... ☐
Berufsschule ohne Lehre ..... ☐
Berufsfachschule ..... ☐
Handelsschule ..... ☐
Schule des Gesundheitswesens ..... ☐
Fachschule (z.B. Technikerschule) ..... ☐
Beamtenausbildung ohne Studium ..... ☐

Frage 18: Zu welchem Berufsfeld gehört/gehörte Ihre erste Berufsausbildung?

☞ *Bitte nur eine Antwort ankreuzen!*

Banken und Versicherungen ..... ☐
Einzel- und Großhandel ..... ☐
Sonstige kaufmännische Berufe (ohne Banken/Versicherungen, Einzel-/Großhandel) ..... ☐
Öffentliche Verwaltung, Sozialversicherung ..... ☐
Gesundheits- und Pflegebereich ..... ☐
Erziehung und Sozialbereich ..... ☐
Druck, Medien, Bibliothekswesen, Fremdsprachen ..... ☐
Design, Werbung, Fotografie, Kunst, Musik ..... ☐
IT-Berufe ..... ☐
Technische Berufe (Metall-/Elektrotechnik, Maschinen-/Fahrzeugbau, Techn. Zeichner) ..... ☐
Handwerk und Bauberufe ..... ☐
Verkehrsberufe, Luftfahrtberufe, Transport, Logistik ..... ☐
Naturwissenschaft und Labor ..... ☐
Land- und Forstwirtschaft, Gartenbau ..... ☐
Ernährung und Lebensmittel, Hotel- und Gaststättenberufe ..... ☐
Anderes Berufsfeld ..... ☐
und zwar: _____

Frage 19: Wo absolvieren/absolvierten Sie Ihre erste Ausbildung?

☞ *Wenn Sie „Ausbildung 1" an mehreren Orten absolvieren/absolviert haben, kreuzen Sie bitte alles Zutreffende an!*

In Sachsen-Anhalt ..... ☐
In einem anderen ostdeutschen Bundesland (einschl. Berlin) ..... ☐
In einem westdeutschen Bundesland ..... ☐
Im Ausland ..... ☐

Frage 20: Wie viele Bewerbungen haben Sie für die erste Ausbildung abgeschickt?

0 bis 5 ..... ☐
6 bis 10 ..... ☐
11 bis 20 ..... ☐
mehr als 20 ..... ☐

Frage 21: Haben Sie Ihre erste Ausbildung abgebrochen (oder unterbrochen)?

☞ *Als Abbruch gilt auch der Wechsel in einen anderen oder ähnlichen Ausbildungsberuf (s.o.)!*

Ja ..... ☐ Nein ..... ☐ ➔ *Sie springen auf Frage 23!*

Frage 22: Aus welchem Hauptgrund haben Sie Ihre erste Ausbildung abgebrochen (oder unterbrochen)?

☞ *Bitte nur eine Antwort ankreuzen!*

War nur Übergangs-/Verlegenheitslösung ..... ☐
Weil ich mir falsche Vorstellungen gemacht habe ..... ☐
Weil mir eine andere Ausbildung / ein Studium mehr zusagt ..... ☐
Wegen zu hoher Leistungsanforderungen ..... ☐
Wegen zu geringer Leistungsanforderungen ..... ☐
Wegen schlechter oder fehlender Berufsaussichten ..... ☐
Wegen schlechter Arbeits- und Lernbedingungen im Unternehmen ..... ☐
Wegen Insolvenz des ausbildenden Unternehmens ..... ☐
Aus finanziellen Gründen ..... ☐
Aus gesundheitlichen Gründen ..... ☐
Aus privaten oder familiären Gründen ..... ☐
Anderer Grund ..... ☐
und zwar: _____

Frage 23: Wenn Sie Ihre erste Ausbildung (bereits) abgeschlossen haben, mit welcher Gesamtnote haben Sie die Ausbildung abgeschlossen?

Sehr gut ..... ☐ Gut ..... ☐ Befriedigend ..... ☐ Ausreichend ..... ☐

Ich habe die Ausbildung (noch) nicht abgeschlossen ..... ☐

Frage 24: Wie finanzieren/finanzierten Sie Ihre erste Ausbildung?

☞ *Bitte alles Zutreffende ankreuzen!*

Durch eigenes Gehalt ..... ☐
Durch Unterstützung von Seiten der Eltern ..... ☐
Durch Einkommen des Partners / der Partnerin ..... ☐
Durch Ausbildungsbeihilfe, Wohngeld, BAföG etc. ..... ☐
Durch Ersparnisse ..... ☐
Durch anderes ..... ☐

☞ ***Wenn Sie keine weitere (zweite) berufliche Ausbildung machen oder gemacht haben, springen Sie auf Frage 25!***

Ausbildung 2

Frage 16a: Bitte geben Sie zunächst Beginn und Ende (bzw. geplantes Ende) Ihrer zweiten Berufsausbildung an!

Beginn: Monat: ☐☐ Jahr: 2 0 ☐☐

Ende:	☐	bereits abgeschlossen	Monat: ☐☐	Jahr: 2 0	☐☐
	☐	Abschluss geplant	Monat: ☐☐	Jahr: 2 0	☐☐
	☐	Abbruch / vorzeitiges Ende	Monat: ☐☐	Jahr: 2 0	☐☐
	☐	unterbrochen	Monat: ☐☐	Jahr: 2 0	☐☐

Frage 17a: Um was für eine Ausbildung handelt/handelte es sich bei Ihrer zweiten Berufsausbildung?

☞ *Bitte nur eine Antwort ankreuzen!*

Lehre (im dualen System) ..... ☐
Berufsschule ohne Lehre ..... ☐
Berufsfachschule ..... ☐
Handelsschule ..... ☐
Schule des Gesundheitswesens ..... ☐
Fachschule (z.B. Technikerschule) ..... ☐
Beamtenausbildung ohne Studium ..... ☐

Frage 18a: Zu welchem Berufsfeld gehört/gehörte Ihre zweite Berufsausbildung?

☞ *Bitte nur eine Antwort ankreuzen!*

Banken und Versicherungen ..... ☐
Einzel- und Großhandel ..... ☐
Sonstige kaufmännische Berufe (ohne Banken/Versicherungen, Einzel-/Großhandel) ..... ☐
Öffentliche Verwaltung, Sozialversicherung ..... ☐
Gesundheits- und Pflegebereich ..... ☐
Erziehung und Sozialbereich ..... ☐
Druck, Medien, Bibliothekswesen, Fremdsprachen ..... ☐
Design, Werbung, Fotografie, Kunst, Musik ..... ☐
IT-Berufe ..... ☐
Technische Berufe (Metall-/Elektrotechnik, Maschinen-/Fahrzeugbau, Techn. Zeichner) ..... ☐
Handwerk und Bauberufe ..... ☐
Verkehrsberufe, Luftfahrtberufe, Transport, Logistik ..... ☐
Naturwissenschaft und Labor ..... ☐
Land- und Forstwirtschaft, Gartenbau ..... ☐
Ernährung und Lebensmittel, Hotel- und Gaststättenberufe ..... ☐
Anderes Berufsfeld ..... ☐
und zwar: _____

Frage 19a: Wo absolvieren/absolvierten Sie Ihre zweite Ausbildung?

☞ *Wenn Sie „Ausbildung 2" an mehreren Orten studieren/studiert haben, kreuzen Sie bitte alles Zutreffende an!*

In Sachsen-Anhalt ..... ☐
In einem anderen ostdeutschen Bundesland (einschl. Berlin) ..... ☐
In einem westdeutschen Bundesland ..... ☐
Im Ausland ..... ☐

Frage 20a: Wie viele Bewerbungen haben Sie für die zweite Ausbildung abgeschickt?

0 bis 5 ..... ☐
6 bis 10 ..... ☐
11 bis 20 ..... ☐
mehr als 20 ..... ☐

Frage 21a: Haben Sie Ihre zweite Ausbildung abgebrochen (oder unterbrochen)?

☞ *Als Abbruch gilt auch der Wechsel in einen anderen oder ähnlichen Ausbildungsberuf (s.o.)!*

Ja ..... ☐ Nein ..... ☐ ➔ *Sie springen auf Frage 23a!*

Frage 22a: Aus welchem Hauptgrund haben Sie Ihre zweite Ausbildung abgebrochen (oder unterbrochen)?

☞ *Bitte nur eine Antwort ankreuzen!*

War nur Übergangs-/Verlegenheitslösung ..... ☐
Weil ich mir falsche Vorstellungen gemacht habe ..... ☐
Weil mir eine andere Ausbildung / ein Studium mehr zusagt ..... ☐
Wegen zu hoher Leistungsanforderungen ..... ☐
Wegen zu geringer Leistungsanforderungen ..... ☐
Wegen schlechter oder fehlender Berufsaussichten ..... ☐
Wegen schlechter Arbeits- und Lernbedingungen im Unternehmen ..... ☐
Wegen Insolvenz des ausbildenden Unternehmens ..... ☐
Aus finanziellen Gründen ..... ☐
Aus gesundheitlichen Gründen ..... ☐
Aus privaten oder familiären Gründen ..... ☐
Anderer Grund ..... ☐
und zwar: _____

Frage 23a: Wenn Sie Ihre zweite Ausbildung (bereits) abgeschlossen haben, mit welcher Gesamtnote haben Sie die Ausbildung abgeschlossen?

Sehr gut ..... ☐ Gut ..... ☐ Befriedigend ..... ☐ Ausreichend ..... ☐

Ich habe die Ausbildung (noch) nicht abgeschlossen ..... ☐

Frage 24a: Wie finanzieren/finanzierten Sie Ihre zweite Ausbildung?

☞ *Bitte alles Zutreffende ankreuzen!*

Durch eigenes Gehalt ..... ☐
Durch Unterstützung von Seiten der Eltern ..... ☐
Durch Einkommen des Partners / der Partnerin ..... ☐
Durch Ausbildungsbeihilfe, Wohngeld, BAföG etc. ..... ☐
Durch Ersparnisse ..... ☐
Durch anderes ..... ☐

Grundsätzliche Frage zur beruflichen Ausbildung

Frage 25: Wenn Sie noch einmal vor der Frage stünden, eine berufliche Ausbildung zu beginnen, wie würden Sie entscheiden?

☞ *Bitte alles Zutreffende ankreuzen!*

Nochmal Ausbildung 1 absolvieren ..... ☐
Nochmal Ausbildung 2 absolvieren ..... ☐
Eine andere Ausbildung absolvieren ..... ☐
und zwar: _____
Ein Studium absolvieren ..... ☐
und zwar: _____
Sonstiges..... ☐
und zwar: _____

Abschnitt D: Details zum Studium

Frage 26: Haben Sie ein Studium <u>begonnen oder absolviert</u>?

☞ *Hierzu zählen das Studium an einer Universität, Hochschule, Fachhochschule, Verwaltungsfachhochschule, Kunsthochschule, Berufsakademie, Verwaltungs- und Wirtschaftsakademie oder an einer anderen (einer Hochschule gleichgestellten) Akademie.*

Ja .....☐ ➔ *Bitte beantworten Sie die folgenden Fragen zu Ihrem Studium!*

Nein .....☐ ➔ *Sie springen auf Frage 53 (Seite 35)!*

Bitte beachten Sie folgende Hinweise:

- ⇨ Wenn Sie genau <u>ein Studium</u> begonnen oder absolviert haben, beantworten Sie bitte alle Fragen bei *Studium 1*!
- ⇨ Falls Sie <u>denselben Studiengang</u> an verschiedenen Hochschulen studieren oder studiert haben, betrachten Sie dies bitte als <u>ein</u> Studium.
- ⇨ Ein <u>Wechsel</u> in einen <u>anderen Studiengang</u> (dazu zählt auch der Wechsel in einen sehr ähnlichen Studiengang, z.B. von VWL zu BWL) gilt als Beginn eines neuen Studiums (beantworten Sie bitte alle Fragen bei *Studium 1* und *Studium 2*).
- ⇨ Wenn Sie <u>mehrere Studiengänge</u> begonnen oder absolviert haben (z.B. Bachelor-/Masterstudium), beantworten Sie bitte die Fragen separat für jedes Studium (*Studium 1*, *Studium 2*, *Studium 3*; dies gilt auch für ein Bachelor- und Masterstudium im selben Studienfach).

<u>Studium 1</u>

Frage 27: Bitte geben Sie Beginn und Ende (bzw. geplantes Ende) Ihres <u>ersten</u> Studiums an!

Beginn: Monat: ☐☐ Jahr: 2 0 ☐☐

Ende:	☐	bereits abgeschlossen	Monat: ☐☐	Jahr: 2 0	☐☐
	☐	Abschluss geplant	Monat: ☐☐	Jahr: 2 0	☐☐
	☐	Abbruch / vorzeitiges Ende	Monat: ☐☐	Jahr: 2 0	☐☐
	☐	unterbrochen	Monat: ☐☐	Jahr: 2 0	☐☐

Anzahl der bisher bzw. insgesamt in diesem Studium absolvierten Fachsemester: ☐☐☐

Frage 28: Um was für einen Studiengang handelt/handelte es sich bei Ihrem <u>ersten</u> Studium?

☞ *Bitte <u>nur eine Antwort</u> ankreuzen!*

Bachelor ..... ☐
Master ..... ☐
Diplom ..... ☐
Magister ..... ☐
Staatsexamen (z.B. Medizin, Jura, Lehramt, Theologie) ..... ☐

Frage 29: Zu welcher Studienrichtung gehört/gehörte Ihr Hauptfach im ersten Studium?

☞ *Bitte nur eine Antwort ankreuzen! (Ausnahme: Falls Sie zwei Hauptfächer studieren bzw. studiert haben, geben Sie bitte beide Fächer an.)*

Geistes- und Kulturwissenschaften (auch Sprachen, Geschichte, Theologie, Sport) ..... ☐
Sozial- und Erziehungswissenschaften, Psychologie (nicht Lehramt) ..... ☐
Lehramt ..... ☐
Rechtswissenschaften ..... ☐
Wirtschaftswissenschaften ..... ☐
Ingenieurwissenschaften (auch Wirtschaftsingenieurwesen) ..... ☐
Mathematik, Informatik ..... ☐
Naturwissenschaften ..... ☐
Medizin, Gesundheitswissenschaften (auch Pharmazie) ..... ☐
Agrar- , Forst- und Ernährungswissenschaften ..... ☐
Kunst, Kunstwissenschaft, Musik ..... ☐
Anderer Fachbereich ..... ☐
und zwar: _____

Frage 30: Bitte geben Sie die genaue Bezeichnung Ihres Studienganges bzw. Ihrer Studienfächer in Ihrem ersten Studium an.

