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Integration of Immigrants in Germany

Economic Relevance, Measurement, and Empirical Findings

Florian Peters-Olbrich

Integration of Immigrants in Germany

Economic Relevance, Measurement, and Empirical Findings

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AME	Average Marginal Effects
CIS	Commonwealth of Independent States
CDF	Cumulative Distribution Function
ESeC	European Socio-Economic Classification
FRG	Federal Republic of Germany
GDP	Gross Domestic Product
GDR	German Democratic Republic
ML	Maximum-Likelihood
OECD	Organisation for Economic Co-operation and Development
SOEP	Socio-Economic Panel
WASP	White Anglo-Saxon Protestant

[…]; why should the PALATINE BOORS be suffered to swarm into our settlements, and by herding together establish their languages and manners to the exclusion of ours? Why should PENNSYLVANIA, founded by the English, become a colony of ALIENS, who will shortly be so numerous as to Germanize us instead of Anglifying them, and will never adopt our language or customs, any more than they can acquire our complexion? (Franklin 1751, p. 224)

1 Introduction

This quote by Benjamin Franklin from his 1751 essay *"Observations Concerning the Increase of Mankind, Peopling of Countries, etc."* clearly depicts both the potential negative effects of an omitted, or even deferred, integration and the often-exaggerated fear and scepticism towards immigrants. Here a founding father of the United States and signatory of the Declaration of Independence describes German immigrants coming to 18th century America as a threat to the English language, culture, and even physical appearance.

He certainly is not the first author to express the fear of becoming culturally alienated in his "homeland" with many more picking up, reviving and escalating his proto-argumentation in the following centuries all over the world. Mostly, however, after a while these people stood corrected by another reality. Nevertheless, the essence of Franklin's arguments are still part of every discussion about migration. This has in particular been the case recently in Europe, spurred by an increasing refugee influx from the Near and Middle East and Africa.

In retrospect, Franklin was obviously wrong about the magnitude of the danger stemming from an imminent Germanization of America (to be fair, it should be noted that Franklin deleted the quoted part in the later editions of his essay). Already in 1911, when the origin of most US immigrants had shifted from Northern and Western Europe to Southern and Eastern Europe and the country faced new challenges, the so-called Dillingham Commission reported:

> *"The old and the new immigration differ in many essentials. The former was, from the beginning, largely a movement of settlers who came from the most progressive sections of Europe… They mingled freely with the native Americans and were quickly assimilated, although a large portion of them, particularly in later years, belonged to non-English-speaking races…"*
>
> *(Immigration Commission 1911, p. 13)*

Fortunately, Franklin underestimated the will and the ability of the *palatine boors* to integrate into a society which has had developed there for not much more than 100 years. But does this mean that the reservations towards immigrants he expressed are unjustified and immaterial in general and for all times?

The successful integration process of German immigrants in 18th century Pennsylvania was accompanied and followed in the USA by similar developments regarding immigrants from numerous foreign countries around the world. Due to this integration process, the co-existence of people – with what at first seemed like insuperable cultural barriers – led to the successful formation of the American society.[1]

The homeland of the *palatine boors* and other emigrants to the USA, Germany, itself became an immigration country in the 20th century. Various migration developments of the 20th and 21st centuries in Germany have led to one in five people here today having a so-called "migration background". The most populated country with the largest economy in Europe has also become the most important destination for migrants heading to Europe. Therefore, the success of immigrants of integrating into German society is a key factor in assessing the potential to absorb the millions of potential future migrants heading for Europe as well[2] without risking major and protracted negative social and economic consequences. Since the "European refugee crisis" that brought millions of people from Africa and the Near and Middle East to Germany from 2015 onwards, the topic of immigration has had the potential to divide and unsettle German society. A historical overview of the Federal Republic of Germany provides evidence that firstly, immigration has always been a controversial topic here, and secondly, that political discussions and short-term driven evaluations were not always helpful and appropriate to the economic and social challenges.

Therefore, and driven by the unquestionably increasing cultural and ethnic diversity within German society, the question has arisen as to which economic consequences this development will cause and what a major factor integration represents in this complex topic.

The objective of this thesis is to provide theoretical evidence that integration is crucial to ensure the (economic) success of immigration for all parties involved. Furthermore it provides the construction and evaluation of a quantitative index processing public microdata to measure the structural integration of immigrants in Germany.

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1 Of course, there are also major problems with racism and the late consequences of slavery and racial segregation in the USA. Nevertheless, US society can look back on the successful integration even of historically large immigrant groups.

2 Many studies predict a rise in international migration for various reasons, see for example Black et al. 2011, p. 190 or Bijl and Verweij 2012, p. 31.

Therefore, the following core questions are linked to the integration index: What are the economic consequences of immigration in conjunction with the two related subjects of diversity and integration? Which achievements regarding integration have immigrants in Germany made during the past two decades? Which socio-economic characteristics or attributes differ significantly between migrants and natives? And what explains the differences in the integration success of immigrant from different parts of the world? Those are the important questions this thesis is going to answer while providing a quantitative measurement for immigrant integration in Germany.

The integration index is originally based on a study of Jacob Vigdor[3] and will be modified and enhanced to process German microdata and to interpret the marginal effects of the explanatory variables. It addresses some weak points of the previous research on that matter, which are criticized in other publications. The definition of an immigrant, which is required to be constant at all times, and an efficient reduction of a broad catalogue of compiled indicators to a single variable are just two examples for improvements. In order to provide economically founded answers to the questions mentioned above, the present thesis is structured as follows: In the next section, some basic terms whose consistent application is required in the course of the thesis are defined.

Subsequently, section 3 demonstrates and explains the economic relevance of integration. In the first chapter, the thematically linked complex of immigration, diversity, and integration is unravelled. In order to give a complete overview of the economic consequences in all three areas, those concerning immigration in general are analysed theoretically and by presenting relevant empirical literature. Hereafter, the influence of integration on macro-economic variables will be discussed. Finalizing the discussion concerning the economic relevance of integration, the depiction of fiscal effects refers back to the topic of immigration.

After section 3, whose findings are applicable to immigration countries in general due to the fact that most of them can be transferred internationally, the fourth section presents the migration history of Germany and thus prepares the thematic turn toward the empirical part of the thesis, which refers specifically to Germany. Integration is seen as a long-term intergenerational process in which historical

[3] Vigdor 2008.

circumstances and policies can have long-lasting effects. Therefore, it is important to consider the results of different groups of origins in their respective historical immigration context.
Section 5 places the present thesis into the context of existing international and German literature and points out possibilities and limits of this kind of integration monitoring.
After presenting the data basis of the Microcensus specifically with regard to the inclusion and classification of immigrants, the explanatory variables and the underlying probit model are briefly presented in section 6.
Finalising the main part, section 7 starts by introducing hypotheses that can explain the success and failure of different migrant groups with regard to their objectively measured integration into German society. With the help of the subsequently presented empirical results, the aforementioned hypotheses will be reviewed and the results will be interpreted. Finally, at the end of section 7, recommendations for political action are derived and presented from the identified determinants of successful integration. Section 8 concludes this thesis.

2 Definitions

2.1 (Im)migration and (Im)migrants

As a consequence of migration, there are migrants to integrate into a host society. That is the reason why the definition of migration and migrants is the starting point of the theoretical part of this thesis. Migration is the *"permanent change of residence" (Lee 1966, p. 49)*. This extensive definition above needs to be narrowed down in order to comply with the geographic and thematic background of this thesis. When the above-mentioned movement includes crossing a national border[4], we speak of immigration (into the examined country) or emigration (out of the examined country). Immigration will be the focus of this thesis, given by the fact that the integration of immigrants into a host society is examined. This legally restricted, international migration is a relatively new phenomenon considering the history of mankind and a consequence of the formation of modern nation states with fixed borders and the determination of a nationality by means of citizenship. Migration in general is as old as mankind.[5]

Depending on the duration of stay, temporary and permanent immigration are differentiated from one another. As the main topic of this thesis is integration, the working definition of an immigrant here must be narrowed down further to people who plan to stay for at least five years, thus excluding e.g. international students, seasonal workers, or staff secondments for a limited period of time who have limited incentives as well as limited possibilities to assimilate in the first place.[6]

The individual causes for the migration will play no role in determining whether an observation is included in the immigrant sample or not. Consequently, refugees and asylum seekers are included as well as job-seekers and all other kinds of immigrants. In this way we can examine the migrant community in Germany as a whole. However, the reasons for migrating might play a role in explaining

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4 In contrast to e.g. moving from rural areas to urban areas within the same country.

5 Heckmann 2015, p. 22.

6 See Dustmann and Görlach 2016, p. 100. Unfortunately, the data does not allow for the separation of migrants with temporary motives from the ones with permanent motives. Therefore the assumption is made that migrants in the dataset have permanent motives. Since, according to Statistisches Bundesamt 2018c, p. 92, the average duration of stay for foreigners in Germany in 2017 was around 15 years, this assumption seems reasonable.

differences in the integration outcomes of different groups of origin in a later part of this thesis.
In summary, immigration is defined in this thesis as the permanent movement of people across a national border into the host country regardless of the respective migration motives.[7]
But not only the immigrants themselves face the challenge of integration. Their children, born in the host country as the next generation, may "inherit" an incomplete integration and the resulting problems. To be able to distinguish immigrants and their children, the terms *first- and second-generation immigrant* is used. In this thesis, a first generation immigrant in this thesis is a person living in a country in which he was not born.
A second-generation immigrant is a person born and raised in a country with at least one parent being a first-generation immigrant to this country.[8]
The static indices of the first part of the analysis focus on first-generation immigrants and their achievements concerning integration. This serves to enhance the comparability with international studies like Vigdor 2008 and OECD/EU 2015, which likewise focus on the assimilation of first generation immigrants as main research object. Additionally, in the dynamic perspective of the second part, the differences between first- and second-generation immigrants are examined in order to derive information about the cross-generational nature of the integration progress. The cross-generational change in immigrant families is seen by many as the primary driver of integration.[9]

2.2 Assimilation, Integration and other Concepts of Cohabitation

The terms assimilation and integration are used inconsistently and indistinctly in wide parts of the public and scientific debate[10], especially when comparing European and American literature. In Europe, the term assimilation is connoted negatively in the historical context with the oppression of ethnic minorities during the various nation building processes in the 18th and 19th century.[11] Following on from that, it is in this context associated with and widely perceived as the

7 This working definition is a modification of the definitions used by Hagen-Zanker 2008, p. 4 and Bansak et al. 2015, p. 3.
8 See chapter 6.1.2 for a specification of the definitions in the German microdata context.
9 Kalter and Granato 2004, p. 81, Algan and Aleksynska 2012, p. 301.
10 Esser 2001, p. 18.
11 Bade and Bommes 2004, p. 7, Heckmann 2015, p. 75.

(forced) loss of cultural habits, values, norms, and language accompanied by the imposition of those of a new power.

In the American context, the term assimilation and its early use in social literature has been criticized since the 1960's as well. The early, outdated understanding of assimilation was marked by the expectation that culturally inferior minorities would adapt to the ruling white Anglo-American majority and become indistinguishable with it in their own best interest.[12] The most important aspects of criticism were the neglecting of the value and history in each culture and the implicit assumption that one culture (the *White Anglo-Saxon Protestants*, or WASP's) is superior to others[13]. Assimilation was perceived as one-way process which included entirely giving up the original culture of the immigrants.[14] Furthermore, critics of the term and concept of assimilation argued that for some (non-white) ethnic groups losing their cultural norms and framework in order to vainly attempt to fit in into a mainstream society was a path to becoming part of the criminal *"inner-city underclasses" (Alba and Nee 2004, p. 21).*

However, in America the term never vanished from public debate but was rather specified more precisely and adapted to the current circumstances. One insight was that assimilation is a process that can take place in both groups, the respective immigrant as well as the majority (which, at any rate, is no longer an ethnically homogenous group anymore).[15] Another addition is that assimilation in some (important) respects does not mean the complete abandonment of the culture of origin.[16]

This development impacted the discussion in the American context and therefore explains the observation that Europeans tend to avoid the term and sometimes replace it with "integration", using the words in an inconclusive manner[17], while American researchers and politicians usually use the term in its new meaning without negative connotation.

Immigration and consequently assimilation and integration is a highly controversial and emotional topic with subjective concepts, perceptions and evaluations of an ideal society of native-borns with (or without) immigrants living side by side.

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12 Alba and Nee 2003, pp. 1–3, Ezli et al. 2013, p. 9.
13 Alba and Nee 2003, pp. 1–3.
14 Heckmann 2015, p. 75.
15 Alba and Nee 2003, pp. 10–11.
16 Vigdor 2015, p. 72.
17 Esser 2001, p. 22, Ager and Strang 2008, p. 167.

This chapter seeks to further clarify the meaning of both terms and to distinguish them from other forms of cohabitation.

As we will soon see, this thesis is embedded in a broad and interdisciplinary scientific discourse. In the process, findings from psychology, sociology and economics are linked. Accordingly, the results which the quantitative economic approach applied here has produced can also complement research in other fields.

In a series of psychological publications, Berry (1993; 1997) introduces a simple two-dimensional framework, covering different acculturation attitudes or strategies for members of a minority living in a majority society. Acculturation is a superordinate term and can take four different forms or four different strategies, preferences or behaviours.[18] All of them describe forms of coexistence of a minority and a dominant cultural group from the minority's point of view.[19] In a subsequent publication he expands the concept by the realm of possible strategies with which the majority society can react to the forming of an immigrant minority.[20] For reasons of clarity the term acculturation is no longer used later in this text. *Figure 1* shows a graphical representation of a modified version of the framework.

18 Ward 2013, p. 392.
19 Berry 1997, p. 7.
20 Berry 2009, p. 366.

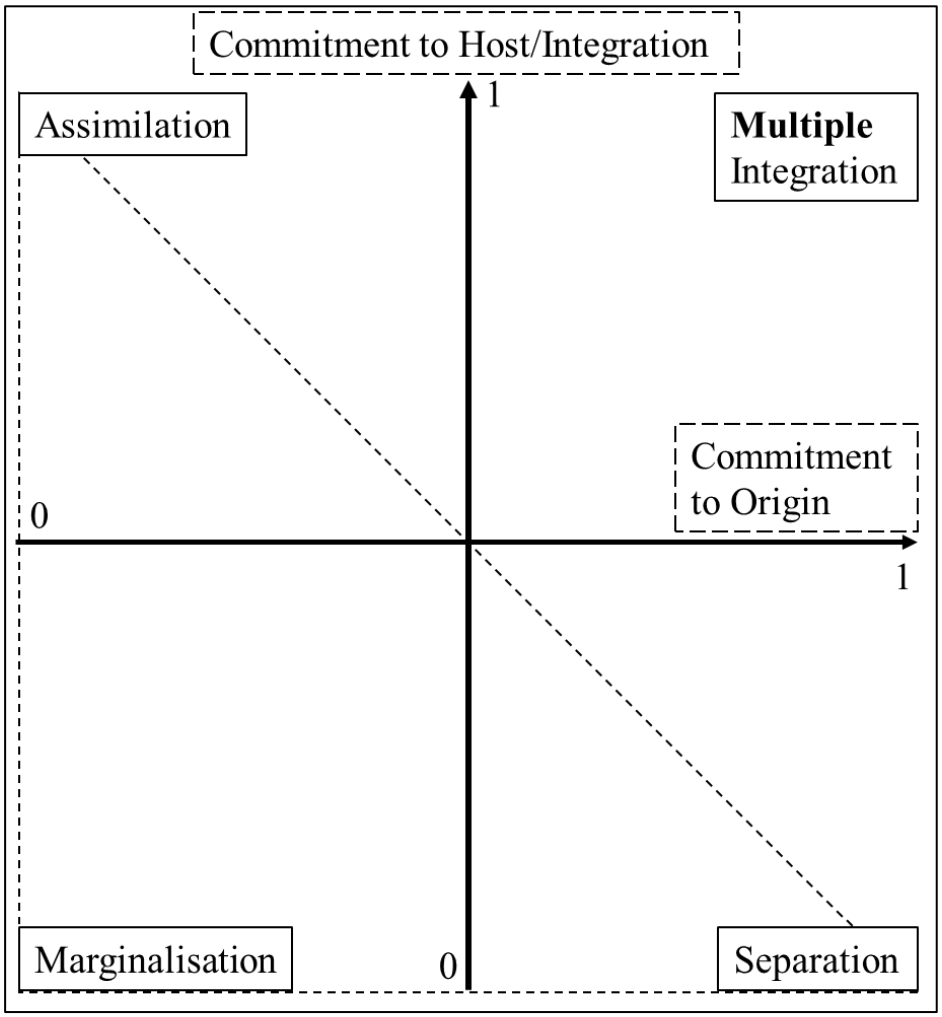

Figure 1: Concepts of Cohabitation.[21]

Two questions can be used to delimit the different forms of acculturation, namely integration, assimilation, separation/segregation and marginalisation.
The question represented by the X-axis is whether or not it is "considered to be of value to maintain one's identity and characteristics". The question whether or not it is "considered to be of value to maintain relationships with larger society" is shown on the Y axis. The two questions could be changed according to the group of persons examined and the respective research question, but the aim is always to classify individuals in one of the four options of this scheme. In most cases it turned out that integration (upper right quadrant) is the preferred option for migrants resulting in the highest life satisfaction and other favourable outcomes for example in the fields of health.[22] Berry's concept which originally had

[21] Own representation based on Constant et al. 2009a, p. 278.
[22] Ward 2013, p. 392 Ward and Kus 2012, p. 473.

only a cultural dimension was widely spread beyond the field of psychology and is still used and developed today.[23]

Esser (2001, p. 19) and later Constant et al. (2009a) take up and modify this framework in their works in the fields of sociology. The modifications from the original concept that are applied here go back to their contributions. As we see in *Figure 1*, the cohabitation of the two groups can happen in four major ways where every nuance in between is conceivable.

The axis of ordinates shows the immigrant's commitment to the host country, and the axis of abscissas represents the commitment to the country of origin. Esser (2001, p. 20) emphasises that the term (social) integration is not sufficient to describe the migrant's affiliation to the host society, which could also mean exclusive membership of an ethnic enclave. The notion of multiple integration on the other hand clarifies that this always includes affiliation to the host society, with the option of additional integration into the society of origin or an ethnic enclave. Whereas Constant et al. (2009a) use this framework together with self-reported subjective measures to determine the ethnic identity of an immigrant, the framework is picked up here to illustrate the states an immigrant can assume while living in a foreign country.

Commitment in the context of this thesis means to respect and act according to a given society's norms and values. Commitment is an overarching concept here, which is made up of many individual aspects. It might include adopting (or keeping, in case of commitment to the country of origin) traditions and also regarding oneself as part of the society accompanied by the accompanying rights and duties. This subjective impression of one's own affiliation to the majority society should not be underestimated as an important factor. It can also involve linguistic or culinary aspects which are either adapted from the country of destination or retained from the home country.

At the start, when finding themselves in a new country, most immigrants are located somewhere in the bottom right quadrant. Such a person, living in this condition of separation, has not yet had the time to establish contact with the host society and culture but still has ties to his country of origin. There are many possibilities to maintain connections to the country of origin, for example family

[23] See Ward and Kus 2012, pp. 473–474 for an overview over the linked research.

relationships, religious communities, ethnic enclaves (or diasporas)[24], or by means of modern communication.

From this starting point in separation, various developments are possible. Even immigrants from the same country, immigrating at the same time to the same region could experience a different personal development and could therefore easily be classified in different quadrants after some time. In the opposite, as migrant groups are very heterogeneous, commitment to the host country and to the country of origin can be similar among migrants from different regions or cultures of the world.

However, many immigrants happen to remain in the state of separation for many years if the personal traits and/or the circumstances in the host society are unfavourable. Ethnic enclaves or "Ghettos" can also play a role by lowering the pressure to engage in exchanges with the host society. This is what happened to many of the "guest workers" in Germany and other European countries who were expected to leave the immigration country after their period of work related residence until the late 1980's.[25] They simply weren't expected to assimilate or integrate, consequently this process was delayed or never even started.

Losing contact to the country of origin without forming bonds to the new country leaves the immigrant isolated and potentially marginalized even during long-lasting residencies, lacking a stabile social framework with values and norms to live by. Berry (1997, p. 10) emphasizes that marginalization is hardly the choice of the migrant himself, but rather the unintended consequence of misguided assimilation in an environment hostile to integration, created by the majority society. The marginalized migrant is caught between the chairs, he is seen as a foreigner in his country of origin, just like in his new country of residence. Marginalization naturally has strong negative effects on the marginalized immigrant as well as on the host society which fails to acquire a responsible and productive additional member living up to his/her possibilities. An example for this are South Asian workers in the Gulf Region living in bad conditions and being marginalized by their employers who often have control over the visa situation of

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[24] Faist 2013, p. 102, Esser 2001, p. 20 The diaspora communities play an important role as a job searching network, in Germany more than 50 % of all migrant find their first employment through friends or family, see Brücker et al. 2014, p. 1151.

[25] Only after the 1980's the discussion about migration was not dominated by the idea of "Remigration" anymore, see Mahnig 1997, p. 5, Tietze 2008, p. 85.

the worker.[26] Nevertheless countries in this region exhibit the highest immigrant shares of the world with values of around 70 % and up to 87 % in Qatar.[27]
Another current example emphasising the danger for host societies is the threat of Muslim extremists being recruited by terror organizations from the Near and Middle East to attack people in Western countries. The assassins or violent criminals are often marginalized immigrants of the first or second generation. Studies show that in fact a marginalized cultural identity plays a key role in any radicalization process.[28]
Assuming the immigrant plans to stay for a long time or even forever, it is in his and the host society's best interest that he or she should develop and move up along the Y-axis to the north side of the graph. Assimilation and (multiple) integration can easily be distinguished by comparing the amount of commitment which is dedicated to the country of origin as opposed to the host country. Nevertheless, it is difficult to find a distinct definition incorporating this exact relationship between the two terms without overlapping. It is furthermore complicated by the fact that both the states of cohabitation as well as the process of reaching them is called assimilation or integration respectively.
There are various definitions of assimilation with different approaches from different fields of science as assimilation is relevant in psychology, sociology and economics. Both assimilation and integration can be interpreted as dynamic process or as desirable result or final state. Assimilation for example is described as *"the process by which a group of persons, new to an area, adapt to the destination area's culture, values and traditions." (Bodvarsson and van den Berg 2015, p. 99)*. This general definition as a process-oriented approach is a good starting point, although it focuses on the socio-cultural assimilation, and neglects economic aspects. Bade and Bommes 2004, p. 8 define assimilation as *"aligning the way of life of migrants to the socially valid expectations of the respective immigration context".* They thus recognise that individual expectations and demands may apply to different migrants from different backgrounds.
Woellert et al. 2009, p. 91 define assimilation as *"legal and personal rapprochement between migrants and locals",* emphasizing citizenship and bicultural marriages as benchmarks.

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26 Nagy 1998, pp. 88–89.
27 Bansak et al. 2015, p. 13.
28 Lyons-Padilla et al. 2015.

Alba and Nee (2003) define assimilation *"as the decline of an ethnic distinction and its corollary cultural and social differences. "Decline" means in this context that a distinction attenuates in salience, that the occurrences for which it is relevant diminish in number and contract to fewer and fewer domains of social life." (Alba and Nee 2003, p. 11).*
Esser 2001 writes that assimilation is the *"dissolution of systematic differences between the different groups and categories, but not the equality of "individuals" in all respects" (Esser 2001, pp. 21–22).* He thus emphasizes that heterogeneity within the different groups is naturally permitted, even if they are considered well assimilated. The focus here is on the systematic, structural differences, which brings this definition closest to the working definition at the end of this chapter. Another important aspect in the definition by Esser is the specification of assimilation as a "macro-property" describing the relation between two groups instead of a single individual's development.[29]
In economic research, assimilation is also interpreted in a more technical way, for example simply as the moment when immigrant incomes on average catch up with native incomes.[30] In this strictly technical interpretation, ethnical, psychological and socio-cultural aspects are not considered.
Integration, on the other hand, is defined as follows: The EU defines integration as *"a two-way process in which neither group need give up their cultural identity but in which both add a shared dimension to that identity" (Bijl and Verweij 2012, p. 34)*. This likewise process-oriented definition adds the idea that a new, common cultural facet is added to the cultural spectrum of both the natives and the immigrants instead of relying solely on the two existing cultures and their relationship. This new aspect arises precisely because of the mixture of the two cultures and should prove difficult to be measured objectively. It could only conceivably be identified by analysing so-called "soft factors", i.e. the subjective evaluation of one's own cultural affiliation among immigrants and natives as exercised in the Sachverständigenrat deutscher Stiftungen für Integration und Migration (SVR) GmbH (2016).

[29] Kalter and Granato 2004, p. 61.
[30] Bodvarsson and van den Berg 2015, p. 99, Constant et al. 2012, p. 71.

Penninx (2005) defines integration as *"the process of becoming an accepted part of society"* highlighting the dynamic perspective as integration is a process instead of a final state as well as the responsibility of the natives for their part to give the newcomers a fair chance.[31]

Laurentsyeva and Venturini (2017), who focus on social integration, point out that integration is a process that has to be approached from two sides: the immigrant's and the native's.[32] Thus their definition of integration is dichotomous: for immigrants, (social) integration is at least partly fulfilled when they *"develop a sense of belonging to the host society […] accepting and acting according to that society's norms and values". (Laurentsyeva and Venturini 2017, p. 285).* For the natives, integration of immigrants simply means *"accepting them as members of the society". (Laurentsyeva and Venturini 2017, p. 285)*.

Esser 2001, uses the simple example of a neighbourhood to clarify his definition of integration: *"a neighbourhood would be integrated as a social system if the families knew and visited each other, even if they were at times in conflict with each other." (Esser 2001, p. 1).* This can be interpreted in a way according to which differences between the families (or ethnic groups in a society) are not harmful to integration as long as an exchange between those groups takes place. This definition contradicts the objective of this thesis, which primarily measures the similarities between several population groups. Nevertheless, this approach has to be mentioned due to its relevance for living together in reality.

Heckmann (2015, p. 82) adds that *"integration as a result means that [...] there is equality of the groups involved and living conditions have become equal, and that ethnic origin and migration background no longer play a role in the distribution of resources [...]."* In his definition he emphasizes a quantifiable economic equality but also the absence of discrimination which is often seen as a soft factor and difficult to confirm.

For both assimilation and integration, the quoted definitions focus on aspects of process and status, but exhibit positive and normative aspects. Furthermore, most of those definitions have in common that they fail to clearly distinguish assimilation from integration. *Figure 1* clarified that the distinction is based on the question of how much of the "old" culture should be preserved and how much of the "new" culture should be adapted by locals or immigrants respectively. The

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31 Penninx 2005, p. 141.

32 See Laurentsyeva and Venturini 2017, p. 285.

answer depends on the interaction between the often-conflicting self-perceptions and wishes of both the natives and immigrants in each scenario.

A clear distinction of assimilation and integration is provided by Esser 2001. Constant et al. 2009a who further develop this concepts define assimilation as a *"strong identification with the host culture and society with a firm conformity to the norms, values and codes of conduct, and a weak identification with the ancestry" (Constant et al. 2009a, p. 277)*. Integration, on the other hand, according to them, is achieved *"when an individual combines, incorporates and exhibits both strong dedication to the origin and commitment and conformity to the host society" (Constant et al. 2009a, p. 277)*.

Unfortunately, the logical problem of distinguishing integration from assimilation corresponds to a measuring problem which is immanent in most examinations of immigrant assimilation/integration using the native population as a *"gold standard" (Constant et al. 2012, p. 109)*. Proceeding this way implies the neglect of migrant commitment to the country of origin, mostly due to the limited data on this topic. In most publications in this field, only the commitment to the host country is measured or approximated by other variables, while the commitment to the country of origin is not explored.[33]

Thus, we can measure only the commitment to the host country displayed on the Y-axis of *Figure 1* and not the values for the X-axis. Following that in this thesis, as in many others[34], (multiple) integration and assimilation cannot be distinguished from each other in the empirical results. As the focus here lies on the degree of distinction between immigrant- as compared to host observations (the Y-axis rather than the X-axis), this does not pose a problem. When comparing assimilation with multiple integration with respect to their effects on several economic variables, studies do not find any significant differences.[35] Consequently, these two states will be condensed and consequently treated as one.

Furthermore, it is important to note that neither form of integration is superior in any way as long as both happen on a voluntary basis. Whether the immigrant prefers assimilation or multiple integration in the sense described above should

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33 Pollack et al. 2016 being a welcome exception although limited to Turkish immigrants of the first and second generation.

34 For example Vigdor 2008, Woellert and Klingholz 2014.

35 See for example Nekby and Rödin 2010, p. 47 for a comparison of employment probabilities and Constant et al. 2009b, p. 1894 for homeownership rates.

be his own decision as long as a sufficient amount of commitment to the country of destination is achieved.[36]

Therefore, in this thesis, moving up the Y-axis, thus increasing the commitment to the host country is called integration. Complete assimilation (0,1) on the one hand as well as complete multiple integration (1,1) on the other hand are seen as special cases of a phenomenon that normally occurs in the grey area between these extremes. The important thing is to keep the ambiguity of the two terms in mind when comparing this thesis to other works in the economic field or transfer it for an interpretation in separated fields of science. If done so, this thesis can be related to both integration and assimilation studies.

