

This chapter comprises an overview over available data sources that provide information on the educational situation of natives and migrants in Germany and a brief discussion of their suitability to investigate the micro-mechanisms that generate ethnic differentials in educational attainment. It further provides an empirical description of the educational situation of young persons with and without a migration background based on time series data from the German Microcensus.

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## 2.1 Data to explain the attainment gap

Data on level of educational attainment in Germany can be obtained from official statistics and population surveys. Yet, data that allows for the systematic investigation of the micro-mechanisms that generate the observed educational differentials between natives and migrants is scarce. Partly, this situation is attributable to the change in the concept of ‘migrants’, who were identified based on the criterion of citizenship until several years ago but are now generally identified by country of birth (Haug 2009; Söhn and Özcan 2006). According to the Federal Statistical Office, the migrant population consists of “[...] all persons who have immigrated into the territory of today’s Federal Republic of Germany after 1949, and of all foreigners born in Germany and all persons born in Germany who have at least one parent who immigrated into the country or was born as a foreigner in Germany” (Statistisches Bundesamt 2013c). Following the naturalization of foreigners and the immigration of ethnic German repatriates in the last decades, the identification of migrants based on their citizenship leads to a severe underestimation of the migrant population (Diefenbach 2010; Haug 2009). In 2010, slightly

more than 19% of the total population in Germany had a migration background according to the definition above, but only 9% were foreigners (Autorengruppe Bildungsberichterstattung 2012).

While official statistics are advantageous in that they constitute full population surveys, they allow the identification of migrants based on their citizenship only and will lead to a biased assessment of their educational situation. Level of educational integration will be underestimated as the group of natives also includes migrants who are disadvantaged with respect to aspects such as majority language skills, and overestimated as educationally successful migrants are not classified as foreigners. Also, official statistics provide aggregate-level data only and limited information on relevant background data such as familial conditions and migration-specific circumstances (Halbhuber 2007; Herwartz-Emden 2007; Söhn and Özcan 2007).

Population surveys that are designed to be representative allow the identification of migrants based on their own and family members' country of birth, and to draw inference about the wider population based on individual-level data. The largest German population survey is the Microcensus, a rotating panel with four-year intervals that comprises one percent of all households in Germany and provides a variety of economic, demographic and education data since 1957.<sup>2</sup> A particular advantage is the fact that the participation in the survey is a legal obligation, so that unit non-response rates are very low (Jäger and Schimpl-Neimanns 2012). Yet, its usefulness for the investigation of the micro-mechanisms that generate ethnic disparities in education is limited by the fact that the census is designed to cover a broad range of topics and provides little information on background variables that are discussed in the literature as potential influences of students' educational success (Diefenbach 2010).

A particularly popular survey to explain ethnic differentials in education is the German Socio-Economic Panel Study (SOEP), which is the longest-running longitudinal survey of Germany and collects representative micro data on persons, households and families since 1984 (Haisken-DeNew and Frick 2005).<sup>3</sup> Besides the main topic of labor market activities, it provides detailed information on various life areas such as health, education and social participation. The longitudinal design enables the observation of early transitions and track changes as parents provide information on their children's educational participation given they are younger than 17 years of age. Since 2000, the survey comprises an additional youth questionnaire for adolescents who are 17 years of age that includes ques-

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2 <https://www.destatis.de/EN/Homepage.html> (accessed Oct. 1, 2013).

3 <http://www.diw.de/soep> (accessed Oct. 19, 2013).

tions on a variety of educationally relevant aspects, such as parental support and the participants' future career aspirations, as well as retrospective information on their educational careers (Frick and Söhn 2007; Haisken-DeNew and Frick 2005; Scheller 2011; SOEP Group 2001). Data on the participants' country of birth was not included in the Microcensus until 2005 and in the SOEP until 2008, but links can be made between parents' and their children's data to retroactively identify a large proportion of naturalized migrants and ethnic German immigrants (Jäger and Schimpl-Neimanns 2012). The SOEP is particularly suited to address questions of ethnic differentials as the oversampling of distinct migrant groups allows for subgroup analyses.