Studiengang / 1. Studienfach: _____

ggf. 2. Studienfach: _____

ggf. 3. Studienfach: _____

Frage 31: Wo studieren/studierten Sie Ihr erstes Studium?

☞ *Wenn Sie „Studium 1" an mehreren Orten studieren/studiert haben, kreuzen Sie bitte alles Zutreffende an!*

In Sachsen-Anhalt ..... ☐
In einem anderen ostdeutschen Bundesland (einschl. Berlin) ..... ☐
In einem westdeutschen Bundesland ..... ☐
Im Ausland ..... ☐

Frage 32: An was für einer Hochschule studieren/studierten Sie Ihr erstes Studium?

Universität, Hochschule (nicht FH) ..... ☐
Fachhochschule ..... ☐
Verwaltungsfachhochschule ..... ☐
Berufsakademie/Wirtschaftsakademie ..... ☐
Sonstige Hochschule/Akademie ..... ☐

Name der Hochschule(n): _____

Frage 33: Haben Sie in Ihrem ersten Studium einen Auslandsaufenthalt unternommen?

Ja .....☐ ..... für insgesamt _____ Monate

Nein .....☐ ➔ *Sie springen auf Frage 36!*

Frage 34: Was für einen Auslandsaufenthalt haben Sie in Ihrem ersten Studium unternommen?

☞ *Bitte alles Zutreffende ankreuzen!*

Auslandssemester/-jahr während des Studiums .....☐

Sprachaufenthalt im Ausland (z.B. in den Semesterferien) .....☐

Praktikum im Ausland .....☐

Erwerb eines Studienabschlusses im Ausland .....☐

Sonstiges .....☐

und zwar: _____

Frage 35: Welcher Hauptgrund hat Sie bewogen, einen Auslandsaufenthalt während Ihres ersten Studiums zu unternehmen?

☞ *Bitte nur eine Antwort ankreuzen!*

Sprachkenntnisse vertiefen ..... ☐

Interkulturelle Erfahrungen machen, die Welt entdecken ..... ☐

Die eigenen Karriere-/Berufschancen verbessern ..... ☐

Die Kenntnisse über das eigene Fachgebiet erweitern ..... ☐

Anderer Grund ..... ☐

und zwar: _____

Frage 36: Unabhängig davon, ob Sie schon einen Auslandsaufenthalt gemacht haben oder nicht: Planen Sie, in Ihrem ersten Studium einen (weiteren) Auslandsaufenthalt zu unternehmen?

Ja .....☐

Nein .....☐

Studium schon beendet oder abgebrochen .....☐

Frage 37: Wie viele Praktika haben Sie während Ihres ersten Studiums absolviert? Bitte geben Sie auch die Gesamtdauer aller in Ihrem ersten Studium absolvierten Praktika an.

	Anzahl		Wochen
Pflichtpraktika (d.h. in der Studienordnung vorgeschriebene)	☐	.....	☐
Freiwillige Praktika	☐	.....	☐

Frage 38: Inwieweit treffen/trafen folgende Aussagen über Lernen und Studieren auf Sie persönlich während Ihres ersten Studiums zu?

☞ *Bitte machen Sie in jeder Zeile ein Kreuz!*

	trifft/traf voll zu			trifft/traf nicht zu
Ich arbeite/arbeitete sehr viel und intensiv für mein Studium.	☐	☐	☐	☐
Ich kann/konnte meinen Lernstoff gut organisieren und über eine längere Zeit konzentriert lernen/arbeiten.	☐	☐	☐	☐
Mir ist/war es sehr wichtig, einen guten Abschluss zu erreichen.	☐	☐	☐	☐
Mir fällt/fiel es leicht, fachbezogene Inhalte und Fakten zu lernen und zu behalten.	☐	☐	☐	☐
In Prüfungssituationen bin/war ich oft so aufgeregt, dass ich Dinge, die ich eigentlich weiß/wusste, vollkommen vergesse/vergaß.	☐	☐	☐	☐
Mir kommt/kam es darauf an, das Studium möglichst schnell abzuschließen.	☐	☐	☐	☐

Frage 39: Inwieweit fühlen/fühlten Sie sich in Ihrem ersten Studium persönlich belastet durch…?

☞ *Bitte machen Sie in jeder Zeile ein Kreuz!*

	stark belastet			nicht belastet	gibt/gab es nicht
Leistungsanforderungen im Fachstudium	☐	☐	☐	☐	☐
Orientierungsprobleme im Studium	☐	☐	☐	☐	☐
Anonymität an der Hochschule	☐	☐	☐	☐	☐
Bevorstehende Prüfungen	☐	☐	☐	☐	☐
Ihre finanzielle Lage	☐	☐	☐	☐	☐
Persönliche Probleme	☐	☐	☐	☐	☐
Gesundheitliche Probleme	☐	☐	☐	☐	☐
Fehlen einer festen Partnerbeziehung	☐	☐	☐	☐	☐
Unsichere Berufsaussichten	☐	☐	☐	☐	☐
Weitere Belastungen	☐	☐	☐	☐	☐

und zwar: _____

Frage 40: Worin sehen Sie den hauptsächlichen Grund für Schwierigkeiten und fachliche Defizite in Ihrem ersten Studium?

☞ *Bitte nur eine Antwort ankreuzen!*

In der mangelhaften schulischen Vorbildung ☐

In unzureichenden eigenen Anstrengungen ☐

In der schlechten Qualität des Studiums (z.B. Studienorganisation, Lehrende, Hochschule) ☐

In anderem ☐

und zwar: _____

Ich hatte keine fachlichen Defizite oder Schwierigkeiten ☐

Frage 41: Haben Sie Ihr erstes Studium abgebrochen (oder unterbrochen)?

☞ *Als Abbruch gilt auch der Wechsel in einen anderen Studiengang (s.o.)!*

Ja .....☐ Nein ..... ☐ ➔ *Sie springen auf Frage 43!*

Frage 42: Aus welchem Hauptgrund haben Sie Ihr erstes Studium abgebrochen (oder unterbrochen)?

☞ *Bitte nur eine Antwort ankreuzen!*

War nur Übergangs-/Verlegenheitslösung ..... ☐
Weil ich mir falsche Vorstellungen gemacht habe ..... ☐
Weil mir eine andere Ausbildung / ein anderes Studienfach mehr zusagt ..... ☐
Weil ich eine Arbeitsstelle angenommen oder mich selbstständig gemacht habe ..... ☐
Wegen zu hoher Leistungsanforderungen ..... ☐
Wegen zu geringer Leistungsanforderungen ..... ☐
Wegen einer endgültig nicht bestandenen Prüfung ..... ☐
Wegen schlechter oder fehlender Berufsaussichten ..... ☐
Aus finanziellen Gründen ..... ☐
Aus gesundheitlichen Gründen ..... ☐
Aus privaten oder familiären Gründen ..... ☐
Anderer Grund..... ☐
und zwar: _____

Frage 43: Wenn Sie Ihr erstes Studium (bereits) abgeschlossen haben, mit welcher Gesamtnote haben Sie das Studium abgeschlossen?

Sehr gut .....☐ Gut .....☐ Befriedigend ..... ☐ Ausreichend ..... ☐

Ich habe das Studium (noch) nicht abgeschlossen .....☐

Frage 44: Haben Sie während Ihres ersten Studiums gearbeitet?

☞ *Bitte nur eine Antwort ankreuzen!*

Ja, während des gesamten Studiums ..... ☐
(d.h. in jedem Semester; aber unabhängig ob in der Vorlesungszeit oder in der Ferienzeit)

Ja, während eines Teils des Studiums ..... ☐
Anzahl der Semester, in denen Sie gearbeitet haben: _____

Nein ..... ☐ ➔ *Sie springen auf Frage 47!*

Frage 45: Denken Sie bitte an die Semester, in denen Sie gearbeitet haben. In welcher Form und wie viele Stunden haben Sie durchschnittlich neben Ihrem ersten Studium gearbeitet?

☞ *Bitte alles Zutreffende ankreuzen!*

Während der Vorlesungszeit ..... ☐ ..... ☐☐ Stunden pro Woche
Während der Semesterferien ..... ☐ ..... ☐☐ Stunden pro Woche
Unregelmäßig ..... ☐

Frage 46: Hatte einer Ihrer Nebenjobs während Ihres ersten Studiums einen Bezug zu Ihrem Studium? (z.B. Tätigkeit als studentische Hilfskraft oder in einem möglichen späteren Berufsfeld)

Ja .....☐ Nein ..... ☐

Frage 47: Wie finanzieren/finanzierten Sie Ihr erstes Studium?

☞ *Bitte alles Zutreffende ankreuzen!*

Durch eigenes Gehalt ..... ☐
Durch Unterstützung von Seiten der Eltern ..... ☐
Durch Einkommen des Partners / der Partnerin ..... ☐
Durch BAföG ..... ☐
Durch Studienkredit ..... ☐
Durch Stipendium ..... ☐
Durch Ersparnisse ..... ☐
Durch anderes ..... ☐

☞ ***Wenn Sie kein zweites Studium begonnen oder absolviert haben, springen Sie auf Frage 48 (Seite 33)!*** *(Ein Wechsel in einen anderen oder ähnlichen Studiengang sowie ein auf ein Bachelorstudium folgendes Masterstudium gilt als Beginn eines neuen Studiums.)*

Studium 2

Frage 27a: Bitte geben Sie Beginn und Ende (bzw. geplantes Ende) Ihres zweiten Studiums an!

Beginn: Monat: ☐☐ Jahr: 2 0 ☐☐

Ende:
- ☐ bereits abgeschlossen — Monat: ☐☐ Jahr: 2 0 ☐☐
- ☐ Abschluss geplant — Monat: ☐☐ Jahr: 2 0 ☐☐
- ☐ Abbruch / vorzeitiges Ende — Monat: ☐☐ Jahr: 2 0 ☐☐
- ☐ unterbrochen — Monat: ☐☐ Jahr: 2 0 ☐☐

Fachsemester, in dem Sie in dieses Studium eingestiegen sind: ☐

Anzahl der bisher bzw. insgesamt in diesem Studium absolvierten Fachsemester: ☐

Frage 28a: Um was für einen Studiengang handelt/handelte es sich bei Ihrem zweiten Studium?

☞ *Bitte nur eine Antwort ankreuzen!*

Bachelor ..... ☐
Master ..... ☐
Diplom ..... ☐
Magister ..... ☐
Staatsexamen (z.B. Medizin, Jura, Lehramt, Theologie) ..... ☐
Promotion ..... ☐

Frage 29a: Zu welcher Studienrichtung gehört/gehörte Ihr Hauptfach im zweiten Studium?

☞ *Bitte nur eine Antwort ankreuzen! (Ausnahme: Falls Sie zwei Hauptfächer studieren bzw. studiert haben, geben Sie bitte beide Fächer an.)*

Geistes- und Kulturwissenschaften (auch Sprachen, Geschichte, Theologie, Sport) ..... ☐
Sozial- und Erziehungswissenschaften, Psychologie (nicht Lehramt) ..... ☐
Lehramt ..... ☐
Rechtswissenschaften ..... ☐
Wirtschaftswissenschaften ..... ☐
Ingenieurwissenschaften (auch Wirtschaftsingenieurwesen) ..... ☐
Mathematik, Informatik ..... ☐
Naturwissenschaften ..... ☐
Medizin, Gesundheitswissenschaften (auch Pharmazie) ..... ☐
Agrar- , Forst- und Ernährungswissenschaften ..... ☐
Kunst, Kunstwissenschaft, Musik ..... ☐
Anderer Fachbereich ..... ☐
und zwar: _____

Frage 30a: Bitte geben Sie die genaue Bezeichnung Ihres Studienganges bzw. Ihrer Studienfächer in Ihrem zweiten Studium an.

Studiengang / 1. Studienfach: _____

ggf. 2. Studienfach: _____

ggf. 3. Studienfach: _____

Frage 31a: Wo studieren/studierten Sie Ihr zweites Studium?

☞ *Wenn Sie „Studium 2" an mehreren Orten studieren/studiert haben, kreuzen Sie bitte alles Zutreffende an!*

In Sachsen-Anhalt ..... ☐
In einem anderen ostdeutschen Bundesland (einschl. Berlin) ..... ☐
In einem westdeutschen Bundesland ..... ☐
Im Ausland ..... ☐

Frage 32a: An was für einer Hochschule studieren/studierten Sie Ihr zweites Studium?

Universität, Hochschule (nicht FH) ..... ☐
Fachhochschule ..... ☐
Verwaltungsfachhochschule ..... ☐
Berufsakademie/Wirtschaftsakademie ..... ☐
Sonstige Hochschule/Akademie ..... ☐

Name der Hochschule(n): _____

Frage 33a: Haben Sie in Ihrem zweiten Studium einen Auslandsaufenthalt unternommen?

Ja .....☐ ..... für insgesamt _____ Monate

Nein .....☐ ➔ *Sie springen auf Frage 36a!*

Frage 34a: Was für einen Auslandsaufenthalt haben Sie in Ihrem zweiten Studium unternommen?
☞ *Bitte alles Zutreffende ankreuzen!*

Auslandssemester/-jahr während des Studiums ..... ☐
Sprachaufenthalt im Ausland (z.B. in den Semesterferien) ..... ☐
Praktikum im Ausland ..... ☐
Erwerb eines Studienabschlusses im Ausland ..... ☐
Sonstiges ..... ☐
und zwar: _____

Frage 35a: Welcher Hauptgrund hat Sie bewogen, einen Auslandsaufenthalt während Ihres zweiten Studiums zu unternehmen?
☞ *Bitte nur eine Antwort ankreuzen!*

Sprachkenntnisse vertiefen ..... ☐
Interkulturelle Erfahrungen machen, die Welt entdecken ..... ☐
Die eigenen Karriere-/Berufschancen verbessern ..... ☐
Die Kenntnisse über das eigene Fachgebiet erweitern ..... ☐
Anderer Grund ..... ☐
und zwar: _____

Frage 36a: Unabhängig davon, ob Sie schon einen Auslandsaufenthalt gemacht haben oder nicht: Planen Sie, in Ihrem zweiten Studium einen (weiteren) Auslandsaufenthalt zu unternehmen?

Ja ..... ☐
Nein ..... ☐

Studium schon beendet oder abgebrochen ..... ☐

Frage 37a: Wie viele Praktika haben Sie während Ihres zweiten Studiums absolviert? Bitte geben Sie auch die Gesamtdauer aller während Ihres zweiten Studiums absolvierten Praktika an.