As a side note, it is unclear and hitherto not taken into consideration to which extent the two cultures involved are compatible. For example, a German immigrant to the Netherlands can theoretically adapt a lot of local customs without having to change himself in a material way. Translated into the numerical context of *Figure 1* (where commitment to both countries is measured on a scale from 0 to 1), it is relatively easy for that person to achieve a "commitment sum" well above 1. It is imaginable that, for immigrants from culturally extremely distant countries, it is much more difficult, or even impossible, to combine parts of two cultures, making it harder for such immigrants to reach a commitment sum of over 1. Thus, although the sum of both commitments is surely not limited to one (this pessimistic case is represented by the orange triangle in *Figure 1*), it is reasonable to assume that the maximum value must be less than the theoretical value of two for culturally distant immigrant groups. Esser (2001, pp. 20–21) argues in the same direction when he says that true (multiple) integration into *"several, culturally and socially different areas simultaneously"* is empirically rare. Heckmann (2015, p. 91) on the other hand uses the historical example of German immigrants in the USA to prove that even in the course of successful assimilation (evidenced by military service on the part of America in the First World War), Germany remained an important point of reference for identification for German emigrants.

[36] Note for example Turkish President Erdogan's speech in Cologne in 2008 where he reviles assimilation as "Crime against Humanity" Süddeutsche.de GmbH et al. 2010. Erdogan prefers Turkish immigrants to be separated rather than assimilated (multiple integration is neglected entirely) since Turkish emigrants with separation experiences constitute an important international electoral base for him.

Concluding this, assimilation and multiple integration can be logically distinguished by the degree of connection to the home country. But empirically, in this thesis as in most others, the two phenomena cannot be measured separately. As a consequence many scholars use both terms as synonyms.[37] Therefore, the term integration is used to represent the favourable process of committing to the host country while adapting its cultural norms, traditions, and values in the process. For the following analysis in this thesis the term integration summarizes the two extreme cases of assimilation on the one hand and multiple integration on the other. Integration is the more common term in the European context in which this thesis is to be understood and leaves open how strong a possibly remaining connection to the home country is.

Technically expressed in terms of the scope and limits of this thesis, integration denotes the absence of distinctive economic, cultural, and educational characteristics or systematic differences between immigrants and natives in German microdata. In line with Vigdor 2008, the integration index further developed and applied to German microdata in this thesis measures a *"degree of similarity"* between natives and immigrants with regard to certain dimensions in German society.

The aim of this thesis is to measure the phenomenon behind this definition of integration in all its facets, which also includes soft factors that are difficult to quantify. Pollack et al. (2016, p. 19) point out that integration takes place on two levels: the structural level, on which results can be measured objectively, and the subjective level of attitudes and interethnic communication. It is therefore important to note that immigrants' own subjectively perceived integration cannot be measured with the available data in this thesis. The utilization of data about self-assessed integration faces its own difficulties and limits.[38] The data used here offers a quantitative approximation of the subjective assessment of integration by the migrants themselves as well as by the local population.

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37 For example Bansak et al. 2015, p. 104.

38 It is for example limited by data availability since subjective measures are expensive to collect.

3 Economic Relevance of Integration

3.1 Relationship of Immigration, Diversity and Integration

The empirical part of this thesis is set in the context of Germany's status as an immigration country as an historical fact. Immigration is therefore acknowledged as an given circumstance and the potential pros and cons of it will not be discussed further. Accordingly, this chapter aims to analyse the consequences of immigration and to work out the economic significance of integration in relation to this complex of topics. Furthermore, the necessity to integrate an existing immigration society for economic and social reasons is underlined.

The economic relevance of integration is difficult to ascertain. Economic effects of integration originate in the complicated complex of topics of immigration and diversity. Thus, this chapter first seeks to theoretically distinguish the role of integration from the above-mentioned superordinate complex. In the next step immigrant integration is identified as a determinant of economic outcomes. Finally, in order to underline the economic relevance of integration, this paper will present both cause-effects, the benefits of successful as well as the costs of lacking integration.

Figure 2 provides an overview of the matter. The initial point is an immigration process which itself generates basic economic effects even when abstracting from diversity and integration. The areas affected are the labour market and other goods markets such as the real estate market.[39] These basic effects would also occur in the theoretical case of an inflow of perfectly integrated people, who are basically the equivalent of locals and can thus be analysed separately from integration topics. The focus in this thesis with regard to the basic effects is the labour market.

[39] See Sá 2015 for an assessment of the impact of immigration on housing prices.

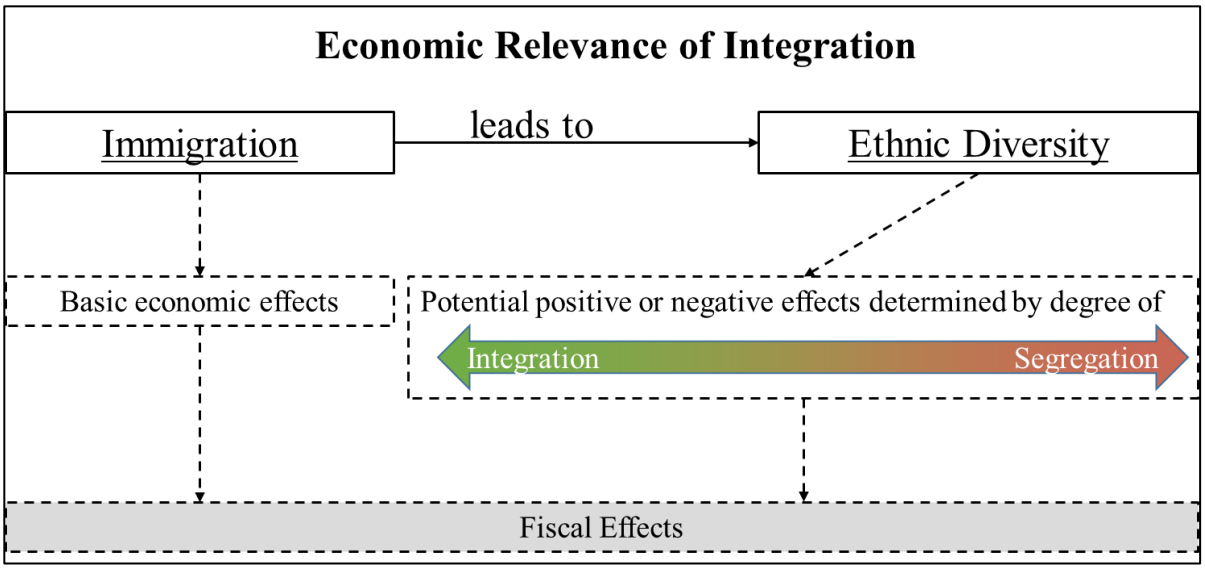

Figure 2: Immigration, Diversity and Integration

In line with Bove and Elia (2017), migration and diversity are treated as *"two phenomena belonging to the same line of inquiry" (Bove and Elia 2017, p. 236)*. The immigration process normally leads to an increased ethnic diversity in the population of the host country. Most of the world's societies at every stage of development are in some way fragmented or diverse, whether socio-economic, ethnic, religious or linguistic. This thesis focuses on ethnic diversity, as the issue is immigration. On a side note, ethnic diversity can characterise a country's society for historical or legal reasons, too. Examples are countries in Africa whose borders, often established by the colonial powers, frequently force several tribes or ethnic groups into a nation with a strong ethnic polarisation.

Whereas in America, diversity is seen as a welcome characteristic of an *"economically successful melting pot"* Alesina and La Ferrara (2005, p. 762), or of a *"salad bowl"* to use another analogy, in Africa, diversity, segregation and resulting ethnic conflicts are seen by many as obstacle for many nations to prosper.[40] Diversity, beyond normal social dimensions like income equality, thus seems to have an ambiguous effect on economic outcomes with potential positive and negative effects also depending on the nation's culture, institutions and state of development. The direction of the dynamics and the magnitude of the economic effects of ethnic diversity depends on the degree of integration[41] or segregation[42] present in the respective society. Their relationship can be described as two sides

[40] Easterly and Levine 1997, p. 1241, Alesina and La Ferrara 2005, p. 762.
[41] As defined above for this thesis, including assimilation and multiple integration.
[42] The opposite direction on the Y-axis of *Figure 1*, combining marginalization and separation.

of the same coin, since disadvantages of segregation can be seen as advantages of integration. Integration is necessary in order to maximise the economic benefits of immigration for all stakeholders in the face of increasing diversity.

As it will be shown below, the benefits of diversity can only be realized in an environment of integration, whereas segregation has entirely negative economic (and social) consequences. The latter can be interpreted as the costs of lacking integration and are easier to assess and prove than benefits of integration in a diverse society.[43]

On another level, the aforementioned effects of migration and integration also have an impact on public finances, which is of great interest for the host society. The fiscal impact of immigration is an important and controversial area of research in which the role of integration is often neglected. Therefore, the fiscal effects are also analysed here from the viewpoint of the economic significance of integration.

In accordance with the structure outlined above, the remainder of the section is organised as follows: First, the basic economic effects of immigration on the labour market are described with the help of theoretical models and empirical evidence. In the following chapter, the effects that can be attributed to diversity in an integrated or segregated society are assessed to outline the economic relevance of integration.

The examination of the fiscal impact of immigration presupposes assumptions about the prevailing degree of segregation or integration. As a consequence, the fiscal effects are assessed at the end of the section.

3.2 Basic Economic Effects of Immigration

The basic economic effects of immigration itself are well examined through the economic literature. The research is predominantly dedicated to the labour market although some work relates to other topics like income inequality.[44] Fiscal effects are largely determined by the degree of integration, so they are not considered as basic effects in the sense underlying *Figure 2* and are discussed separately.

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[43] This is due to the fact that they usually appear openly in the form of increased need for social welfare or increased crime. As explained further below, however, the benefits are usually unnoticed and distributed among many economic actors, which is why they are perceived less.

[44] Blau and Kahn 2015 analyse the effects of immigration on income inequality in light of the impact of immigration on relative wages and other factor prices.

In the labour market literature, effects on wages of native-born citizens (and former immigrants) and their employment are the focus, where most of the older empirical studies focus on wages.[45] The reason for this pattern is the focus of early research on the American economy. It is characterised by a flexible labour market where wages can react quickly to shifts in the labour supply caused by immigration, wherefore unemployment is not seen as a structural problem.[46] Later, international studies expanding the scope on European labour markets more often examine employment effects. They can be observed in those studies because the wage rigidities prevailing on a more inflexible labour market are expected to weaken the corresponding effect on wages in Europe.[47] Furthermore, unemployment in Europe was higher than in the U.S. and additionally welfare benefits play both a bigger role in the incentive structure as well as for public finances.[48]

A widespread and classic fear in most immigration societies, used for various motives in socio-political discourses, is that immigration will inevitably lead to falling wages and higher unemployment among the native-born population.[49] Even some economists argue in the same direction.[50] Immigrants with lower wage expectations and short-term residential motives competing with native-borns on the job market, displacing them and/or lowering the wages is an intuitive and tempting narrative. The following part presents the underlying theory and explains why those fears are rarely confirmed by objective facts.

3.2.1 Theoretical Analysis

Prima facie, these consequences of immigration are theoretically conceivable but they are based on unrealistic assumptions of the simple neoclassical model depicted in *Figure 3*. The most important assumptions are the homogenous labour and the fixed capital assumption.[51] The relaxation of those assumptions reveals why these conclusions cannot be maintained after a thorough evaluation of empirical research. To explain this contradiction, this sub-chapter begins with a description of this simple model before the above mentioned assumptions are lifted

45 Longhi et al. 2006, p. 2.
46 Brücker 2009, p. 10.
47 Longhi et al. 2006, p. 3, Friedberg and Hunt 1995, p. 30.
48 Kerr and Kerr 2011, p. 10.
49 Borjas 1994, p. 1667.
50 Brücker 2009, p. 6.
51 Dustmann et al. 2008, p. 491.

to show the compatibility of an enhanced theoretical model with the results from empirical research summarized at the end.

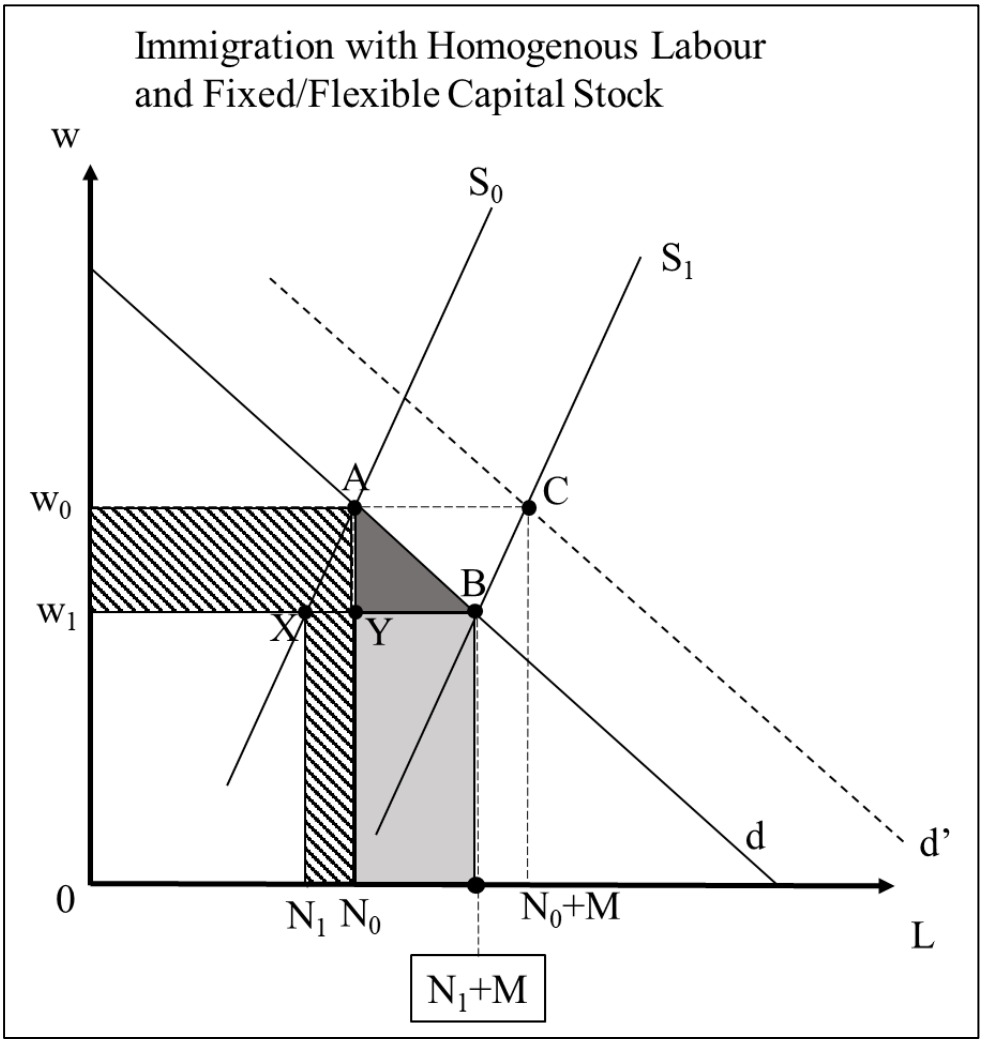

Figure 3: Neoclassical labour market with fixed capital[52]

The simple neoclassical model depicted in *Figure 3* includes a fixed, native-owned capital stock K, homogenous labour L and assumes perfect substitutability between immigrants and native workers (Denoted M and N respectively).[53] Furthermore, capital and labour are distinguished as the two factors of the pro-

52 Source: Own representation based on Dustmann et al. 2008, p. 482.

53 Bodvarsson and van den Berg 2015, p. 110. When assuming perfect substitutability, one implicitly abstracts from all questions of diversity and consequently integration which fits the distinction made regarding the basic economic effects described above. From the native point of view, perfect substitutability is the most pessimistic scenario. In reality, substitutability between immigrant and native workers is low at the beginning and increases with time spent in the host country, see Lalonde and Topel 1991, p. 301.

duction function. Often the production function is assumed to be linear homogenous,[54] which implies that labour and capital are complementary to each other.[55] Note that the assumed degree of substitutability or complementarity of the production factors is an important determinant of the impact of immigration on labour markets.[56]

The downward sloping labour demand curve d represents the degree of willingness to pay for labour as the marginal product of labour decreases with greater factor input. The labour supply S is often modelled as completely inelastic.[57] In order to allow for unemployment to be analysed in this model, the labour supply curves are qualified as elastic and upwards sloped (S).[58] This implies that lower wages result in a lower amount of labour offered by the work force.[59] The initial pre-migration situation at the intersection of labour demand and labour supply is marked by point A.

Immigration as an exogenous shock leads to an increase in the labour supply, represented by a rightward shift of the labour supply curve from S_0 to S_1. The complete labour supply for wage w_0 is now given by N_0+M. However, the greater competition between members of the work force decreases the prevailing wages.[60] As a result the market is cleared at a higher level of employment N_1+M with a lower wage rate w_1 instead of w_0. The lower wage rate leads some natives to stop offering their labour and accept unemployment instead, the native employment decreases from N_0 to N_1 (with migration induced unemployment represented by the difference N_0-N_1). Immigrants are entirely employed (M). This interim result of the basic model, marked by B, supports the public or political concerns mentioned above regarding lower wages and higher native unemployment triggered by immigration.

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54 For example, a Cobb-Douglas production function with an exponent sum of 1.

55 Borjas 2013, pp. 2–3.

56 Friedberg and Hunt 1995, p. 28.

57 Most authors use an inelastic labour supply curve for simplification, see for example Brücker 2010, p. 500, Bodvarsson and van den Berg 2015, p. 111. The mutual compensation of the substitution and income effects of higher wages is often assumed to justify this simplification, see Bodvarsson and van den Berg 2015, p. 22. Another explanation is the assumption of the absence of structural unemployment and therefore a lack of employment response to wage changes. The qualitative results of this model with respect to wages however do not depend on the slope of the labour supply curve.

58 As seen in Dustmann et al. 2008, pp. 481–482.

59 Borjas 2003, p. 1337.

60 Bodvarsson and van den Berg 2015, p. 112.

Consequently, in that case the native workers lose the diagonally striped dark area because they offer less labour and earn a lower wage for the remaining amount of employment. The native income thus decreases to the area (w_1XN_10). Native capital owners however gain the upper square of the aforementioned dark striped area (w_0AYw_1) since the labour costs of the produced output decrease due to the lower wage rate.

The immigrants gain the smaller vertical square in addition to the light grey square to the right (XBN_1+M N_1). This area represents the immigrant labour M, paid at the new lower wage rate w_1.

The darker grey triangle (ABY) is called immigration surplus, an increase in welfare of the host society. It stems from a higher output level and lower wages and is consequently realised by the owners of the complementary production factor (here: capital)[61] as well. The immigration surplus ought not, however, be overestimated. Analysts estimating the absolute or relative quantity only find it to amount to small absolute values or negligible fractions of GDP.[62] The effects on individuals and groups are considered much more important.[63]

Summarizing the interim results represented by equilibrium B in the simple neoclassical model, one can state with regard to the distribution of welfare:

- Native workers who are a substitute to immigrants lose in terms of wages and employment.
- Native owners of the complementary production factor (here: capital) win more than the workers lost.
- Immigrants win.[64]
- Economy as a whole wins, the remaining question is how to redistribute the gains in order to compensate losing groups.

Abstracting from those certain unrealistic assumptions, another picture emerges. Allowing for capital adjustment is most important. Note that only the fixed capital assumption is relaxed, all other assumptions so far stay valid for now. To relax the fixed capital assumption, one starts to argue as in the simple model: higher supply of labour decreases the marginal return of labour thus reducing wages. Furthermore – and unmentioned in the description above – this increases

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61 In other models abstracting from capital, qualified work is also conceivable as a complementary factor.

62 Bansak et al. 2015, p. 13.

63 Bodvarsson and van den Berg 2015, pp. 117–118.

64 Negative economic effects which arise in the same model in the country of origin because of a decreasing workforce as well as migration costs are omitted in this discussion.

the marginal return of capital since this production factor is becoming relatively scarce compared to the pre-migration situation.[65]

Supposing capital as fixed (Fixed-Capital hypothesis) implies that investors do not react to an increasing return on capital. Evidentially this is contradicted by reality as the capital-output ratio in Germany remained almost constant from 1960 to 2005 although the labour force increased by around 37 %.[66] Investors thus seem to react to an increasing size of work force with increasing investments in the capital stock, all the more so and even faster in open economies with access to the global capital market.[67, 68]

As a consequence of increased investment activity, capital labour ratio moves back to the equilibrium level.[69] All those steps are not modelled in the graphic representation of the labour market model but happen in the background. However they have consequences for labour demand which shifts to the right as shown by d' in *Figure 3*. The reason is that higher capital stock demands a higher level of the complementary variable, namely labour.[70] We see that the increased investment activities of the capital holders affect the labour demand positively because labour now regains its higher initial marginal product, resulting from an expanding capital stock.

Since the pre-migration capital-labour ratio is restored, the wage returns to the pre-migration level w_0. This makes the native-born workers who became unemployed in the scenario of fixed capital re-enter the labour market. This result is represented by point C in *Figure 3* where wages and native employment are back at their pre-migration level.

In total, the economy experiences a scale effect as output, employment, and capital stock are higher after the immigration shock. Wages for the homogenous production factor labour as well as return on capital are at their pre-migration values. All in all, the economy absorbed the immigrants.

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65 Bodvarsson and van den Berg 2015, pp. 114–115, Borjas 2013, p. 3.

66 Brücker 2010, pp. 500–501.

67 Brücker 2010, p. 500. Ortega and Peri 2009, pp. 26–27 find evidence for rapid capital adjustment in a multinational dataset as well.

68 In this open economy scenario, the country is assumed to be small in the sense that it cannot affect world prices for capital. Furthermore, the capital would not be purely native-owned anymore as foreign capital enters the country accelerating the capital stock adjustment.

69 Borjas 2013, p. 3.

70 Bodvarsson and van den Berg 2015, p. 115.

Compared to the case of fixed capital as displayed in *Figure 3*, the economic effects in the case of the capital adjustment are summarized as follows:

- Natives regain their pre-migration income of (w_0AN_00)
- Immigrants are still entirely employed but now earn a higher wage w_1. Thus their income is now (ACN_0+MN_0)
- The immigration surplus (ABC) for the host country in this scenario remains only temporary until wages react to higher capital stock. Afterwards, this rent for capital owners is redistributed to the immigrants.

Capital stock adjustment can nevertheless take some time, which explains wage or employment effects in the short run, as indicated by empirical evidence. Those short-run effects however vanish in the long run when capital stock adapts. In that sense, one can interpret the results for fixed capital as the short-term consequences of immigration and the ones for flexible capital as the long-term consequences respectively. On the other hand, immigration is rarely a shock in the economic sense but instead a steady flow to which sudden market responses as reactions are not necessary.[71] This antithesis explains why some empirical evidence fails to find even short-term labour market reactions to moderate levels of immigration.

The second important assumption which needs to be relaxed for a more realistic model is the homogenous labour assumption. In reality, several labour types can be distinguished by workers skill level and an immigrant's degree of substitutability varies depending on the native's and the immigrant's skill level. This perception leads to one of the few clear findings in the empirical literature in this field, namely the fact that labour market reactions are not evenly distributed among all native citizens but will be more noticeable for those who compete with immigrants at the same skill level.[72]

Considering this, the model is now extended to feature two skill groups, low skilled and high skilled workers as depicted in *Figure 4*. Immigrants and natives from the same skill group are often assumed to be perfect substitutes as it was the case in the simpler model.[73] The degree of assumed substitutability ultimately

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71 Brücker 2010, pp. 500–501.

72 Dustmann et al. 2008, pp. 477–478.

73 Some assume perfect substitutability, for example Friedberg and Hunt 1995, p. 28, Dustmann et al. 2008, p. 479, Bodvarsson and van den Berg 2015, p. 116. Therefore it the standard case, as described by Ottaviano and Peri 2006, p. 13. An exemplary study using imperfect substitutability is Borjas 2003.

is derived from the judgement of the author, various authors have already used a wide range of possibilities.[74]

This model abstracts from capital entirely to be able to separately examine the changes of heterogeneous labour and elastic labour supply. Low- and high-skilled labour are the only production factors and exhibit a complementary relation. Immigrants are here assumed to be low skilled, which can be justified by the lack of host language proficiency preventing the immigrant from putting his potentially high-skilled degree to any economic use.[75] To put it another way, immigrants here are assumed to lack country specific human capital which would allow them to ascend to the high-skilled group.

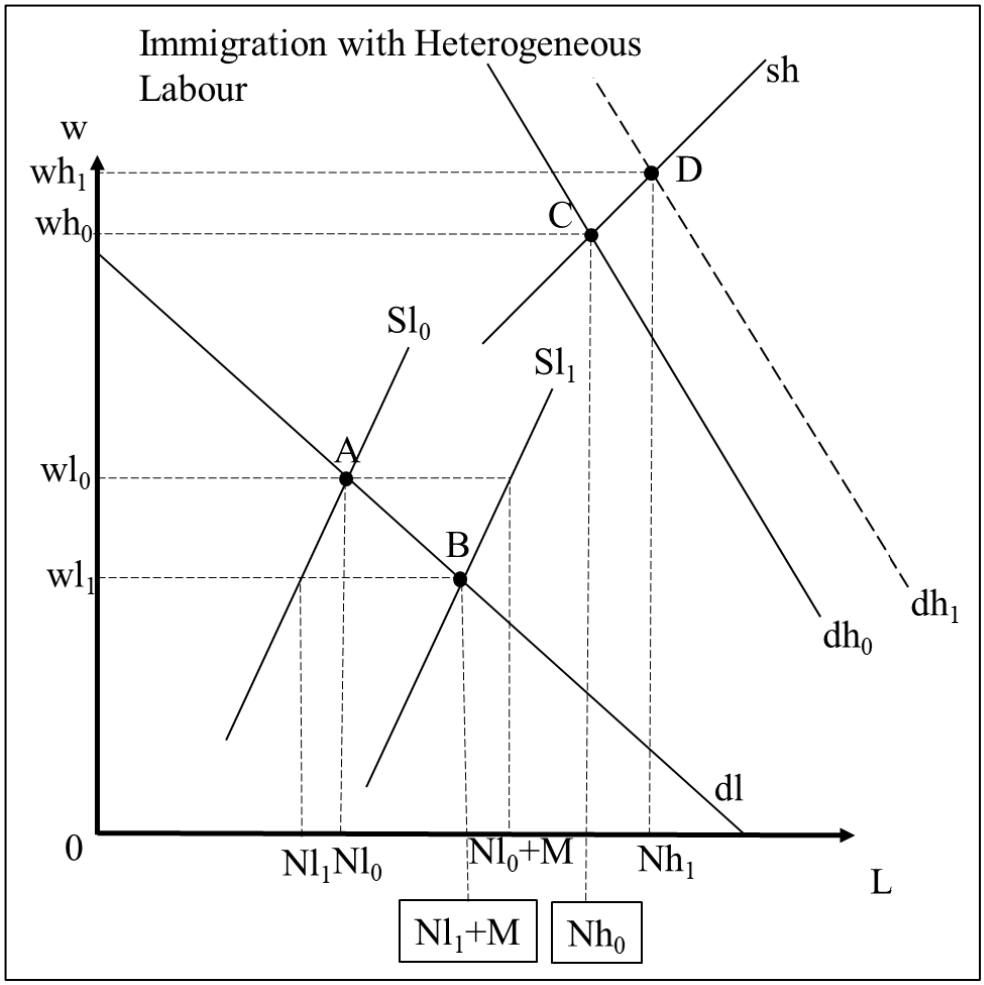

Figure 4: Neoclassical Labour Market Model with Heterogeneous Labour[76]

74 Okkerse 2008, p. 18.

75 There is empirical evidence that highly skilled immigrants indeed are substitutes for low skilled natives, see for example Bauer 1998, p. 10.

76 Source: Own representation based on Brücker 2010, p. 500.

Figure 4 displays a fragmented labour market. Given is a moderately inelastic labour supply curves for low-skill and a more elastic labour supply for high-skill workers, represented by Sl and Sh as well as labour demand curves dl and dh. The demand for high-skill labour lies above the respective curve for low-skill labour because of a higher marginal product of high-skill labour which needs to be compensated in the form of wages. The initial labour market equilibria for both skill levels are marked by A and C.

In line with Camarota (1998), immigrants are considered to be low-skilled labourers caused by a lack of proficiency in the host country's language and moreover unrecognized foreign degrees impeding the adequate utilization of their human capital. An immigration shock thus shifts the proportions of the relative labour supply. Afterwards, low skilled labour is relatively and absolutely more abundant, represented by the right shift of the low-skill labour supply curve from Sl_0 to Sl_1. Lower marginal productivity of this production factor also lowers the wage to wl_1. As seen in the simple model before, some native workers will not accept the lower wage rate wl_1 caused by a greater labour supply and are going to choose unemployment (Nl_0-Nl_1). A higher total employment level for low skilled workers Nl_1+M with the lower wage rate wl_1 at point B is the consequence. However, the total amount of low-skilled employment does not increase by the full amount of new immigrant labour since the decreasing wages make some native individuals choose voluntary unemployment as described before.

The higher total employment boosts total production which in turn increases the demand for skilled labour as complementary production factor.[77] This is depicted in *Figure 4* by a right shift of the demand curve for high skilled labour (dh_0 to dh_1). This results in higher wages wh_1 and an increased level of employment Nh_1 of high-skilled native workers (Point D). The reason behind is that the marginal product for high skill labour has increased because of its relative scarcity when compared to the pre-migration situation.