Besides actual attainment data, information on the track of secondary education attended is commonly used to assess and compare the educational situation of native and migrant students (Diefenbach 2010). In Germany, after four years of primary education students are traditionally selected into three different tracks of secondary education that are related to distinct leaving certificates and provide access to different types of vocational and post-secondary education. *Hauptschule* ('lower secondary education') traditionally leads to the lowest qualification after nine years of general education, *Realschule* ('intermediate secondary education') leads to a medium-level qualification after ten years of general education, and *Gymnasium* ('higher secondary education') leads to a qualification that provides access to higher education after 12 or 13 years of general education (Lohmar and Eckhardt 2011a, 2011b). Apart from the most demanding track, which in fact constitutes the only constant in the educational system across the federal states (*Länder*), this traditional division has been progressively replaced over the last years by schools that offer several or all tracks of secondary education (Stubbe et al. 2012).

Data on the track of secondary education attended is provided by several surveys, including the SOEP, the Microcensus and various assessment studies (e.g., IGLU/PIRLS, TIMSS, PISA, KESS, DESI, LAU).<sup>4</sup> The latter mostly do not provide longitudinal data, and if so they typically do not follow students until the end of their careers in the general educational system (exceptions are for example the KESS and LAU study for students in Hamburg). Yet, due to their focus on the explanation of social and ethnic disparities, assessment studies collect detailed individual-level background information. Also, they provide information on aspects

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4 IGLU/PIRLS, TIMSS: <http://timssandpirls.bc.edu/> (accessed Oct. 19, 2013). PISA <http://www.oecd.org/pisa/> (accessed Oct. 19, 2013). KESS: <http://bildungsserver.hamburg.de/bildungsqualitaet/> (accessed Oct. 19, 2013). LAU: <http://bildungsserver.hamburg.de/lau/> (accessed October 19, 2013).

like level of demonstrated performance as indicated by teacher-assigned grades and performance test scores. The fact that they are often embedded in an international context allows for cross-country comparisons, and their cyclical nature further enables the investigation of the effects of changes at the institutional level (Diefenbach 2010). However, empirical data shows that the track of secondary education attended constitutes a rough indicator for students' eventual attainment outcomes only. As track changes in the course of students' educational careers mostly occur in the direction of lower tracks, information on the type of secondary education attended will overestimate eventual attainment levels (Stubbe 2009; Stubbe et al. 2012).

Also, there are several studies that specifically focus on the transition from general education into the VET system and provide detailed information on students' educational and occupational orientations. Popular examples are the BIBB School Graduate Surveys (investigation of students aged 14 years and older who just left the general educational system or vocational schools), the BIBB Transition Survey (a retrospective longitudinal cohort survey of the educational and occupational biographies of young adults aged 18 to 24 years), and the DJI Transition Panel (which follows students who are in their last year in the lowest track of general education through their careers in the VET system).<sup>5</sup> These studies allow for the identification of migrants by their (family members') country of birth and provide valuable insight into how students orient themselves toward the future. However, they typically do not allow for a more fine-grained analysis of the mechanisms that generate ethnic disparities in education due to their focus on particular groups of students and the limited provision of background information, such as familial and migration-specific conditions and measures of students' educational potential. An exception with respect to the latter aspect is the ULME survey in Hamburg, a longitudinal study that focuses on the transition into and continued careers in the VET system of students who leave the general educational system after grade 9.<sup>6</sup> As a parallel survey to the last phase of the LAU survey, which focuses on the development and learning processes of students in Hamburg throughout their general educational careers, the study provides information on students' performance in different educational domains as well as on various background variables.

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5 BIBB School Graduate Surveys: <http://www.bibb.de/en/50124.htm> (accessed Sept. 12, 2013). BIBB Transition Survey: <http://www.bibb.de/en/50124.htm> (accessed Sept. 12, 2013). DJI Transition Panel: <http://www.dji.de/cgi-bin/projekte/output.php?projekt=723> (accessed Sept. 12, 2013).

6 <http://bildungsserver.hamburg.de/lau/> (accessed Oct. 19, 2013).

The National Educational Panel Study (NEPS), which has recently released its first scientific use files, explicitly considers the drawbacks of available data sets and will open up new research opportunities for the analysis of educational processes from early childhood to late adulthood.<sup>7</sup> The NEPS has been set up to provide longitudinal data on individuals' competence development in different domains, on educational processes, decisions and returns to education in different contexts over the entire life span, and has a separate pillar which focuses on the educational careers of persons with a migration background. The survey is based on a multi-cohort sequence design with six starting cohorts, of which each comprises several thousand participants, to cover the different stages of individuals' educational careers as well as their transitions into the labor market. To allow for a more fine-grained analysis of the migrant population, students of Turkish origin and repatriates from the Former Soviet Union – two large immigrant groups that are disadvantaged in the German educational system – are oversampled. Based on the increased acknowledgment that majority language skills constitute a prerequisite for a successful educational career, the NEPS further assesses receptive language skills in German and (if applicable) Turkish and Russian (Blossfeld et al. 2011a; Blossfeld et al. 2011b; Chlost and Ostermann 2007).