	Anzahl	Wochen
Pflichtpraktika (d.h. in der Studienordnung vorgeschriebene)	☐	☐
Freiwillige Praktika	☐	☐

Frage 38a: Inwieweit treffen/trafen folgende Aussagen über Lernen und Studieren auf Sie persönlich während Ihres zweiten Studiums zu?

☞ *Bitte machen Sie in jeder Zeile ein Kreuz!*

	trifft/traf voll zu			trifft/traf nicht zu
Ich arbeite/arbeitete sehr viel und intensiv für mein Studium.	☐	☐	☐	☐
Ich kann/konnte meinen Lernstoff gut organisieren und über eine längere Zeit konzentriert lernen/arbeiten.	☐	☐	☐	☐
Mir ist/war es sehr wichtig, einen guten Abschluss zu erreichen.	☐	☐	☐	☐
Mir fällt/fiel es leicht, fachbezogene Inhalte und Fakten zu lernen und zu behalten.	☐	☐	☐	☐
In Prüfungssituationen bin/war ich oft so aufgeregt, dass ich Dinge, die ich eigentlich weiß/wusste, vollkommen vergesse/vergaß.	☐	☐	☐	☐
Mir kommt/kam es darauf an, das Studium möglichst schnell abzuschließen.	☐	☐	☐	☐

Frage 39a: Inwieweit fühlen/fühlten Sie sich in Ihrem zweiten Studium persönlich belastet durch…?

☞ *Bitte machen Sie in jeder Zeile ein Kreuz!*

	stark belastet			nicht belastet	gibt/gab es nicht
Leistungsanforderungen im Fachstudium	☐	☐	☐	☐	☐
Orientierungsprobleme im Studium	☐	☐	☐	☐	☐
Anonymität an der Hochschule	☐	☐	☐	☐	☐
Bevorstehende Prüfungen	☐	☐	☐	☐	☐
Ihre finanzielle Lage	☐	☐	☐	☐	☐
Persönliche Probleme	☐	☐	☐	☐	☐
Gesundheitliche Probleme	☐	☐	☐	☐	☐
Fehlen einer festen Partnerbeziehung	☐	☐	☐	☐	☐
Unsichere Berufsaussichten	☐	☐	☐	☐	☐
Weitere Belastungen	☐	☐	☐	☐	☐

und zwar: _____

Frage 40a: Worin sehen Sie den hauptsächlichen Grund für Schwierigkeiten und fachliche Defizite in Ihrem zweiten Studium?

☞ *Bitte nur eine Antwort ankreuzen!*

In der mangelhaften schulischen Vorbildung ..... ☐
In unzureichenden eigenen Anstrengungen ..... ☐
In der schlechten Qualität des Studiums (z.B. Studienorganisation, Lehrende, Hochschule) ..... ☐
In anderem ..... ☐
und zwar: _____

Ich hatte keine fachlichen Defizite oder Schwierigkeiten ..... ☐

Frage 41a: Haben Sie Ihr zweites Studium abgebrochen (oder unterbrochen)?

☞ *Als Abbruch gilt auch der Wechsel in einen anderen Studiengang (s.o.)!*

Ja .....☐ Nein ..... ☐ ➔ *Sie springen auf Frage 43a!*

Frage 42a: Aus welchem Hauptgrund haben Sie Ihr zweites Studium abgebrochen (oder unterbrochen)?

☞ *Bitte nur eine Antwort ankreuzen!*

War nur Übergangs-/Verlegenheitslösung ..... ☐
Weil ich mir falsche Vorstellungen gemacht habe ..... ☐
Weil mir eine andere Ausbildung / ein anderes Studienfach mehr zusagt ..... ☐
Weil ich eine Arbeitsstelle angenommen oder mich selbstständig gemacht habe ..... ☐
Wegen zu hoher Leistungsanforderungen ..... ☐
Wegen zu geringer Leistungsanforderungen ..... ☐
Wegen einer endgültig nicht bestandenen Prüfung ..... ☐
Wegen schlechter oder fehlender Berufsaussichten ..... ☐
Aus finanziellen Gründen ..... ☐
Aus gesundheitlichen Gründen ..... ☐
Aus privaten oder familiären Gründen ..... ☐
Anderer Grund..... ☐
und zwar: _____

Frage 43a: Wenn Sie Ihr zweites Studium (bereits) abgeschlossen haben, mit welcher Gesamtnote haben Sie das Studium abgeschlossen?

Sehr gut .....☐ Gut .....☐ Befriedigend .....☐ Ausreichend .....☐

Ich habe das Studium (noch) nicht abgeschlossen .....☐

Frage 44a: Haben Sie während Ihres zweiten Studiums gearbeitet?

☞ *Bitte nur eine Antwort ankreuzen!*

Ja, während des gesamten Studiums ..... ☐
(d.h. in jedem Semester; aber unabhängig ob in der Vorlesungszeit oder in der Ferienzeit)

Ja, während eines Teils des Studiums ..... ☐
Anzahl der Semester, in denen Sie gearbeitet haben: _____

Nein ..... ☐ ➔ *Sie springen auf Frage 47a!*

Frage 45a: Denken Sie bitte an die Semester, in denen Sie gearbeitet haben. In welcher Form und wie viele Stunden haben Sie durchschnittlich neben Ihrem zweiten Studium gearbeitet?

☞ *Bitte alles Zutreffende ankreuzen!*

Während der Vorlesungszeit ..... ☐ ..... ☐☐ Stunden pro Woche

Während der Semesterferien ..... ☐ ..... ☐☐ Stunden pro Woche

Unregelmäßig ..... ☐

Frage 46a: Hatte einer Ihrer Nebenjobs während Ihres zweiten Studiums einen Bezug zu Ihrem Studium? (z.B. Tätigkeit als studentische Hilfskraft oder in einem möglichen späteren Berufsfeld)

Ja ..... ☐ Nein ..... ☐

Frage 47a: Wie finanzieren/finanzierten Sie Ihr zweites Studium?

☞ *Bitte alles Zutreffende ankreuzen!*

Durch eigenes Gehalt ..... ☐
Durch Unterstützung von Seiten der Eltern ..... ☐
Durch Einkommen des Partners / der Partnerin ..... ☐
Durch BAföG ..... ☐
Durch Studienkredit ..... ☐
Durch Stipendium ..... ☐
Durch Ersparnisse ..... ☐
Durch anderes ..... ☐

☞ ***Wenn Sie kein drittes Studium begonnen oder absolviert haben, springen Sie auf Frage 48 (Seite 33)!*** *(Ein Wechsel in einen anderen oder ähnlichen Studiengang sowie ein auf ein Bachelorstudium folgendes Masterstudium gilt als Beginn eines neuen Studiums*

Studium 3

Frage 27b: Bitte geben Sie Beginn und Ende (bzw. geplantes Ende) Ihres dritten Studiums an!

Beginn: Monat: ☐☐ Jahr: 2 0 ☐☐

Ende:				
	☐ bereits abgeschlossen	Monat: ☐☐	Jahr: 2 0 ☐☐
	☐ Abschluss geplant	Monat: ☐☐	Jahr: 2 0 ☐☐
	☐ Abbruch / vorzeitiges Ende	Monat: ☐☐	Jahr: 2 0 ☐☐
	☐ unterbrochen	Monat: ☐☐	Jahr: 2 0 ☐☐

Fachsemester, in dem Sie in dieses Studium eingestiegen sind: ☐☐

Anzahl der bisher bzw. insgesamt in diesem Studium absolvierten Fachsemester: ☐☐

Frage 28b Um was für einen Studiengang handelt/handelte es sich bei Ihrem dritten Studium?

☞ *Bitte nur eine Antwort ankreuzen!*

Bachelor ..... ☐
Master ..... ☐
Diplom ..... ☐
Magister ..... ☐
Staatsexamen (z.B. Medizin, Jura, Lehramt, Theologie) ..... ☐
Promotion ..... ☐

Frage 29b: Zu welcher Studienrichtung gehört/gehörte Ihr Hauptfach im dritten Studium?

☞ *Bitte nur eine Antwort ankreuzen! (Ausnahme: Falls Sie zwei Hauptfächer studieren bzw. studiert haben, geben Sie bitte beide Fächer an.)*

Geistes- und Kulturwissenschaften (auch Sprachen, Geschichte, Theologie, Sport) ..... ☐
Sozial- und Erziehungswissenschaften, Psychologie (nicht Lehramt) ..... ☐
Lehramt ..... ☐
Rechtswissenschaften ..... ☐
Wirtschaftswissenschaften ..... ☐
Ingenieurwissenschaften (auch Wirtschaftsingenieurwesen) ..... ☐
Mathematik, Informatik ..... ☐
Naturwissenschaften ..... ☐
Medizin, Gesundheitswissenschaften (auch Pharmazie) ..... ☐
Agrar- , Forst- und Ernährungswissenschaften ..... ☐
Kunst, Kunstwissenschaft, Musik ..... ☐
Anderer Fachbereich ..... ☐
und zwar: _____

Frage 30b: Bitte geben Sie die genaue Bezeichnung Ihres Studienganges bzw. Ihrer Studienfächer in Ihrem dritten Studium an.

Studiengang / 1. Studienfach: _____

ggf. 2. Studienfach: _____

ggf. 3. Studienfach: _____

Frage 31b: Wo studieren/studierten Sie Ihr drittes Studium?

☞ *Wenn Sie „Studium 3" an mehreren Orten studieren/studiert haben, kreuzen Sie bitte alles Zutreffende an!*

In Sachsen-Anhalt ..... ☐
In einem anderen ostdeutschen Bundesland (einschl. Berlin) ..... ☐
In einem westdeutschen Bundesland ..... ☐
Im Ausland ..... ☐

Frage 32b: An was für einer Hochschule studieren/studierten Sie Ihr drittes Studium?

Universität, Hochschule (nicht FH) ..... ☐
Fachhochschule ..... ☐
Verwaltungsfachhochschule ..... ☐
Berufsakademie / Wirtschaftsakademie ..... ☐
Sonstige Hochschule/Akademie ..... ☐

Name der Hochschule(n): _____

Frage 33b: Haben Sie in Ihrem dritten Studium einen Auslandsaufenthalt unternommen?

Ja ..... ☐ ..... für insgesamt _____ Monate

Nein ..... ☐ ➔ *Sie springen auf Frage 36b!*

Frage 34b: Was für einen Auslandsaufenthalt haben Sie in Ihrem dritten Studium unternommen?

☞ *Bitte alles Zutreffende ankreuzen!*

Auslandssemester/-jahr während des Studiums ..... ☐
Sprachaufenthalt im Ausland (z.B. in den Semesterferien) ..... ☐
Praktikum im Ausland ..... ☐
Erwerb eines Studienabschlusses im Ausland ..... ☐
Sonstiges ..... ☐
und zwar: _____

Frage 35b: Welcher Hauptgrund hat Sie bewogen, einen Auslandsaufenthalt während Ihres dritten Studiums zu unternehmen?

☞ *Bitte nur eine Antwort ankreuzen!*

Sprachkenntnisse vertiefen ..... ☐
Interkulturelle Erfahrungen machen, die Welt entdecken ..... ☐
Die eigenen Karriere-/Berufschancen verbessern ..... ☐
Die Kenntnisse über das eigene Fachgebiet erweitern ..... ☐
Anderer Grund ..... ☐
und zwar: _____

Frage 36b: Unabhängig davon, ob Sie schon einen Auslandsaufenthalt gemacht haben oder nicht: Planen Sie, in Ihrem dritten Studium einen (weiteren) Auslandsaufenthalt zu unternehmen?

Ja ..... ☐
Nein ..... ☐

Studium schon beendet oder abgebrochen ..... ☐

Frage 37b: Wie viele Praktika haben Sie während Ihres dritten Studiums absolviert? Bitte geben Sie auch die Gesamtdauer aller absolvierten Praktika an.

	Anzahl	Wochen
Pflichtpraktika (d.h. in der Studienordnung vorgeschriebene)	☐	..... ☐
Freiwillige Praktika	☐	..... ☐

Frage 38b: Inwieweit treffen/trafen folgende Aussagen über Lernen und Studieren auf Sie persönlich während Ihres dritten Studiums zu?

☞ *Bitte machen Sie in jeder Zeile ein Kreuz!*

	trifft/traf voll zu			trifft/traf nicht zu
Ich arbeite/arbeitete sehr viel und intensiv für mein Studium.	☐	☐	☐	☐
Ich kann/konnte meinen Lernstoff gut organisieren und über eine längere Zeit konzentriert lernen/arbeiten.	☐	☐	☐	☐
Mir ist/war es sehr wichtig, einen guten Abschluss zu erreichen.	☐	☐	☐	☐
Mir fällt/fiel es leicht, fachbezogene Inhalte und Fakten zu lernen und zu behalten.	☐	☐	☐	☐
In Prüfungssituationen bin/war ich oft so aufgeregt, dass ich Dinge, die ich eigentlich weiß/wusste, vollkommen vergesse/vergaß.	☐	☐	☐	☐
Mir kommt/kam es darauf an, das Studium möglichst schnell abzuschließen.	☐	☐	☐	☐

Frage 39b: Inwieweit fühlen/fühlten Sie sich in Ihrem <u>dritten</u> Studium persönlich belastet durch…?

☞ *Bitte machen Sie in <u>jeder Zeile</u> ein Kreuz!*

	stark belastet			nicht belastet	gibt/gab es nicht
Leistungsanforderungen im Fachstudium	☐	☐	☐	☐	☐
Orientierungsprobleme im Studium	☐	☐	☐	☐	☐
Anonymität an der Hochschule	☐	☐	☐	☐	☐
Bevorstehende Prüfungen	☐	☐	☐	☐	☐
Ihre finanzielle Lage	☐	☐	☐	☐	☐
Persönliche Probleme	☐	☐	☐	☐	☐
Gesundheitliche Probleme	☐	☐	☐	☐	☐
Fehlen einer festen Partnerbeziehung	☐	☐	☐	☐	☐
Unsichere Berufsaussichten	☐	☐	☐	☐	☐
Weitere Belastungen	☐	☐	☐	☐	☐

und zwar: _____

Frage 40b: Worin sehen Sie den hauptsächlichen Grund für Schwierigkeiten und fachliche Defizite in Ihrem <u>dritten</u> Studium?