This model shows how different skill groups on the labour market in the host country experience different consequences from immigration. In general, and in a ceteris paribus situation, those whose skill group is in a substitutional relationship with the respective immigrants will face negative consequences. The opposite applies to those workers who are a complement to immigrants (high skilled

[77] Brücker 2010, p. 501.

workers in the example).[78] That pattern is capable of explaining the relative openness to immigration shown by representatives of the economic and educational elite as well as the scepticism towards it among members of lower parts of the economic and educational distribution.[79]

If now flexible capital is added to this model, there is an immigration impact in wages only if the skill structure of immigrants differs from the skill structure of the natives. If immigration does not alter the ratio of high and low skilled workers, the results correspond to the scenario with homogenous labour and flexible capital. If the relation of the respective labour and capital remain unchanged, there is a scale effect on GDP and its components as a whole but no gains or losses for a certain group of workers.[80] Thus, a surplus for one skill group can only be realized if for example a low-skilled group of immigrants complements high-skilled natives by making their labour more scarce or vice versa.[81]

Summarizing, the neoclassical model with capital adjustment and heterogeneous labour supply complies more closely to the empirical reality presented in the following sub-chapter than the simplest model specifications. Of course, this model still is a vast simplification of the reality with much space for improvement.[82] However, the opening concerns about a negative labour market impact of immigrants mentioned cannot be maintained when relaxing some of the strong assumptions of the simplest labour market model. As it will be shown in the assessment of the empirical literature below, the results in reality do not confirm the widespread concerns either.

3.2.2 Summary of Empirical Analysis

In the following, the empirical literature on the fundamental economic effects of immigration under abstraction of diversity related issues is presented and summarized. Although empirical research sometimes produces controversial results, a basic consensus can be seen in the mass of literature. Some differences can also

78 Loeffelholz et al. 2004, p. 40.
79 Hainmueller and Hiscox 2010, p. 62.
80 Loeffelholz et al. 2004, p. 40.
81 Bodvarsson and van den Berg 2015, p. 117.
82 For example Borjas 2003 argues for taking into account work experience when differentiating skill groups, drawing the attention to the important point of the substitutability between immigrants and natives.

be explained in the theoretical framework just presented. Finally, the consequences of immigration outside the direct labour market effects on wages and employment are briefly mentioned.

Longhi et al. (2005) conducted a meta-analysis of 18 empirical studies which use international data to examine wage effects of immigration. According to them, a percentage point increase of the immigrant's share in the labour force lowers wages by around 0.1 % only, summarized over all investigated studies.[83] They conclude that *"the impact of immigration on wages is statistically significant but quantitatively small" (Longhi et al. 2005, pp. 472–473)*.

In the corresponding meta-analysis of the employment effect of immigration, Longhi et al. (2006) present similar findings. The impact of immigration on employment is accordingly characterised as almost negligibly small, albeit statistically significant.[84] Averaged over nine examined studies, they provide evidence for a one percent increase of the immigrant labour force resulting in a decrease of native employment by around 0.02 %.[85]

Both meta-analyses conform that they are bound to a certain empirical approach in order to compare and summarize the results, namely the *area approach* which exploits the fact that immigrants are rarely randomly or equally distributed in spatial terms. Thus, labour market outcomes of regions as independent variables are explained by the proportion of immigrants present in the respective labour market. This approach is not undisputed, and criticized for overlooking the endogeneity of the migrants' settling decisions[86] as well as for neglecting potential native interregional outmigration in reaction to an inflow of immigrants.[87] However, calculations have shown that native emigration critically depends on the extent of triggering immigration, which is usually small in relative terms.[88]

In order to verify the results above on a broader methodological basis, a further review and other influential studies are now examined. Okkerse (2008) provides

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83 Longhi et al. 2005, p. 472.

84 Longhi et al. 2006, p. 14.

85 Longhi et al. 2006, p. 3.

86 As migrants prefer to settle in regions with high demand for labour, the true effects on labour market outcomes of natives tends to be underestimated, see Glitz 2012, p. 176.

87 Borjas 2003, pp. 1338–1339.

88 Braun and Weber 2016, p. 4. However, other parameters also play a role, such as the general tendency to change residence and the extent of social assistance in the event of job loss. As an example from Germany, Glitz 2012, p. 197 finds no native or foreign outmigration as a reaction to the substantial inflow of ethnic Germans into German regions in the 1990's.

a comprehensive review of empirical literature about both wages and employment effects across several methodical approaches. She concludes that new immigrants negatively affect the wages of unskilled workers and earlier immigrants.[89] The depicted employment effects however are slightly negative on a short-term basis and non-existent in the long run. Furthermore she summarizes, that the labour market positions in terms of wages and employment of natives are affected only slightly, if at all. Finally, studies exploiting quasi-natural experiments are cited as well, indicating that economies can accommodate many immigrants without distortions in the labour market.[90]

A quasi-natural experiment relevant to the German context, namely the fall of the Berlin Wall and the internal migration of Eastern Germans to Western Germany is elaborated by D'Amuri et al. (2010). They find a negative impact on employment of earlier immigrants and no impact on wages or employment of natives. They conclude that wage rigidities prevented the German labour market from reacting with lower wages, which lead to the unemployment of vulnerable groups as a reaction to immigration[91].[92]

Blau and Kahn (2015) also review evidence on the impact of immigration on host countries' wages. While stressing that there is strong evidence for negative effects for former immigrants, they also highlight the resilience of domestic wages to immigration. They identify the openness of the economies and flexible factor prices, which adapt to an increased supply of labour, as the reason for the small verifiable effects. Furthermore, they mention the limited substitutability of immigrants and natives even if they are categorized by the same skill levels.[93]

Dustmann et al. (2013, pp. 160–161) present evidence for a negative wage impact on lower wage quantiles of the native population in UK data. At the same time, they find a positive effect of immigration on high-skilled labourers at the top of the wage distribution. They suggest that immigrants are payed less compared against their marginal product, yielding, respectively generating a surplus, which can be claimed by native capital owners and higher employees.

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89 Okkerse 2008, p. 24.

90 Okkerse 2008, pp. 24–25.

91 The internal migration of Eastern Germans was technically not an international immigration movement in the definition of this thesis since the two countries were re-united. This chapter, however, deals with the purely quantitative immigration of workers without regard to their origin or nationality, which is why the example is nevertheless appropriate here.

92 D'Amuri et al. 2010, p. 567.

93 Blau and Kahn 2015, p. 839.

Likewise, the review of Kerr and Kerr (2011, pp. 15–16) concerning empirical literature using data from Germany finds only small wage effects linked to immigration even when large inflows of immigrants are considered.

Contrary to these predominantly results, only few studies find large and significant negative effects of immigration on labour markets, most prominently Borjas (2003) who concludes for the U.S. American labour market that an eleven percent increase of the work force by immigration reduced average wages by around 3.2 %, thus stating a much higher ration then given by the studies mentioned before.[94]

Angrist and Kugler (2003, F322) argue that 100 additional male immigrants entering the labour force in the European Union displaces approximately 83 native employees. However, they restrictively conclude that this large ratio derived from instrument variable estimations should be interpreted as the upper boundary for the realistic effect.[95]

Braun and Weber (2016) examine the quasi-natural experiment of the abnormally high, 16 %, population increase in Germany in the first years after World War II, caused by the immigration of displaced ethnic Germans from the former German territories on a massive scale. They utilize the fact that this immigration with an amount of several millions has affected different German regions with extremely varying intensities and allows the division of Germany into an immigration-intensive and a less immigration-intensive region. Furthermore they use a dynamic structural model based on two regions that incorporates reactive internal migration by natives and immigrants. According to their results, native income can decrease by up to 5.34 % in the short run, while the long-run income effects are negative as well but smaller (decrease around 1.4 % for a lifetime income).[96] According to them, native employment experiences a negative time-dependent effect that has its peak two years after the immigration shock. Measured for that time, a ratio of 4.65 local workers lost their jobs related to 10 immigrants coming to the immigration-intensive region. Most of the affected native-born workers leave the labour market or registered as unemployed, a few migrated to the other region to take up jobs there.[97]

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94 Borjas 2003, p. 1370.
95 Angrist and Kugler 2003, F328.
96 Braun and Weber 2016, p. 54.
97 Braun and Weber 2016, p. 3.

Chassambouli and Palivos (2014) point out that contrary to frequent assumptions in short term the real labour market is also characterised by frictional unemployment. If a native worker is therefore replaced by a migrant, he or she does not directly find a new job but has short-term search costs and is unemployed.[98] In the long run, however, he or she will usually find a new job and the negative consequences are no longer measurable. This also explains why in many studies the short-term effects outweigh the long-term effects. Nevertheless, they conclude that high-skilled immigration has positive effects on employment and ambiguous effects on the wages of high-skilled individuals, as countervailing effects occur in that context. Low-skilled workers profit in terms of wages and employment due to their higher marginal product in the case described in the study.[99]

Another study of labour market effects caused by an inflow of ethnic German (late) repatriates in the 1990's was submitted by Glitz (2012). It finds evidence for a short-term negative employment effect of approximately 3.1 natives losing their job due to an amount of 10 immigrants taking up employment. This study cannot prove any wage effects, a result that is attributed to the minor wage flexibility given for Germany due to strong unions and other labour market institutions.[100]

Summarizing the empirical studies above and in conclusion to the basic effects of migration on labour markets, small negative effects on existing employment and wages in the short run could be assumed, most notably for individuals on the lower end of the skill distribution and for earlier immigrants.[101] On the opposite, high-skilled workers and capital owners tend to profit from immigration. However, in the long run, the host economy and the labour market will adjust to the supply shock for example via capital movement[102], therefore negative effects on wages and employment will almost entirely vanish.[103] As a consequence, modern economies based on division of labour and utilization of comparative advantages

98 Chassambouli and Palivos 2014, p. 128.
99 Chassambouli and Palivos 2014, p. 128.
100 Glitz 2012, p. 205.
101 Brücker 2010, pp. 503–504 See Kahanec and Zimmermann 2008, p. 4, Longhi et al. 2010 or Kerr and Kerr 2011for another overview of the empiric literature. Card 2005, p. 24 however concludes that low skilled natives are barely affected by a shock in relative supply of labour due to immigration.
102 Brücker 2013, p. 9.
103 Longhi et al. 2006, p. 14, Brücker 2013, p. 21 Peri 2009, p. 20 confirm the absence of a crowding out effect of immigrants diminishing native employment.

seem to be capable of economically absorbing even large immigrant groups.[104] Immigrants themselves benefit most from migration by realizing higher wages and better employment opportunities than in their country of origin.[105] As contrasting results, low-skill workers, former migrants and people who do not own capital or real estate face negative consequences at least in the short-run. When screening the relevant literature, it is also noticeable that possible disadvantages of potential "losers" of immigration are researched much more frequently than the size of the profits of those who benefit from immigration.[106]

These distributional consequences and the lack of any compensation for "losers" of immigration may be one reason for the given fact that immigration is such a controversial topic in many societies.[107] However, the basic economic effects of immigration in simple theoretical models and as measured in empirical studies cannot justify the widespread fear of an overall negative impact of immigrants on labour markets.[108] Further evidence, consequently points to another direction. Hainmueller and Hiscox (2007) attend that attitude towards immigration and foreigners is primary determined by education (or skill level) and not by economic concerns influenced by a perceived immigrant competition.[109] Higher educated people more often favour immigration regardless of the skill level of immigrants, whereas for less educated people the opposite holds true.[110] Consequently, anti-immigration sentiments are seen as a cultural phenomenon determined by values and beliefs that are associated with low educational attainment and not necessarily triggered or mainly caused by economic fears. Therefore, pure economic compensation of the disadvantaged groups of immigration might not be enough to gain the native population's acceptance for immigration.[111] This is supported by Card et al. (2012), who present additional evidence for non-economic reasons to explain the varying attitude towards immigration: While acknowledging the

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104 Kerr and Kerr 2011, p. 16.

105 This does not necessary hold true for involuntary migration, for example refugees or displaced people. Voluntary migration for economic reasons is in the focus here.

106 Hatton 2014, p. 45.

107 Bansak et al. 2015, p. 7.

108 Bianchi et al. 2012, p. 1319 identify the fear of an increase in crime triggered by immigration as an important reservation of the local population towards migrants. They then examine whether immigration to Italy in the 1990s was a causal effect of increased crime, which is denied.

109 Hainmueller and Hiscox 2007, pp. 436–437.

110 Hainmueller and Hiscox 2007, p. 437.

111 Hainmueller and Hiscox 2007, p. 437.

role of "traditional" economic concerns, they emphasize the high significance of *"compositional amenities"*, thus the benefits to share the language and ethnicity as well as culture and religion with neighbours and co-workers in general.[112] Individuals who value these amenities reject immigration more often, regardless of whether the economic consequences are considered positive or negative.
Research on the impact of immigration on the income distribution of a society tends to be niche, which is why it is only marginally mentioned here. With regard to general income inequality, even the highest estimates for an immigration impact can only explain a fraction of the increasing inequality.[113] Other explanations can be expected to present much more important determinants.[114]

3.3 Economic Effects of Diversity and the Necessity of Integration

As displayed in *Figure 2*, immigration has socio-economic effects on a society over and above the basic economic consequences with regard to labour endowment in terms of quantity and quality[115] as described in the previous chapter. As mentioned above, due to the general topic of this thesis being Germany as an immigration country with an existing diverse society, immigration itself is not discussed.
Diversity has the potential to positively or negatively affect economic outcomes.[116] Immigrants might bring skills not previously available in the host country and thus increase the innovative potential. On the other hand, language barriers and cultural differences have the potential to disrupt social cohesion in the host country and create coordination problems between political and economic actors.[117] Whether the positive or negative effects prevail is controversially debated in the literature.[118]
Other publications in this field, often use the term "diverse" synonymously with the term "fractionalized". In order to understand the different effects it is im-

112 Card et al. 2012, p. 110.
113 Ortega and Peri 2009, pp. 26–27 highlight the neutrality of immigration with respect to the income distribution.
114 Friedberg and Hunt 1995, p. 42.
115 Quality refers to the ration of low and high skilled workers in the economy.
116 Prarolo et al. 2009, p. 2, Ager and Brückner 2013, p. 77.
117 Bove and Elia 2017, p. 227.
118 Bove and Elia 2017, p. 235.

portant to note that ethnic diversity or mere fractionalisation needs to be differentiated from ethnic polarisation. In tenor of older studies, ethnic heterogeneity (or diversity) itself was identified as driver for negative social and economic outcomes. Montalvo and Reynal-Querol (2005b, p. 812) clarify that polarization between the ethnic groups, i.e. confrontation of strong, distinct groups with conflicting interests in a society is a precondition for the negative effects to work. This view of polarisation is used in the literature regarding social conflict[119] and can be interpreted as cohabitation while having to share scarce public goods in the absence of integration, or segregated as defined in this thesis.

The contrast between these two terms, fractionalisation and polarisation is reflected in the rise and fall of the term multiculturalism. It emerged in the 1970s and described coexistence of different cultures without suitably or appropriately observing integration.[120] Cultural integration was usually interpreted rather negatively in the sense of the old concept of assimilation, i.e. with the (forced) loss of cultural identity of the immigrants. For these (and other) reasons it was not actively pursued.[121] Multiculturalism therefore led in many European countries to a coexistence of migrants and natives separated by ethnic borders which quickly became economic borders, too. As a consequence, European immigration societies were characterised by a pronounced parallel ethnic and socio-economic stratification instead of a successful or harmonious human coexistence as one society.[122] This condition of socio-economic stratification combined with failed integration can be described as polarisation as defined above. As a consequence, multiculturalism was seen as a failure and integration came to the fore, even though it meant that both migrants and host society (to a lesser extent) have to change and converge. In conclusion, the attempt is being made to replace polarisation in the sense of social conflict literature with ethnic diversity in an integrated society.

Consequently, this chapter seeks to make the case that the degree of integration distinguishes ethnic diversity (or fractionalisation) from ethnic polarisation. In the following, the potential positive or negative effects associated with both respectively are to be assessed.

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119 Ager and Brückner 2013, pp. 95–96.
120 Baycan and Nijkamp 2011, p. 8.
121 Heckmann 2015, p. 268.
122 Heckmann 2015, p. 269.

All effects have in share their difficulties in quantification and occur in mixed forms. Consequently, the focus lies on a qualitative and theoretical analysis. The next sub-chapter starts with a short discussion as to why integration is crucial for realising the benefits of diversity. Afterwards, positive effects directly obtainable from ethnic diversity, provided it is embedded in an integrated society, are presented. Finally the costs of ethnic or cultural segregation are examined. These costs can alternatively be interpreted as additional benefits of integration seeing as integration can prevent these negative consequences and their associated costs.

3.3.1 Why is Integration Important?

Perceiving oneself as being "different" and as not being included into the mainstream society due to attributes like legal status, appearance, culture, religion or economic class impedes and hinders interethnic relations. This concerns economic relations which are in focus of this thesis and other no less material social relations. The aggregated social capital of one society, which consists of political participation, trust among members, and civic engagement is an important determinant of the "well-being" of a society.[123] This social capital is obviously weakened by any non-integrated sub-group which has its own internal mechanisms of loyalty and trust substituting the ones from the majority society.[124] Observed on macro level, a segregated society weakens economic exchange as well as social cohesion among its members, which in turn results in discrimination and mistrust.[125]

The existence of in-groups and out-groups in a non-integrated society and their consequences on economic outcomes is analysed by Akerlof and Kranton (2000). In this study, a game theory model reveals that the perceived identity of an individual influences its economic decisions and outcomes. Possible impact channels are labour market discrimination, the household division of labour and investment in one's own human capital.[126] Membership in a societal group and evaluation by others inside and outside this group as well as the self-perception of the individual is here referred to as "identity". The authors use ethnic segregation between black and white people in the USA as example to demonstrate how *"rejection and alienation" (Akerlof and Kranton 2000, p. 738)* between two

123 Alesina and Giuliano 2011, p. 3.
124 Alesina and Giuliano 2011, pp. 13–14.
125 Penninx 2005, p. 141.
126 Akerlof and Kranton 2000, p. 717.

groups within a society results in conflict and adverse economic decisions.[127] They conclude that a society, characterised by far-reaching levels of social exclusion, partially fails to motivate its members to engage in economically beneficial activities.[128] By contrast, an integrated society is capable of avoiding these specific disadvantages, since a person's belonging to a minority group no longer has negative external effects limiting his realm of profitable choices.

The economic relevance of the gradual dismantling of ethnic boundaries through social integration is further demonstrated in Alesina et al. (2003). They construct a set of variables measuring levels of ethnic polarisation on country level and are able to link such attributes directly to economic growth and the quality of institutions. Of course, integration does not mean the end of all ethnic differences. However, it lessens the separation of society on the basis of ethnic lines and thus enables an exchange between members of different ethnic groups. In context of Alesina et al. (2003), integration can mitigate negative effects of ethnic fragmentation on economic outcomes as previously shown by the approach of Akerlof and Kranton (2000).

Theoretically, after all a common language and culture facilitates economic interactions between agents. Individuals, who share one language, save transaction costs because they can negotiate without translator. The indispensable trust between agents, that is necessary for negotiating, contracting and settlements of claims, is easier to generate in an environment of shared norms and values or culture.[129] Reversely, ethnic or racial differences, have been proven as important obstacles to mutual trust through experiments.[130] However, consistent with theoretical approaches, there is empirical evidence for the fact that that regular, interethnic social exchanges associated with increasing integration prevent the loss of trust normally caused by increasing ethnic diversity.[131] Thus, integration boosts the macroeconomic outcomes of a society by boosting individual economic transactions.

In summary, successful integration is key to manage an ethnically diverse population. Potential benefits from diversity, as they are listed below, cannot be

127 Akerlof and Kranton 2000, pp. 738–739.
128 Akerlof and Kranton 2000, p. 748.
129 Lazear 1999, 97.
130 Glaeser et al. 2000, 836,840.
131 Stolle et al. 2008, p. 71.

achieved when immigrants feature steady perceptions of exclusion, marginalization or being social misfits. Policies therefore must aim at an inclusion of immigrants in terms of legal positions, equality of status and political participation in order to avoid insider-outsider problems.[132]

Furthermore, fast integration promotes positive perception of migrants by natives. Firstly, natives feel less threatened by increasing cultural diversity. Secondly, migrants are able to reduce the costs they impose on the host society in the phase of their arrival and even generate benefits as productive citizens.[133] Although, the adaption of a new culture causes costs mainly for the migrants, benefits of an increasing number of (economic) transaction as a result are enjoyed by migrants and natives equally. At this point, a classic externality problem arises, in which "the market" might fail to achieve the optimum degree of integration. The expected benefits of integration might be further diminished and thus negatively affected by discrimination directly leading to a lack of possibilities to transfer human capital acquired in the country of origin to the host country.[134] If, due to discrimination or due to legal or formal instances, problems to provide evidence etc., degrees cannot be accepted in the host country, immigrants could be forced to work in jobs they are overqualified for. This could happen even when they successfully integrate in social terms.[135]

For that reasons, the government must have material interests in creating further incentives for integration in order to reduce the costs for immigrants and ensure higher levels of integration and thus an increased economic activity.[136] That would support economic welfare and at the same time reduce the negative effects of segregation mentioned below.

3.3.2 Positive Effects of Diversity in an Integrated Society

The benefits of diversity are often hard to observe as they are economically and socially dispersed over several groups, skill levels, and industrial sectors.[137] They are generated gradually, and are often silent and difficult to quantify. An example is an increasing general innovative potential of a country or a sector. It is more

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132 Penninx 2005, p. 142.
133 See Vigdor 2011, p. 2.
134 A problem especially in the German context with its more or less unique system of dual vocational education and training, see Brücker 2013, p. 13.
135 Brücker 2013, p. 13.
136 Vigdor 2015, p. 73.
137 Bansak et al. 2015, p. 7.

difficult to measure and prove the benefits of diversity than to point out the costs and obvious social problems which materialize in a segregated society.[138] Furthermore, the underlying migration process is also correlated with the respective society's exposure to international trade, which complicates the examination of diversification effects in isolation.[139] Consequently the benefits of diversity rarely find their way into media coverage whereas the costs in form of evident or striking socio-economic problems often emerge in a palpable way and are thus frequently taken up by the public.

It is important to note that the positive effects mentioned here can only be realised in an environment with a certain degree of social and economic integration. This as a prerequisite is assumed to be present for the purpose of this sub-chapter. In theory, immigration as *"imported human capital" (Poot and Cochrane 2005, p. 22)* plays a positive role in several growth models, accelerating economic development by offering a more diverse, flexible and innovative labour supply.[140] Moreover, the positive growth effects of migration and diversity derived from theoretical models are also investigated and proven empirically, evoking intense and growing academic interest.[141] In literature, various channels of impact are mainly held responsible for the transfer of diversity effects to economic outcomes. These channels along with empirical evidence are presented below.

One certain benefit of diversity is a higher productivity of a diverse workforce with (integrated) members from different cultural backgrounds. Those backgrounds include the individuals' type of schooling, and life experiences, which both affect the skillset and the approach taken to solve problems.[142] In this case, the achieved productivity gains deduce from a broader range of labour types, permitting more comparative advantages to be exploited.[143] Peri (2009) concludes that immigration and resulting diversity allows for the *"efficient specialization of immigrants and natives in manual-intensive and communication-intensive tasks respectively" (Peri 2009, p. 20)*. Positive effects of a higher variety of

138 Alesina et al. 2016, p. 102.
139 Ortega and Peri 2014, p. 231.
140 Poot and Cochrane 2005, pp. 21–22.
141 Clemens et al. 2014, p. 121.
142 Alesina et al. 2016, p. 104.
143 Imperfect substitutability between immigrants and natives is assumed here.

skills are confirmed in a large number of other studies.[144] The causality between diversity and productivity is proven for US-cities as well as for European regions.[145] In an examination of the impact of diversity on economic and social outcomes, for instance Collier et al. (2001) find evidence for a higher productivity of the private sector with increasing diversity. However, the public sector of an economy reacts to diversity with decreasing productivity.[146] But as the private sector is responsible for most innovations and growth, these findings match with the other findings listed above. They furthermore add that ethnically diverse democracies are safer and more stable in political terms than homogenous democracies.[147]

The greater geographical flexibility of newly arrived immigrants as compared to natives and previous immigrants when facing economic stimuli and their potentially complementary set of skills allows faster labour market responses to economic changes. This increases the efficiency of the labour market and therefore of the economy as a whole. The phenomenon is labelled as *"greasing the wheels of the labour market" (Borjas 2001, pp. 1–2)*. Borjas argues that in the face of regional disparities regarding the marginal product of labour, newly arrived immigrant workers are usually first to react, thus accelerating the convergence of prospects of different areas and consequently economic efficiency.[148] Using U.S. census data from 1950-1990, Borjas estimates that these often overlooked efficiency gains are worth between five and 10 Billion $ per year which, although of minor importance related to the whole economy, achieves material size compared to other estimated effects of immigration.[149]

Another issue is worth taken into account as well. The positive self-selection of economic immigrants in terms of risk-taking combined with fewer wage-based options leads to increased entrepreneurial activity compared to natives. Furthermore, these economic activities often take place in new, dynamic and risky branches of the economy.[150]

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144 Ager and Brückner 2013, pp. 87–88, Bove and Elia 2017, pp. 228–229, Ortega and Peri 2014, p. 248.

145 Prarolo et al. 2009, p. 26.

146 Collier et al. 2001, p. 145 Note that this results are conditional on democratic institutions, in a dictatorship fractionalisation of the society does additional harm. Since all classic immigration countries are democracies, those results are valid for the discussion.

147 Collier et al. 2001, p. 153.

148 Borjas 2001, p. 2.

149 Borjas 2001, 2,50.

150 Kerr and Kerr 2016, p. 23 See chapter 6.1.4 for more information about immigrant entrepreneurship.

The innovation process, important for long term growth perspectives of the economy as a whole, is fuelled by the new ideas and problem-solving skills which derive from different cultural backgrounds.[151] One example of this is the proportion of foreign-born citizens among the American recipients of the Nobel Prize in Chemistry, Physics and Medicine during the years 1996 to 2006 which stands at 25 %. At the same time, the ratio of foreign-born citizens in the society as a whole was only 10 % on average.[152] In addition to exceptional achievements of the Nobel Prize winners, migrants are also represented with above-average frequency among U.S.-patent applicants. This effect also persists when educational attainment is controlled for.[153] These figures for the U.S. are confirmed by UK data suggesting that immigrant inventors, by increasing the diversity, have a small but positive net-effect on the country's' patent output. Positive self-selection, diaspora externalities and the higher probability of living in an urban area are identified as reasons for the innovative potential of immigrant inventors.[154]
Other scholars confirm that some of the potential advantages of a diverse society are a wider range of abilities and experiences.[155] These positive effects are most notably generated in but are not limited to the area of creative jobs in high-income countries.[156]
As mentioned before integration facilitates economic interactions among actors with diverse cultural backgrounds. Not only the quantity of interactions is increased, but also the variety of consumption possibilities increases through diversity.[157] The reason is that first, as a matter of principle, immigrants demand different consumption goods and services as compared to natives. Second and at the same time, they have comparative advantages in producing those specific goods.[158] This increases the utility of all consumers as they are usually assumed to have a preference for variety.
The increased productivity of a diversified society thus not only benefits the locals through a wider choice of consumption opportunities, but also through

151 Brücker 2013, p. 19, Ortega and Peri 2014, pp. 247–248.
152 Ottaviano and Peri 2006, p. 10.
153 Hunt and Gauthier-Loiselle 2010, p. 51.
154 Nathan 2015, pp. 155–156.
155 Alesina and La Ferrara 2005, p. 762.
156 Lyons 2017, p. 104, Alesina and La Ferrara 2005, p. 763, Florida 2002, pp. 67–68, Alesina et al. 2016, p. 103.
157 Ottaviano and Peri 2006, p. 10.
158 Mazzolari and Neumark 2012, p. 1135.

higher wages[159] and property prices.[160] Of course, higher property prices primarily benefit capital owners and, similar to the consequences on the labour market, lead to distribution effects that need to be mitigated.

Since immigrants are often younger than the average natives, immigration is widely seen as possible solution for demographic change of the ageing and shrinking societies of Western Europe. In Germany first-generation immigrants on average are slightly younger than an average person without a migration background (44.1 years to 46.7).[161] A larger difference occurs when all people with migration background are taken into account for this figure includes the children of immigrants born in Germany as well, with an age of 35.4 years on average.[162] At the same time, migration is hardly predictable and the most uncertain and volatile factor when it comes to the prediction of demographic development.[163] Furthermore, studies suggest that immigration can only slow down the demographic change when fertility rates are converging to those of the native populations.[164]

Another channel of impact through which immigration and diversity may positively affect economic outcomes is international trade. Neoclassical trade theory sees migration and trade as substitutes, whereas the newer empirical literature points in contrary direction. There is, in fact, more evidence for a complementary relation of the two.[165]

Immigrants can influence imports and exports of a host country in two major ways, namely on the macro and on the micro level: At the macro level, the amount of imports will generally increase due to the higher aggregate demand of

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159 Sparber 2010 find that wages in US cities rise about 6 % in reaction to a one standard deviation diversity shock.