As regards the assessment of the educational situation of migrants, the interpretation of empirical results requires considerable caution not least due to the rather wide variety of classification criteria that are used to identify migrants. While the identification criterion of country of birth has become widely accepted, there is no common definition of the concept 'migration background' (Diefenbach 2010; Haug 2009). A large part of empirical studies define migrants as persons who were born abroad themselves or who have at least one parent born abroad, and several studies further distinguish different 'generations' of immigrants (e.g., Klieme et al. 2010; Schwiippert et al. 2003). The first generation typically refers to persons who migrated to Germany themselves. The second generation refers to persons who were born in Germany but whose parents were born abroad, and the third generation refers to persons who themselves and whose parents were born in Germany but whose grandparents were born abroad. Questions regarding the number of parents and grandparents who have to be born abroad for a person to be classified as a migrant, and whether the third generation should be classified as migrants or natives, are discussed controversially (Haug 2009). Quite often, studies further differentiate the migrant population by whether both parents were born abroad or one parent only, and the latter are sometimes referred to as the '2.5 generation' (Kristen and Dollmann 2010). Also, several studies use identification

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7 <https://www.neps-data.de/> (accessed Oct. 19, 2013).

criteria according to which persons are not classified as migrants if they were born abroad but migrated at an early age and went to school in the receiving country (Kristen and Dollmann 2010). Following the increased interest in processes of language acquisition and majority language skills as determinants of a successful educational career, which have been shown to predict the educational outcomes of both natives and migrants but are assumed to affect the latter particularly strongly as their first language(s) often differ(s) from the language of instruction in school, some studies classify students by whether German is (among) their first language(s) or not (Chlosta and Ostermann 2007; DESI-Konsortium 2006).

In sum, while the current data situation does not allow for a detailed investigation of the micro-level processes that generate ethnic disparities in educational attainment in Germany, significant advances have been made to develop data sets that allow for such analyses. Besides the extension of existing population surveys to collect data on the participants' migration biographies and various conditions that are assumed to specifically affect the educational outcomes of students from migrant families, several projects were funded in more recent years and are being planned to develop rich longitudinal data sets that will provide opportunities for more fine-grained analyses of the micro-mechanisms that shape educational differentials between natives and migrants (e.g., the NEPS as a national example or the Norface Research Programme on Migration as an example for a large-scale international project).<sup>8</sup> Also, the increasing number of smaller-scale studies will contribute to a better understanding of the emergence and persistence of educational disparities. While they do not allow inference about the wider population, they often focus on groups of students with similar migration biographies and can thus contribute to the explanation of variations in the educational success across different groups of immigrants. Further, they provide important data that cannot be collected and processed by large-scale surveys for reasons of cost and time, such as productive language data (e.g., LiMA Panel Study as an example for productive heritage and majority language data from students of Vietnamese, Russian, Turkish and German origin).<sup>9</sup>

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## 2.2 Evidence from the German Microcensus

The analysis below provides information on the distribution of natives and migrants across the different tracks of secondary education as well as on the highest educational and professional qualifications completed based on data from the

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8 <http://www.norface-migration.org/> (accessed Oct. 19, 2013).

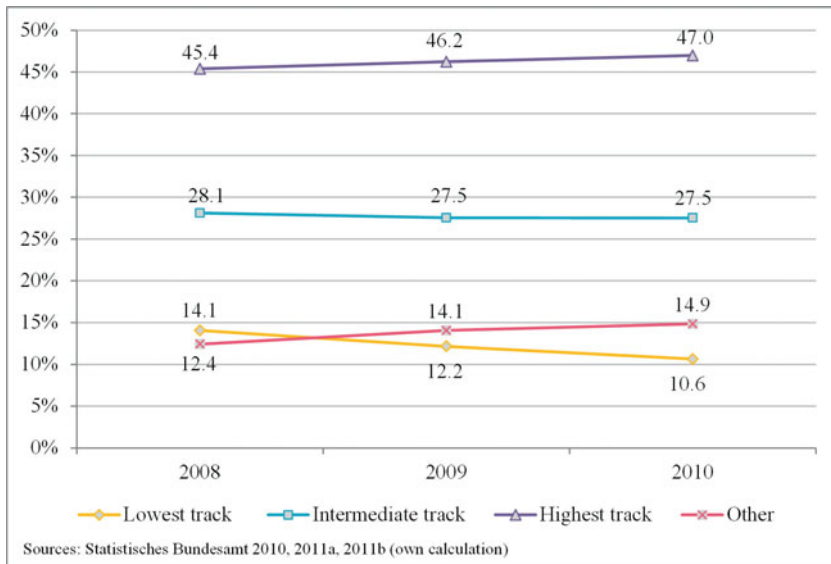
9 <http://www.lima.uni-hamburg.de/> (accessed Sept. 30, 2013).