☞ *Bitte <u>nur eine Antwort</u> ankreuzen!*

In der mangelhaften schulischen Vorbildung ☐
In unzureichenden eigenen Anstrengungen ☐
In der schlechten Qualität des Studiums (z.B. Studienorganisation, Lehrende, Hochschule) ☐
In anderem ☐
und zwar: _____
Ich hatte keine fachlichen Defizite oder Schwierigkeiten ☐

Frage 41b: Haben Sie Ihr <u>drittes</u> Studium abgebrochen (oder unterbrochen)?

☞ *Als Abbruch gilt auch der Wechsel in einen anderen Studiengang (s.o.)!*

Ja ☐ Nein ☐ ➔ *Sie springen auf Frage 43b!*

Frage 42b: Aus welchem Hauptgrund haben Sie Ihr <u>drittes</u> Studium abgebrochen/unterbrochen?

☞ *Bitte <u>nur eine Antwort</u> ankreuzen!*

War nur Übergangs-/Verlegenheitslösung ☐
Weil ich mir falsche Vorstellungen gemacht habe ☐
Weil mir eine andere Ausbildung / ein anderes Studienfach mehr zusagt ☐
Weil ich eine Arbeitsstelle angenommen oder mich selbstständig gemacht habe ☐
Wegen zu hoher Leistungsanforderungen ☐
Wegen zu geringer Leistungsanforderungen ☐
Wegen einer endgültig nicht bestandenen Prüfung ☐
Wegen schlechter oder fehlender Berufsaussichten ☐
Aus finanziellen Gründen ☐
Aus gesundheitlichen Gründen ☐
Aus privaten oder familiären Gründen ☐
Anderer Grund ☐
und zwar: _____

Frage 43b: Wenn Sie Ihr drittes Studium (bereits) abgeschlossen haben, mit welcher Gesamtnote haben Sie das Studium abgeschlossen?

Sehr gut ..... ☐ Gut ..... ☐ Befriedigend ..... ☐ Ausreichend ..... ☐

Ich habe das Studium (noch) nicht abgeschlossen ..... ☐

Frage 44b: Haben Sie während Ihres dritten Studiums gearbeitet?

☞ *Bitte nur eine Antwort ankreuzen!*

Ja, während des gesamten Studiums ..... ☐
(d.h. in jedem Semester; aber unabhängig ob in der Vorlesungszeit oder in der Ferienzeit)

Ja, während eines Teils des Studiums ..... ☐
Anzahl der Semester, in denen Sie gearbeitet haben: _____

Nein ..... ☐ ➔ *Sie springen auf Frage 47b!*

Frage 45b: Denken Sie bitte an die Semester, in denen Sie gearbeitet haben. In welcher Form und wie viele Stunden haben Sie durchschnittlich neben Ihrem dritten Studium gearbeitet?

☞ *Bitte alles Zutreffende ankreuzen!*

Während der Vorlesungszeit ..... ☐ ..... ☐☐ Stunden pro Woche

Während der Semesterferien ..... ☐ ..... ☐☐ Stunden pro Woche

Unregelmäßig ..... ☐

Frage 46b: Hatte einer Ihrer Nebenjobs während Ihres dritten Studiums einen Bezug zu Ihrem Studium? (z.B. Tätigkeit als studentische Hilfskraft oder in einem möglichen späteren Berufsfeld)

Ja ..... ☐ Nein ..... ☐

Frage 47b: Wie finanzieren/finanzierten Sie Ihr drittes Studium?

☞ *Bitte alles Zutreffende ankreuzen!*

Durch eigenes Gehalt ..... ☐
Durch Unterstützung von Seiten der Eltern ..... ☐
Durch Einkommen des Partners / der Partnerin ..... ☐
Durch BAföG ..... ☐
Durch Studienkredit ..... ☐
Durch Stipendium ..... ☐
Durch Ersparnisse ..... ☐
Durch anderes ..... ☐

Grundsätzliche Fragen zum Studium

Frage 48: Wie gut fühlten Sie sich durch die in der Schule vermittelten Kenntnisse und Fähigkeiten auf Ihr Studium vorbereitet?

☞ *Bitte nur ein Kreuz setzen!*

Sehr gut / 1	2	3	4	5	Ungenügend / 6
☐	☐	☐	☐	☐	☐

Frage 49: Worin sehen Sie für sich den Nutzen eines Hochschulstudiums?

☞ *Bitte machen Sie in jeder Zeile ein Kreuz!*

	sehr nützlich			nicht nützlich
Eine interessante Arbeit haben	☐	☐	☐	☐
Ein gutes Einkommen erzielen	☐	☐	☐	☐
Eine hohe gesellschaftliche Position erreichen	☐	☐	☐	☐
Meine Vorstellungen und Ideen entwickeln	☐	☐	☐	☐
Mehr über das gewählte Fachgebiet erfahren	☐	☐	☐	☐
Eine gute wissenschaftliche Ausbildung erhalten	☐	☐	☐	☐
Eine allgemein gebildete Persönlichkeit werden	☐	☐	☐	☐
Anderen Menschen besser helfen können	☐	☐	☐	☐
Zur Verbesserung der Gesellschaft beitragen können	☐	☐	☐	☐
Eine schöne Zeit haben	☐	☐	☐	☐

Frage 50: In welchem Bereich wollen/wollten Sie nach dem Studium tätig sein?

☞ *Bitte maximal 2 Bereiche ankreuzen!*

In der Privatwirtschaft / in einem Unternehmen ☐
Im öffentlichen Dienst ☐
Im Gesundheits- und Sozialbereich ☐
Im Schul- und Bildungsbereich ☐
In der Forschung (Hochschule, Forschungsinstitut, Forschungsabteilung, etc.) ☐
In Organisationen ohne Erwerbscharakter (z.B. Rundfunk, Gewerkschaften) ☐
Als Freiberufler (Praxis, Kanzlei o.ä.) ☐
Als Unternehmer (eigener Betrieb, Gewerbe, Dienstleistung) ☐

Keine Erwerbstätigkeit geplant ☐

Frage 51: Wenn Sie noch einmal vor der Frage stünden, ein Studium zu beginnen, wie würden Sie entscheiden?

☞ *Bitte alles Zutreffende ankreuzen!*

Nochmal Studium 1 studieren ..... ☐
Nochmal Studium 2 studieren ..... ☐
Nochmal Studium 3 studieren ..... ☐
Ein anderes Fach studieren ..... ☐
und zwar: _____
Eine berufliche Ausbildung (ohne Studium) absolvieren ..... ☐
und zwar: _____
Sonstiges ..... ☐
und zwar: _____

Frage 52: Sind/waren Sie während Ihrer Studienzeit an den Aktivitäten der folgenden Gruppen an Ihrer Hochschule interessiert, und nehmen/nahmen Sie aktiv daran teil?

☞ *Bitte machen Sie in jeder Zeile ein Kreuz!*

	aktiv teilgenommen	interessiert	nicht interessiert
Fachschaften	☐	☐	☐
Studentische Selbstverwaltung/Vertretung	☐	☐	☐
Offizielle Selbstverwaltungsgremien (z.B. Senat)	☐	☐	☐
Politische Studentenvereinigungen	☐	☐	☐
Informelle Aktionsgruppen	☐	☐	☐
Studentenorganisationen (z.B. AIESEC, SIFE)	☐	☐	☐
Studentengemeinde, religiöse Studentengruppe	☐	☐	☐
Studentenverbindungen	☐	☐	☐
Studentensport, Sportgruppen	☐	☐	☐
Kulturelle Aktivitäten (z.B. Theater, Musik)	☐	☐	☐

Abschnitt E: Ausbildung und Studium – Zukunftspläne

Frage 53: Unabhängig davon, ob Sie sich derzeit in Ausbildung oder Studium befinden oder schon eine Ausbildung / ein Studium abgeschlossen haben: Streben Sie in Zukunft (noch) einen weiteren Abschluss an?

Ja, sicher ..... ☐
Ja, vielleicht ..... ☐
Nein ..... ☐ ➔ *Sie springen auf Frage 55!*

Frage 54: Welchen der folgenden weiteren Abschlüsse streben Sie an?

☞ *Bitte alles Zutreffende ankreuzen!*

Abschluss einer Lehre (im dualen System) ..... ☐
Abschluss einer Berufsfachschule oder Schule des Gesundheitswesens ..... ☐
Abschluss einer Fachschule (z.B. Technikerschule) ..... ☐
Abschluss einer Beamtenausbildung ..... ☐
Abschluss einer Berufsakademie oder anderen Akademie ..... ☐
Fachhochschule Bachelor ..... ☐
Fachhochschule Master ..... ☐
Fachhochschule Diplom ..... ☐
Universität Bachelor ..... ☐
Universität Master ..... ☐
Universität Diplom ..... ☐
Universität Magister ..... ☐
Universität Staatsexamen oder kirchliches Examen ..... ☐
Promotion ..... ☐
Sonstigen Abschluss ..... ☐
und zwar: _____

Frage 55: Wie hoch sind Ihre derzeitigen monatlichen Nettoeinnahmen (d.h. das gesamte Ihnen zur Verfügung stehende monatliche Geld; nicht nur aus eigenem Arbeitseinkommen)?

☞ *Bitte nur eine Antwort ankreuzen! Bitte geben Sie auch an, ob diese Einnahmen nur auf Sie selbst oder auf Sie und ihre/n Partner/in bezogen sind!*

	unter	500	Euro	☐
500	bis	750	Euro	☐
751	bis	1.000	Euro	☐
1.001	bis	1.500	Euro	☐
1.501	bis	2.000	Euro	☐
2.001	bis	3.000	Euro	☐
	über	3.000	Euro	☐

und zwar für mich alleine ..... ☐
für mich und meine/n Partner/in ..... ☐

Abschnitt F: Berufseinstieg und Berufstätigkeit

Frage 56: Sind Sie derzeit berufstätig bzw. waren Sie schon einmal berufstätig?

☞ *Zu einer beruflichen Tätigkeit zählen sowohl abhängige Beschäftigungsverhältnisse als auch eine freiberufliche oder selbstständige Tätigkeit, die Sie im Hauptberuf ausüben/ausübten. Nebenberufliche Tätigkeiten (z.B. als Vollzeit-Student) zählen hier nicht dazu.*

Ja .....☐ ➔ *Bitte beantworten Sie die folgenden Fragen zu Ihrer Berufstätigkeit!*

Nein .....☐ ➔ *Sie springen auf Frage 87 (Seite 43)!*

Frage 57: Denken Sie bitte an Ihre <u>erste</u> Arbeitsstelle. Unabhängig davon, ob es ein abhängiges Beschäftigungsverhältnis oder eine Selbstständigkeit ist/war: Wann haben Sie diese begonnen?

Beginn: Monat: ☐☐ Jahr: 2 0 ☐☐

Frage 58: Ist/war Ihre <u>erste</u> Arbeitsstelle eine abhängige Beschäftigung oder eine selbstständige Tätigkeit?

Abhängige Beschäftigung .....☐ Selbstständigkeit .....☐

☞ *Selbstständige springen auf Frage 62!*

Frage 59: Wie lange haben Sie nach einer Arbeitsstelle gesucht, bis Sie die Zusage für die <u>erste</u> Stelle erhalten haben?

☐ Monate

Frage 60: Welche der folgenden Möglichkeiten haben Sie für die Suche nach Ihrer <u>ersten</u> Stelle genutzt und wie häufig? Über welchen Weg haben Sie letztendlich von dieser Stelle erfahren?

☞ *Bitte machen Sie <u>in jeder Zeile</u> mindestens ein Kreuz!*

	sehr häufig			gar nicht	von Stelle erfahren
Über die Agentur für Arbeit / Jobcenter	☐	☐	☐	☐	☐
Über eine private Arbeitsvermittlung / PSA / Headhunter	☐	☐	☐	☐	☐
Über eine Stellenanzeige in der Zeitung	☐	☐	☐	☐	☐
Über eine Stellenanzeige im Internet	☐	☐	☐	☐	☐
Über Bekannte, Freunde, Angehörige, Kollegen	☐	☐	☐	☐	☐
Über eine Berufsmesse	☐	☐	☐	☐	☐
Durch den Kontakt aus einem früheren Praktikum	☐	☐	☐	☐	☐
Übernahme durch ausbildendes Unternehmen	☐	☐	☐	☐	☐
Sonstiges	☐	☐	☐	☐	☐

und zwar: _____

Frage 61: Um was für eine Einstiegsposition handelt/handelte es sich bei Ihrer ersten Stelle?

☞ *Bitte alles Zutreffende ankreuzen!*

Befristeter Arbeitsvertrag ..... ☐
Unbefristeter Arbeitsvertrag ..... ☐
Trainee-Programm ..... ☐
Volontariat, Praktikum ..... ☐
Vorbereitungsdienst (Referendariat) für Lehramt / öffentlichen Dienst ..... ☐
Selbstständigkeit / Freier Mitarbeiter ..... ☐
Arbeitnehmerüberlassung (Leiharbeit) ..... ☐
Sonstiges ..... ☐
und zwar: _____

Frage 62: Entspricht/entsprach Ihre erste Stelle (bzw. Ihre erste Selbstständigkeit) Ihrem erlernten Beruf bzw. studierten Fach?

Ja ..... ☐ Nein ..... ☐

☞ *Selbstständige springen auf Frage 65!*

Frage 63: Handelt/handelte es sich bei Ihrer ersten Stelle um eine Vollzeit-, Teilzeit- oder Geringfügige Beschäftigung?

☞ *Bitte nur eine Antwort ankreuzen!*

Vollzeitbeschäftigung (mind. 35 Stunden pro Woche) ..... ☐
Teilzeitbeschäftigung (15 bis 34 Stunden pro Woche) ..... ☐
Geringfügige oder unregelmäßige Beschäftigung ..... ☐

Frage 64: In welchem Bereich sind/waren Sie für Ihre erste Stelle tätig?

☞ *Bitte nur eine Antwort ankreuzen!*

In der Privatwirtschaft / in einem Unternehmen ..... ☐
Im öffentlichen Dienst ..... ☐
Im Gesundheits- und Sozialbereich ..... ☐
Im Schul- und Bildungsbereich ..... ☐
In der Forschung (Hochschule, Forschungsinstitut, Forschungsabteilung, etc.) ..... ☐
In Organisationen ohne Erwerbscharakter (z.B. Rundfunk, Gewerkschaft) ..... ☐
Sonstiges ..... ☐
und zwar: _____

Frage 65: An welchem Ort ist/war Ihre erste Stelle (bzw. erste Selbstständigkeit) hauptsächlich?