160 Ottaviano and Peri 2006, p. 18. One problem of studies in which economic outcomes of an area are regressed on the respective immigrant stock is the potential for reversed causality According to critics of this method, immigrants are attracted by just those favourable economic outcomes and settle in exact those areas, sometimes called boom cities. In their study of U.S. metropolitan areas, Ottaviano and Peri 2006 could tackle that objection. They did so by using Instrumental Variables and conclude that their *"higher wages and higher rents for US natives are significantly correlated with higher diversity." Ottaviano and Peri 2006, p. 39.*

161 Statistisches Bundesamt 2017c, p. 64.

162 Statistisches Bundesamt 2017c, p. 64.

163 Alho et al. 2006, p. 3.

164 Poot and Cochrane 2005, p. 27.

165 Bowen and Wu 2013, p. 381.

a growing population, even more so if the immigrants are economically integrated in terms described above, thereby earning their own income. Moreover exports may increase, if immigrant labour raise the competitiveness of export industries.[166]

At micro level, imports from and exports to the country of origin are often enhanced by immigrant population. Import of goods, specifically from the country of origin, are boosted since immigrants tend to demand goods they know and that might not yet be present on the market of the host country. In that case, immigrants create new markets.[167] Furthermore, immigrants represent a network between inhabitants of two countries which helps to identify business opportunities and to build trust between potential business partners in both areas.[168] By assuming the role of intercultural mediators, immigrants provide insider-knowledge about the institutional and legal environment of the country of origin (and culturally related neighbours) which proves valuable for host country entrepreneurs.[169] The prerequisite for this, however, is that the region of origin offers realistic economic opportunities in some form or other. This is unlikely to be the case in (civil) war regions, which is why humanitarian migrants usually do not bring this direct advantage with them. It is, however, conceivable that such business relationships could arise subsequently in the event of the reconstruction of the country of origin.

In line with these theoretical considerations, most empirical literature provides evidence for an increase in bilateral trade being caused by immigration.[170] A meta-study examining 48 publications estimates that a 10 % increase of the immigrant population results in 1.5 % increase in trade activities.[171] Empirical evidence for an explicit predominance of effects on import or export is contradictory, consequently statements about the trade balance of those effects remain vague. Exogenous factors of the host countries economy like sector structure seem to drive these results. Additionally, the same meta-study finds greater positive effects on imports in about half the analysed studies but concludes that immigration elasticity of exports in the host country is slightly higher.[172] Other

166 Genc et al. 2011, p. 1.
167 Egger et al. 2011, p. 4.
168 Fagiolo and Mastrorillo 2014, p. 2.
169 Genc et al. 2011, p. 3, Poot and Cochrane 2005, p. 24.
170 For example Fagiolo and Mastrorillo 2014, p. 17.
171 Genc et al. 2011, p. 18.
172 Genc et al. 2011, p. 18.

studies find evidence for the demand effect on imports exceeding the trade-cost reducing potential with regard to the exports.[173]

In this sub-chapter, evidence on an international level was presented for a positive effect of diversity in an integrated society on economic outcomes. The main channels through which diversity seems to affect the economy are (1) a higher productivity due to specialization, (2) higher labour market efficiency caused by a higher degree of flexibility, (3) an economic context more congenial to innovation, (4) increasing chances for diverse consumption, and (5) international trade. All these positive effects are, however, contingent upon to a certain degree of social integration, which is able to stimulate trust and communication between the various market participants.

Trax et al. (2015) confirm the positive effects of a diverse workforce on the micro and macro level with German data. At the same time they stress that the measured positive effects are merely a net effect, which also includes costs of diversity. These should not be underestimated or neglected even in the cases mentioned here, where the positive effects outweigh the negative ones.[174] This also applies to the results of other studies cited here, which mostly describe diversity as *"double-edged sword" Alesina et al. (2016, p. 105)*, and thus as a phenomenon for what both costs and profits can be associated. Consequently, in the following sub-chapter, the negative consequences of diversity in case of lack of integration will be carved out.

3.3.3 Negative Effects of Diversity without Integration

As indicated in sub-chapter 3.3, distinction must be made between diversity embedded an integrated society and persistent ethnic polarization as a consequence of immigration.[175] In the context of this thesis, ethnic polarisation describes the state of diversity without integration, and thus segregation. A polarised and segregated society with strong ethnic boundaries and poor exchange between groups of citizens is at risk of economic and social problems. Due to the high degree of complexity of this issue and due to the range of possible channels through which ethnic divisions could negatively influence the economy, this chapter makes no pretence to be exhaustive, but rather to provide an adequate overview.

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173 Poot and Cochrane 2005, p. 24, Felbermayr et al. 2010, p. 63.
174 Trax et al. 2015, p. 95.
175 Gören 2014, pp. 276–277.

Indirect social costs in particular go far beyond the direct costs of lost income, reduced tax payments, and increased costs accruing to the social security system of migrants, who are not integrated into the labour market. Those direct fiscal costs are thematised in the next sub-chapter.

To avoid additional social costs, a certain degree of cultural overlap between population groups through integration is necessary. The list below can thus be seen as the negative consequences or costs of lacking integration. At the same time, as integration may prevent most of the problems described below, those costs can be recognised as additional positive effects of integration, so far as they are avoided.

Individual political preferences are identified as shaped, among other factors, by the individuals' ethnic and cultural background.[176] This nexus combines ethnic or cultural polarisation with political polarisation and thus with political instability.[177] Consequently, analyses of the economic effects of political polarisation are relevant here as well as they generally confirm findings contributed by studies analysing in particular ethnic polarisation.[178]

Collier (2000, p. 244) presents a model showing that diversity has different effects on economic outcomes depending on whether one examines democracy or dictatorship. As the immigration host countries, in the context of this thesis, are democracies, effects observed in dictatorships are neglected here. Another difficulty arises when comparing the impact of diversity in countries at different stages of development.[179] As the country of interest for this thesis is Germany as strong industrialized democracy with high income levels, in the following solely studies are cited with focus on comparable countries.

In general, immigration and resulting diversity have consequences for the society's social capital, consisting of trust among its members, political participation, and civic engagement. Research distinguishes between particularised and gener-

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176 Guiso et al. 2006, p. 44.

177 Arbatli et al. 2015, pp. 65–66 identify genetic diversity as a determining variable for heterogeneity in preferences regarding the supply of public goods and the degree of redistribution. They conclude that genetic diversity explains the intensity of intranational social tensions.

178 For example Azzimonti 2011 find low private investments, excessive taxation and a large and inefficient public sector to be consequences of political polarisation. All aspects can be found in the ethnic polarisation literature as shown below.

179 Bove and Elia 2017, p. 229.

alised trust. Particularised or personal trust plays an important role in communities with a low, manageable number of members and direct contact between them. It is maintained through inherent social control mechanisms and it is particularly important for agricultural and non-industrial societies.[180] On the other hand, generalised and impersonal, trust in the absence of regular social contact between every single individual, is needed for a modern large-scale society. Such a society is based on and operates with division of labour. These types of societies and economies are in focus of this thesis. Consequently, the effect of ethnic diversity on generalised trust in every member of the society is interesting here. There is evidence regarding this kind of trust in particular to be negatively affected by ethnic heterogeneity as individuals need more time to trust others that do not share their own ethnicity or religion.[181]

Segregation undermines (favourable) political participation at the fundamental level of political institutions, with negative consequences for economic institutions. Aghion et al. (2002) theorize that in a segregated society majority groups seek to establish undemocratic restrictions to political liberty in order to maintain control over minority groups. They find evidence, that in fragmented and polarised societies, political systems are less democratic and more presidential.[182]

The less democratic or the more authoritarian a system could be characterised politically, the more disadvantageous its economic institutions will be and thus its economy will develop.[183]

At the same time, segregation or *"group interest polarization"* leads to unproductive rent-seeking behaviour of the majority groups and generally hinders a welfare-maximising consensus on public goods.[184] Rent-seeking increases inefficient public consumption[185] which in turn lowers the productivity of the public sector.[186] As people utilize their human capital to appropriate wealth from others instead of deploying their human capital to generate new wealth, productive investments in the private sector tend to occur in a less than optimal quantity in that situation.[187]

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180 Delhey and Newton 2005, pp. 311–312.
181 Delhey and Newton 2005, pp. 323–324.
182 Aghion et al. 2002, p. 23.
183 Acemoglu et al. 2005, pp. 389–392.
184 Easterly and Levine 1997, p. 1241.
185 Montalvo and Reynal-Querol 2005a, 294, 295, 318.
186 Collier et al. 2001, p. 145.
187 Gören 2014, p. 278.

The political economy ventures further micro-funded considerations related to social costs of insufficient trust and reluctant solidarity due to omitted integration. Members of a strongly segregated society are less willing to cooperate and to jointly fund important public goods like schools and roads. This can lead to a vicious cycle of more segregation (into rich and poor areas) and less trust in the society with the consequence of a further deterioration of the quality of public goods.[188] The quality and the amount of publicly funded goods will barely be optimal in such a scenario. Desmet et al. (2009) use linguistic distance as a measure for polarisation, which persuades since language barriers prevent the regular exchange between members of different ethnic groups, thus as a negative consequence undermines the trust between those groups. Therefore they confirm that solidarity and altruistic attitudes in the form of redistribution are weaker in heterogeneous societies with language barriers separating the individuals.[189]

In extreme cases, immigrants and locals have no common norms or shared values, resulting in mistrust and civil unrest or even wars.[190] Such events impose tremendous direct and indirect costs on a society. For example, marginalised and frustrated immigrants began to riot in the suburbs of large cities in France, Great Britain and Belgium in the 2000's.[191]

Summarizing, a diverse society without integration is negatively influenced predominantly by the following impact channels: (1) Tensions typical for a segregated society cause individuals to select typically undemocratic institutions, by this causing negative economic consequences. (2) Unproductive rent-seeking behaviour leads to inefficient public consumption and distortive taxation. (3) Inability to find a public consensus regarding societal endowment with public goods results in underfinancing of these public goods.

Furthermore, the literature emphasizes the different roles of diversity and polarisation. Greater diversity pushes positive economic effects so long as it does not lead to a stronger and persistent polarisation of the different cultural groups through a lack of integration. Besides this, the effects of polarisation through ethnic and cultural contrasts, which can arise through diversity, are consistently negative.[192]

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188 Alesina et al. 1999, p. 1274.
189 Desmet et al. 2009, p. 1312.
190 Montalvo and Reynal-Querol 2005a, p. 318, Vigdor 2015, p. 73, Gören 2014, p. 278.
191 Vigdor 2015, p. 73.
192 Ager and Brückner 2013, pp. 95–96.

Integration in sense of aligning people's characteristics and preferences thus improves the quality of governance, the provision and distribution of public goods and ultimately the whole economic environment in a society.
Finally costs of integration measures are far lower than costs of social and political division of a population due to the lack of integration of large parts of the population with migration background.

3.4 Fiscal Effects of Immigration and Integration

The economic implications of immigration and integration summarized above[193] obviously all have further consequences regarding the public finances. Potentially negative effects of immigration on public finances are often feared and have been addressed at least since colonial days.[194] In Europe, the acceptance of immigrants is on the decline expressly for the reason of a negative fiscal impact in the public perception.[195] Studies accordingly confirm that the fiscal contributions of immigrants are even more important for their acceptance by the local population than the expected effects of immigration on wages and employment.[196] Accordingly, advocates and opponents of immigration driven by their own interests tend to emphasize the large contributions of young educated migrants and the costs induced by unemployed immigrants for the social security systems respectively.[197]
The so called fiscal impact is defined as *"the difference between tax revenues from immigrants and the cost of publicly funded services received by immigrants"* (Bansak et al. 2015, p. 214). Empirical studies of the matter often use this simple definition but such a strict accounting approach neglects some aspects and (inter)dependencies of immigration which potentially affect the fiscal impact:

- Fiscal consequences of positive economic effects resulting from a larger pool of potential business partners, that native market participants can choose from, are neglected. One example is a larger consumer base for native products resulting in higher sales. Accordingly, the contribution of immigrants is underestimated when neglecting those indirect channels of interfered fiscal effects through native agents. These exemplary positive demand effects are

193 Bansak et al. 2015, p. 206 list more channels of how immigration affects the host economy from which some are addressed above and others go beyond the scope of this thesis.
194 Borjas 2002b, p. 11.
195 Boeri 2010, p. 651.
196 Dustmann and Preston 2007, p. 26.
197 Rowthorn 2008, pp. 560–561.

however damped by remittances to the country of origin which diminish the additional demand in the host country.[198]

- Further indirect benefits of an integrated immigration society, like a better environment for innovations, are difficult to quantify.[199] Consequently, those indirect benefits are generally not taken into account as part of the estimation of the net fiscal effects of immigration.
- Many studies neglect the value of human capital which immigrants bring to the host country, in case they finished some kind of education in their country of origin. Such amounts can be substantial and could lead to underestimate positive effects of immigration on the fiscal balance.[200]
- Native emigration induced by immigration is excluded by assumption in most studies. Contrary to this approach although there is evidence for this pattern in some scenarios. This mostly results in an overstatement of fiscal contribution of immigrants since negative crowding-out effects are not considered.[201]
- Another important factor is the financing of public goods. Defence, for example is a public good whose costs are more or less fixed, based on a large bundle of (political) influencing factors, and do not increase notably with a relatively small increase of the population. Immigrants thus decrease the per-head costs of public goods. This aspect from the viewpoint of the native population is often not included in a calculation of the fiscal impact. Using the average costs instead of the arguably much lower marginal costs of those public goods leads to an overstatement of the costs induced by immigrants and thus biases the fiscal impact.[202] Despite this, there are economists who argue that government spending on public goods is mostly proportional to the size of the population, especially in the long run.

Some of these analytical and theoretical aspects cannot be included into empirical models due to missing data. Some of them, like fixed costs of public goods, are included in certain publications and excluded in others. This partly explains the large differences in the empirical results as stated above.

Considering a seemingly infinite number of determinants, accessory varying from country to country, volatile over different periods of time, there is evidently

198 Kerr and Kerr 2011, p. 22.
199 Woellert et al. 2009, p. 76.
200 Loeffelholz et al. 2004, p. 28.
201 Rowthorn 2008, pp. 564–565. Card and DiNardo 2000, p. 366 on the other hand find no evidence for native emigration a reaction to immigration in U.S. data.
202 Loeffelholz et al. 2004, 12,16,44.

no theoretical framework in which the fiscal impact can be analysed entirely. Thus, it has mostly been an empirical question in economic research, often driven by the respective assumptions, whether immigrants contribute to or are a burden for public finances. The empirical literature is summarized as follows below.
Sending results in advance, they range from large negative effects to strong gains from immigration, depending on the country immigrants move to, from which country they originate and the assumptions for analysing their fiscal impact. This is sometimes taken into account by researchers offering results in several scenarios based on altering assumptions. Furthermore, the definition of an immigrant can influence the results. *Figure 5* seeks to organise the previous theoretical knowledge about the mechanisms determining the fiscal impact of immigration.

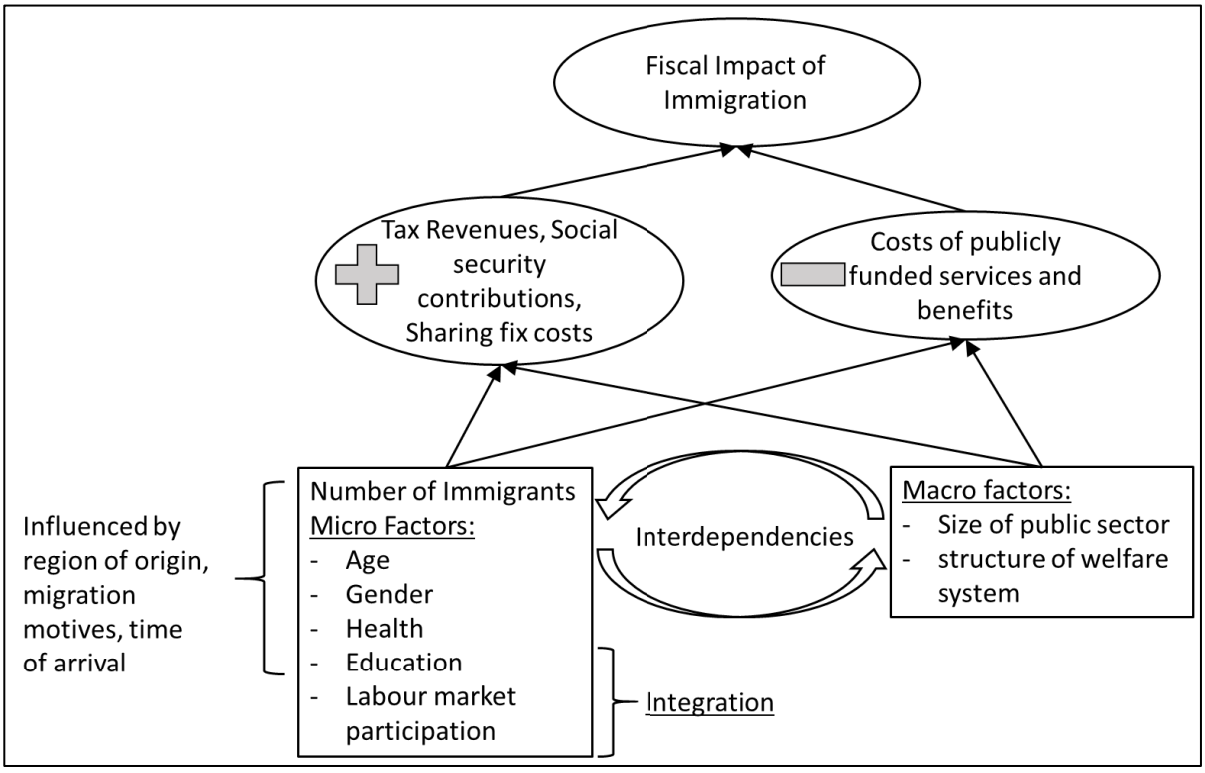

Figure 5: Fiscal Impact of Immigration and Integration

Specific "micro" characteristics of an immigrant population are first order determinants of their economic success in the host country and therefore of their fiscal impact.[203] According to the above-mentioned definition, the economic performance of immigrants determines the fiscal impact via two main channels: the tax revenues and contributions to the social security system on the plus side, representing potential benefits for the public finances, and, on the negative side, the

[203] Bratsberg et al. 2014, F679, Rowthorn 2008, p. 577.

costs of the publicly funded services and welfare benefits which are also influenced by the aforementioned micro factors. Those services include education, infrastructure, defence, and many more.

The first influencing factor is obviously the pure amount of immigrants who exhibit these micro factors. Micro factors are characteristics specific to each person. Age of arrival e.g. plays an important role, mainly as it determines how many of the individual's years of schooling are attended in the host country. Every education system requires large public investments. Immigrants who come into the country with a completed school education therefore relieve the public sector of the host country in that regard. On the other hand, school education in the host country often facilitates integration. It involves regular exchange with members of the host society and, furthermore, mostly avoid the problem of unrecognised foreign school and training qualifications. The age at which immigration is undertaken also determines how many impending years of labour could be expected for an immigrant. From a lifetime perspective and balancing public payments, immigrants entering a country at retirement age will not be able to reimburse public finances with income taxes for covering their age related costs, which older individuals typically impose on the society. Age also is recognized as a material factor when deciding whether or not an immigrant plans to start his own family in the new home country bringing with it large further implications for the public finances.[204]

Labour market participation is another crucial factor for the economic performance of immigrants.[205] This aspect affects both sides of the balance positively. The income generated makes the migrants independent of social benefits which would worsen their fiscal balance. At the same time they pay taxes on this income and thus participate in the financing of the state budget. In addition to its obvious economic implications, labour market participation involves a certain exchange between immigrants and natives, generating integration incentives and opportunities.

Education has an ambiguous effect on public finances as destination countries mostly maintain a costly public education system with an open access for immigrants, although regularly limited to a certain age. On the other hand, enhanced education obviously provides better preconditions for entering the labour market

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[204] de la Rica et al. 2013, p. 69.

[205] Storesletten 2003, p. 490, Brücker 2013, p. 28.

in high-skilled segments, generating positive externalities with regard to public finances in the future.[206]

Both employment and education (for immigrants with a young age of arrival or second-generation immigrants) can be interpreted as expressions and results of integration. Through those channels, integration exerts a large influence on the net fiscal effect of the immigrant population.[207] The enormous loss of public revenues due to the lack of (economic) integration of immigrants is addressed by numerous publications.[208]

On a macro level, fiscal impact of immigrants is influenced by general factors that may vary from country to country which makes it difficult to compare the fiscal effects internationally. For the purpose of this thesis they are referred to as macro factors. Total size of the public sector or the structure of the public welfare system are examples for those determinants.[209] A theoretical comparison of fiscal impacts of equal immigrant groups in terms of micro factors in different countries (in terms of macro factors) can therefore produce completely contradictory results.

Note that the macro factors and the immigrant population are not independent from each other as the number of immigrants and their composition and economic performance is influenced by those macro factors and vice versa.[210] Probably a generous and well-developed system of social protection will attract a different type of immigrant than a lean welfare state that provides only the bare essentials or contains strict entry barriers for migrants to its social security system. However there is no clear empirically examined evidence for this systematic welfare migration. Brueckner (2000) concludes his review of seven independent studies by stating that empirical evidence is mixed and *"at best mildly positive in favour of the hypothesis of welfare migration" (Brueckner 2000, p. 519)*.

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206 Smith and Edmonston 1997, p. 334 find negative contributions for low-skilled immigrants and larger positive contributions of high skilled immigrants in the USA.

207 Storesletten 2003, p. 504, Rowthorn 2008, p. 577.

208 See Fritschi and Jann 2008, p. 10, Bonin 2014, p. 53 for estimates from German data.

209 de la Rica et al. 2013, p. 68 This makes integration especially important for European societies which maintain a relatively generous social security system, as the potential costs are higher than for example in the USA. Furthermore, the social security systems in Europe are already under pressure from an aging population, see Kerr and Kerr 2011, p. 20.

210 Nannestad 2004, pp. 759–761 argues how a generous Danish welfare state obstructs the labour market participation of non-western immigrants in two ways: social benefits reduce the incentives to enter the labour market and a relatively high minimum wage prevents immigrants from compensating a lack of language skills with lower wages.

De Giorgi and Pellizzari (2006) use data from 15 European countries to find out whether the large variations in the welfare systems of the member states affect immigrant settling decisions. Although they find weak but significant evidence for a "magnetic effect" of welfare, they conclude that other explanations like unemployment rates, the size of the already existing immigrant populations, or wage differentials between source and destination countries offset this welfare effect.[211] They add, however, that the composition rather than the amount of immigrants could be influenced by differences regarding the generosity of the welfare state. This could distort otherwise economically efficient immigrant flows in terms of relocating a relatively scarce type of labour to regions with high wages and low unemployment.[212]

Borjas and Trejo (1993) conclude that there is a relationship between welfare benefits and the country of origin of existing immigrant flows. This could serve to distort immigrant composition in terms of education and skills, since country of origin is a determinant for average immigrant human capital. Preston (2014, F574-F576) reviews literature about welfare and immigration decisions and confirms the role of welfare as one factor among others.

The case of Germany, where around 96 % of all people with migration background life in former Western Germany and Berlin[213], although the social security systems do not distinguish between East and West is a further indication of the relevance of factors other than the generosity of social benefits for the settlement decision of migrants.

Summarizing this matter, immigrants do not seem to choose their host location based on the availability and extent of welfare benefits and social assistance. Instead, the availability of jobs and existing immigrant populations are the important determinants of the settling decision, with welfare benefits playing only a minor role.[214]

Now, in the opposite case, we consider the effect of (expected) immigration on the respective social systems in order to illustrate the interdependence. Public

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211 De Giorgi and Pellizzari 2006, p. 19 A millionfold flight migration within a short period of time, as Europe experienced it in 2015/2016, however, is naturally not yet included in the data used here. Such migration could lead to different results with regard to the settlement decision.

212 De Giorgi and Pellizzari 2006, pp. 19–20.

213 Schönwälder and Söhn 2009, p. 1443.

214 Zavodny 1997, p. 8, Vedder et al. 2000, p. 361.

fear of being a "welfare magnet" for a growing population of economically dependent immigrants could lead to restrictions being placed on their entitlement for social welfare benefits.[215] Alternatively, the general benefit level for all citizens could be decreased as part of a "race to the bottom" between competing entities[216] in the sense of Brueckner (2000, p. 507). According to his study, fear of attracting welfare migrants (not necessarily current migration) from other states induces lower than optimal (or socially desirable) benefit levels in all states.[217] Past or potential immigration can thus alter the macro factors of an economy as well. General macro factors thus can be as crucial as the specific factors for determining the fiscal impact of immigration. Concluding generally, migrants (like natives) impose fewer costs in a lean welfare state like the USA than in a generous welfare state like those in Western and Northern Europe.

Interpreting the broad range of contradictory results from empirical studies shows the huge variety of potential determinants of the fiscal impact as outlined above. Assumptions about these determinants, the empirical method employed and data selection are factors that drive the conflicting results.[218] Two broadly different ways of assessing the impact of immigration on public finances exist, namely a dynamic and a static approach.[219] Both have pros and cons and consequently examples of both kinds of empirical studies will be cited to provide an overview of the fiscal impact of immigration.

The first ("dynamic") approach can be summarized as *net present value of lifetime costs and contributions*. Studies examine the net present value of the fiscal benefits and costs of immigration over a lifetime, respecting the fact that people typically impose varying costs and benefits during lifetime depending on age. The researchers argue that the costs and benefits of the total lifespan need to be considered when calculating the fiscal impact of immigrants. Typically, a person induces a net fiscal burden in the first years after birth, followed by a period with large benefits accruing to the public finances during the years of working age.

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215 For example, the restrictions of welfare benefits for immigrants established in the USA in 1996, see Zavodny 1997, p. 2 for an assessment of the effects.

216 Brueckner 2000 uses states of the U.S. as example, but the theory is transferable to the countries of the EU as well.

217 Brueckner 2000, p. 522.

218 Kerr and Kerr 2011, p. 21.

219 Rowthorn 2008, p. 566, Preston 2014, F570.

Afterwards the annual net effect again turns negative caused by pension benefits and increasing healthcare costs.[220]

Immigrants represent special cases as they are not present in the host country since the time of birth but since time of arrival at the respective age. However, second generation immigrants, born in the host country to immigrant parents can also be interpreted as part of the immigrant population when assessing their fiscal effects. Studies show that the intergenerational integration progress[221] rather than the level of integration of first-generation immigrants can decide about the size and direction of the fiscal impact.[222] An immigrant is expected to pose a fiscal burden for a short time after arrival (similar to the period of time after birth in case of natives) until a relatively long period of tax revenues make her/him contribute to the public finances until her/his retirement.[223]

Long-run dynamic studies have the deficiency of depending critically on assumptions about the respective disputable discount rate, return migration and long-run labour market outcomes.[224]

Lee and Miller (1997) pioneered with their dynamic longitudinal study of the fiscal impact caused by new arrivals to the U.S. society in the 1990's. They find vast differences between migrant individuals, depending on their level of education and on age at which they enter the host country.[225] Tertiary-educated immigrants are the only group for which positive net contributions are reported, with the ordinary immigrant causing a small negative net present value of lifetime fiscal costs and benefits of - 3000 $.[226] When including children of those immigrants in the calculation, a different picture emerges. In other publications those children spend their youth in their parents' immigrant household, in the course of this using expensive public education services, and then found a native household the moment they move out, live independently and earn their money.[227] This would negatively bias the estimated immigrant contribution. In Lee and Miller (1997), the high expected positive contribution of those children, regardless of

220 Storesletten 2003, p. 488.
221 Made by the children of the first-generation immigrants.
222 For example Lee and Miller 1997.
223 Storesletten 2003, p. 488.
224 Bodvarsson and van den Berg 2015, p. 180.
225 Lee and Miller 1997, p. 350.
226 Lee and Miller 1997, p. 334.
227 Lee and Miller 1997, p. 352.

the parents' education, brings up the net present value of an immigrants fiscal contribution to around 80.000 $ in a cross-generation perspective.[228]

Ekberg (2011) examine the long-run effect of future immigration on Sweden's welfare system, in the context of the country's ongoing demographic change. They combine a dynamic model predicting the future net flows of tax- and social security contributions of immigrants with an explicit demographic model of future population developments.[229] Sweden (like Germany) has a relatively extensive social security system[230] and is therefore well suited for comparisons. The results in both an optimistic as well as a pessimistic scenario indicate only small net fiscal effects relative to the GDP. In an optimistic scenario in terms of labour market integration, the net contributions of immigrants to the public sector are small but positive. At the same time, in the pessimistic scenario, they are small but negative.[231] Therefore, none of the results justify a focus of immigration policy mainly on its consequences for public finances. Instead, the authors emphasize that in terms of a positive fiscal impact it would be best to increase labour market integration of immigrants already living in Sweden instead of attracting and integrating new immigrants. The reason for this is the relief such measures bring to the social security systems as they help to decrease existing costs if they are successful.[232]

Bonin (2014) estimate a net present value for positive contributions of the current population of foreigners to public finances in Germany of around 148 Billion €.[233] Note that the term "foreigner" in the German context differs from the definition of "foreign born immigrant" used in most international publications. [234] He also estimated the fiscal impact of a second generation of children from this population of foreigners. He found that at least 30 % of those children would have to get integrated in the sense of aligning their average tax payments and ordinary usage of social benefits to the non-foreigners average in order to not be a liability for public finances over their lifetime.[235] If, on the other hand, the new generation

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228 Lee and Miller 1997, p. 337.
229 Ekberg 2011, p. 106.
230 Eurostat 2018.
231 Ekberg 2011, pp. 116–117.
232 Ekberg 2011, p. 121.
233 Bonin 2014, p. 53.
234 Bonin adds that the contribution of the larger group of people with migration background would be even higher since they are in average better integrated than the examined subgroup of foreigners. See Bonin 2014, p. 14.
235 Bonin 2014, p. 54.

were to show the same characteristics in terms of contributions to and use of social benefits and services as their parents, they would become a fiscal burden[236] since all their costly education is attained in and would stress the national budget of Germany.[237] This shows once again that a positive fiscal contribution of the children of immigrants depends strongly on their (assumed) integration into labour market.[238] When including the costs per capita for infrastructure, defence etc. on an average cost basis[239], each foreigner implies a fiscal deficit of around -79.000 € whereas a German citizen implies a much smaller deficit of -3.100 €.
Kirdar (2012) contributes to the long-run dynamic examinations by addressing endogenous or self-selected return migration as an important factor when assessing long-term total fiscal contributions of immigrants. Other publications either using exogenous out-migration or neglecting the matter entirely, underestimate the fiscal contribution of immigrants since it will be mostly the economically least successful individuals who emigrate.[240] Precisely these individuals will no longer need subsidies for old-age pensions and health care. Using data relating to the fiscal impact of immigrants on the German pension- and unemployment insurance systems, the author shows that immigrants' contributions are underestimated by 20 to 40 % by neglecting selective out-migration.[241] He emphasizes that net contributions to these particular insurance systems are positive regardless of age of arrival for many migrant groups in Germany.[242]
The second ("static") cluster of studies focusses on a shorter period of time, often on a single fiscal year[243], and moreover on specific immigrant groups in order to reduce the heterogeneity in important characteristics between the groups. Those studies try to answer a more specific question, namely: *"what fiscal impact have these immigrants made in this country during this time-period?"* Therefore, a static accounting framework is used to estimate the annual profits and costs to the respective taxpayers either of all immigrants or of a sub-group. As typically first-generation migrants are younger than natives, the neglecting of lifetime

236 Bonin 2014, p. 54.
237 Preston 2014, F586.
238 Organisation for Economic Co-operation and Development 2013, p. 145.
239 Which is problematic, as explained above.
240 Kirdar 2012, p. 454.
241 Kirdar 2012, p. 480.
242 Kirdar 2012, p. 480.
243 Organisation for Economic Co-operation and Development 2013, p. 133.

earnings can lead to an underestimation of the immigrant's contributions. This is broadly seen as the most important limitation of this static approach.[244]

Vedder et al. (2000) ascertained from US data that, when excluding immigrants from five *"refugee-intensive countries"*, the proportion of welfare receiving immigrant households (6.7 % of all immigrant households) was below the native's proportion (7.4 %) in the 1990 census.[245] They conclude that voluntary economic immigrants have been no fiscal burden to the US.