German Microcensus. Data on level of educational attainment is available since 2005, and on the track of secondary education students attend since 2008. The Microcensus distinguishes persons with a migration background ‘in the narrow sense’, referring to all persons who migrated to Germany themselves and to foreigners who were born in Germany, and persons with a migration background ‘in the broader sense’, referring to migrants as identified by the definition of the Federal Statistical Office outlined above. In line with the procedure of the Statistical Office, the analysis includes migrants ‘in the narrow sense’ only as this type of data is available for each year. Migrants ‘in the broader sense’ can be identified in four-year intervals only provided respondents do not live in a household with their parents (Statistisches Bundesamt 2013c).<sup>10</sup> Only younger age groups are considered to take into account the increased educational integration across generations.

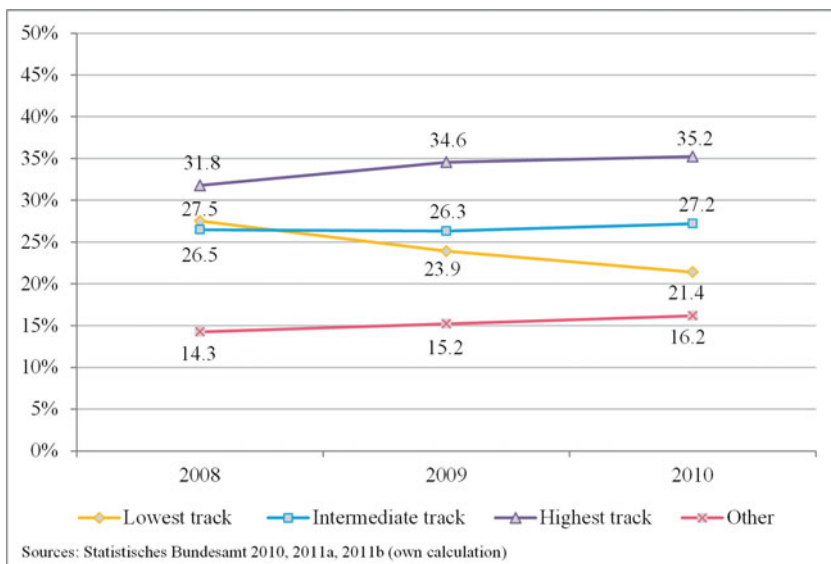
Figures 2.1 and 2.2 provide information on the distribution of natives and migrants under the age of 20 (who were still in the general educational system at the time of data collection) across the different tracks of secondary education from 2008 to 2010. As regards native students, the data points to a relatively stable pattern over the years. Almost every other native student attended the highest type of secondary education (*Gymnasium*) in all three years. This share slightly increased from 2008 to 2010 by two percentage points. Less than one third of native students attended the intermediate type of secondary education (*Realschule*), and a comparatively small share attended the lowest type of school (*Hauptschule*). The share of students who attended the intermediate track remained stable over the years, whereas the share who attended the lowest track decreased from 14% in 2008 to 11% in 2010.

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10 The share of persons with a migration background based on the narrow definition is always smaller compared to the broader definition (about 2% in 2009, cf. Statistisches Bundesamt 2013b). A reanalysis of the data for the years 2005 and 2009, where migrants ‘in the broader sense’ can be identified, did not reveal results that significantly differ from those presented below.