☞ *Bitte nur eine Antwort ankreuzen!*

In Sachsen-Anhalt ..... ☐
In einem anderen ostdeutschen Bundesland (einschl. Berlin) ..... ☐
In einem westdeutschen Bundesland ..... ☐
Im Ausland ..... ☐

☞ *Selbstständige springen auf Frage 67!*

Frage 66: Welche Gründe waren Ihnen bei der Wahl Ihrer ersten Arbeitsstelle und Ihres ersten Arbeitgebers wichtig?

☞ *Bitte maximal 2 Gründe ankreuzen!*

Einkommen ..... ☐
Sicherheit des Arbeitsplatzes ..... ☐
Vereinbarkeit von Beruf und Familie bzw. Privatleben ..... ☐
Karriereperspektive ..... ☐
Attraktivität und Image des Arbeitgebers ..... ☐
Attraktivität der Stadt und Umgebung ..... ☐
Regionale Nähe zum Heimatort ..... ☐
Anderer Grund ..... ☐
und zwar: _____

Frage 67: Sind Sie derzeit noch bei Ihrem ersten Arbeitgeber (bzw. in Ihrer ersten Selbstständigkeit) tätig?

Ja .....☐ ➔ *Sie springen auf Frage 80!*
Nein .....☐

Frage 68: Wie lange waren Sie bei Ihrem ersten Arbeitgeber tätig? (bzw.: Wie lange dauerte Ihre erste Selbstständigkeit?)

☐☐ Monate

Frage 69: Aus welchen Gründen haben Sie die erste Arbeitsstelle bzw. den ersten Arbeitgeber (bzw. die erste Selbstständigkeit) gewechselt?

☞ *Bitte maximal 2 Gründe ankreuzen!*

Unzufriedenheit mit der Tätigkeit, den Arbeitsbedingungen oder dem Arbeitgeber ..... ☐
Fehlende Perspektive bei dieser Tätigkeit bzw. diesem Arbeitgeber ..... ☐
Persönliche oder familiäre Gründe ..... ☐
Kündigung von Seiten des Arbeitgebers ..... ☐
Attraktiveres Angebot bei einem anderen Arbeitgeber ..... ☐
Geplante Selbstständigkeit ..... ☐
Aufgabe der Selbstständigkeit ..... ☐
Anderer Grund ..... ☐
und zwar: _____

Frage 70: Denken Sie nun bitte an Ihre derzeitige Arbeitsstelle. Unabhängig davon, ob es ein abhängiges Beschäftigungsverhältnis oder eine Selbstständigkeit ist: Wann haben Sie diese begonnen?

Beginn: Monat: ☐☐ Jahr: 2 0 ☐☐

Frage 71: Ist Ihre derzeitige Arbeitsstelle eine abhängige Beschäftigung oder eine selbstständige Tätigkeit?

Abhängige Beschäftigung ..... ☐ Selbstständigkeit ..... ☐

☞ *Selbstständige springen auf Frage 75!*

Frage 72: Wie lange haben Sie gesucht, bis Sie die Zusage für die derzeitige Stelle erhalten haben?

☐ Monate

Frage 73: Welche der folgenden Möglichkeiten haben Sie für die Suche nach Ihrer derzeitigen Stelle genutzt und wie häufig? Über welchen Weg haben Sie letztendlich von dieser Stelle erfahren?

☞ *Bitte machen Sie in jeder Zeile mindestens ein Kreuz!*

	sehr häufig			gar nicht	von Stelle erfahren
Über die Agentur für Arbeit / Jobcenter	☐	☐	☐	☐	☐
Über eine private Arbeitsvermittlung / PSA / Headhunter	☐	☐	☐	☐	☐
Über eine Stellenanzeige in der Zeitung	☐	☐	☐	☐	☐
Über eine Stellenanzeige im Internet	☐	☐	☐	☐	☐
Über Bekannte, Freunde, Angehörige, Kollegen	☐	☐	☐	☐	☐
Über eine Berufsmesse	☐	☐	☐	☐	☐
Durch den Kontakt aus einem früheren Praktikum	☐	☐	☐	☐	☐
Übernahme durch ausbildendes Unternehmen	☐	☐	☐	☐	☐
Sonstiges	☐	☐	☐	☐	☐

und zwar: _____

Frage 74: Um was für eine Einstiegsposition handelt es sich bei Ihrer derzeitigen Stelle?

☞ *Bitte alles Zutreffende ankreuzen!*

Befristeter Arbeitsvertrag ..... ☐
Unbefristeter Arbeitsvertrag ..... ☐
Trainee-Programm ..... ☐
Volontariat, Praktikum ..... ☐
Vorbereitungsdienst (Referendariat) für Lehramt / öffentlichen Dienst ..... ☐
Selbstständigkeit / Freier Mitarbeiter ..... ☐
Arbeitnehmerüberlassung (Leiharbeit) ..... ☐
Sonstiges ..... ☐

und zwar: _____

Frage 75: Entspricht Ihre derzeitige Stelle (bzw. Ihre derzeitige Selbstständigkeit) Ihrem erlernten Beruf bzw. studierten Fach?

Ja ..... ☐ Nein ..... ☐

☞ *Selbstständige springen auf Frage 78!*

Frage 76: Handelt es sich bei Ihrer derzeitigen Stelle um eine Vollzeit-, Teilzeit- oder Geringfügige Beschäftigung?

☞ *Bitte nur eine Antwort ankreuzen!*

Vollzeitbeschäftigung (mind. 35 Stunden pro Woche) ..... ☐
Teilzeitbeschäftigung (15 bis 34 Stunden pro Woche) ..... ☐
Geringfügige oder unregelmäßige Beschäftigung ..... ☐

Frage 77: In welchem Bereich sind Sie für Ihre derzeitige Stelle tätig?

☞ *Bitte nur eine Antwort ankreuzen!*

In der Privatwirtschaft / in einem Unternehmen ..... ☐
Im öffentlichen Dienst ..... ☐
Im Gesundheits- und Sozialbereich ..... ☐
Im Schul- und Bildungsbereich ..... ☐
In der Forschung (Hochschule, Forschungsinstitut, Forschungsabteilung, etc.) ..... ☐
In Organisationen ohne Erwerbscharakter (z.B. Rundfunk, Gewerkschaft) ..... ☐
Sonstiges ..... ☐
und zwar: _____

Frage 78: An welchem Ort ist Ihre derzeitige Stelle (bzw. Ihre derzeitige Selbstständigkeit) hauptsächlich?

☞ *Bitte nur eine Antwort ankreuzen!*

In Sachsen-Anhalt ..... ☐
In einem anderen ostdeutschen Bundesland (einschl. Berlin) ..... ☐
In einem westdeutschen Bundesland ..... ☐
Im Ausland ..... ☐

☞ *Selbstständige springen auf Frage 80!*

Frage 79: Welche Gründe waren Ihnen bei der Wahl Ihrer derzeitigen Arbeitsstelle und Ihres derzeitigen Arbeitgebers wichtig?

☞ *Bitte maximal 2 Gründe ankreuzen!*

Einkommen ..... ☐
Sicherheit des Arbeitsplatzes ..... ☐
Vereinbarkeit von Beruf und Familie bzw. Privatleben ..... ☐
Karriereperspektive ..... ☐
Attraktivität und Image des Arbeitgebers ..... ☐
Attraktivität der Stadt und Umgebung ..... ☐
Regionale Nähe zum Heimatort ..... ☐
Anderer Grund ..... ☐
und zwar: _____

Frage 80: Sind Sie derzeit in Sachsen-Anhalt tätig?

Ja .....☐ ➔ *Sie springen auf Frage 82!*

Nein .....☐

Frage 81: Denken Sie konkret über eine Rückkehr nach Sachsen-Anhalt innerhalb der nächsten fünf Jahre nach?

Ja, auf jeden Fall ..... ☐
Ja, wenn ich (oder mein/e Partner/in) eine entsprechende Stelle finde(t) ..... ☐
Nein ..... ☐

Frage 82: Haben Sie irgendwann einmal im Ausland gearbeitet?

Ja .....☐ ..... für insgesamt _____ Monate

Nein .....☐

Frage 83: Sind Sie derzeit oder waren Sie jemals selbstständig tätig?

Ja .....☐

Nein .....☐ ➔ *Sie springen auf Frage 86!*

Frage 84: Welche Gründe waren für die Aufnahme Ihrer Selbstständigkeit ausschlaggebend?

☞ *Bitte machen Sie in jeder Zeile ein Kreuz!*

	trifft zu	trifft nicht zu
Ich wollte flexibel und unabhängig arbeiten.	☐	☐
Ich wollte nicht mehr arbeitsuchend sein.	☐	☐
Andere haben mir zu einer Gründung geraten.	☐	☐
Selbstständigkeit ist in meiner Berufsgruppe üblich.	☐	☐
Ich hatte eine Marktlücke bzw. eine neue Idee entdeckt.	☐	☐
Ich wollte mehr Geld verdienen.	☐	☐
Sonstiges	☐	☐

und zwar: _____

Frage 85: Haben Sie für Ihre Selbstständigkeit einen Existenzgründerzuschuss erhalten?

Ja .....☐ Nein .....☐

Frage 86: Bitte denken Sie noch einmal kurz an die Zeit Ihres <u>Berufseinstiegs</u> (die ersten sechs Monate) zurück. Inwieweit fühlten Sie sich von den folgenden Einstiegsproblemen belastet?

☞ *Bitte machen Sie <u>in jeder Zeile</u> ein Kreuz!*

	stark belastet			nicht belastet	gibt/gab es nicht
Leistungsanforderungen	☐	☐	☐	☐	☐
Zeitdruck	☐	☐	☐	☐	☐
Komplexität der Aufgaben	☐	☐	☐	☐	☐
Zu geringe Einarbeitung/Betreuung	☐	☐	☐	☐	☐
Angst vor Versagen	☐	☐	☐	☐	☐
Finanzielle Unsicherheit	☐	☐	☐	☐	☐
Persönliche Probleme (z.B. im Privatleben)	☐	☐	☐	☐	☐
Sorge um den Arbeitsplatz	☐	☐	☐	☐	☐
Unsichere Berufsperspektive	☐	☐	☐	☐	☐
Einleben am Arbeitsplatz und Umgebung	☐	☐	☐	☐	☐
Probleme im Umgang mit den neuen Kollegen	☐	☐	☐	☐	☐
Weitere Belastungen	☐	☐	☐	☐	

und zwar: _____

Abschnitt G: Freizeitaktivitäten und politische Einstellungen

Unabhängig von Ihrem Werdegang nach dem Abitur, bitten wir Sie nun, die folgenden Fragen zu Freizeitaktivitäten, politischen Einstellungen, Familie, Gesundheit etc. zu beantworten.

Frage 87: Geben Sie bitte zu jeder Freizeitbeschäftigung an, wie oft Sie diese <u>während des letzten Jahres</u> im Durchschnitt ausgeübt haben.

☞ *Bitte machen Sie <u>in jeder Zeile</u> ein Kreuz!*

	täglich	mind. 1x pro Woche	mind. 1x pro Monat	seltener	nie
Mit Freunden oder Freund/in zusammen sein	☐	☐	☐	☐	☐
Beteiligung in Parteien, Politik, Bürgerinitiativen	☐	☐	☐	☐	☐
Ehrenamtliche Tätigkeit(en)	☐	☐	☐	☐	☐
Internet, soziale Netzwerke	☐	☐	☐	☐	☐
Fernsehen, Video, DVD	☐	☐	☐	☐	☐
Künstlerische und musische Tätigkeiten	☐	☐	☐	☐	☐
Technische Arbeiten	☐	☐	☐	☐	☐
Aktive sportliche Betätigung	☐	☐	☐	☐	☐
Kino, Popkonzert, Sport-/ Tanzveranstaltung, Disko	☐	☐	☐	☐	☐
Klassische Konzerte, Oper, Theater, Ausstellungen	☐	☐	☐	☐	☐
Lesen	☐	☐	☐	☐	☐
Einfach nichts tun, abhängen, Musik hören	☐	☐	☐	☐	☐
Mit aktuellen Nachrichten beschäftigen	☐	☐	☐	☐	☐
Tätigkeit im Nebenjob ausüben	☐	☐	☐	☐	☐
Kirchgang, Besuch religiöser Veranstaltungen	☐	☐	☐	☐	☐
Außerberufliche Weiterbildung	☐	☐	☐	☐	☐

Frage 88: Wie stark interessieren Sie sich für politische Themen?

Sehr stark ☐
Stark ☐
Mittel ☐
Wenig ☐
Überhaupt nicht ☐

Frage 89: Wie hoch ist Ihr Interesse an den folgenden Politikbereichen?

☞ *Bitte machen Sie <u>in jeder Zeile</u> ein Kreuz!*

	hohes Interesse	mittleres Interesse	geringes Interesse	kein Interesse
Wirtschafts- und Finanzpolitik	☐	☐	☐	☐
Außenpolitik (auch Entwicklungshilfe)	☐	☐	☐	☐
Innenpolitik (auch Integrationspolitik)	☐	☐	☐	☐
Bildungs- und Forschungspolitik	☐	☐	☐	☐
Sozialpolitik (z.B. Arbeitsmarkt, Gesundheit)	☐	☐	☐	☐
Umwelt- und Klimapolitik	☐	☐	☐	☐

Frage 90: Die letzte Bundestagswahl war im September 2009. Haben Sie da gewählt?

Ja .....☐ Nein ..... ☐ Keine Angabe .....☐

Frage 91: Welche der folgenden Möglichkeiten haben Sie bereits genutzt, um in einer Sache, die Ihnen wichtig war/ist, Ihre Meinung kundzutun oder politisch Einfluss zu nehmen?

☞ *Bitte machen Sie in jeder Zeile ein Kreuz!*

	schon häufiger genutzt	schon mind. 1x genutzt	noch nicht genutzt
Unterschreiben einer Unterschriftenliste/Online-Petition	☐	☐	☐
Beteiligung an einer Protestversammlung/Demonstration	☐	☐	☐
Mitarbeit/Beteiligung in einer Bürgerinitiative o.ä.	☐	☐	☐
Mitarbeit in einer Partei oder politischen Gruppe	☐	☐	☐
Kauf oder Nichtkauf bestimmter Waren aus politischen/ethischen/ökologischen Gründen	☐	☐	☐
Sonstige	☐	☐	☐

und zwar: _____

Frage 92: Wie stehen Sie zu den angeführten politischen Zielen: Welche unterstützen Sie, welche lehnen Sie ab?