Dustmann and Frattini (2014) examine European immigrants in the UK starting in 1995 until 2011 on an annual basis (a repeated static approach), explicitly taking into account their contributions to fixed public expenditures, for example military costs which are not increasing proportional with the total population. In contrast to Non-European immigrants, who have negative net contributions (similar to natives in the specific period), European immigrants benefit the public finances substantially.[246] They estimate that immigrants, who came to the UK from 2000 onwards, provided a share of the fixed public expenditures of around 24 Billion £ from 2001 to 2011.[247] The authors add, that immigrant composition in terms of age and education in the UK is favourable compared to other European countries, for example Germany.[248]

Bonin (2014) reports a significant positive contribution of 22 Billion € or 3.300 € per foreign citizen for 2012 to public budgets in Germany. In his calculation, he annually deducts the value of social and educational benefits received by foreigners from taxes and social security contributions paid by the group of foreigners. A higher unemployment rate and lower wages among foreigners are compensated by lower average age and higher ratio of people in the working age.[249] Note again that foreigners or "Ausländer" do not represent the entire migrant population of Germany, as explained in chapter 6.1.2.

Ruist (2014) uses an interesting quasi-natural experiment on that matter: As a reaction to EU enlargement of 2004 by ten mostly Eastern European countries

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244 Boeri 2010, p. 655.

245 Vedder et al. 2000, p. 361. Only newly arrived immigrants who arrived from 1980-1990 were examined.

246 Dustmann and Frattini 2014, F628-F630.

247 Dustmann and Frattini 2014, F629.

248 Dustmann and Frattini 2014, F629-F630.

249 Bonin 2014, p. 51.

(A10)[250], all fifteen previous members except Sweden imposed limitations on welfare eligibility of immigrants from the new member countries. Background of these measures was the well-known fear of mass immigration by poor and uneducated migrants into the social systems of richer countries. Sweden thus was the only country exhibiting the combination of unrestricted immigration (for immigrants from the new member countries) and unrestricted access to a relatively generous welfare system.[251] The results of the static analysis for Sweden in 2007 indicate that the net fiscal contributions for the A10 immigrants are around zero or slightly positive.[252] At the same time, migrants do not differ significantly from society as a whole when it comes to their propensity to claim social benefits.[253] The author argues that those numbers are the lower boundary of A10 immigrant fiscal contributions as they were not eligible for welfare to the same extent in other countries.[254]

Empirical literature cannot be summarized easily due to its diverse results, stemming from a wide range of assumptions made and models used.[255] If there is a single pattern to be found in the empirical literature, it is that fiscal contributions even of large immigrant inflows in total are rather small and could be located mostly within the range of ±1 % of GDP.[256] That implies, immigration is hardly a solution to foster financially stressed budgets of welfare states facing demographic change.

The mixed results are also due to the wide variety of very large versus strongly negative net contributions for different kinds of immigrants, differentiated as shown above by the micro factors and the integration context.[257] In general however, immigrants tend to contribute less than natives in terms of taxes and social

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250 Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia.

251 Ruist 2014, p. 20.

252 Ruist 2014, pp. 31–32.

253 Ruist 2014, p. 33.

254 Ruist 2014, p. 37.

255 Preston 2014, F587.

256 Rowthorn 2008, p. 577, Organisation for Economic Co-operation and Development 2013, p. 159, Ekberg 2011, 116,118.

257 Lee and Miller 1997, p. 353.

security payments due to their on average less favourable labour market positions.[258] Many publications utilising data from several countries furthermore conclude that the differences between migrants and natives regarding their fiscal impact stems from lower tax payments instead of a higher use of welfare benefits.[259] Beyond this, there are some widely acknowledged and intuitive conclusions about the direction of the effects of the aforementioned micro-factors on the fiscal balance. Young, skilled immigrants, after school age, who seek employment and migrated voluntarily for economic reasons are rarely a fiscal burden but tend to generate large benefits over lifetime.[260] This result is subject to the precondition that these migrants find a suitable job appropriating their skill level, i.e. that they are *integrated* in the sense outlined in this thesis. As economic immigrants, usually younger than the respective natives, represent the majority in most immigration flows, the total fiscal impact of immigration is positive in most studies for most countries.[261] The OECD lists Germany as an exception[262] due to its relatively old former "guest worker" population with many individuals already in their pension age.[263]

Immigrants close to or above the retirement age, infants, refugees, and displaced persons are more likely to be a burden for public finances[264] as they represent frequent recipients of public services and social welfare benefits.[265] Immigrants, especially involuntary ones from the latter two groups are not positively self-selected to the same extent as labour migrants who immigrate specifically for better career opportunities in the respective host economy.[266] Non-economic immigrants usually do not plan their migration but step in spontaneously. Consequently they do not have the possibility to previously invest in transferable human capital or to adjust their country-specific human capital beforehand in order to utilize it in the host country.[267] In addition, such refugees might have a plan to return home as soon as reasons for their fleeing from troubled regions have

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258 Organisation for Economic Co-operation and Development 2013, p. 161.
259 Lee and Miller 1997, p. 349, Ruist 2014, p. 33, Organisation for Economic Co-operation and Development 2013, pp. 154–155.
260 Organisation for Economic Co-operation and Development 2013, p. 129.
261 Poot and Cochrane 2005, p. 26.
262 Together with France, Ireland and some Eastern European states.
263 Organisation for Economic Co-operation and Development 2013, pp. 147–148.
264 van Suntum and Schultewolter 2016, pp. 34–35.
265 Vedder et al. 2000, pp. 359–361.
266 Chiswick 2000, p. 12.
267 Bauer et al. 2000, p. 26.

ceased to exist. The expected length of stay, which is an important indicator of integration efforts, is therefore lower than for economic migrants who are going to stay in their new home country. Besides this, individuals of older age in general have fewer incentives for investing in human capital.[268] This is usually less relevant for natives than for migrants, as they may also be dependent on human capital investments such as language skills at an advanced age. Due to the large range of differences between the types of immigrants with regards to their fiscal contributions, the composition of the immigrant population within countries explains a large share of the cross-country variation in the fiscal impact of immigration.[269]

However, there is no doubt that a successful integration and the associated economic success of immigrants is of paramount significance for immigration countries like Germany. The decisive factor marking the difference between a positive and a negative fiscal effect of immigration is the labour market participation of migrants. Non-integrated migrants in the sense of this thesis have much worse chances on labour markets, regardless of gender, with corresponding negative effects on the state budget.[270] Additionally, the importance of integration for the host country also results from the effect on the acceptance of immigration movements by the host society, which in turn depends on the fiscal effects.

Summarizing, the generally conflicting and inconsistent effects of immigration on the state budget provide in most cases no stringent or compelling argumentation either for or against immigration.[271] It is important to note that in contrast to labour migration, the often deficient (in terms of the fiscal balance) humanitarian immigration is a moral and political topic which cannot not be evaluated exclusively from the perspective of a national budget. Nevertheless, it is important to have as accurate as possible an idea of the expected costs of humanitarian immigration, which the host societies ought to be aware of.

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268 Bauer et al. 2000, p. 26.

269 de la Rica et al. 2013, p. 68, Organisation for Economic Co-operation and Development 2013, p. 133.

270 Bisin et al. 2011, pp. 85–86, Nekby and Rödin 2010, p. 47.

271 Organisation for Economic Co-operation and Development 2013, p. 161, Lee and Miller 2000, p. 353.

4 Migration History of Germany

18th and 19th century

Since the 18th century, the predecessor nations of the Federal Republic of Germany (FRG) had been emigration countries. In the 18th century, an estimated number of around 600.000 Germans emigrated to settle in South-Eastern and Eastern Europe.[272] The USA, especially Philadelphia, Pennsylvania, was the destination for at least 125.000 German emigrants as well during that time[273]. The large number of German immigrants who settled mainly in the northern states in order to make better use of their agricultural skills also led to the Franklin pamphlet quoted at the beginning. The mostly Catholic immigrants from Germany (and Ireland) soon had a fairly bad reputation among the protestant majority in the United States. It was said that their belief was incompatible with democracy, that they breed like rabbits in order to swarm the country with their kin, that they don't work and, and in the particular case of German immigrants, they were also accused of refusing to learn the host language – and these were only some of the prejudices of that time.[274] Some of them probably still sound familiar today, even though they are now ascribed to other religious or ethnic groups by other majority societies.

In many European places of origin, mass emigration accompanied the transition from an agricultural to an industrial society, combined with a strong population growth.[275] In this context, emigration was an important outlet for defusing social and economic conflicts.[276]

From 1815 until 1930, almost 5 Million Germans left Europe during the *"Great European migration"*[277], mostly to the USA but also to Canada, Australia, Brazil or Argentina.[278] Consequently, we find there to be the surprising number of around 44.7 million US Americans reporting German ancestry in todays United

272 Moch 1992, p. 64.
273 Moch 1992, p. 64.
274 Morse 1835, 4,8,9,13-16, Hochgeschwender 2018, p. 47, Heckmann 2015, p. 89.
275 The population of Europe grew by 43 % from 1800 to 1850 and by another 50 % from 1850 to 1900, see Bade 2000, p. 64.
276 Bade 2000, pp. 165–167.
277 Historians estimate that 50-60 million Europeans went overseas during that period of time, see Bade 2000, p. 142.
278 Bodvarsson and van den Berg 2015, p. 426.

States[279], making them the largest ancestry group reported by the US Census Bureau. Most of them live in the Midwestern states, but the so-called *German-belt* stretches from the north-eastern coast to the coastline of Oregon and Washington State (see *Figure 6*).

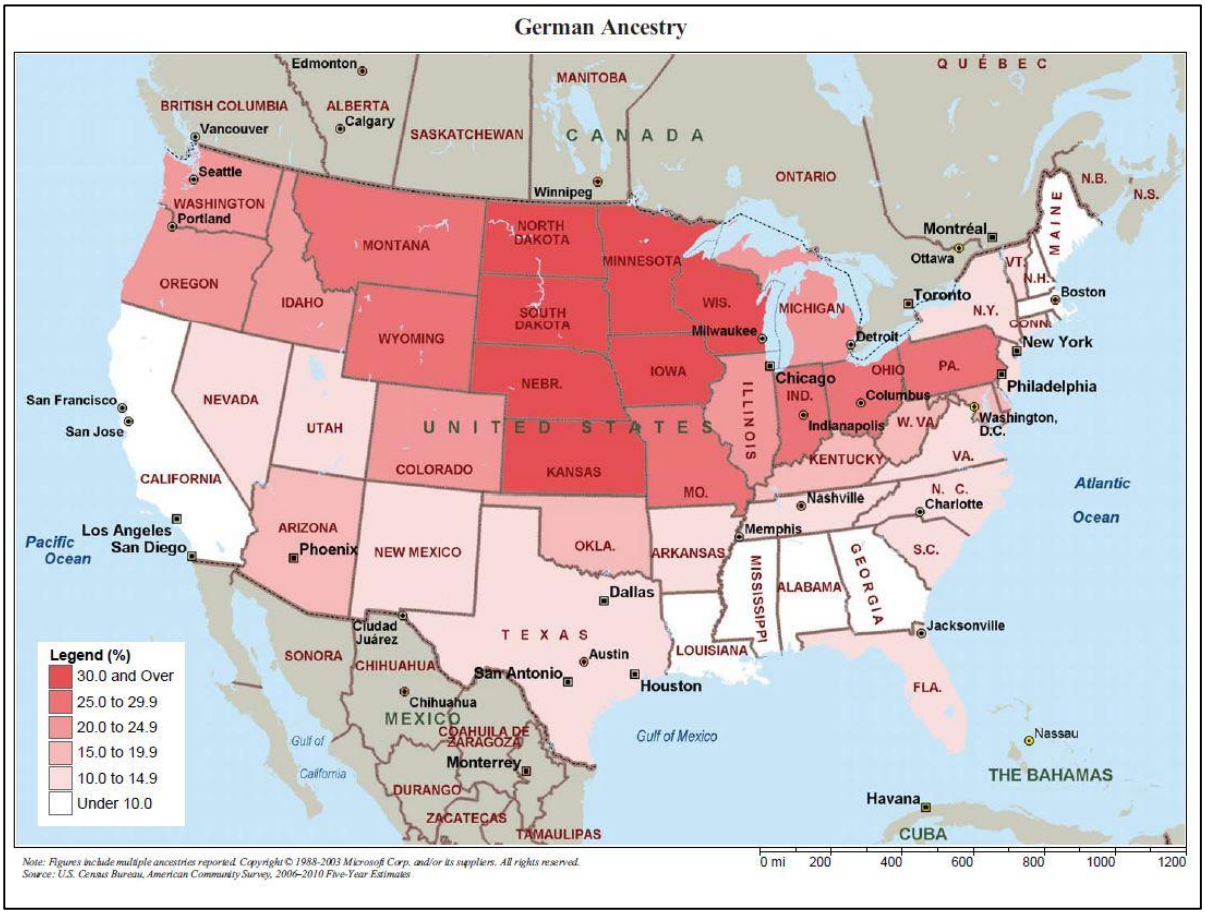

Figure 6: German Ancestry in America 2010[280]

Although Germans emigrated to the USA and other destinations during the 18th century, the mass emigration started in 1816/17 and can be traced back to the upheaval and impoverishment introduced by the Napoleonic wars in South Western Germany in conjunction with massive crop failiures in 1816. The reason for the poor harvest in the cold and wet year 1816 was a volcanic eruption in Java in 1815.[281] The mass exodus accelerated more and more due to improved travel conditions, one example being the spread of steam navigation in the 1860's.[282]

279 United States Census Bureau 2018.
280 Source: Mars and Garoogian 2012, p. 6.
281 Bade 2000, p. 129.
282 Bade 2000, p. 134.

However, from the 1890's on and at the beginning of the 20th century the favourable economic development brought about by a large-scale industrialization reduced the pressure to emigrate from Germany and turned the country into an immigration country.[283] The immigrated workers (around 1.2 million in 1914[284]) during that time mostly came from Eastern Poland, which was under Russian control, and from Italy.[285] Starting at the end of the 19th century, the institutionalized separation of domestic from foreign citizens in an attempt to control migration became a tendency in France, England and Germany.[286]

The early 20th century and World War I

As mentioned above, Germany was attracting labour immigrants until the First World War due to its strong demand for workers in the centres of industrialization. Those numbers were however exceeded during wartime by the large numbers of forced labourers (two million in 1918) which were recruited from prisoners of war. Often, the prisoners were accommodated together with a family owning an agricultural business which provided for a daily exchange there.[287] The First World War changed migration policies worldwide: the liberal era of relatively uncontrolled migration ended and government restrictions on migration became the norm.[288] Nevertheless, in the years after World War I, emigration from Germany was large again, from 1919 until 1932 more than 600.000 Germans went overseas.[289]

The 20th century brought mankind unprecedented technological progress, not least in military technology. New weapons such as heavy bombers and atomic bombs allowed the targeting of the "enemy" civilian population far away from the frontlines.[290] This development together with the arrival of *"modern nationalism"*, whose goal of homogenizing and organizing not merely the national territory but also the respective population led to genocide, violent displacements, and resettlements again and again.[291] War and mass displacement became closely

283 Bade 2000, p. 145.
284 Bade 2000, p. 222.
285 Bade 2000, p. 219.
286 Bade 2000, p. 218.
287 Bade 2000, p. 245.
288 Moch 1992, p. 161.
289 Bade 2000, p. 259.
290 Consequently, the Second World War was the first war with higher civilian casualties than military casualties, see Bade 2000, p. 284.
291 Janco 2012, p. 1.

linked[292] and were thus established as a factor determining migration flows, next to economic or political reasons.

Nazi-Reign and World War II

In this historical context, it is difficult to speak of migration in the sense of this thesis, since most of the following examples were precipitated and accompanied by brutal coercive measures. Nevertheless, this part of German history and its impact on migratory movements should not be left out. During the years from 1933 until 1939, more than 300.000 out of 500.000[293] Jews were forced to leave Germany under pressure of the racist Nazi regime. Those who stayed did not have the means to emigrate or were too old and/or sick.[294]. Even more Jewish people were threatened and forced to migrate after the annexation of Austria and Czechoslovakia before the war.[295] Restrictive immigration policies and opposition against large inflows of refugees made it difficult for many of these people to flee and settle safely in a new country.[296] The most important countries receiving forced Jewish emigrants were Germany's European neighbours as well as British Mandate Palestine and South American countries like Argentina, Brazil, and Uruguay. Later on, the European neighbours were often not able to protect their Jewish populations against the Holocaust. Furthermore, political opponents of Hitler and the Nazi regime were forced to flee by state violence. 10.000 left the country in 1933 alone.[297]

During the Second World War itself, Germany initially continued to comport itself mostly as a "producer" of displaced persons. Especially on the Eastern Front from 1939 in Poland and from 1941 in the Soviet Union, millions of people fled the "war of extermination" of the Germans.[298] Furthermore, almost 8 million forced labourers of 26 nationalities were held captive in Germany in 1944, accounting for one third of all employees.[299]

The acknowledged responsibility for the atrocities of the Holocaust and the "Total War" of extermination as well as for dozens of millions of displaced people

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292 Janco 2012, p. 3.
293 Straßenburg 2006.
294 Caestecker 2012, p. 6.
295 Another 155.000 people, see Bade 2000, p. 294.
296 Caestecker 2012, pp. 2–4.
297 Caestecker 2012, p. 1.
298 Janco 2012, p. 2.
299 Herbert and Hunn 2001, p. 187, Bade 2000, p. 287.

led to the implementation of a relatively generous right to individual asylum into the German post-war constitution of 1949 *("Grundgesetz")*.

Post-War Era

The following summary of immigration in the post-war period largely refers to the West German Federal Republic. As a state with closed borders, the East-German Democratic Republic (GDR) hardly recorded any permanent immigration. Nevertheless, large numbers of temporary workers were also recruited there, especially from the "brother states" Poland, Cuba, Mozambique and Vietnam. However, they were strictly separated from the local population, and were not allowed to bring any families with them. Moreover they had to leave the country immediately after expiry of the employment contract within the framework of the bilateral agreements between the participating countries.[300] Accordingly, the integration of migrants has only been relevant in East Germany since reunification.

Most of the developments which are relevant for today's immigrant composition in Germany happened naturally after the Second World War. Zimmermann (1995, p. 46) describes four phases of the European post-war migration, *"the periods of war adjustment and decolonization, labor migration, restrained migration, and finally, dissolution of socialism and afterwards"*. These four phases find their exact counterparts in the German history of post-war immigration.

In the first ten years after the Second World War, 12.5 millions of ethnic Germans, displaced persons, and refugees entered Western Germany from the territories of the newly forming Eastern bloc.[301] Initially, their labour was needed to rebuild the massive war damages and a little while later to support the beginning "economic miracle".[302] Since even more manpower was needed during the ensuing rapid economic development, from the late 1950's on, German employers could hire foreign workers free from government quotas (but under supervision of labour unions and federal authorities) which they did in rising numbers.[303] Before 1961 about 1.7 million people from the German Democratic Republic (GDR) migrated to the Federal Republic of Germany (FRG)[304] without being

300 Bade and Oltmer 2004, pp. 90–96.
301 Mahnig 1997, p. 5, Bade 2000, p. 297.
302 Constant et al. 2012, p. 69.
303 See Figure 7.
304 Heckmann 2015, p. 36.

able to meet the high demand for labour in all segments.[305] But this source of labour was drained due to the building of the wall leading to more people from foreign countries being needed to fill the gap.[306] The federal labour office negotiated recruitment treaties with southern European and Mediterranean countries[307] and opened as much as 400 recruitment offices there.[308] This immigration system was mainly driven[309] by the demand for cheap, low qualified labour and the workers were expected to migrate back to their home countries after some years of work ("rotation model").[310] Consequently the immigrants were negatively selected in the sense of Chiswick (2000), since they stem from economically weak regions with a high emigration pressure and poor education provision.[311]
For decades, the German economy benefited greatly from the migrant workers as they compensated for the shortage of labour without the state having to pay social expenses for their families, who stayed at home, or for old-age provision.[312] Until 1968 over one million guest workers entered Germany, and in the years until 1973 recruitment accelerated even more to a peak number of 2.5 million guest workers.[313] Only very few of them received German citizenship, which at that time was still subject to high hurdles. This quickly led to an increase in the size of the foreign population as visualized by the share of foreigners in Germany in *Figure 7*.

305 Oltmer 2016, p. 78.
306 Constant et al. 2012, p. 69, Mahnig 1997, p. 5, Herbert and Hunn 2001, p. 192.
307 Bilateral treaties where made with Italy (1955), Spain and Greece (1960), Turkey (1961 and 1964), Morocco (1963), Portugal (1964), Tunisia (1965), Yugoslavia (1968). See Castles 1985, p. 518.
308 Bodvarsson and van den Berg 2015, p. 434.
309 There is a growing number of historians arguing that (foreign) political goals played a much bigger role in both establishing the bilateral agreements and ending them in the 1970's than widely acknowledged: See for example Shonick 2009.
310 Constant et al. 2012, p. 69.
311 Kogan 2016, p. 178.
312 Woellert et al. 2009, p. 75, Herbert and Hunn 2001, pp. 195–196.
313 Herbert and Hunn 2001, p. 205.

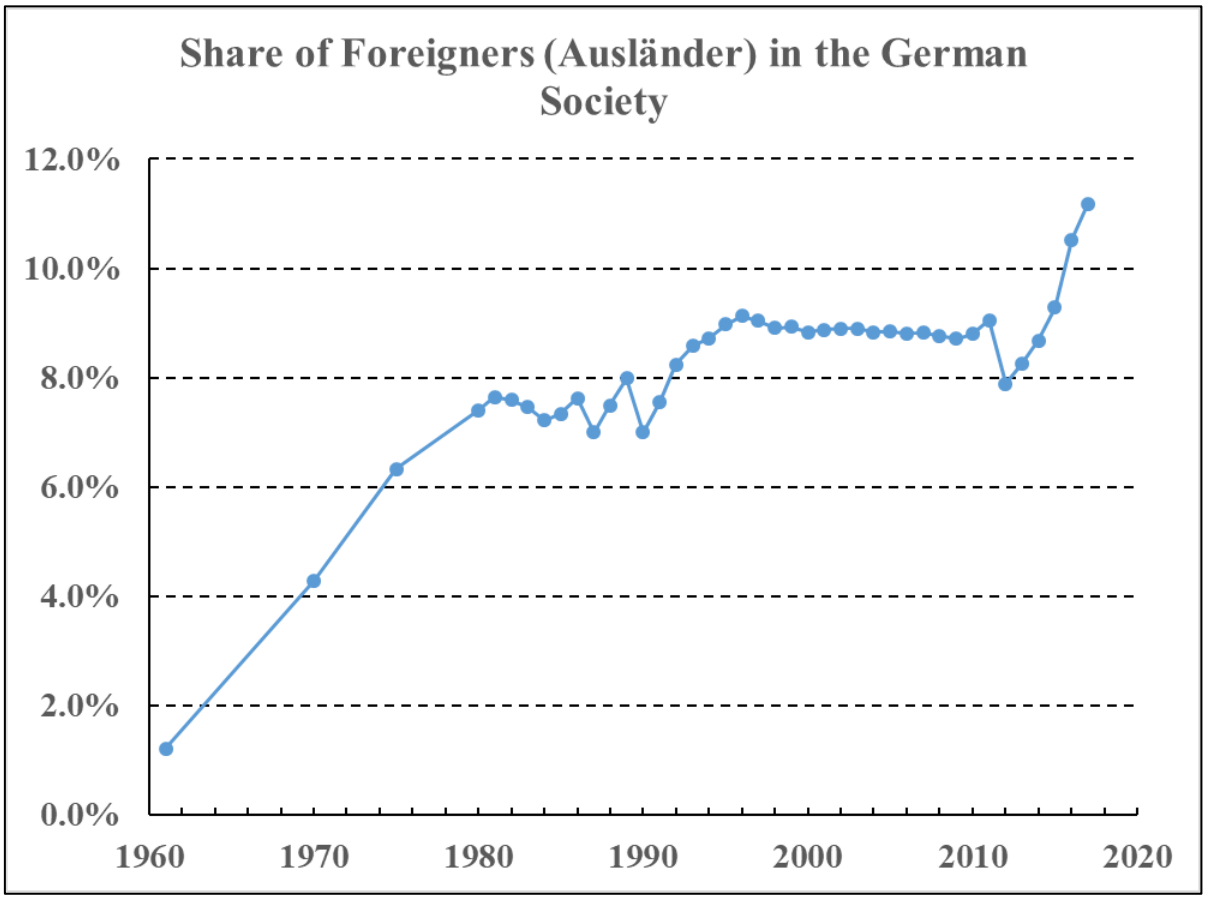

Figure 7: Share of Foreigners in German Society 1961-2012[314]

The intention, which was not pursued in many cases but did exist, to return to their home country after a short time reduced the willingness on the part of the migrants to take measures for their own integration but did so also on the part of the state and the host society.[315] Consequently, as we will see later, integration even today is much more problematic in these cases.[316] The German society simply did not require these people to integrate in any way, not even in the second generation.[317]

In the 1970's political more than economic reasons lead the West German government to halt the recruitment measures in 1973.[318] This was done to decrease the number of foreigners in German society by sending back present "guest workers" without recruiting new ones. The growing share of foreigners had spurred discontent in the German population, accompanied by an increasingly

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314 Source: Statistisches Bundesamt 2018c, Own Representation.
315 Herbert and Hunn 2001, p. 197.
316 Bijl and Verweij 2012, pp. 33–34.
317 As the formation of special classes for immigrant children („*Ausländerklassen*") in some regions shows. Mahnig 1997, p. 7.
318 Herbert and Hunn 2001, p. 210.

negative image of the recruitment policy in the press.[319] Nevertheless, economic reasons like the negative impact of the oil crisis were put forward by the government in order to avoid a discussion about the cultural and social consequences of a permanent settlement of "guest worker" immigrants.[320] The refusal to hold this necessary discussion[321], not only in Germany but in most European immigration countries,[322] led to decades of social policy without notable integration policies. As *Figure 7* shows, however, the recruitment halt of 1973 did not cause the desired reduction of the immigrant population present in Germany since many of the "guest workers" decided to stay.[323] Many remained in the country for fear of not being readmitted as migrant workers, thus changing the character and the motives of the migrant population. Over time, many "guest workers" realized that their economic hopes (enough capital for economic independence in their home country through a few years of work in Germany) would not be fulfilled. Moreover, in many countries of origin, the "guest worker" had to cope with or foresee a deterioration of the economic and political situation, which further dampened the motivation to return.[324]

But also the German companies tried to keep the workers in the country and at their workplace to avoid new search and training costs.[325] Family reunification with former temporary guest workers became an important migration pattern after 1973 until the late 1980's.[326] Between 1975 and 1981, family reunification accounted for 50-70 % of total immigration.[327] This development was made possible by the immigration laws of 1965, which rendered it legally feasible to reunite with one's family by allowing them to immigrate to Germany as well.[328] As a result, a population of temporary working migrants, mostly male, turned into a permanent immigrant population, both males and females from every age

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319 Shonick 2009, p. 722.
320 Shonick 2009, p. 722.
321 Interestingly, despite a share of foreigners of around 8 %, and a second generation of foreigners growing up in Germany, the liberal-conservative coalition felt the need to state *"The federal Republic of Germany is not an immigration country"* in their coalition agreement of 1982, see CDU/CSU, FDP 1982, p. 7.
322 Bijl and Verweij 2012, p. 34.
323 Mahnig 1997, p. 5.
324 Castles 1986, p. 770.
325 Höhne et al. 2014, p. 6.
326 Bauer et al. 2000, p. 18.
327 Höhne and Schulze Buschoff 2015, p. 346.
328 Herbert and Hunn 2001, pp. 199–200, Woellert et al. 2009, p. 13.

group.[329] As early as 1986, Castles wrote: *"The guest-workers are no longer with us; either they have gone or they have been transmogrified into settlers and marginalized into ethnic minorities." (Castles 1986, p. 775)*.[330]

Another reason for the growing number of foreigners was the higher fertility rate of migrant women combined with the "*ius sanguinis"* principle of becoming a German citizen.[331] The granting of citizenship according to this principle of descent resulted in, for example, so called Volga Germans, whose ancestors had lived in Russia since the 18th century, being immediately regarded as German citizens. On the other hand, a German-born son of Turkish parents was considered a Turk without German citizenship.[332]

The recruitment ban thus had a strong effect on the immigrant composition; women and children became the most important demographic group instead of males of working age.[333] The unintended consequences of the recruitment halt are well reflected by the fact that in 1969, before the recruitment halt of 1973, the foreigners' employment rate was at 60 % as compared to 35 % in 1982.[334] After the recruitment halt of 1973, family reunion and humanitarian migration, both primarily involving low skilled immigrants, resulted in an unfavourable qualification structure of the immigrant population in the decades to come.[335] Countries like Canada, which were early in attracting highly qualified immigrants, have fewer integration problems today.[336]

While the "guest worker" immigrant group changed demographically to comprise more women[337] and children, the native population grew older on average due to a shrinking fertility rate since the 1960's.[338] This diametrically opposed demographic movement naturally also influences the long-term trend of measured integration in the sense of harmonized living conditions.[339] Therefore the demographics need to be kept in mind when comparing the integration of "guest

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329 Woellert et al. 2009, p. 13, Constant et al. 2012, p. 70.