**Figure 2.1** Track of secondary education 2008-2010, natives

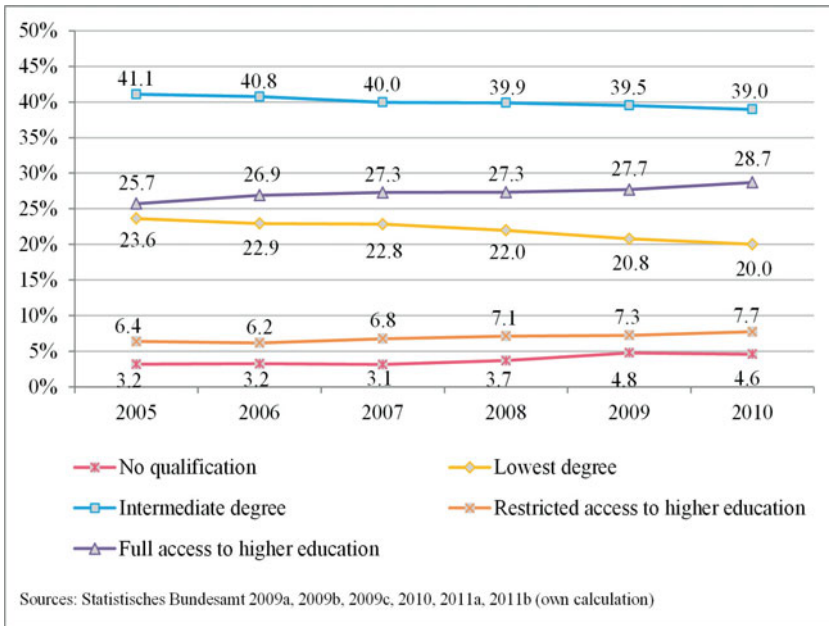


**Figure 2.2** Track of secondary education 2008-2010, migrants



Figure 2.2 reveals a clear pattern of a less advantageous positioning of migrants. Only every third migrant attended the highest type of secondary education in all three years. The share slightly increased to a similar extent as among natives from 32% in 2008 to 35% in 2009 but remained stable thereafter. Striking changes can be observed with respect to the distribution of migrants across the lower tracks of secondary education. In 2008, the share of migrants who attended the lowest track was nearly as high as the share who attended the highest track, and slightly exceeded the share who attended the intermediate track. Following a comparatively strong decrease in the share who attended the lowest track by as much as six percentage points from 2008 to 2010, and a slight increase in the share who attended the intermediate type of secondary education, this pattern reversed over the years. In 2010, the share of migrants who attended the intermediate track was as much as six percentage points higher than the share who attended the lowest track (27% and 21%, respectively) and comparable to the corresponding share among natives. The growing share of students who attended 'other types' of secondary education, which increased to a comparable extent in both groups but is slightly higher in the group of migrants, can be explained by the growing number of schools which offer several or all tracks of secondary education instead of a single one only that leads to a specific qualification.

Figure 2.3 provides information on the highest level of general education completed by natives aged 15 to under 25 years (who were not in the general education system anymore at the time of data collection) from 2005 to 2010. The majority of natives obtained an intermediate certificate from the general educational system in all six years. While this share slightly decreased from 41% in 2005 to 39% in 2010, an increase can be observed in the share who obtained certificates that provide full or restricted access to higher education (*allgemeine Hochschulreife* and *Fachhochschulreife*). The share who completed the highest level of education slightly exceeded the share who obtained the lowest qualification in 2005. Following a slight increase in the share who obtained full access to higher education and a decrease in the share who completed the lowest level by four percentage points, a considerable difference of nine percentage points can be observed between these shares in 2010. The data further points to a slight increase in the share who left the general educational system without any formal qualification from 3% in 2005 to almost 5% in 2010.



**Figure 2.3** Educational attainment 2005-2010, natives

An entirely different pattern can be observed in the migrant population (figure 2.4). Until 2009, the great majority of migrants obtained the lowest certificate from the general education system. While the share who obtained the intermediate qualification was as much as eight percentage points smaller than the share who obtained the lowest degree in 2005, this difference slowly but steadily reduced over the years through a decrease in the share who completed the lowest level by as much as eight percentage points and a slight increase in the share who obtained the intermediate qualification. Accordingly, the share of migrants who completed the intermediate level exceeded the share who obtained the lowest certificate in 2010. The share who completed the highest level of general education is much smaller among migrants compared to natives. It slightly increased from 20% in 2005 to 22% in 2007 but remained stable thereafter. The share who obtained restricted access to higher education is comparable to the corresponding share among natives and increased to a similar extent over the years. Further, the data reveals a slight increase in the share who left the educational system without any formal qualification, which was as high as 10% in 2010 and thus about twice as high as the corresponding share among natives.

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education

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