☞ *Bitte machen Sie in jeder Zeile ein Kreuz!*

	stimme völlig zu 3	2	1	neutral 0	-1	-2	lehne völlig ab -3
Sicherung der freien Marktwirtschaft und des privaten Unternehmertums	☐	☐	☐	☐	☐	☐	☐
Priorität des Umweltschutzes vor wirtschaftlichem Wachstum	☐	☐	☐	☐	☐	☐	☐
Vollendung der (politischen) Integration Europas	☐	☐	☐	☐	☐	☐	☐
Begrenzung der Zuwanderung von Ausländern	☐	☐	☐	☐	☐	☐	☐
Stärkere Unterstützung der Entwicklungsländer	☐	☐	☐	☐	☐	☐	☐
Bundeswehrbeteiligung an militärischen Einsätzen	☐	☐	☐	☐	☐	☐	☐
Reduzierung der sozialen Sicherungssysteme	☐	☐	☐	☐	☐	☐	☐

Frage 93: Wo und wie oft informieren Sie sich über aktuelle Ereignisse und politische Themen in Deutschland und der Welt (Nachrichten, Hintergründe, Meinungen)?

☞ *Bitte machen Sie in jeder Zeile ein Kreuz!*

	fast täglich	wöchentlich	seltener	nie
Internet	☐	☐	☐	☐
Fernsehen	☐	☐	☐	☐
Radio	☐	☐	☐	☐
Lokale Zeitung (z.B. Volksstimme)	☐	☐	☐	☐
Überregionale Zeitung (z.B. FAZ, SZ)	☐	☐	☐	☐
Wochenzeitung (z.B. Spiegel, Focus, Zeit)	☐	☐	☐	☐
Publikationen von Interessengruppen/NGOs	☐	☐	☐	☐
Wissenschaftliche Publikationen zum Thema	☐	☐	☐	☐
Bücher (zu aktuellen Themen)	☐	☐	☐	☐

Abschnitt H: Eigene Familie und Kinder

☞ Bitte beantworten Sie die folgenden Fragen auch dann, wenn Sie noch keine eigene Familie oder eigenen Kinder haben!

Frage 94: Wie ist Ihr Familienstand?

☞ *Bitte nur eine Antwort ankreuzen!*

Ledig, mit fester Partnerbeziehung ..... ☐
Ledig, ohne feste Partnerbeziehung ..... ☐
Verheiratet, zusammenlebend ..... ☐
Verheiratet, dauerhaft getrennt lebend ..... ☐
Verwitwet / geschieden ..... ☐

Frage 95: Haben Sie Kinder?

Nein ..... ☐ ➔ *Sie springen auf Frage 97!*
Ja ..... ☐ ..... und zwar ☐ Kinder

Frage 96: Wie alt sind Ihre Kinder?

1. Kind: ☐ Jahre 2. Kind: ☐ Jahre 3. Kind: ☐ Jahre

Frage 97: Möchten Sie in Zukunft eine Familie gründen und Kinder haben?

☞ *Bitte nur eine Antwort ankreuzen!*

Ja ..... ☐
Nein ..... ☐
Ich habe bereits eine eigene Familie gegründet ..... ☐
Ich habe mir darüber noch keine Gedanken gemacht bzw. bin mir noch unsicher..... ☐

Frage 98: Wenn Sie in Zukunft Kinder haben möchten, wie viele Kinder würden Sie sich insgesamt wünschen (Ihre bisherigen Kinder eingerechnet)?

☞ *Bitte nur eine ganze Zahl angeben!*

☐ Kinder

Abschnitt I: Gesundheit und Lebenszufriedenheit

Frage 99: Wie würden Sie Ihren derzeitigen Gesundheitszustand beschreiben?

Sehr gut ..... ☐
Gut ..... ☐
Zufriedenstellend ..... ☐
Weniger gut ..... ☐
Schlecht ..... ☐

Keine Angabe ..... ☐

Frage 100: Wie oft kam es während der letzten vier Wochen vor, dass Sie folgende Beschwerden hatten?

☞ *Bitte machen Sie in jeder Zeile ein Kreuz!*

	öfter als 2-3x pro Woche	2-3x pro Woche	1x pro Woche	seltener	nie
Kopfschmerzen	☐	☐	☐	☐	☐
Schlafstörungen	☐	☐	☐	☐	☐
Augenflimmern	☐	☐	☐	☐	☐
Husten, Schnupfen, Halsschmerzen	☐	☐	☐	☐	☐
Erschöpfung, Müdigkeit	☐	☐	☐	☐	☐
Verdauungsbeschwerden	☐	☐	☐	☐	☐
Rückenschmerzen, Verspannungen	☐	☐	☐	☐	☐
Konzentrationsstörungen	☐	☐	☐	☐	☐
Herzklopfen .	☐	☐	☐	☐	☐

Frage 101: Wie oft kam es in der Zeit Ihrer Berufsausbildung, Ihres Studiums und/oder Ihrer Berufstätigkeit im Durchschnitt vor, …

☞ *Bitte nur die Bereiche ankreuzen, die sie machen oder gemacht haben!*

Berufsausbildung

	öfter als 2-3x pro Woche	2-3x pro Woche	1x pro Woche	seltener	nie
dass Sie sich gehetzt oder unter Zeitdruck fühlten?	☐	☐	☐	☐	☐
dass Sie sich ruhig und ausgeglichen fühlten?	☐	☐	☐	☐	☐
dass Sie sich niedergeschlagen und trübsinnig fühlten?	☐	☐	☐	☐	☐
dass Sie jede Menge Energie verspürten?	☐	☐	☐	☐	☐
dass Sie starke körperliche Schmerzen hatten?	☐	☐	☐	☐	☐

Studium

	öfter als 2-3x pro Woche	2-3x pro Woche	1x pro Woche	seltener	nie
dass Sie sich gehetzt oder unter Zeitdruck fühlten?	☐	☐	☐	☐	☐
dass Sie sich ruhig und ausgeglichen fühlten?	☐	☐	☐	☐	☐
dass Sie sich niedergeschlagen und trübsinnig fühlten?	☐	☐	☐	☐	☐
dass Sie jede Menge Energie verspürten?	☐	☐	☐	☐	☐
dass Sie starke körperliche Schmerzen hatten?	☐	☐	☐	☐	☐

Berufstätigkeit	öfter als 2-3x pro Woche	2-3x pro Woche	1x pro Woche	seltener	nie
dass Sie sich gehetzt oder unter Zeitdruck fühlten?	☐	☐	☐	☐	☐
dass Sie sich ruhig und ausgeglichen fühlten?	☐	☐	☐	☐	☐
dass Sie sich niedergeschlagen und trübsinnig fühlten?	☐	☐	☐	☐	☐
dass Sie jede Menge Energie verspürten?	☐	☐	☐	☐	☐
dass Sie starke körperliche Schmerzen hatten?	☐	☐	☐	☐	☐

Frage 102: Wie häufig haben Sie im letzten Jahr die folgenden Getränke getrunken?

☞ *Bitte machen Sie in jeder Zeile ein Kreuz!*

	öfter als 2-3x pro Woche	2-3x pro Woche	1x pro Woche	seltener	nie
Bier	☐	☐	☐	☐	☐
Wein, Sekt	☐	☐	☐	☐	☐
Spirituosen (Schnaps, Weinbrand etc.)	☐	☐	☐	☐	☐
Alkohol. Mischgetränke (Cocktails etc.)	☐	☐	☐	☐	☐

Frage 103: Rauchen Sie derzeit oder haben Sie jemals über einen längeren Zeitraum geraucht (Zigaretten, Zigarillos o.ä.)?

☞ *Bitte nur eine Antwort ankreuzen!*

Nein, ich rauche derzeit nicht und habe auch noch nie längere Zeit geraucht ..... ☐

Nein, ich rauche derzeit nicht, habe aber schon einmal längere Zeit geraucht ..... ☐

Ja, ich rauche derzeit regelmäßig ..... ☐

↳ und zwar [ ] Zigaretten (o.ä.) pro Tag

Ja, ich rauche derzeit, aber nur ab und an ..... ☐

Frage 104: Inwieweit achten Sie derzeit auf gesundheitsbewusste Ernährung?

Sehr stark ..... ☐
Stark ..... ☐
Ein wenig ..... ☐
Gar nicht ..... ☐

Frage 105: Was ist Ihre Körpergröße in cm?

[ ] cm Keine Angabe ..... ☐

Frage 106: Wie viele Kilogramm wiegen Sie derzeit?

[ ] kg Keine Angabe ..... ☐

Frage 107: Wie zufrieden sind Sie derzeit – alles in allem – mit ihrem Leben?

☞ *Bitte nur ein Kreuz setzen!*

Ganz und gar zufrieden — Ganz und gar unzufrieden

10 9 8 7 6 5 4 3 2 1

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Keine Angabe ..... ☐

Frage 108: Wie schätzen Sie sich persönlich ein: Sind Sie im Allgemeinen ein risikobereiter Mensch oder versuchen Sie, Risiken zu vermeiden?

☞ *Bitte nur ein Kreuz setzen!*

sehr risikobereit — gar nicht risikobereit

10 9 8 7 6 5 4 3 2 1

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Wenn Sie noch Ergänzungen, Anmerkungen oder Hinweise haben, bitten wir Sie, uns diese mitzuteilen:

Vielen Dank für Ihre Mitarbeit!

Questionnaire of 3rd Survey Wave

Vom Abitur 2007 bis heute: Studium, Ausbildung und Berufseinstieg

3. Befragung des Doppelabiturjahrgangs 2007 in Sachsen-Anhalt

Untersuchung der Auswirkungen der Verkürzung der Gymnasialschulzeit um ein Jahr

Projektträger

Niedersächsisches Institut für Wirtschaftsforschung

Leibniz Universität Hannover

Gefördert durch

DFG Deutsche Forschungsgemeinschaft

Projektleitung

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Königstraße 53, 30175 Hannover

Sehr geehrte Teilnehmerin, sehr geehrter Teilnehmer,

wir freuen uns, dass Sie an unserer Befragung teilnehmen. Damit tragen Sie wesentlich dazu bei, wissenschaftlich gehaltvolle Aussagen zu den Auswirkungen der Schulzeitreform treffen zu können. Vielen Dank!

In den Jahren 2009 und 2011 haben wir bereits zwei Befragungen durchgeführt. Dadurch konnten wir einige Reformeffekte erstmals empirisch belegen. Die Ergebnisse fanden sowohl in der Wissenschaft als auch in Politik und Medien Beachtung. Nun möchten wir mit einer dritten Befragung die längerfristigen Reformauswirkungen untersuchen.

Wer sind wir?

Das Forschungsprojekt zu den Auswirkungen der Schulzeitreform wurde von uns an der Universität Magdeburg begonnen. Seit 2011 führen wir es am Niedersächsischen Institut für Wirtschaftsforschung (NIW) in Hannover in Kooperation mit der Leibniz Universität Hannover fort. Das Projekt wird von der Deutschen Forschungsgemeinschaft (DFG) gefördert, was das hohe wissenschaftliche und gesellschaftliche Interesse an der Untersuchung unterstreicht. Weitere Informationen finden Sie unter http://www.niw.de/index.php/projekte-detailseite-114/items/1.html.

Was geschieht mit Ihren Angaben?

Wir arbeiten nach den Vorschriften des Bundesdatenschutzgesetzes (BDSG) und allen anderen datenschutzrechtlichen Bestimmungen. Alle Angaben werden selbstverständlich vertraulich behandelt, nur zu wissenschaftlichen Zwecken eingesetzt und nicht an Dritte weitergegeben. Ihre persönlichen Daten werden getrennt von den Antworten im Fragebogen aufbewahrt. Die Antworten im Fragebogen werden somit für die wissenschaftliche Untersuchung anonymisiert. Die Ergebnisse werden zudem ausschließlich in anonymisierter und aggregierter Form dargestellt. Niemand kann also aus den Ergebnissen erkennen, von welcher Person welche Angaben gemacht worden sind!

Bei Fragen können Sie sich jederzeit per E-Mail (meyer@niw.de) oder telefonisch (0511 / 123316-31) an uns wenden.

Für Ihre Mitarbeit bedanken wir uns herzlich!

Prof. Dr. Stephan Thomsen

Dipl.-Volkswirt Tobias Meyer

Wie wird es gemacht?

1. Gehen Sie bitte der Reihe nach vor, Frage für Frage.

2. Überspringen Sie Fragen nur dann, wenn im Text ausdrücklich ein Hinweis gegeben ist.

3. **Lesen Sie bitte den Text, die Fragestellung und die Erläuterungen sehr genau und sorgfältig!**

4. **Sollten Sie eine Frage nicht beantworten können, lassen Sie diese bitte unbeantwortet.**

Bitte füllen Sie den Fragebogen aus, indem Sie

- in die Kästchen ein Kreuz machen.

  Beispiel: Arbeitszeit: Vollzeit .....☒ Teilzeit .....☐

  Falls Sie eine Antwort korrigieren möchten, füllen Sie bitte das fälschlich angekreuzte Kästchen vollständig aus und kreuzen Sie anschließend das „richtige“ Kästchen an.

  Beispiel: Auslandsaufenthalt: ja ..... ■ nein .....☒

- in die etwas größeren Felder Zahlen eintragen.

  Beispiel: Anzahl der Bewerbungen 12

- in die unterstrichenen Felder Text schreiben.

  Beispiel: Wohnort: MAGDEBURG

Angaben zur Person

Zunächst möchten wir Sie um einige Angaben zu Ihrer Person bitten. Bitte füllen Sie diese **unbedingt** aus! Der Adressenteil wird separat gespeichert. Die Daten werden vertraulich behandelt und nach Ablauf der gesetzlich vorgeschriebenen Aufbewahrungsfrist vernichtet.

Name: _____ **Vorname:** _____

Geburtsdatum: _____

Name zum Zeitpunkt des Abiturs (falls abweichend): _____

Straße und Hausnummer: _____

Postleitzahl und Wohnort: _____

E-Mail-Adresse: _____

Haben Sie das Abitur im 12. oder im 13. Jahrgang abgelegt?

12. Jahrgang..... ☐ 13. Jahrgang..... ☐

Name der Schule, an der Sie das Abitur abgelegt haben:

_____

Vergütung Ihrer Teilnahme

Für Ihre Teilnahme möchten wir uns mit einer Aufwandsentschädigung von 20 Euro bedanken. Sie können sich das Geld entweder überweisen oder einen Verrechnungsscheck zusenden lassen.