330 For this reason, and because of the misleading nature of the term "guest worker", it is enclosed in quotation marks in this paper.

331 Constant et al. 2012, 69,74.

332 Algan et al. 2010, F7.

333 Constant et al. 2012, p. 70.

334 Herbert 2014, p. 87.

335 Brücker 2013, p. 5.

336 Vigdor 2011, p. 13. However, problems most notably concerning the migration gap in earnings have also been raised in Canada, see Schmidtke 2009, pp. 27–28.

337 With a relatively high fertility rate, see Herbert and Hunn 2001, p. 211.

338 Kalter and Granato 2004, p. 72.

339 Kalter and Granato 2004, p. 64.

workers" and their descendants with immigrants who immigrated in another context and with other demographic properties.

Post-Cold War Era

Geopolitical events in the 1980's and 1990's again changed the immigrant composition. In addition to family reunification, the seeking of asylum became an important reason to migrate to Germany.[340] The asylum seekers in the time mostly came from Asia, Middle and Eastern Europe, and later from the civil war-ridden Yugoslavia.[341] The fall of the Iron Curtain enabled a large number of ethnic Germans from Eastern Europe and states of the former Soviet Union to migrate to Germany where they enjoyed the right to an accelerated naturalisation.[342] Without this mass naturalisation of ethnic Germans or (late) repatriates[343], the share of foreigners in *Figure 7* would have increased even more during the 1990's. The economic collapse in the post-communist countries of Eastern Europe combined with long-held mobility aspirations that could not be realized for a long time due to the closed borders before the fall of the Iron Curtain, led to a further influx of immigrants to Western Europe.

The developments described above led to a peak inflow of 1.5 million immigrants in 1992, a figure that was only reached again in 2015.[344] The high number of immigrants, especially the over 400.000 asylum seekers joined a population that was no longer willing to accept more migrants[345], which sparked a wave of racist and xenophobic acts of violence.[346] This era of violence against immigrants is not often addressed but has left deep marks until today and needs to be kept in

340 Mahnig 1997, p. 5, Constant et al. 2012, p. 70, Woellert et al. 2009, p. 14.

341 Woellert et al. 2009, p. 14.

342 Constant et al. 2012, p. 71 Ethnic Germans migrated to Western Germany from shortly after the Second World War on but the numbers started to rise dramatically when Eastern European states opened their borders for emigration at the end of the 1980's. For details, see Panagiotidis 2014, p. 114.

343 After some years with high numbers of ethnic German immigrants, politicians in 1993 decided to limit this migration path as well, at least in the future. Repatriates became "late Repatriates", a status which was only valid for people born until the end of 1992, the last generation. See Panagiotidis 2014, p. 106.

344 Statistisches Bundesamt 2018b, p. 6.

345 In 1983, 80 % of Western German citizens expressed the opinion that guest workers should return to their country of origin, see Herbert 2014, p. 88.

346 Herbert 2014, pp. 95–100.

mind when evaluating the integration success into a partly hostile society.[347] After an intensive political debate, the government changed the constitution in order to be able to limit the fundamental individual right to asylum in December 1992, the so called "asylum compromise" ("Asylkompromiß").[348] This political measure was criticised not only from a human rights perspective but also from a foreign policy point of view. This is because a considerable responsibility for the treatment of asylum seekers had been transferred to poorer countries, particularly in southern and Eastern Europe, without informing or negotiating with them.[349]
In the late 90's there was a weak decline in the immigration flows, as well as in the absolute number of foreigners. It was becoming easier to become a naturalized citizen, a course of action pursued in rising numbers not only by (late) repatriates.[350] Nevertheless, the stock of immigrants and their children and grandchildren remained large. During this time, the long-standing ideology "Germany is not a country of immigration" was largely abandoned, as reality prevailed over wishful thinking.[351]
As a result, a different policy approach to immigration became apparent. The political field of migration, was characteristically called "foreigner policy" (Ausländerpolitik) in Germany, and thus obscured the necessary participation of the local population in the matter. Since the end of the 1990s, this policy field has also been called immigration and integration policy in Germany. Thus, a more accurate and internationally accepted term has become established that better describes the actual challenges and responsibilities.[352]

Recent Developments

The complexity of the history of immigration into Germany and the wide range of countries and cultures involved are the reasons for the large heterogeneity of present immigrant living conditions.[353] As late as 2005 politicians first acknowledged the status of Germany as an immigration country.[354] More and more, the

347 Herbert 2014, p. 102.
348 Münch 1993, pp. 155–156.
349 Münch 1993, p. 151.
350 Woellert et al. 2009.
351 Heckmann 2015, p. 23.
352 Schulte 2011, p. 31.
353 Höhne and Schulze Buschoff 2015, p. 346.
354 Tietze 2008, p. 86.

positive effects of mainly high-skilled migration came into focus. The immigration of highly qualified staff was recognised as a possible solution to the emerging shortage of skilled workers and Germany's position in the global competition for the best brains was therefore to be improved.[355] Furthermore, some see immigration as an opportunity to at least mitigate the potentially fatal consequences of demographic change. With this in mind, the first "national integration plan" was formulated in 2007.[356] Net migration however was low during the first years of the new millennium and even negative during the economic crisis in 2008 and 2009 (see *Figure 8*).

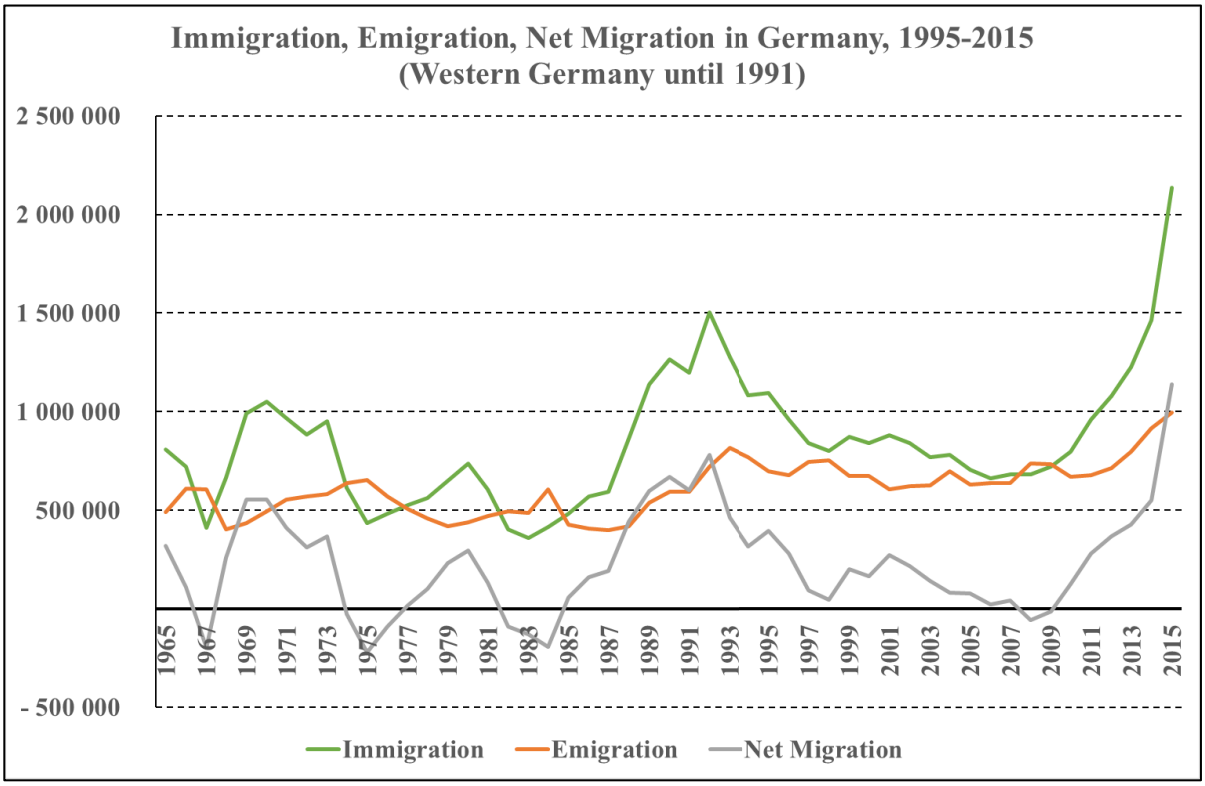

Figure 8: Net Migration to Germany[357]

In the years from 2011 until 2015, the annual number of immigrants was increasing rapidly, with 2013 being the first year where immigration was as numerous as in 1993. The extension of full EU freedom of movement to the member states Bulgaria and Romania made legal migration to Western Europe possible in many cases. The feared mass immigration of poorly educated Bulgarians and Romani-

355 Brücker 2013, p. 5.
356 Bundesregierung 2007.
357 Own Representation with data from Statistisches Bundesamt 2017a..

ans into the social systems, which was dramatically portrayed by some politicians, never occurred however.[358] Instead, there was only moderate immigration from these countries, and the proportion of social benefit recipients is below the average of the foreign and German population.[359]

Since 2015, the mass immigration of refugees and asylum seekers from Africa and the Middle East presented a new "refugee crisis" which brought the outdated European distribution mechanisms for refugees – the *"Dublin System"* – to the brink of collapse. Germany took in the majority of European refugees and therefore recorded a dramatic increase in the number of refugees in 2015 (over one million) which decreased afterwards. Germany has learned from past immigration movements and recognised the importance of integration. To this end, a package of measures has been launched, such as language and integration courses for refugees with good prospects of recognition.[360] An anti-immigration party was strengthened and became relevant for the first time in Germany, thereby catching up with developments in neighbouring European countries. The political debate in the other parties and in the public has likewise been dominated by the discourse on migrants since 2015, which makes immigration and integration all the more relevant, although the latest developments are not yet mapped in the available data for this thesis.

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358 Höhne and Schulze Buschoff 2015, p. 345, Brücker et al. 2015, p. 2 Unemployment and dependence on social benefits increased in this group between 2015 and 2017. However, we cannot speak of mass immigration into the social benefits system, as the employment rate continues to be higher than that of foreigners in general (but below the employment rate of German citizens), see Bundesagentur für Arbeit 2018, p. 12,16.

359 Woellert and Klingholz 2014, p. 35.

360 Organisation for Economic Co-operation and Development 2017, p. 12.

5 Empirical Literature about Integration

In the following, several studies on migrant integration, that are comparable to this one here, are briefly presented without claiming to be exhaustive. These are spatially divided into international and German studies. Subsequently, the present thesis with its strengths and weaknesses is embedded in the research field. As described in Chapter 2.2, the terms integration and assimilation are not used in a very selective way, especially when comparing publications from different parts of the world.

Chiswick (1978) founded the modern branch of literature on the subject of assimilation and also set the focus on income assimilation, which was to remain there for the next few years.[361]

Two major ways of measuring integration can be differentiated:

- One is the self-assessment of the subjective, perceived affiliation with either the host or the origin country on the personal level for a selection of immigrants. These subjective assessments have to be queried in elaborate surveys. Consequently, this method has the disadvantage that because of the high costs of the detailed survey, the case-numbers tend to stay low and an examination of sub-groups of immigrants might be impossible. Nevertheless, these data are important to capture integration comprehensively, as it is in parts a personal and social phenomenon which can only be found to a limited extent in objectively measurable numbers.
- The other one is the evaluation of integration using objectively measurable data from existing data sources. In most cases, migrants (according to different definitions) are compared with natives in a certain spatial unit. The data can be collected at the level of individual persons (microdata) or aggregated (macrodata)[362] and the latter either by spatial or organisational units. The microcensus data used in this paper are of course data at an individual level. Using this kind of data has the advantage that an often huge microdata base

[361] Hatton 2014, p. 43.

[362] Examples of Macrodata for measuring integration are the unemployment rates of migrants and natives in Germany or the proportion of migrants employed in the public sector.

is readily available in many countries. The large sample sizes enable us to investigate different sub-populations of migrants or natives.

5.1 Measuring Integration with International Data

The OECD regularly examines migrant integration for its member states in a comparative way. Due to the uniform and often better data basis, the EU states are often examined again separately from the other OECD countries. OECD/EU (2015) examined and compared immigrant assimilation of several OECD member states using microdata from 2012/13 to generate their assimilation indicators. They find similar employment rates among natives and immigrants, despite holding a job protects immigrants less reliable from poverty than natives.[363] Furthermore, they find that more than one in three immigrants of OECD countries holds a tertiary education degree (34.1 %) compared to 29.5 % among the native-born people.[364] On the other end of the educational ladder, immigrants in the OECD are slightly overrepresented as well with over 25 % having no or only a low level education while 24 % of native fall into that category.[365]

Interestingly for a further analysis of intergenerational progress the study utilizes the term "immigrant background" referring to 15-34 year olds with at least one immigrant parent or with own immigration experience as a child.[366] That definition resembles the "migration background without migration experience" used by the German Federal Statistic Office and thus the working definition of a second-generation immigrant in this thesis.

Shortly before the end of the editorial time for this thesis, the latest edition of the OECD Integration Monitoring was published.[367] The new study in general confirms the results, such as the over-representation of immigrants at the upper and lower end of the educational scale.[368] A similar employment rate between migrants and natives now only exists in the OECD average, while an employment gap has opened up at EU level in recent years. This is particularly pronounced

363 OECD/EU 2015, p. 11.
364 OECD/EU 2015, p. 133.
365 Low level education here means a degree not higher than the lower secondary level (ISCED 0-2), see OECD/EU 2015, p. 132 for more information.
366 OECD/EU 2015, p. 12.
367 OECD/EU 2018.
368 OECD/EU 2018, p. 14.

among immigrants from third countries to the EU and is attributed here to the economic crisis starting in 2008/2009.[369]

The OECD publications offer a detailed comparison of individual aspects of migrant integration between the various member states. However, the large number individual indicators do not allow a conclusive comparison between countries with regard to immigrant integration.

Vigdor (2011) provides such a clear and conclusive comparison of integration between different immigration countries. He uses his "Assimilation Index" based on a probit model, which is also used in this paper, to compare the integration of migrants in the USA with that in European immigration countries.[370] The international micro data for nine countries from 1999 to 2001 that he uses show that migrants were well integrated, especially in Canada and Portugal. While good migrant integration in Canada is attributed to the right selection of migrants in terms of skill level and language skills, there is another explanation for Portugal. Here colonial history is used as an explanation, since most immigrants came from the former colonies in Africa and South America and had both language skills and fast and uncomplicated ways of naturalization when they came to Portugal.[371] In general, according to his calculations, the USA is also one of the countries with the best integrated migrant population. It becomes clear that European "newer" immigration countries like France and Italy clearly lag behind the USA and Canada in terms of integration.[372] Due to a lack of data, the author could not extend his research to Germany.

5.2 Measuring Assimilation with German Data

In the context of the "National Integration Plan", governments at federal and state level have declared that data and tools in order to monitor integration processes and evaluate integration policies are needed.[373] Since then a large number of studies have been published, also by the state, which measure integration. The most important are listed briefly here.

369 OECD/EU 2018, p. 64.
370 See Vigdor 2011, p. 13 for an overview of the results.
371 Vigdor 2011, p. 13.
372 Vigdor 2011, p. 26.
373 Bundesregierung 2007, p. 121.

As a direct consequence of the "National Integration plan", the government published two "Integration Indicator Reports" in 2009[374] and 2011[375]. Both have in common that they report a multitude of individual indicators from various data sources (100 in 2009 and 64 in 2011) covering many different spheres of life. Examples for these spheres are education, labour market participation, and housing also examined in this thesis but also legal status, crime and health, which cannot be examined here due to lack of data. The indicators are examined over a period of 3 or 6 years respectively. As in most studies on the subject, the *"approximation of living conditions" (Engels et al. 2011, p. 10)* of immigrants and natives is referred to as integration. In addition to micro-data at the personal level, Macrodata at the public authority level, such as the proportion of teachers with a migrant background, are also used. The six-year repeated cross section study conducted in the second report for the years 2005 until 2010 has found a cautiously positive trend towards more integration for example in the areas of education and the labour market[376] which is also documented in general in the corresponding (third) model specification in this paper.[377]

In addition, the integration indicators of the Federal Statistical Office (Destatis) are published annually[378], which are then also part of the "Integration Reports of the Federal Government Commissioner for Migration, Refugees and Integration". What is special about them is that they consider Germans and foreigners with and without a migration background separately from each other. In addition, they already cover a relatively long period from 2005 to 2016. However, the indicators are presented as unweighted data tables, which is why it is hardly possible to draw a conclusion on the overall integration of the groups examined for the total amount of data.

In addition to the federal level, integration monitoring also takes place at the level of the states.[379] Integration in the 16 federal states cannot always be measured in the necessary level of detail with nationwide data and the indicators calculated from it which are listed above. Therefore, data at federal and state level

374 Deutscher Bundestag 2009.
375 Engels et al. 2011.
376 Engels et al. 2011, p. 18.
377 Note that the immigrant definition is wider in Engels et al. 2011 They use migration background instead of migration experience or citizenship.
378 Statistisches Bundesamt 2017b.
379 Konferenz der für Integration zuständigen Ministerinnen und Minister / Senatorinnen und Senatoren der Länder 2017.

are combined here to calculate federal state specific indicators. Again, different data sources are combined, some of which are naturally collected at country level. The lack of clarity caused by the large number of individual indicators in other government publications on measuring integration is partly countered here by the reduction to nine "core indicators".[380] However, these in turn consist of many individual indicators, so that in the end it is hardly possible to draw a conclusion. A further disadvantage is the investigation of only three large and thus very heterogeneous regions of origin. This is due to the sometimes small number of cases in individual groups of origin at federal state level. In this publication the integration in different federal states can be compared, which is interesting because many integration measures take place at this level or even below at the level of the municipalities. However, it should not be forgotten that strong fixed effects are involved and that the composition of migrants is not uniform in terms of country of origin, education and thus skill level across states.

All government publications have in common a high level of detail of a large number of individual indicators. This is an advantage if one is interested in integration in specific areas of life. However, this aspect is disadvantageous if one wants to get an overall picture of the integration of different groups of origin. As in most publications, the measurement of integration in the above is limited to structural, objectively measurable integration based on hard facts. The subjectively perceived integration, which is at least as important for the quality of living together in a society, cannot be investigated in this way. However, this is precisely the contribution of the next series of studies presented.

As another German publication in the field, the *"SVR Climate-for-Integration Index"*[381] measures the "soft factors" of integration such as perceived affiliation with society or experienced social contacts in the neighbourhood with a representative telephone survey. It is therefore an important complement to most studies, which are more concerned with structural integration on the basis of objectively measurable facts such as income. The study also uses the migration background to distinguish the terms migrant and native. Migrants, who are roughly divided into regions of origin, are surveyed as well as natives without a migration

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380 Konferenz der für Integration zuständigen Ministerinnen und Minister / Senatorinnen und Senatoren der Länder 2017, p. 8.

381 Sachverständigenrat deutscher Stiftungen für Integration und Migration (SVR) GmbH 2016.

background. The study, which covers the labour market, social relations and education, is conducted in two stages. In the first step, experiences of the participants in these fields connected to ethnic plurality are queried. In a second step their opinion towards certain cultural norms is recorded.[382]

Conducted for the years 2010 until 2015, the study finds that the attitude towards cultural diversity is in general stable, with minor differences between immigrants and natives and between different migrant sub-groups as well.[383] For example, Turkish immigrants evaluate the climate for integration worse than immigrants from the EU.[384] Another result is that the economic situation of the participant is a major factor for determining his opinion towards the functioning of the immigration society of Germany.[385] Another interesting question that approaches the topic of integration from the migrant point of view is the feeling of belonging to German society. It is this subjective "soft factor" that misses in the official German micro data and thus complements the results in this thesis. *Figure 9* shows a selection of relevant results.

[382] Sachverständigenrat deutscher Stiftungen für Integration und Migration (SVR) GmbH 2016, p. 25.

[383] However, the authors point to a limited comparability of the results due to a larger sample in the last year, see Sachverständigenrat deutscher Stiftungen für Integration und Migration (SVR) GmbH 2016, p. 33.

[384] Sachverständigenrat deutscher Stiftungen für Integration und Migration (SVR) GmbH 2016, pp. 25–26.

[385] Sachverständigenrat deutscher Stiftungen für Integration und Migration (SVR) GmbH 2016, p. 27.

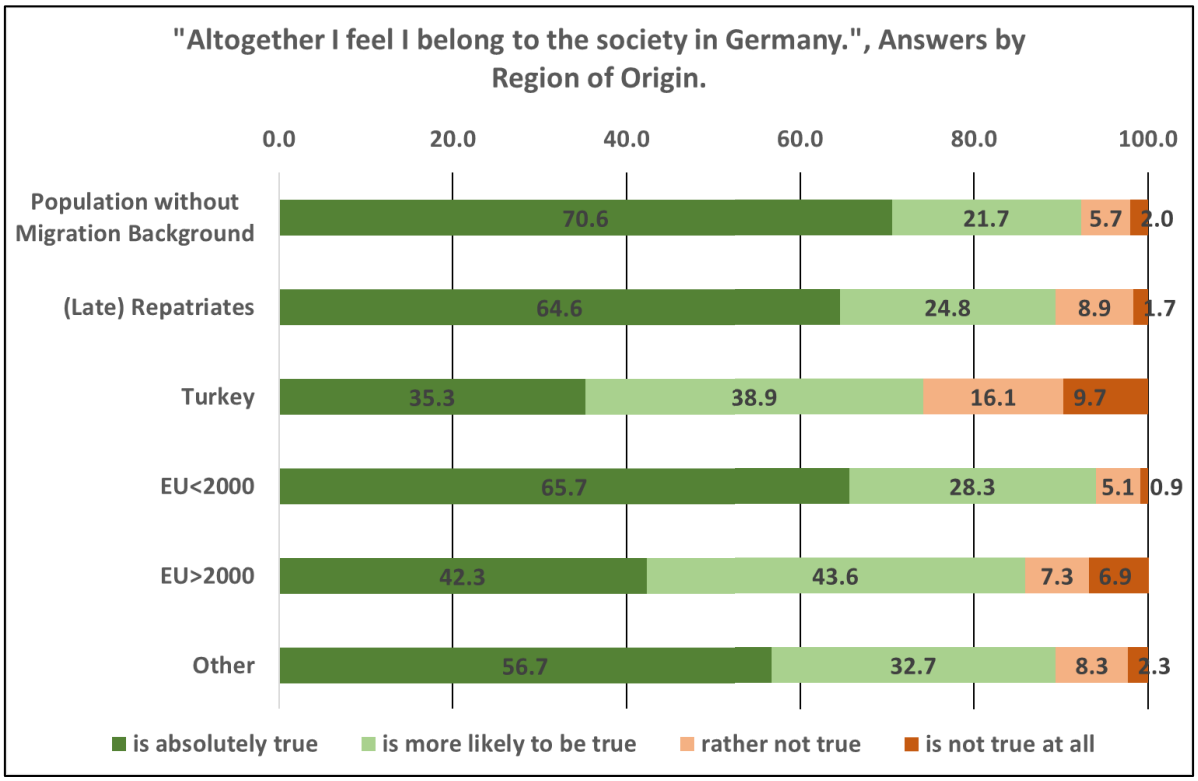

Figure 9: Sense of belonging to German society by region of origin[386]

The authors measure this factor for (late) repatriates, immigrants from the EU and from the rest of the world as well as for Turkish immigrants. Note that migrants from the first and second generation are assessed together here as the concept of migration background is used here. According to their results, only around 6 % of EU immigrants who came to Germany before 2000 do not feel a sense of belonging to the German society. Even native participants without any migration background report a feeling of rejection more often than that. (Late) repatriates, people from the rest of the world and EU migrants who came after 2000 report slightly higher numbers, around 10 to 15 percent. Turkish immigrants feel the lowest association with German society. However, only a small proportion of the respondents in this group (just under 25 %) expressed this opinion. The overwhelming majority of almost 75 % still feel that they somewhat belong to the German society. The results for this "soft factor" of the own, subjectively perceived integration align with the results presented in this and other studies about integration.

386 Source: Sachverständigenrat deutscher Stiftungen für Integration und Migration (SVR) GmbH 2016, p. 33.

5.3 Contributions and Limits of this Integration Measurement for Germany

In the next sections the construction of an integration index is described and the calculated results for Germany are presented. The integration index is intended to supplement the literature presented above by simplifying integration monitoring to a single number. Summarizing the wealth of information into an index has the advantage of clearly bundling and mapping the flood of individual indicators. This takes up a point of criticism from other studies on the subject of integration: to clearly present the large number of unweighted and confusing individual indicators. The integration index of the present paper pushes the goal expressed in other papers as well – a general overview with as few individual indicators as possible –[387] to its extreme by condensing all usable information into one key figure.

A second requirement for integration measurement is comparability over several years,[388] which often suffers from a change in indicators or data sources in the rest of the reporting. Cumulating several characteristics potentially reflecting integration into one index number enables us to track the progress over several years without losing track of the question due to a confusingly large set of indicators.

The weighting of the individual indicators used is automatically adopted by the model, eliminating the subjective and random weighting often criticized in other studies.[389] Like other monitoring instruments, the index reaches its limits where causality and the effectiveness of certain integration policy measures are concerned.

The method was first used by Vigdor (2008) to measure the integration of immigrants in the USA, and later comparing the values with those from other countries in Europe.[390] To the best of my knowledge, however, German microdata have not yet been examined in this way. The methodology used in this thesis explicitly includes the fact that changes in characteristics of the local population can boost

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387 Konferenz der für Integration zuständigen Ministerinnen und Minister / Senatorinnen und Senatoren der Länder 2017, p. 7.

388 Konferenz der für Integration zuständigen Ministerinnen und Minister / Senatorinnen und Senatoren der Länder 2017, p. 8.

389 Sachverständigenrat deutscher Stiftungen für Integration und Migration (SVR) GmbH 2017, p. 21, Konferenz der für Integration zuständigen Ministerinnen und Minister / Senatorinnen und Senatoren der Länder 2017, p. 8.

390 Vigdor 2011.

integration index values just as easily as changes among the immigrants. This way it emphasizes the two-sidedness of the integration process and the interactions between the two population groups that also occur in reality.

6 Technical Remarks and Implementation of the Model

This section first introduces the database and describes the operationalization of the variables. Particular attention is paid to the migrant status and the countries of origin. Subsequently, the Probit model used is presented and some special features of its application in the context of this thesis are pointed out. Some methodological notes follow at the end.

6.1 Description of Data and Variables

6.1.1 Survey of the German Microcensus

The Microcensus is an annual survey carried out by the Federal Statistical Office (Destatis) which constitutes the largest microdata base in Germany. It is a random representative sample of 1 % of German households, broadly equivalent to around 380.000 households with 820.000 individuals. The high number of observations allows the analysis of sub-groups of individuals with certain characteristics like immigrants from a specific region of origin.

The data have been collected annually in Western Germany since 1957 and since 1991 for the united Germany.[391] In contrast to other microdata, participation is obligatory which provides a high sample quality. Immigrants who fail to provide correct information due to language problems and are thus underrepresented in other databases, are better recorded in the German Microcensus.[392] This reduces the risk of sample selection bias that occurs in voluntary surveys when well-integrated migrants with a tendency to have better language skills provide information, while less integrated migrants are unable or unwilling to do so.[393] Although there were demands for a migration themed panel dataset for Germany in order to be able to conduct longitudinal and causal analyses, the idea got rejected for cost reasons. Instead, the Microcensus became the main data source

391 Statistical Offices of the Federation and the federal states 2017b.

392 Sachverständigenrat deutscher Stiftungen für Integration und Migration (SVR) GmbH 2017, p. 10.

393 Landry and Shen 2005, p. 1.

for federal policy with regards to migration topics.[394] It is however a representative cross-sectional dataset, not a longitudinal one, which may cause problems due to selective out-migration. Those will be addressed in the next section.
For this thesis the Federal Statistic Office provided the Scientific-Use-File of the Microcensus data for the years 1996-2012. The Scientific-Use-File is a de-facto anonymised 70 % sub-sample of the Microcensus data and is offered to researchers by Destatis in order to allow for the assessment of the data outside the safe premises of their offices.[395]
Corresponding to Vigdor 2008, the dataset of each year is restricted to individuals from 25 to 65 years.[396] That is done in order to address the problems resulting from comparing variables like educational degree or labour force participation among individuals in different phases of their lives, e.g. teenagers and seniors. Conducting those comparisons against the background of a different demographic pyramid for immigrants and natives could otherwise underestimate integration.