Zusendung eines Schecks ..... ☐ → *Hierfür benötigen wir Ihre vollständige Adresse!*

Überweisung ..... ☐ → *Hierfür benötigen wir Ihre Bankverbindung!*
(als Unternehmen benötigen wir IBAN und BIC)

IBAN: | | | | | | | | | | | | | | | | | | | | | |

BIC: | | | | | | | | | | |

Name der Bank: _____

Kontoinhaber: _____

Derzeitige Tätigkeit

1. Welche Tätigkeit üben Sie derzeit (Herbst 2014) hauptsächlich aus?

›› Bitte nur eine Antwort ankreuzen!

›› Nur im Ausnahmefall sind zwei Antworten möglich.

Studium an einer Universität, Fachhochschule oder Berufsakademie ..... ☐

Berufsausbildung (z. B. Lehre, Fachschule) ..... ☐

Arbeitnehmer/in in Vollzeit ..... ☐

Arbeitnehmer/in in Teilzeit ..... ☐

Selbstständigkeit oder freiberufliche Tätigkeit ..... ☐

Referendariat, Vorbereitungsdienst ..... ☐

Volontariat, Anerkennungsjahr ..... ☐

Praktikum ..... ☐

Arbeitssuchend ..... ☐

Elternzeit, Mutterschutz ..... ☐

Pflege von Angehörigen ..... ☐

Freiwilligendienst / Freiwilliges Jahr ..... ☐

Andere Tätigkeit ..... ☐

und zwar: _____

2. In welchem Bundesland üben Sie die genannte Tätigkeit aus?

›› Bei Aufenthalt im Ausland bitte den Staat angeben.

_____

Nachschulischer Werdegang

3. Denken Sie bitte an die Zeit seit Ihrem Abitur 2007 bis heute. Wir haben hier einen Kalender abgebildet. Bitte tragen Sie hier Ihren nachschulischen Werdegang ein. Bitte kreuzen Sie alle Quartale an, in denen Sie die in der linken Spalte genannten Tätigkeiten ausgeübt haben – Studium, Berufsausbildung, Berufstätigkeit und sonstige Tätigkeiten (z. B. Wehrdienst, Arbeitslosigkeit, Elternzeit).

›› Bitte geben Sie nur Ihre Haupttätigkeiten an, d. h. Tätigkeiten, die Sie über einen längeren Zeitraum und hauptberuflich (mit mindestens 20 Wochenstunden) ausgeübt haben.

›› Bitte geben Sie keine Nebentätigkeiten an (z. B. geringfügige Beschäftigungen, mehrwöchige Praktika, nebenberufliche Weiterbildungen).

›› Bitte schreiben Sie in die beiden Zeilen unter den angekreuzten Quartalen, um was für eine Tätigkeit es sich handelte (z. B. Studiengang, Berufsbezeichnung) und an welchem Ort Sie die Tätigkeit ausgeübt haben. (Wenn es mehrere Tätigkeiten oder Orte waren, schreiben Sie bitte alle auf.)

›› Die Quartale sind wie folgt definiert: 1) Januar – März; 2) April – Juni; 3) Juli – September; 4) Oktober – Dezember.

›› Ausfüll-Beispiel:

Jahr	2007		2008				2009				2010				2011				2012				2013				2014			
Quartal	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Studium																X	X	X	X	X	X	X	X	X	X	X	X	X		
Studiengang	*Studium Wirtschaftsingenieurwesen (Bachelor)*																													
Ort	*Magdeburg*																													
Berufsausbildung					X	X	X	X	X	X	X	X	X	X	X															
Ausbildungsberuf	*Lehre zum Industriemechaniker*																													
Ort	*Halberstadt*																													
Berufstätigkeit																													X	X
Berufsbezeichnung	*Ingenieur im Projektmanagement*																													
Ort	*Frankfurt/Main*																													
Sonstige Tätigkeit		X	X	X	X																									
Beschreibung	*Freiwilliges Soziales Jahr im Ausland*																													
Ort	*Brasilien*																													

Übersicht über Ihren nachschulischen Werdegang

Jahr	**2007**		**2008**				**2009**				**2010**				**2011**				**2012**				**2013**				**2014**			
Quartal	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Studium																														
Studiengang																														
Ort																														
Berufsausbildung																														
Ausbildungsberuf																														
Ort																														
Berufstätigkeit																														
Berufsbezeichnung																														
Ort																														
Sonstige Tätigkeit																														
Beschreibung																														
Ort																														

Die folgenden Fragen richten sich an Personen, die ein Hochschulstudium begonnen/absolviert haben.

→ ***Wenn Sie kein Hochschulstudium begonnen haben, springen Sie auf Frage 9.***

4. Bitte geben Sie im Folgenden noch einmal alle von Ihnen begonnenen Studiengänge mit Studienfach, Hochschule, Abschlussgrad und Abschlussnote an.

›› Bitte geben Sie jedes neu begonnene Studium in einer neuen Zeile an. (Dazu zählt auch der Wechsel in einen sehr ähnlichen Studiengang, z. B. von BWL zu VWL.)

›› Wenn Sie ein Studium noch nicht beendet haben, geben Sie bitte das voraussichtliche Ende an.

›› Wenn Sie ein Studium abgebrochen haben, notieren Sie dies bitte in der Spalte Abschlussnote.

Beginn (Monat/Jahr)	Ende (Monat/Jahr)	Studiengang/Studienfach	Name der Hochschule	Angestrebter Abschlussgrad	Abschl.-note

5. Haben Sie in Ihrem Studium einen Auslandsaufenthalt (z. B. Auslandssemester, Auslandspraktikum, ganzes Studium im Ausland) unternommen?

Ja ..... ☐ ..... und zwar für insgesamt ☐ Monate

Nein ..... ☐

6. Wie viele Praktika haben Sie während Ihres Studiums absolviert? Wie viele Wochen haben diese Praktika insgesamt gedauert?

Anzahl der absolvierten Praktika ..... ☐

Gesamtdauer aller absolvierten Praktika in Wochen ..... ☐

7. Waren Sie im Laufe Ihres Studiums erwerbstätig (einschließlich Nebenjobs)?

Nein ..... ☐ → *Sie springen auf Frage 9!*

Ja, während eines Teils des Studiums ..... ☐

Ja, überwiegend während der gesamten Studiendauer ..... ☐

8. Hatte einer Ihrer (Neben-)Jobs einen Bezug zu Ihrem Studium (z. B. Tätigkeit in einem möglichen späteren Berufsfeld)?

Ja ..... ☐

Nein ..... ☐

9. Stellen Sie sich vor, Sie stünden noch einmal vor der Entscheidung, nach dem Abitur Ihren weiteren Bildungsweg zu beginnen: Wie würden Sie sich aus heutiger Sicht verhalten?

›› Bitte nur eine Antwort pro Zeile ankreuzen!

	sehr wahrscheinlich	vielleicht	sehr unwahrscheinlich
Eine Berufsausbildung absolvieren, aber kein Studium	☐	☐	☐
Ein Studium absolvieren, aber keine Berufsausbildung	☐	☐	☐
Eine Berufsausbildung und ein Studium absolvieren	☐	☐	☐
Wenn Sie eine Berufsausbildung absolviert haben und dies (vielleicht/wahrscheinlich) wieder tun würden:			
Wieder den gleichen Ausbildungsberuf wählen	☐	☐	☐
Wenn Sie ein Studium absolviert haben und dies (vielleicht/wahrscheinlich) wieder tun würden:			
Wieder das gleiche Studienfach studieren	☐	☐	☐
Wieder den gleichen Hochschultyp (z. B. FH, Uni) wählen	☐	☐	☐
Wieder an der gleichen Hochschule studieren	☐	☐	☐

10. Streben Sie zusätzlich zu dem bereits erreichten bzw. derzeit angestrebten Abschluss (den Sie in Frage 3 bzw. 4 bereits angegeben haben) noch einen weiteren Bildungsabschluss konkret an?

Nein ..... ☐

Ja ..... ☐ ..... und zwar .....

- Abschluss einer Berufsausbildung ..... ☐
- Hochschulabschluss: Bachelor ..... ☐
- Hochschulabschluss: Master/Diplom/Staatsexamen ..... ☐
- Promotion ..... ☐
- Sonstiger Abschluss ..... ☐

und zwar: _____

Berufseinstieg und Berufstätigkeiten

Im Folgenden geht es um Ihre hauptberuflichen Tätigkeiten. Damit sind Erwerbstätigkeiten gemeint, die Sie im Hauptberuf ausüben oder ausgeübt haben, und zwar über einen längeren Zeitraum! Es kann sich sowohl um abhängige Beschäftigungsverhältnisse als auch um freiberufliche bzw. selbstständige Tätigkeiten handeln.

Nicht gemeint sind:

- **nebenberufliche Tätigkeiten (z. B. Nebenjobs während des Studiums)**
- **Tätigkeiten zur Überbrückung von Wartezeiten oder für eine kurze Übergangszeit**
- **Berufsausbildungen**

Sonderfälle:

- *In der Regel* sind hauptberufliche Tätigkeiten solche, die Sie nach Abschluss einer Berufsausbildung oder eines Studiums im Hauptberuf ausüben oder ausgeübt haben. *In manchen Fällen* können es aber auch hauptberufliche Tätigkeiten vor Studienabschluss, zwischen dem Abschluss einer Berufsausbildung und der Aufnahme eines Studiums oder zwischen dem Abschluss eines Bachelor-Studiums und dem Beginn eines Master-Studiums sein.
- In manchen Berufen ist nach Abschluss des Studiums (oder der Berufsausbildung) und dem eigentlichen Beginn der Berufstätigkeit eine zweite, praktische Ausbildungsphase vorgesehen (z. B. Referendariat, Vorbereitungsdienst, Volontariat, Anerkennungsjahr). Diese ist hier bereits als hauptberufliche Tätigkeit zu verstehen. Ein Praktikum zählt allerdings nicht dazu.

11. Sind oder waren Sie bereits hauptberuflich tätig?

Ja ..... ☐ → *Bitte beantworten Sie die folgenden Fragen zu Ihrer Berufstätigkeit!*

Nein ..... ☐ → *Sie springen auf Frage 33!*

Bitte denken Sie nun an Ihre erste hauptberufliche Tätigkeit, die Sie in der Regel nach Abschluss Ihrer Berufsausbildung oder Ihres Studiums aufgenommen haben.

12. Wann haben Sie Ihre erste hauptberufliche Tätigkeit begonnen?

Monat: ☐☐ Jahr: 2 0 ☐☐

13. Welche der folgenden Möglichkeiten haben Sie im Rahmen der Suche nach Ihrer ersten hauptberuflichen Stelle genutzt? Wie haben Sie die Stelle gefunden?

›› Bitte alles Zutreffende ankreuzen!

	für Suche genutzt	Stelle gefunden
Bewerbung auf ausgeschriebene Stellenanzeigen (z. B. Zeitung, Internet)	☐	☐
Initiativbewerbungen (d. h. Bewerbung ohne ausgeschriebene Stelle)	☐	☐
Arbeitgeber ist an mich herangetreten	☐	☐
Kontakt aus Praktikum/Abschlussarbeit/Nebenjob/Berufsausbildung	☐	☐
Private Kontakte (z. B. Angehörige, Bekannte, Freunde, Kommilitonen)	☐	☐
Sonstiges	☐	☐

14. Bei wie vielen Arbeitgebern haben Sie sich bei der Suche nach Ihrer ersten hauptberuflichen Stelle beworben? Wie oft wurden Sie zu Vorstellungsgesprächen eingeladen, und wie viele Zusagen haben Sie erhalten?

Zahl der Bewerbungen ..... ☐

Zahl der Vorstellungsgespräche ..... ☐

Zahl der erhaltenen Zusagen ..... ☐

15. Wie schwierig empfanden Sie die Stellensuche für Ihre erste hauptberufliche Stelle insgesamt?

Sehr leicht					Sehr schwierig
1	2	3	4	5	6
☐	☐	☐	☐	☐	☐

16. Wo haben Sie sich bei Ihrer Stellensuche vorrangig beworben?

›› Bitte nur eine Antwort ankreuzen!

Am Heimatort oder in dessen Umgebung (d. h. im Umkreis von bis zu 100 km) ..... ☐

Wenn Ihr Ausbildungs-/Studienort nicht Ihrem Heimatort entspricht:
Am Ausbildungs-/Studienort oder in dessen Umgebung (d. h. im Umkreis von bis zu 100 km) ..... ☐

Deutschlandweit ..... ☐

International ..... ☐

17. Welche Motive waren für Sie bei der Wahl Ihrer ersten hauptberuflichen Stelle entscheidend?

›› Bitte maximal 2 Motive ankreuzen!

Inhalte der Tätigkeit ..... ☐
Einkommen ..... ☐
Aufstiegsmöglichkeiten / Karriereperspektive ..... ☐
Erfahrungen sammeln / Weiterbildung ..... ☐
Sicherheit des Arbeitsplatzes ..... ☐
Attraktivität des Arbeitgebers ..... ☐
Attraktivität des Arbeitsortes ..... ☐
Nähe zur Heimatregion ..... ☐
Vereinbarkeit mit Familie/Privatleben ..... ☐

18. Um was für ein Beschäftigungsverhältnis handelt/handelte es sich bei Ihrer ersten hauptberuflichen Tätigkeit?

›› Bitte nur eine Antwort ankreuzen!

Unbefristeter Arbeitsvertrag ..... ☐
Befristeter Arbeitsvertrag ..... ☐
Zeitarbeit/Leiharbeit ..... ☐
Selbstständigkeit / freiberufliche Tätigkeit ..... ☐
Zweite, praktische Ausbildungsphase (z. B. Referendariat, Vorbereitungsdienst, Volontariat, Anerkennungsjahr) ..... ☐

19. Üben/übten Sie Ihre erste hauptberufliche Tätigkeit in Vollzeit oder Teilzeit aus?

›› Gemeint ist die vertragliche Arbeitszeit, nicht die tatsächliche Arbeitszeit.

Vollzeit (d. h. mindestens 35 Stunden pro Woche) ..... ☐
Teilzeit ..... ☐

20. Entspricht/entsprach Ihre erste hauptberufliche Tätigkeit Ihrer Ausbildung bzw. Ihrem Studium?

›› Bitte machen Sie in jeder Zeile ein Kreuz!

	Ja	eher Ja	eher Nein	Nein
In Bezug auf das **Niveau des Bildungsabschlusses**	☐	☐	☐	☐
In Bezug auf die **Fachrichtung**	☐	☐	☐	☐
In Bezug auf Ihre eigenen **Erwartungen**	☐	☐	☐	☐

21. Arbeiten/arbeiteten Sie in Ihrer ersten hauptberuflichen Tätigkeit in einer Position, in der …

… ein Hochschulabschluss zwingend erforderlich ist/war? ..... ☐

… ein Hochschulabschluss die Regel ist/war? ..... ☐

… ein Hochschulabschluss nicht die Regel, aber von Vorteil ist/war? ..... ☐

… ein Hochschulabschluss keine Bedeutung hat/hatte? ..... ☐

22. Wie hoch war Ihr erstes monatliches Nettoeinkommen (d. h. nach Abzug von Steuern und Sozialabgaben) aus Ihrer ersten hauptberuflichen Tätigkeit (Einstiegsgehalt)?

›› Bitte nur eine Antwort ankreuzen!

weniger als 1.000 Euro ..... ☐

1.000 bis unter 1.200 Euro ..... ☐

1.200 bis unter 1.400 Euro ..... ☐

1.400 bis unter 1.600 Euro ..... ☐

1.600 bis unter 1.800 Euro ..... ☐

1.800 bis unter 2.000 Euro ..... ☐

2.000 bis unter 2.200 Euro ..... ☐

2.200 bis unter 2.400 Euro ..... ☐

2.400 bis unter 2.600 Euro ..... ☐

2.600 bis unter 2.800 Euro ..... ☐

2.800 bis unter 3.000 Euro ..... ☐

3.000 bis unter 3.200 Euro ..... ☐

3.200 bis unter 3.400 Euro ..... ☐

3.400 Euro und mehr ..... ☐

Keine Angabe ..... ☐

23. Wie stark hatten Sie beim Einstieg in Ihre erste hauptberufliche Tätigkeit (d. h. in den ersten sechs Monaten) mit den folgenden Problemen bzw. Schwierigkeiten zu kämpfen?

›› Bitte machen Sie in jeder Zeile ein Kreuz!

	sehr stark			gar nicht
Arbeitsüberlastung, Zeitdruck	☐	☐	☐	☐
Qualifikationsdefizite	☐	☐	☐	☐
Unterforderung (fachlich oder zeitlich)	☐	☐	☐	☐
Zu geringe Einarbeitung/Betreuung	☐	☐	☐	☐
Angst vor Versagen	☐	☐	☐	☐
Unsichere Berufsperspektive	☐	☐	☐	☐
Probleme mit Kollegen/Vorgesetzten	☐	☐	☐	☐

24. Sind Sie derzeit noch in Ihrer ersten hauptberuflichen Stelle tätig?

›› Ein Wechsel der Stelle beinhaltet auch Wechsel innerhalb desselben Arbeitgebers, sofern sich wesentliche Veränderungen z. B. in Bezug auf die Tätigkeit, den Arbeitsbereich oder die Position ergeben haben.

Ja ..... ☐ → *Sie springen auf Frage 31!*

Nein, aber ich arbeite noch beim selben Arbeitgeber ..... ☐ → *Sie springen auf Frage 26!*

Nein, ich arbeite mittlerweile bei einem anderen Arbeitgeber ..... ☐ → *Weiter mit Frage 25!*

25. Aus welchem Hauptgrund haben Sie Ihre erste Arbeitsstelle beendet bzw. gewechselt?

›› Bitte nur eine Antwort ankreuzen!

Attraktiveres Angebot eines anderen Arbeitgebers ..... ☐

Unzufriedenheit mit der Tätigkeit oder den Arbeitsbedingungen ..... ☐

Fehlende Perspektive in dieser Stelle ..... ☐

Kündigung durch den Arbeitgeber / Nichtverlängerung des Vertrags ..... ☐

(Wieder-)Aufnahme eines Studiums oder einer anderen Ausbildung ..... ☐

Persönliche/familiäre Gründe ..... ☐

Sonstige Gründe ..... ☐

und zwar: _____

Im Folgenden geht es nun um Ihre derzeitige hauptberufliche Tätigkeit.

26. Wann haben Sie Ihre derzeitige hauptberufliche Tätigkeit begonnen?

Monat: ☐☐ Jahr: 2 0 ☐☐

27. Um was für ein Beschäftigungsverhältnis handelt es sich bei Ihrer derzeitigen hauptberuflichen Tätigkeit?

›› Bitte nur eine Antwort ankreuzen!

Unbefristeter Arbeitsvertrag ..... ☐

Befristeter Arbeitsvertrag ..... ☐

Zeitarbeit/Leiharbeit ..... ☐

Selbstständigkeit / freiberufliche Tätigkeit ..... ☐

Zweite, praktische Ausbildungsphase (z. B. Referendariat, Vorbereitungsdienst, Volontariat, Anerkennungsjahr) ..... ☐

28. Üben Sie Ihre derzeitige hauptberufliche Tätigkeit in Vollzeit oder Teilzeit aus?

›› Gemeint ist die vertragliche Arbeitszeit, nicht die tatsächliche Arbeitszeit.

Vollzeit (d. h. mindestens 35 Stunden pro Woche) ..... ☐

Teilzeit ..... ☐

29. Entspricht Ihre derzeitige hauptberufliche Tätigkeit Ihrer Ausbildung bzw. Ihrem Studium?

›› Bitte machen Sie in jeder Zeile ein Kreuz!

	Ja	eher Ja	eher Nein	Nein
In Bezug auf das **Niveau des Bildungsabschlusses**	☐	☐	☐	☐
In Bezug auf die **Fachrichtung**	☐	☐	☐	☐
In Bezug auf Ihre eigenen **Erwartungen**	☐	☐	☐	☐

30. Arbeiten Sie in Ihrer derzeitigen hauptberuflichen Tätigkeit in einer Position, in der …

… ein Hochschulabschluss zwingend erforderlich ist? ..... ☐

… ein Hochschulabschluss die Regel ist? ..... ☐

… ein Hochschulabschluss nicht die Regel, aber von Vorteil ist? ..... ☐

… ein Hochschulabschluss keine Bedeutung hat? ..... ☐

31. Wie hoch ist Ihr derzeitiges monatliches Nettoeinkommen (d. h. nach Abzug von Steuern und Sozialabgaben) aus Ihrer derzeitigen hauptberuflichen Tätigkeit?

›› Bitte nur eine Antwort ankreuzen!

weniger als 1.000 Euro ..... ☐

1.000 bis unter 1.200 Euro ..... ☐

1.200 bis unter 1.400 Euro ..... ☐

1.400 bis unter 1.600 Euro ..... ☐

1.600 bis unter 1.800 Euro ..... ☐

1.800 bis unter 2.000 Euro ..... ☐

2.000 bis unter 2.200 Euro ..... ☐

2.200 bis unter 2.400 Euro ..... ☐

2.400 bis unter 2.600 Euro ..... ☐

2.600 bis unter 2.800 Euro ..... ☐

2.800 bis unter 3.000 Euro ..... ☐

3.000 bis unter 3.200 Euro ..... ☐

3.200 bis unter 3.400 Euro ..... ☐

3.400 Euro und mehr ..... ☐

Keine Angabe ..... ☐

32. Wie schätzen Sie Ihre berufliche Zukunftsperspektive ein?

	Sehr gut 1	2	3	4	5	Sehr schlecht 6
In Bezug auf die Beschäftigungssicherheit	☐	☐	☐	☐	☐	☐
In Bezug auf die Entwicklungsmöglichkeiten	☐	☐	☐	☐	☐	☐

→ ***Nun gehen Sie zu Frage 35!***

Die folgenden beiden Fragen richten sich an Personen, die noch nicht hauptberuflich tätig sind oder waren.

33. Wenn Sie sich noch im Studium oder in einer Berufsausbildung befinden und noch nicht berufstätig sind oder waren: Welche Pläne haben Sie für die Zeit nach Ihrem Abschluss?

›› Bitte alles Zutreffende ankreuzen!

›› Wenn Sie die Aufnahme einer Berufstätigkeit planen, geben Sie bitte auch eine ungefähre Bezeichnung der von Ihnen angestrebten Tätigkeit(en) an.

Aufnahme einer abhängigen Berufstätigkeit ..... ☐

geplante Tätigkeit/Berufsbezeichnung: _____

ggf. alternative Tätigkeit/Berufsbezeichnung: _____

ggf. alternative Tätigkeit/Berufsbezeichnung: _____

Referendariat, Vorbereitungsdienst ..... ☐

Volontariat, Anerkennungsjahr ..... ☐

Praktikum ..... ☐

Selbstständigkeit, freiberufliche Tätigkeit ..... ☐

Aufnahme eines (weiteren) Studiums (nicht: Promotion) ..... ☐

Promotion ..... ☐

Sonstige Tätigkeit ..... ☐

und zwar: _____

34. Wann ungefähr möchten Sie mit dieser Tätigkeit beginnen?

Monat: ☐☐ Jahr: 2 0 ☐☐

Familie und Kinder

35. Wie ist Ihr derzeitiger Lebens-/Familienstand?

Ohne feste Partnerbeziehung ..... ☐ → *Sie springen auf Frage 37!*

In fester Partnerschaft, aber nicht verheiratet ..... ☐

Verheiratet ..... ☐

und zwar seit: Monat: ☐☐ Jahr: 2 0 ☐☐

36. Ist Ihr Partner/Ihre Partnerin derzeit erwerbstätig?

›› Bitte nur eine Antwort ankreuzen!

Ja, in Vollzeit ..... ☐

Ja, in Teilzeit ..... ☐

Ja, geringfügig beschäftigt ..... ☐

Nein ..... ☐

37. Haben Sie Kinder?

Nein ..... ☐ → *Sie springen auf Frage 39!*

Ja ..... ☐ ..... und zwar ☐ Kind/Kinder

38. In welchem Jahr wurde Ihr Kind / wurden Ihre Kinder geboren?

1. Kind: 2 0 ☐☐

2. Kind: 2 0 ☐☐

3. Kind: 2 0 ☐☐

Abschließende Fragen

39. Nach Ihren eigenen Erfahrungen mit der Schulzeit bis zum Abitur: Was ist Ihre Meinung in der Diskussion um das acht- oder neunjährige Gymnasium?

›› Bitte nur eine Antwort ankreuzen!

Das achtjährige Gymnasium (G8) sollte in seiner jetzigen Form beibehalten werden. ..... ☐

Das achtjährige Gymnasium (G8) sollte beibehalten werden,
aber die Anzahl der Unterrichtsstunden bis zum Abitur sollte reduziert werden. ..... ☐

Es sollte zur neunjährigen Gymnasialschulzeit (G9) zurückgekehrt werden. ..... ☐

Es sollte den Schulen freigestellt werden, ob Sie G8 oder G9 oder beides anbieten. ..... ☐

Ich habe keine Meinung / ich bin mir unsicher ..... ☐

Sonstige Meinung ..... ☐

und zwar: _____

40. Wenn Sie Geschwister haben: Studiert eines Ihrer Geschwister an einer Universität, Hochschule oder Fachhochschule oder hat ein solches Studium bereits abgeschlossen?

›› Bitte machen Sie in beiden Zeilen jeweils ein Kreuz!

	Ja	Nein
Mindestens eines meiner Geschwister …		
… befindet sich derzeit in einem Studium	☐	☐
… hat bereits ein Studium abgeschlossen	☐	☐

41. In welcher beruflichen Stellung waren Ihr Vater/Ihre Mutter <u>während Ihrer Abiturzeit im Jahr 2007</u> überwiegend tätig?

›› Wenn Ihr Vater und/oder Ihre Mutter zu dieser Zeit nicht erwerbstätig waren (z. B. wegen Ruhestand oder Arbeitslosigkeit), beziehen Sie diese Frage bitte auf die letzte davor liegende berufliche Tätigkeit Ihres Vaters/Ihrer Mutter!

›› Bitte nur eine Antwort pro Spalte ankreuzen!

	Vater	Mutter
Angestellte		
Leitende Angestellte (z. B. Abteilungsleiter/in, Geschäftsführer/in, Direktor/in)	☐	☐
Angestellte mit <u>mittlerer</u> Leitungsfunktion (z. B. Projektleiter/in, Gruppenleiter/in)	☐	☐
Angestellte mit <u>Hochschulabschluss</u> <u>ohne</u> Leitungsfunktion (z. B. Ingenieur/in, Betriebswirt/in, Referent/in)	☐	☐
Angestellte mit Tätigkeit, für die in der Regel eine abgeschlossene <u>Berufsausbildung</u> erforderlich ist (z. B. Sachbearbeiter/in, Techn. Zeichner/in)	☐	☐
Angestellte mit Tätigkeit, für die keine abgeschlossene Berufsausbildung erforderlich ist (z. B. un-/angelernte Angestellte)	☐	☐
Arbeiter		
Arbeiter mit Tätigkeit, für die eine abgeschlossene Berufsausbildung und i. d. R. eine <u>Aufstiegsfortbildung</u> erforderlich ist (z. B. Meister/in, Polier/in)	☐	☐
Arbeiter mit Tätigkeit, für die in der Regel eine abgeschlossene <u>Berufsausbildung</u> erforderlich ist (z. B. Facharbeiter/in, Geselle/Gesellin)	☐	☐
Arbeiter mit Tätigkeit, für die keine abgeschlossene Berufsausbildung erforderlich ist (z. B. un-/angelernte Arbeiter/in)	☐	☐
Beamte		
Beamte im höheren Dienst (z. B. Regierungsrat/-rätin, Gymnasialschullehrer/in, Direktor/in, Richter/in)	☐	☐
Beamte im gehobenen Dienst (z. B. Inspektor/in, Amtsrat/-rätin, Kommissar/in, Hauptmann, Realschullehrer/in)	☐	☐
Beamte im einfachen/mittleren Dienst (z. B. Sekretär/in, Polizeimeister/in, Unteroffizier/in)	☐	☐
Selbstständige		
Selbstständige in freiem Beruf (z. B. Arzt/Ärztin, Rechtsanwalt/Rechtsanwältin, Steuerberater/in)	☐	☐
Selbstständige Unternehmer (Handel, Handwerk, Landwirtschaft, Industrie, Dienstleistungen)	☐	☐
Selbstständige mit Honorar-/Werkvertrag (z. B. freie/r Mitarbeiter/in)	☐	☐
Sonstige	☐	☐

und zwar: _____

Wenn Sie noch Ergänzungen, Anmerkungen oder Hinweise haben, bitten wir Sie, uns diese mitzuteilen:

Sind Sie an den Ergebnissen der Untersuchung interessiert (Information per E-Mail)?

Ja ..... ☐ Nein ..... ☐

Wären Sie grundsätzlich bereit, an einer weiteren Befragung zu dieser Studie teilzunehmen?

Ja ..... ☐ Nein ..... ☐

Vielen Dank für Ihre Mitarbeit!