6.1.2 Immigrants within the German Microcensus

The general definition of an immigrant, stated above, needs to be embedded into the German context for the development of the assimilation indices with German microdata. The intention is to recreate the definition in chapter 2.1 as closely as possible with the data available concerning the migration status. The inconsistent definition and identification of immigrants over the years is a major challenge when exploiting German microdata concerning immigrants.
As *Figure 10* shows, until 2005, natives and immigrants were distinguished by the German Federal Statistical Office in the official census statistics by the terms *German* and *Foreigner* ("Ausländer").[397] Some publications, including this thesis, still use this distinction due to a lack of better data.[398] It stems from a time when immigrants were seen as temporary working migrants and naturalization

394 Sachverständigenrat deutscher Stiftungen für Integration und Migration (SVR) GmbH 2017, p. 12.
395 Statistical Offices of the Federation and the federal states 2017a.
396 Other studies use a similar age restriction, for example the IAB-BAMF-SOEP Survey of Refugees described in Kosyakova and Sirries 2017, and Laurentsyeva and Venturini 2017.
397 See Woellert et al. 2009, p. 9 and Statistisches Bundesamt 2017c, p. 4.
398 Sachverständigenrat deutscher Stiftungen für Integration und Migration (SVR) GmbH 2016, p. 20.

rates were low.[399] According to this simple classification, everybody without a German citizenship is a foreigner and everybody with a German citizenship is a German, even if he has a second foreign citizenship.[400] In cases where this old classification is being used, the definition of a foreigner is broadened to encompass a more exact distinction between the groups with or without a potential need for integration. This is displayed in *Figure 10*. Accordingly, anybody with a non-German passport is considered an immigrant, even if he also has the German citizenship.

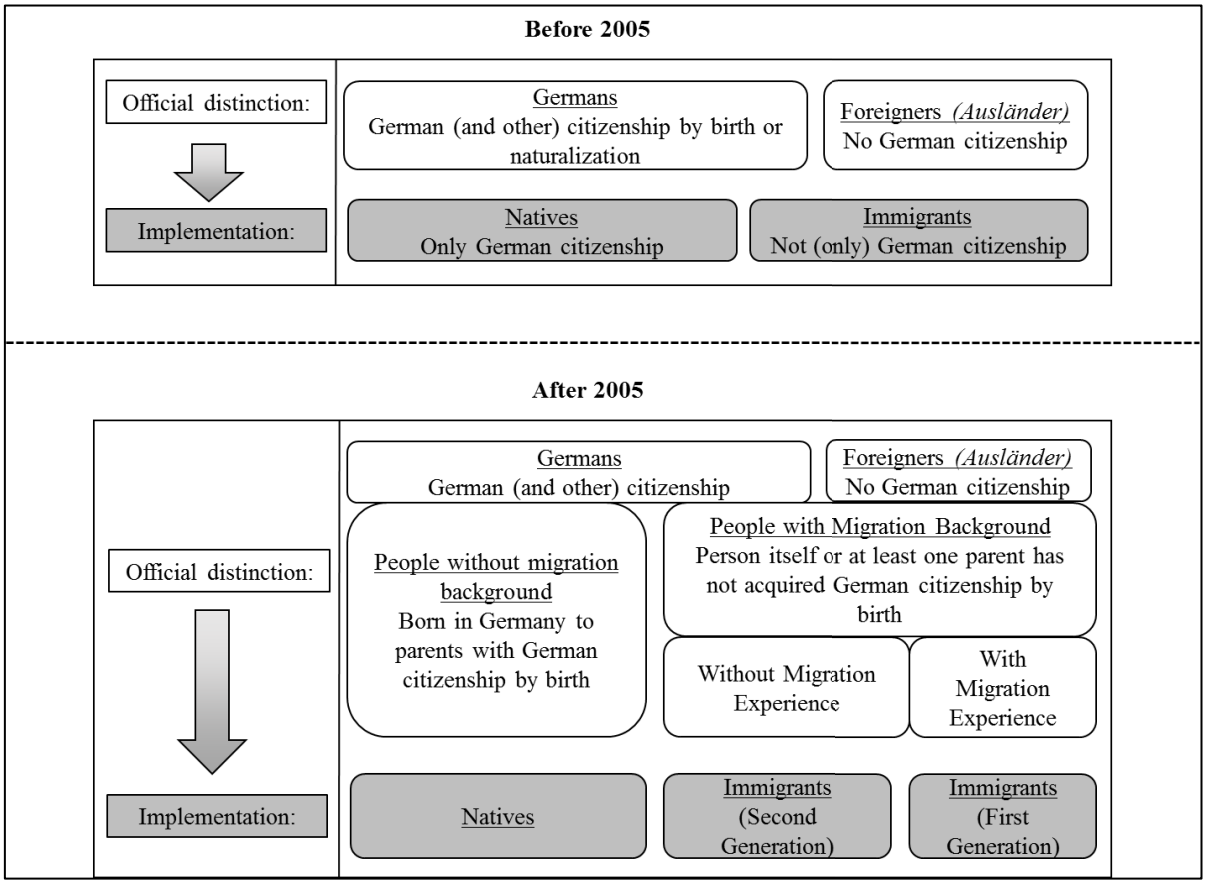

Figure 10: Migration status in German microdata and its implementation

Several developments called for a new framework to identify natives and immigrants: History shows that immigration into Germany in the second half of the 20th century was not as temporary as expected and the country turned into an immigration country as becomes apparent in *Table 1*. Furthermore, from 1990 until 2016, almost 4.3 million people acquired German citizenship and are thus no longer identifiable as foreigners according to the old taxonomy should they

399 Verband Deutscher Städtestatistiker 2013, p. 5.
400 Statistisches Bundesamt 2018c, p. 6.

have also dropped their second nationality.[401] Among them was a high number of ethnic Germans from countries of the former Soviet Union who entered Germany after the fall of the Iron Curtain as (late) repatriates. This particular group of immigrants was often granted citizenship automatically at the time of immigration or through a rapid procedure due to special regulations. They were thus counted as German natives in the Microcensus prior to 2005, complicating their identification.[402] But also more than 700.000 Turkish immigrants acquired the German citizenship between 1972 and 2009.[403]

As another development, in 2000 citizenship legislation was changed partly to an *"ius soli"* principle[404], meaning that children born "on German ground" from immigrant parents were granted citizenship by birth under certain conditions.[405] As a result, only 5 % of children born in Germany are foreigners compared to around 15 % in their parents' generation.[406] All these developments and the wide range of biographies of people living here today called for a more detailed method of describing the migration status of individuals.

The distinction according to nationality was recognised as inappropriate,[407] therefore, from 2005, the simple binary classification of "foreigner" vs German was enhanced with the concept of the migration background (*"Migrationshintergrund"*) as depicted in the lower part of *Figure 10*. The most important change is that immigrants and their children are identifiable even if they had previously acquired the German citizenship. There is still no coherent and uniform definition of a migrant or a person with a migration background in German research.[408] The Federal Statistical Office as the most important supplier of micro data defines it as follows: *"A person has a migration background if she or at least one parent has not acquired German citizenship by birth." (Statistisches Bundesamt 2017c, p. 4)*

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401 Statistisches Bundesamt 2016, p. 16.

402 See Settelmeyer and Erbe 2010, p. 6.

403 Aydın 2016, p. 6.

404 In contrast to the „*ius sanguinis*" principle which defines citizenship of a newborn according to the citizenship of the parents, regardless where the child is born.

405 See Verband Deutscher Städtestatistiker 2013, p. 6 and Settelmeyer and Erbe 2010, p. 6.

406 Verband Deutscher Städtestatistiker 2013, p. 6.

407 Sachverständigenrat deutscher Stiftungen für Integration und Migration (SVR) GmbH 2017, p. 16.

408 For example, when examining educational outcomes of young migrants, the language spoken at home could be used as a defining factor for a migrant household, whereas the micro census does not contain language data. See Verband Deutscher Städtestatistiker 2013, p. 23,40.

This means that, a migration background is defined by personal and familial factors[409] which increases data requirements and hinders comparisons with the old concept. The introduction of this new concept was thus accompanied by a broad range of new variables in the Microcensus containing details of each person's migration history.[410]

The new concept of migration background was influenced by the understanding that becoming German in the former sense – thus simply becoming a citizen by naturalization – does not necessarily mean that there is no longer any interest in the person's migration history.[411] The potential experience of lacking integration is also made by immigrants is also relevant for native Germans of the second immigrant generation.[412] Thus the new concept intends to include all individuals which may – at least in general – have a potential need to be integrated.[413] It therefore acknowledges that the group of people with a migration background is heterogeneous, possibly more heterogeneous than the group of Germans without migration background.[414]

Following from this broader definition, the group of persons with a migration background is larger than the former group of foreigner or "*Ausländer*".[415] This can lead to differing results in research projects if the naturalized citizens which "lose" their migrant status under the old distinction show systematically different characteristics than their non-naturalized counterparts (which is likely).[416] It is assumed that the group of people with a migration background systematically

409 Verband Deutscher Städtestatistiker 2013, p. 8.

410 The Federal Statistical Office differentiates between a migration background in the broad and in the narrow sense. Both versions differ in their consideration of information about parents not living in the same household (see Statistisches Bundesamt 2017c, pp. 4–5). However, information about the parents who do not live in the same household as the respective observation are only available every four years (so far in 2005 and 2009). Furthermore, when comparing both definitions, the number of observations in each version barely differs (Official data show a 0.5 percentage point difference in 2009, see Statistisches Bundesamt 2017c, p. 61). A further separation of a migration background into broad and narrow sense is therefore not required in this thesis.

411 See Woellert et al. 2009, p. 9.

412 There is a controversy as to whether or not the classification of the second immigrant generation as a minority has a stigmatising effect, see Bijl and Verweij 2012, p. 19.

413 Statistisches Bundesamt 2017c, p. 4.

414 Diefenbach and Weiß 2006, p. 2.

415 See *Table 1*.

416 Settelmeyer and Erbe 2010, p. 7.

differs positively from the group of foreigners from a socio-economic point of view.[417]

Table 1 shows the absolute and relative numbers of persons in each classification in Germany. Note that the number of people with a migration background is more than twice as high as the number of people falling under the former definition of *"Ausländer"*.

<table>
<tr><td colspan="5">Total Population Germany 2015
81.4 Mio. (100 %)</td></tr>
<tr><td rowspan="4">Without Migration Background
64.3 Mio.
(79.0 %)</td><td colspan="4">With Migration Background
17.1 Mio. (21.0 %)</td></tr>
<tr><td colspan="2">Germans
9.3 Mio. (11.5 %)</td><td colspan="2">Foreigners ("Ausländer")
7.8 Mio. (9.6 %)</td></tr>
<tr><td>Without Migration Experience
4.3 Mio.
(5.3 %)</td><td>With Migration Experience
5.0 Mio.
(6.2 %)</td><td>Without Migration Experience
1.3 Mio.
(1.7 %)</td><td>With Migration Experience
6.4 Mio.
(7.9 %)</td></tr>
</table>

Table 1: Population in Germany in 2015 by Migration Status[418]

According to *Figure 10*, for the empirical examination in this thesis all observations are classified into three groups:

1. Germans without migration background (Natives)
2. People with migration background and migration experience (first-generation immigrants)
3. People with migration background but born in Germany. (second-generation immigrants)

The probit model used later is a binary choice model. For this reason the observations of one migrant subgroup are dropped while the integration of the others into the population without migration background is investigated. This is to avoid comparing first-generation immigrants with their second-generation children. The detailed three-way classification is only possible in the years after 2006

[417] Konferenz der für Integration zuständigen Ministerinnen und Minister / Senatorinnen und Senatoren der Länder 2017, p. 5.

[418] Authors presentation of data from Statistisches Bundesamt 2017c.

when the necessary information is available.[419] As in other publications, integration is measured by comparing natives without a migration background with first generation immigrants, while the second generation is dropped from the sample. The second generation is examined later in the intergenerational perspective of chapter 7.4.

When including data older than 2006, the migrant status has to be approximated by citizenship. Thus, according to the old definition, a migrant is a person with another citizenship apart from or instead of the German one as displayed in *Figure 10*. Since the old classification offers only two groups, no observations have to be dropped for the probit model in that case. Having to use both classification schemes in this thesis requires the specification of more than one model in the analysis, which will be explained further in chapter 6.2.3 below.

In 2010, restricting the data by age as mentioned above and dropping several thousand observations due to missing values results in 235.034 observations, from which 36.628 (15.6 %) observations are considered a first-generation migrant, as defined above. *Table 2* shows the distribution of the (unweighted) observations of the most important groups of immigrants in Germany.[420] Note that here only the first-generation immigrants are listed. Second-generation observations are dropped.

[419] The year 2005 is excluded, since it shows a different proportion of first to second generation immigrants than the other years as well as the official data.

[420] See chapter 6.1 for more information about the composition of the immigrant groups respectively the regions of origins.

Region of Origin (First Gen., 25-65 years old)	Frequency	Percent
Guest Workers (Greece, Italy, Portugal, Spain)	2.558	1.1
Northern/Western Europe	2.063	0.9
Central/Eastern Europe	8.037	3.4
Turkey	5.634	2.4
Africa (East,West,South,Central)	556	0.2
North Africa	602	0.3
South America	369	0.2
USA	274	0.1
Near/Middle East, Central Asia	2.022	0.9
South/East Asia	1.568	0.7
(Late)Repatriates, Ethnic Germans	11.583	4.9
Born in Germany	198.406	84.4
No information about birthplace or not classified	1362	0.6
Total	243.800	100

Table 2: Immigrant and Native Observations in the Microcensus[421]

The largest immigrant group in 2010 are the (late) repatriates and ethnic Germans stemming from several Eastern European countries as well as from countries of the former Soviet Union. This group alone constitute over one third of the first-generation immigrants in the dataset and are the only group who is not defined by geographical information.[422] The second largest group are the Central/Eastern Europeans, followed by the Turkish immigrants. The number of observations from Northern/Western Europe as well as from the Near/Middle East are similar, making them the next biggest groups. Migrants from South/East Asia are numerous as well. Only Migrants from Africa (North Africa and remaining Africa) and North and South America have frequencies below one thousand. With more than 200 observations as a minimum it should nevertheless be possible to draw conclusions about those immigrants as well. This is particularly true in view of the fact that the entire migrant population is always included in the steps preceding index formation.

421 Source: Microcensus 2010 SUF, Unweighted Sample.
422 See chapter 6.1.3 for more information.

6.1.3 Important Regions of Origin and their Differentiation in the Microcensus

One important piece of information for each immigrant observation is the region of origin. It is a well-established fact that immigrants perform differently in a host country depending on their region of origin,[423] without this information, one could not assess the heterogeneity among the population of immigrants in Germany. A major problem with operationalizing that variable is the inconsistent data situation. Due to the anonymization of the dataset, many countries are aggregated to groups whose composition varies randomly over the years. This complicates the formation of time-consistent regions with respect to cultural, historical, or geographical characteristics. This applies in particular to the model specification that exploits data from the longest timespan, from 1996 to 2012.

In order to fulfil the requirement of logical consistency as well as to provide the required information as detailed as possible and separately for each region, I decided to use two sets of regions for the three model specifications described in sub-chapter 6.2.3. The detailed model specifications 1 and 2, which cover fewer years and use more data about the countries of origin and the migration history, will use more and slightly other groups of origin (see *Figure 11*). Model specification 3, which has to cover more years with varying levels of detail, will use a slightly different set of regions (see *Figure 12*). The two sets overlap in many important regions though.

The region of origin is made up of two main variables in the Microcensus: The first order variable is the first citizenship, if it is not German; the second order variable is the past citizenship before the possible naturalization.[424]. The classification thus largely corresponds to the concept of "extended citizenship", which is also used by the Federal Statistical Office in its integration monitoring.[425] Anyone who is born in Germany is automatically a native without a region of origin, even though he might have had a foreign citizenship in the past but got naturalized. In the case of the second generation, the region of origin is assigned to each observation as described above.

The group of (late) repatriates and ethnic Germans is a special case; these observations are identified by their migrant status in addition to the way in which they

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423 See Woellert et al. 2009, p. 7, Piché et al. 2002, p. 58,78.

424 This variable is available only after 2005 and is thus included only to some extent in the region set for third model specification examining a long time span.

425 Statistisches Bundesamt 2017b, p. 13.

obtained German citizenship. Note that the detailed variables needed to identify this group of immigrants have only become available after 2007 and thus are included only in some Model specifications.

Since model specification 1 and 2 cover a short time span where recent, detailed, and consistent data are available, the formation of groups of origin is pretty straightforward (See *Figure 11*). The regions are defined in such a way that they represent certain geographical, historical, or cultural commonalities among the included countries. In addition, attention was paid that some regions are used in other studies on the topic as well in order to ensure comparability of the results concerning certain immigrant groups.[426]

The guest workers from Spain, Italy, Portugal, and Greece are characterised by a relatively long time-period of living in Germany, similar to Turkish immigrants. However, Turkish immigrants are still examined separately because of the greater cultural distance, mostly due to their different religion. Northern and Western Europe are combined due to the cultural proximity of these countries. Eastern and the rest of Southern Europe include the former Yugoslavia and countries of the former Soviet Union and must therefore be regarded as a relatively heterogeneous group. However, the sometimes small number of observations and the aggregations in the Microcensus do not permit any further division. North Africa is separated from the rest of Africa due to its closer geographic proximity as well as the Arabian culture of the Mediterranean. The Near and Middle Eastern countries are combined with central Asia and separated from South and East Asia for cultural reasons. The last two groups, the USA and South America both have relatively few emigrants in Germany. However, the case numbers allow a separate examination of these heterogeneous regions. In general, a higher number of groups of origin means a better recognition of the heterogeneity within the migrant community in Germany. Accordingly, countries or areas were separated if the respective case numbers allowed this.

Model specification 3 covers a large period of time from 1996 until 2012 and thus places particularly high demands on data consistency. This affects the selection of immigrant regions of origin, as they need to be consistent to compare groups of immigrants over the course of 17 years. The main difficulty lies in the

[426] For example, Kalter and Granato 2004 focus on guest workers from Italy, Portugal, Spain, Greece and Turkey which are also distinguished from other migrants in this thesis. Woellert et al. 2009 also recognizes (late) repatriates as independent group of immigrants stemming from a variety of countries.

varying grouping patterns of the possible manifestations of the decisive variable "first citizenship" over the years. *Figure 12* shows the chosen regions for model specification 3. In the following part, the formation of the regions for model specification 3 is explained with an emphasis on potential problems.

The early guest workers from Italy, Greece, Portugal, and Spain are distinguishable in each year and thus pose no problem. The same is true for immigrants from Turkey and Morocco, as well as all other African countries. North Africa is not separately identified via first citizenship in the year 1996-2006 and thus cannot be used here. Since 25 % of all African immigrants in Germany come from Morocco, it serves as a proxy. The US is aggregated with Canada in 2005 and 2006 but since these countries are culturally and geographically similar, this is not seen as a problem. The Near/Middle East group as well as Central/South/East Asia is also quite consistent. North/Western Europe can be distinguished consistently with some exceptions in the years before 2006, where it is merged with the category "Rest of Eastern and Central Europe". The number of affected observations in these cases are however sufficiently low to accept this exception. The other immigrant group from Europe, namely Southern/Eastern Europe, faces minor problems in the years 1996 until 2004. In these years, a group of countries, namely the *"Commonwealth of Independent States (CIS)"* from central Asia like Azerbaijan, Armenia, Uzbekistan, Turkmenistan, and Tajikistan are merged into the group next to Russia and the Ukraine. These Central Asian states are later subsumed into the group "Central/South/East Asia". However, we may conclude from the population proportions in the CIS that most observations stem from Russia or the Ukraine and are thus correctly classified as Eastern European.

Furthermore, in 2005 and 2006, Belgium, Ireland and Luxembourg were falsely added to Southern and Eastern European countries and are thus not separable for these years.

South America is omitted in the years before 2005 since Canada, a culturally and geographically distant country with a substantial number of observations, is not separable from it. In 2005 and 2006, Central America and the Caribbean are added and from 2007 on South America can be identified perfectly.

One difference between the two sets of regions is the classification of Central Asia.[427] In model specification 1 and 2 they are grouped up with the countries

[427] E.g. Afghanistan, Armenia, Azerbaijan, Georgia, Kazakhstan Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan

from the Near- and Middle East. This is not possible for model specification 3, as it is not separable from the Far East countries of South/East Asia in the years from 1996 until 2009.

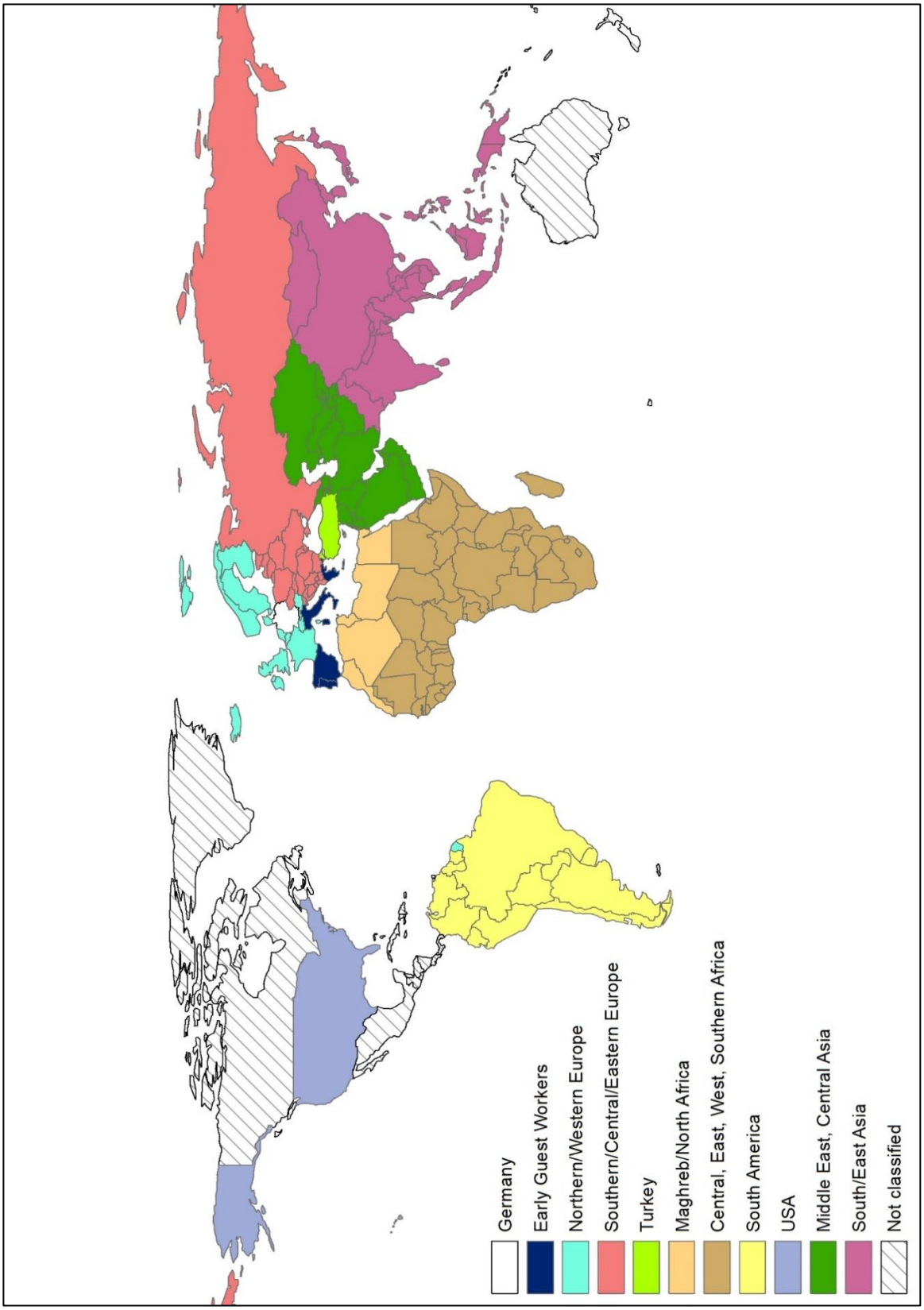

Figure 11: Regions of Origin Model Specification 1/2

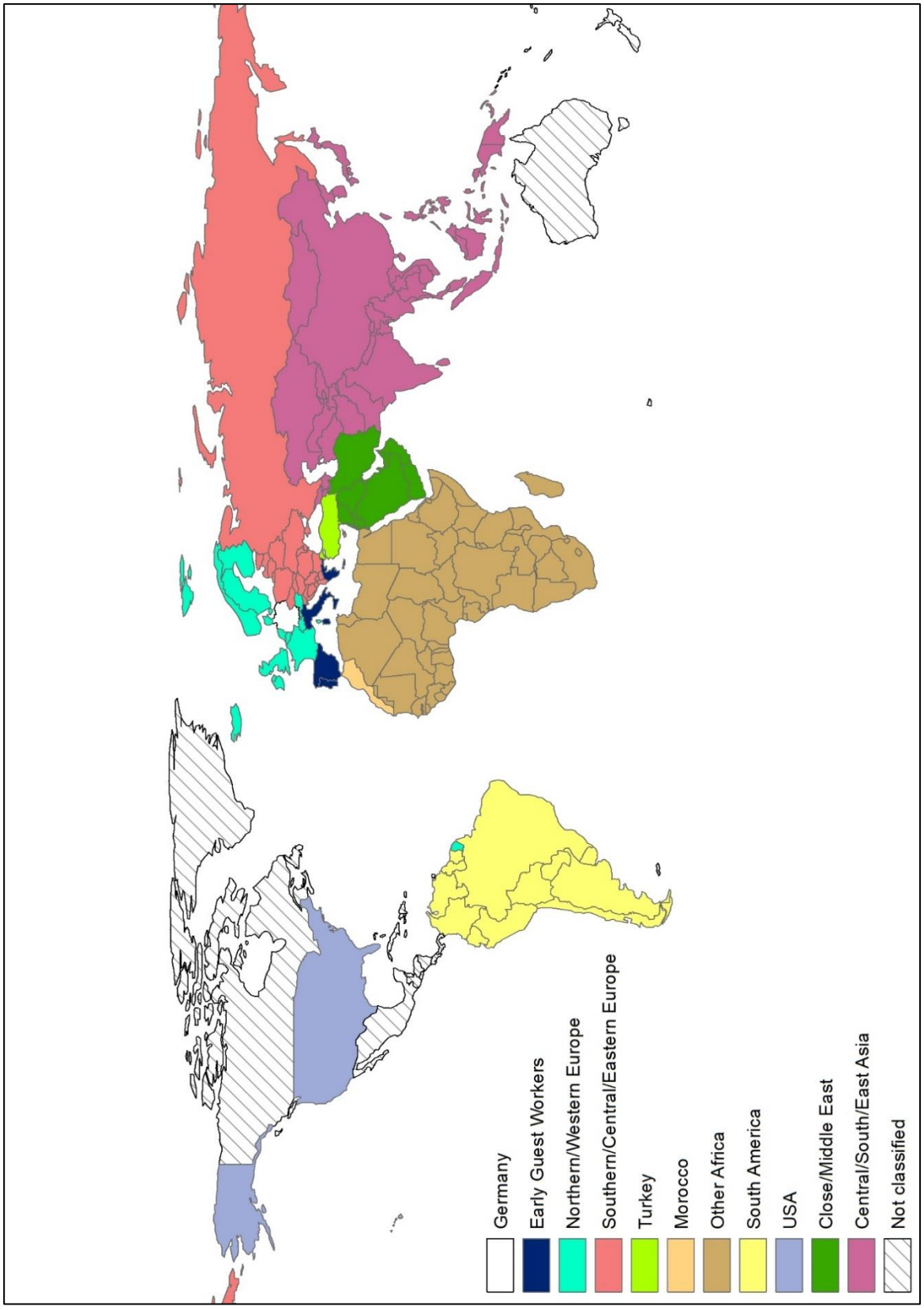

Figure 12: Regions of Origin Model Specification 3

6.1.4 Selection of Material Explanatory Variables

The selection of variables to be included into the model is based on the following criteria:

- The observations of this variable have the potential to vary systematically between immigrants and natives and therefore the characteristic has been examined in previous research in this field.
- The variable is observed in all datasets relevant for the respective model specification. When calculating the index for several years with the goal of comparing the results it is important that each index value is calculated with the same model in terms of the set of variables used. The results are completely model-driven. Adding or omitting a variable would change the measured integration without changing the "true" situation to be measured. When examining a single year in a snapshot analysis, more variables can be exploited, since it is not necessary to find every single one of them in the other years.

Also, many of the variables used here are part of the so called *"Zaragoza-Indicators"*. With those, the European Union tries to unify national measures of integration in order to examine and compare integration as a driver for development in Europe.[428] The income, home ownership, educational degrees and unemployment are examples for those variables.

Three different types of explanatory variables are used: binary variables, categorical variables, and continuous variables. Binary variables can only take two values, zero and one and are therefore easy to interpret. Categorical variables describe more complex states with more than two possible outcomes for example the highest educational or professional degree. A characteristic value, usually the one with the most observations, is selected as the basis for comparison in the later analysis of probit coefficients and marginal effects. The third variable type is the continuous variable which describes a characteristic with a continuous numerical value, for example the income.

The model includes a wide array of variables from the economic and social sphere. In the following, the variables will be presented individually and their relevance will be assessed. In addition, special features will be pointed out.

I begin with the variables from the economic sphere. Being able to cover all personal expenses with self-earned money is a fundamental dimension of a free and

[428] See Council of the European Union 2010, pp. 15–16 for an overview of the Zaragoza-Indicators.

independent life for everybody. As an immigrant in a foreign country it is also a sign of successful economic integration, thus important for migrants as well as the host population who perceive unsuccessful immigrants as a burden for their social systems. Furthermore, the rank in the social stratification is determined by the status associated with a person's career.[429]

In the host society, economic effects of migration are an intensively debated topic, foremost when migration for economic instead of political or humanitarian reasons is discussed. Nevertheless, in the long run a native society expects contributions to the economic well-being of the host country from all types of immigrants. At the same time, local workers, especially from lower ranking occupations, fear additional foreign competitors for scarce jobs.

The model measures economic integration of migrants in general: Successful economic integration most notably comes with a similar income distribution of migrants and native-born people, closely connected to the respective ranking of professions.[430] In contrast, systematic differences in the dependency of social welfare, and a clustering of migrants in low-skill, low-payment jobs are signs for a bad economic integration. The following variables are used to examine economic integration.

Labour Force Participation

Integration also happens via market relations and the resulting exchange between different population groups. These take place at the goods markets, and particularly important, on the labour markets, as they generally also include social contacts in addition to material exchange.[431] Thus, it is not a coincidence that in the modern literature immigrant assimilation (or integration) was first analysed exclusively with regard to the labour market.[432] The participation in the labour market is hence a good indicator for progress in integration. It is seen by some as a path to social integration afterwards.[433]

An individual participates in the labour force if it either has a job or searches actively for a job, hence if it strives to work. In contrast to being unemployed, somebody who is no part of the labour force does not even attempt to find a job

429 Wirth et al. 2009, p. 1.
430 Wirth et al. 2009.
431 Esser 2001, p. 30.
432 In the seminal work of Chiswick 1978.
433 Kosyakova and Sirries 2017, p. 264.

either because he/she cannot or doesn't want to. Immigrants and natives have a potentially varying labour force participation for legal, cultural and other reasons. Some types of immigrants only have limited access to the labour market[434], some migrant groups exhibit significantly lower rates of labour force participation for women[435], and some do not have the required language or other skills to enter or succeed in the German labour market.[436] For all these reasons combined, labour force participation is seen as a viable predictor for migrant status. Various studies exploit that information to study immigrant integration.[437] The necessary information to construct this binary explanatory variable can be found in the Microcensus for all examined years.

Earned Income

The ability to earn enough money to support oneself and/or a family is a crucial factor for the immigrants to live a self-determined life. At the same time the immigrant's economic independence and tax payments increase the acceptance of immigrants in the host society, further facilitating the integration process.[438] A steady and sufficient income minimizes the risk of being dependent on social welfare, thus being a burden to a countries social systems.
Immigrants often face bigger obstacles to enter the labour market and find a well-payed job that suits their skills than natives, leaving the average immigrant worldwide in inferior economic positions.[439] Consequently an immigrant wage gap is a consensus among most scholars.[440] Highly skilled and mobile members of a "global elite", mostly stemming from developed countries are a welcome exception as their migrant wage gap is positive.[441] In his seminal publication, Chiswick (1978) used the earnings of immigrants as proxy for assimilation finding out that in the U.S. immigrants face a wage gap of 17 % at the beginning of their stay which closes after 10-15 years of residence. However, the hypothesis of the catching-up process especially its speed and consistency is strongly

434 For example the over 100.000 immigrants in Germany to which only a temporary suspension of deportation ("Duldung") applies, see Bundesamt für Migration und Flüchtlinge 2017, pp. 3–5.
435 de la Rica et al. 2013, p. 27, Babka von Gostomski 2010, p. 15.
436 Kogan 2004, p. 446.
437 See for example Vigdor 2008, Woellert et al. 2009, de la Rica et al. 2013.
438 Vigdor 2011, p. 2.
439 OECD/EU 2015, p. 161.
440 See for example Algan et al. 2010, F25-F27 for France, Germany and the UK.
441 OECD/EU 2018, p. 104.

doubted. Borjas (1985) was the first to establish the concept of cohort effects that distort measured assimilation, leading the ranks of critics of the Chiswick paper. The reasons for this pattern are diverse and blaming discrimination exclusively would fall short. Income is closely tied to education, where immigrants often have deficits compared to natives.[442] Furthermore, language skills are crucial to transfer human capital into the host country and utilize it properly. In fact, the lacking transferability of human capital from the country of origin to the host country is seen as major driver of income differences between migrants and natives. This is especially true for immigrants from low income countries.[443]
All those aspects together make the earned income a relevant characteristic with the potential power to distinguish immigrants and natives in the sample and thus measure integration with the binary probit model. The net income of the last month can be found for every individual in every year in the Microcensus dataset. It is logarithmised in order to counter the mostly strongly right-skewed distribution and then included as a continuous predictor variable.

Ranking of Occupation

The problems with the recognition of educational qualifications in connection with the high importance of formal qualifications on the German labour market suggest that migrants are also disadvantaged in the hierarchy of occupations. Another reason for this expectation is the higher prevalence of over-education or over-qualification among immigrants as a phenomenon proven in datasets worldwide.[444] The position of immigrants in the economic stratosphere might be downwardly distorted by this. In fact, even when controlling for the level of education, immigrants in Germany are less likely to perform analytical tasks in their jobs or work with computers.[445]
To be able to exploit systematic differences between immigrants and natives in the hierarchy of occupations as a predictor variable the European Socio-economic classification (ESeC) is generated from the data. The ESeC is a measure for the social class of an individual, based on its occupation. The basic idea stems

442 See the description of the education variable below.
443 Basilio et al. 2014, p. 21.
444 Piracha and Vadean 2012, 2,22.
445 Dustmann et al. 2010, p. 14.

from the Erikson-Goldthorpe-Portecarero (EGP) Class Scheme[446] which was developed and used in the UK. The position of an individual in a society's class ladder is determined by the character and importance of its occupation.[447] The ESeC enables researchers to compare positions in social stratification internationally. The variable incorporating the ESeC classifies each individual into one of ten social classes in hierarchical order, from 1, "higher salariat" until 10, "Unemployed"[448] based on the information about the respective profession in the Microcensus.[449]

A higher risk of unemployment for most migrants compared to natives is a broad consensus among scientists examining the employment of migrants in developed countries.[450] Part of it can be explained by the systematic differences in human capital between immigrants and natives, other important explanations are however the industry and the size of the employer.[451] Both characteristics also play a role in defining the ESeC-class.

Note that the important binary variable of "unemployment" is implicitly incorporated in the categorical variable of the ESeC classes. An extra variable for unemployment would interfere with the set of ESeC manifestations (perfect multicollinearity), since "unemployed" is already a possible ESeC class. The categorical variable with ten possible manifestation can be derived from the Microcensus data for the years 2005 until 2012. Consequently it can only be used in the first two model specifications which do not rely on data from previous years. As with the other categorical variables, the most common manifestation is used as the baseline manifestation to which all the others are compared in the later analysis. Here this baseline category is the ESeC-class 2: "Lower salariat".

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446 Erikson and Goldthorpe 1993.

447 Wirth et al. 2009, p. 1.

448 See *Table 11* in Appendix A) for a complete List of classes with examples.

449 See Rose and Harrison 2007, pp. 472–474 for a short overview about the operationalization of ISCO-88 codes. Note that for this thesis the simplified derivation method with three-digit ISCO-08 codes was used.

450 For example Herwig and Konietzka 2012 compare differences concerning professional class positions of natives and immigrants in Germany for the years 1976 and 2008. They find a disproportionate risk of unemployment among migrants most notably for Turkish migrants. Algan et al. 2010, F24 present similar findings for Germany.

451 Kogan 2004, p. 456.

Self-Employment

Self-employed entrepreneurs are drivers of innovation and growth for every economy. They generate jobs, often because they identified new market opportunities. However, the term "self-employment" involves a large number of different kinds of occupations. There is on the lower end of the income scale there is typically group of "pseudo-self-employed" contractors.[452] Those are often in a worse position than the lower salariat, suffering from missing protection against sudden job loss or lack of proper health insurance. Limitations to their human capital such as language deficits the absence of a degree combined with lower wage demands and short-term motives could make immigrants more prone to this kind of work. Immigrants could thus be self-employed involuntarily because of missing dependent job opportunities. Going up the economic scale, small entrepreneurs with self-owned businesses with less than five employees are found in the middle, whereas successful, larger entrepreneurs mark the upper end.[453]
Entrepreneurship requires extraordinary courage and motivation as well as the will to work independently for a living. More than a worker or employee position, self-employment involves the possibility of failure as the entrepreneur is often personally liable for the company. Considering that the immigrant population is not a random sample from the source country population, but often enough an "elite" of young, motivated and able persons,[454] it is conceivable that immigrants meet these requirements more often than the average local when controlling for the level of formal education.
On the other hand, more knowledge in dealing with regulations, taxes and one's own provision is required in comparison to dependent employment. This knowledge is often country-specific, thus not transferable from the home country to the host country. In addition to all that, a certain amount of capital is needed to start and grow a business.[455] Those factors could be a reason for less independent economic activities among immigrants compared to natives.

452 Wayland, p. 2.
453 Wayland, p. 2.
454 See for example Docquier and Marfouk 2005, pp. 170–171 who report higher shares of skilled workers among immigrants compared to the native share or Chiquiar and Hanson 2002, p. 33 who find evidence for a positive selection among Mexican immigrants to the U.S.
455 Kerr and Kerr 2016, p. 1.

Due to the high relevance of entrepreneurship for the economy and to the founders themselves, immigrant self-employment is a well examined topic in the literature and thus an interesting explanatory variable. Following from the broad range of business models described by the term "self-employment" as well as the reasons explained above, the connection between migration and self-employment could be positive or negative, dependent of the educational attainment of the immigrants as well as their immigration motives.

The empirical literature suggests higher rates of business ownership for immigrants compared to natives in many immigration countries.[456] At the same time, many studies are criticised because they focus on certain high-tech clusters or have other characteristics that lead to limited transferability to the economy as a whole.[457]

In Germany, migrants are mostly found more likely than others to be company founders. The reason is seen in the extraordinary high propensity for self-employment among immigrants with university degree. Companies founded by migrants are more likely to close in the first few years. However, their higher drop-out rate compared to natives is offset by the size of the companies founded and the lifetime invested.[458] In Canada, immigrants show slightly higher self-employment rates than natives.[459] In the USA, the business ownership rate is 15 % higher for immigrants than for natives. There is a pronounced heterogeneity between the individual groups of origin, some even have a twice as high rate as native U.S. Americans.[460] Businesses founded by immigrants in the U.S. are more likely to survive and generate further employment than companies founded by natives. On the other hand, the total salary payments are lower than those of native's companies.[461] This corresponds to a lower average business income for U.S. immigrants compared to natives.[462]

Furthermore, there is a certain consensus that firms founded by immigrants contribute above-average to innovation and technological progress.[463]

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456 Fairlie and Lofstrom 2015, p. 884.
457 Kerr and Kerr 2016, p. 7.
458 Leifels 2017, p. 1.
459 Wayland, p. 4.
460 Fairlie and Lofstrom 2015, p. 885.
461 Kerr and Kerr 2016, p. 22. They excluded self-employment without a firm or employees.
462 Fairlie and Lofstrom 2015, p. 881.
463 Kerr and Kerr 2016, p. 25.

The binary explanatory variable "self-employment" is available for all examined years. It covers self-employed in any form with or without employees.

Dependence on Social Assistance

Even if migrants do not choose their destination country primarily for the extent of social security payments[464], they are more frequent recipients of social benefits than natives in most European countries.[465] However, the migrant bias typically is only small, if even significant, since unemployed immigrants are less likely to receive social benefits in that case than natives.[466]. It also depends on the type of support, there is evidence that immigrants are less likely to receive an age-related pension or payments for sickness or disabilities in host countries.[467]
A greater tendency to receive social benefits can often be explained by their other characteristics such as age, marital status and income. Researchers therefore seek to isolate an "immigrant effect" on welfare receipt that goes beyond the expectable effect based on the explanatory variables mentioned.[468] Barrett and McCarthy (2008) list six potential reasons for a positive or negative "immigration effect":

> *"Self-selection: Immigrants may have unobserved characteristics that make them more likely to choose to live in a country with more generous welfare benefits.*
>
> 1. *Migration-specific effects: Language problems or psychological trauma could lead immigrants to be more reliant on welfare.*
> 2. *Discrimination: Discriminatory practices by employers could see immigrants facing difficulties in securing employment.*
> 3. *Network effects: Networks can assist immigrants in obtaining jobs or immigrants may become part of networks that are excluded from mainstream society. Hence, network effects can lead to immigrants being more or less reliant on welfare.*
> 4. *Non-portability of entitlements: Immigrants may be excluded from the welfare system in their host countries through legislation.*
> 5. *Reduced wages: Any factors which tend to reduce the wages of immigrants, such as exclusion from public-sector jobs, will tend to reduce their employment rate and hence increase their likelihood of being on welfare."*
>
> *(Barrett and McCarthy 2008, pp. 546–547)*

In summary, for the reasons mentioned above, the dependence on social benefits for subsistence potentially systematically differs between migrants and locals. It

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464 As discussed in chapter 3.4.
465 Barrett and McCarthy 2008, pp. 557–558, Boeri 2010, pp. 672–673.
466 At least in the EU, see OECD/EU 2018, p. 65.
467 Barrett and Maître 2013, p. 21.
468 Barrett and McCarthy 2008, p. 546.

is therefore a legitimate explanatory variable. Observations in the Microcensus are assigned the binary status "predominant livelihood from public services" if the livelihood stems from one of the following sources:

- Unemployment insurance
- Basic provision for old age and reduced earning capacity
- Hartz IV or other social benefits
- other support services such as training assistance, asylum seeker benefits.

Home Ownership

Affording real estate in the host country is a sign for integration along several lines. First of all it speaks for long-term motives of the immigrant and strong commitment to the host country to invest in immobile real estate.[469] Secondly, a relatively large amount of capital is needed to be able to afford real estate which makes it also a sign of successful economic integration dependent on favourable observable and unobservable characteristics of the buyer.[470] This is particularly true for Germany where the average deposit rates are high and overall real estate ownership is relatively low.[471]

Wealth in the form of housing is a more stable indicator for economic success or economic integration as it allows both present and future consumption.[472] Furthermore, home ownership is even likely to benefit future generations, when inherited. It is thus complementing the short-term factors employment and wages as indicator of economic integration.[473]

For the owner, no matter if immigrant or native, homeownership means freedom and control over the own living situation but it comes with responsibilities that exceed those of rental housing. The owner has incentives to maintain the value and quality of the neighbourhood which promotes socially desirable behaviour.[474] There is a wide range of positive social effects attributed to home ownership like increased voluntary and political activity and a higher life satisfaction.[475] Therefore, homeownership is promoted and subsidized by the state in many countries.

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469 Constant et al. 2009b, p. 1895.
470 Myers and Lee 1998, p. 612.
471 Constant et al. 2009b, p. 1880 See Voigtländer 2009 for more information.
472 Doiron and Guttmann 2009, p. 32.
473 Sinning 2010, p. 387.
474 Rohe et al. 2000, pp. 7–8.
475 Rohe et al. 2000, p. 30.

Since homeownership is widely regarded as important sign for advancement in the settlement and integration process of immigrants[476] there is a large strand of literature analysing this topic.

Borjas (2002a) used U.S. cross-sectional census data from 1980 until 2000 and finds a significant and widening homeownership gap between migrants and natives.[477] He emphasizes the importance of the country of origin, finding large differences regarding the homeownership rates among several sub-groups of the immigrant population.[478]

Haan (2007) confirms the results for the U.S.[479] Expanding the examination to Canada, they add that early immigrants there, arriving from 1965 to 1969 even surpassed natives in terms of homeownership rates after 10 years of residence. Later immigrants are however not able to assimilate to that extent as it is the case in other immigration countries.[480]

Gobillon and Solignac (2015) report a stable homeownership gap in France for the years 1975 to 2000 despite increasing homeownership rates for both immigrants and natives.[481] Furthermore they offer explanations for that pattern which can be observed in many immigration countries. For example, immigrants are on average younger than natives and thus have had less time to accumulate the necessary wealth to acquire real estate. Immigrants also live in cities more often than natives, where homeownership rates are lower in general.[482]

For Germany, Constant et al. (2009b) find that immigrants live in their own real estate less frequent than natives and that commitment to the host country is a strong predictor for immigrant homeownership. Ihle and Siebert-Meyerhoff (2016) confirm an existing homeownership gap between migrants and natives in Germany but add that this gap between is decreasing since the 1990's.[483] Part of the decrease is explained through catch-up effects triggered by exogenous factors influencing integration like the facilitation of obtaining the German citizenship

476 Myers and Lee 1998, p. 619.
477 Borjas 2002a, pp. 450–451.
478 Borjas 2002a, p. 462.
479 Haan 2007, p. 446.
480 Haan 2007, p. 434.
481 Gobillon and Solignac 2015, 8,26.
482 Gobillon and Solignac 2015, pp. 10–11.
483 Ihle and Siebert-Meyerhoff 2016, p. 25.

in that time. Another explanation for that pattern are "soft factors" like the more widespread desire to stay in the country or better language skills.[484]
Concluding, many studies find an immigrant homeownership gap even when controlling for other relevant socio-economic variables.[485] That makes home-ownership a relevant explanatory variable for the migrant status in the Probit-model.
The information needed to construct the binary variable "home ownership" is available in the Microcensus every four years and can thus be included only in the first cross sectional model specification for the year 2010.

Square meters of living space

The availability of sufficient living space as a place of retreat from the stress of the immigration situation and the changed living conditions is an important basic prerequisite for finding one's place in society.[486] In the OECD countries, migrants live more than twice as often in overcrowded housing as locals, and in Germany the ratio is even higher. On the other hand, the share of individuals living in overcrowded houses is low within the group of immigrants and natives alike.[487]
In this thesis, the housing situation is assessed on the basis of the available square metres of living space per person.
A lower quality and quantity of available living space for immigrants are found in various studies at national level as well. Migrant dwellings in France have, on average, fewer rooms and poorer building quality compared to natives.[488] For immigrants in Germany lower square meter numbers per person are measured.[489]
From the outset, the "migrant guest workers" in particular were structurally disadvantaged in this respect, in addition to their limited financial possibilities. The long-term consequences can still be observed today.[490]
For these reasons, the variable seems suitable to distinguish immigrants from natives. The information for the construction of the continuous explanatory variable "square meters of living space per person" is only included in the Micro-

484 Ihle and Siebert-Meyerhoff 2016, p. 16.
485 Constant et al. 2009b, 1880,1895, Borjas 2002a, p. 474.
486 OECD/EU 2018, p. 101.
487 OECD/EU 2018, p. 109.
488 Gobillon and Solignac 2015, p. 22.
489 Babka von Gostomski 2010, p. 70.
490 Höhne et al. 2014, pp. 11–12.

census every four years. The variable is therefore only used in model specification 1 for the year 2010. For each observation[491], the total area of the dwelling is divided by the number of persons living in the household.

Living in a big city with more than 500.000 inhabitants

Migrants tend to settle down in large urban areas where they find economic opportunities for all skill-levels and often ethnic or national clusters of former immigrants with the same ethno-cultural background.[492] This leads to their overrepresentation in urban areas and capitals in many OECD countries.[493] Immigrants in Germany make no exception to this pattern.[494] Therefore, the size of the city of residence is a potentially suitable predictor of migrant status. The binary variable of living in a large city is 1 for a person living in a city with more than 500.000 inhabitants and 0 otherwise. The population limit constituting this predictor variable includes the 14 largest cities in Germany in terms of population.[495]

Civic Engagement

As mentioned in chapter 3.3, social capital is an important factor for economic success and social cohesion in a society. One part of social capital in a society is the civic engagement of its members. Working as a public servant shows a certain commitment to the German institutions and speaks for long-term residence motives. Thus it serves as a measure for civic engagement here. Furthermore, those jobs are highly valued by the employees for their stability, payment and other benefits. Consequently they are relatively sought-after. An immigrant competing with natives for such a position has therefore shown successful integration in other dimensions as well.
Employment in the public sector is not yet part of the Zaragoza indicators, but the implementation of this variable is being urged by scientists and politicians, which underlines its importance.[496]
The binary variable "public servant" can be derived from the data in all years.

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491 For technical reasons, observations living in collective and group accommodation cannot be taken into account. These are thus omitted even if there are probably an overproportionate number of migrants among them.
492 Baycan and Nijkamp 2011, p. 1.
493 OECD/EU 2018, p. 38.
494 Schönwälder and Söhn 2009, p. 1443.
495 Those are Berlin, Hamburg, Munich, Cologne, Frankfurt/Main, Stuttgart, Düsseldorf, Dortmund, Essen, Leipzig, Bremen, Dresden, Hannover, and Nuremberg.
496 Huddleston et al. 2013, p. 25.

Married to a Migrant

Bicultural marriages show the convergence of preferences concerning common values, life goals, or living conditions in general for people with different ethnic backgrounds. It is a strong sign of mutual acceptance and is seen as the indicator that best reflects social integration.[497] When using the migrant marriage variable, conclusions can be drawn on both groups involved in the integration process: On the one hand, marring immigrants shows a positive perception of the respective immigrant group by the natives, on the other hand, an immigrant marring a native shows the acceptance and incorporation of the views and values of the host society.[498]

Bicultural marriages are relatively rare in both examined groups. The explanation has a general level and an immigrant- or native-specific level. Becker (1982) have demonstrated with an economic model that in general people – immigrants and natives alike – tend to marry persons with similar traits like IQ, education, attractiveness, skin colour and ethnic origin (among others).[499] The reason is that the gain from marriage of two utility optimizing partners is maximized that way.[500] Furthermore, differences in educational levels, or religious and cultural backgrounds as well as age differences have adverse effects on the propensity to divorce.[501]

Now, focusing on migrant intermarriages, we have a consistent picture for migrant communities all over the world: the majority of first- or second-generation migrants marry within their ethnic community.[502] Sociologic studies confirming this marriage pattern for the United States date back until the 1920's and their results are replicated regularly in modern analysis.[503]

In Germany, immigrants having a native partner is less common than in other European countries.[504] Migrants from culturally similar, highly developed countries are the exception to this pattern, showing high intermarriage rates in more

497 Heckmann 2015, p. 184.
498 Furtado and Trejo, p. 2.
499 Becker 1982, p. 312.
500 Becker 1982, p. 326.
501 Milewski and Kulu 2014, p. 109.
502 See Vigdor 2009, p. 146 for American data.
503 Vigdor 2009, p. 144.
504 Keller et al. 2015, p. 21 find an intermarriage probability of 20 % for immigrants in Germany. The percentage of immigrants married to a native German is around 28 % in the data sample used in this thesis. The higher share could be due to differences in sample restrictions. The number is confirmed by Lanzieri 2012, p. 2.

recent German data.[505] Several factors in addition to the aforementioned general ones are causing this pattern: (1) The *"positive assortive mating"* in the sense of Becker (1982, p. 312) takes place through preferences for characteristics of the spouse that have nothing to do with ethnicity per se, but are more or less common among people of the same ethnicity, for example religion. (2) Immigrants who learn the host country language often communicate more effective in their native language with members of their ethnic group. That facilitates endogamous compared to exogamous partner search.[506] (3) At the same time, small group sizes decrease the probability of finding a partner of the own ethnicity which results in a higher probability to marry a native.[507] That partly explains high intermarriage rates and therefore a tendency for a high value of the integration index for small minorities and the opposite for large ones. In addition to that, in small communities the proportion of potential marriage partners from the opposite sex plays an important role.[508] Especially relatively new "guest worker" communities are often dominated by men.

When altering the focus to native marriage patterns, empirical evidence shows that the portion of natives who are married to a migrant is – despite increasing intermarriage rates – relatively small.[509] Of course one has to take into consideration that migrants constitute only a relatively small portion of a native's pool of potential marriage partners. But even acknowledging that, native intermarriages are underrepresented due to the fact that differences at the above mentioned preferences make bicultural marriages less likely. The *"positive assortive mating"* described above for migrants also applies to natives, who are most likely to find their preferred characteristics among other natives.

These two findings about migrants and natives intermarriage patterns combined allow the assumption that being married to a migrant is a strong indicator for being a migrant oneself. The information is used in other comparable studies in the field to assess immigrant integration or assimilation.[510] Conversely, good integration increases the likelihood of selecting a partner from the other population

505 See Woellert et al. 2009, p. 49, Vigdor 2009, p. 147.
506 Chiswick and Houseworth 2011, p. 151.
507 Furtado and Trejo, p. 7.
508 Lanzieri 2012, p. 2.
509 Lanzieri 2012, p. 2. In the data sample used, five percent of all married natives are married to a first generation immigrant.
510 For example Vigdor 2013.

group.[511] As an immigrant, not being married to another migrant but to a native speaks in favour of extensive integration and is assessed accordingly in this model.

The migrant marriage variable is constructed as a binary variable whether or not the observed individual is married to an immigrant. Two different variants of the variable are used in order to check the robustness of the model for reasons explained below. The first variant counts a spouse as immigrant when he or she is a foreigner, the second one, when the spouse is actually born abroad. Those two variants reflect the two immigrant definitions used in this thesis deducted from the ones used in the official German Microcensus data. The choice of approach has particularly large consequences for migrant groups with high naturalisation rates, above all the (late) repatriates. Depending on whether citizenship is taken as a criterion or birthplace, these groups have low or high rates of migrant marriages.

As we will see later, the variable of bicultural marriage indeed is of paramount importance in predicting migrant status for various reasons. Intermarriage is seen as an indicator for assimilation or integration itself.[512] Therefore, many other aspects of lived integration could be included as unobservable variables in the intermarriage variable. This raises concerns that the influence of other variables may be masked and distorted by this important variable.

In addition, the variable could be affected by a sample selection bias if, for example, migrants have married a migrant partner abroad. From the outset, they then no longer have the chance to integrate themselves along this line in Germany. Unfortunately there is no information about pre- or post-migration weddings in the German Microcensus.[513]

For this reasons, robustness checks are conducted for all model specifications.[514] The model specifications are estimated with two different variants of the dummy variable regarding the migrant marriage. In addition, those results are compared to a model specification in which the migrant marriage variable is omitted.

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511 Heckmann 2015, pp. 184–185.

512 Meng and Gregory 2005, p. 167.

513 As it is the case with American Census data since 1980, see Chiswick and Houseworth 2011, p. 149.

514 The results can be found in the appendix of not marked otherwise.

Number of children in the same household

To capture potential systematic differences in the fertility rate of immigrant women compared to native women, information about the number of children in the respective household is exploited. Exact figures on the number of children of each woman are not available in the Microcensus and would have the disadvantage of being zero for male observations. The advantages are that differences in the family traditions and living situations for example a longer family life in contrast to an early departure of the children can be captured at least partly by the variable as well.[515]

A higher fertility rate for immigrant women compared to native women is a well-established fact for many immigration countries in Europe and worldwide.[516] It can therefore be expected that a higher number of children in the respective household is positively correlated with a migrant status.

The number of children (under the age of 27) in the household is implemented into the Probit-model as continuous explanatory variable with discrete manifestations from 0 to 9. The variable is available for all examined years.

Marital Status

Marital status is strongly determined by demographic characteristics, which often differ between migrants and natives as well as by cultural norms. While an alignment of demographics cannot be rated as integration, since it cannot be influenced by individuals, the cultural aspect behind marital patterns can possibly be used to predict an immigrant status. As with all variables from the cultural sphere, it should be emphasized that explicitly not the conformity of immigrants to an ideal norm is measured here. This is reflected in the fact that changes in the marriage patterns of the natives can change the measured integration in this respect just as easy as changes on the side of the immigrants.

The categorical variable of marital status is available for all years from 1996 to 2012 and therefore will be implemented in all three model specifications. The possible forms are “single”, “married”, “widowed”, and “divorced”, where “married” is the most common category and therefore is chosen as base category.

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515 In line with the interpretation in Babka von Gostomski 2010, p. 68.

516 See Sobotka 2008, p. 232 and Lanzieri 2013, p. 12 for European data, and Schmid and Kohls 2010 for German data. Cygan-Rehm 2014 adds that the culture of the home country significantly influences fertility rates of immigrants in Germany.

Since 2006 there has been the category "registered civil partnership"[517] in the dataset as a further possibility in addition to "married". However, both are coded together while constructing the variable.[518]

Highest Educational or Professional Degree

The human capital brought along or acquired in the host country is regarded as a key resource for integration into the host society.[519] An extensive body of empirical literature exists about the differences in the educational attainment of migrants compared to natives. Most steps in the educational ladder can be found examined for German data[520] or with a broad range of datasets from all over the world.[521] Most studies conclude that there are in fact differences between immigrants and natives educational and professional achievements. For the second generation and for those members of the first generation who acquired their education in Germany a partial explanation for this pattern is the relatively low relevant social and physical capital in the parents' generation. For first generation immigrants there are different explanations dependent on the time of arrival. Whereas guest workers arriving before the 1980's came with lower education this does not hold true for more recent immigrants. Their problem lies rather in the low level of recognition of the foreign degrees that do exist.[522] Other factors like discrimination or language problems are being identified as drivers of inequality between migrant's and native's education as well.[523]
Note that in this analysis only observations within an age range from 25 to 65 are included, so individuals currently in school are mostly omitted.

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517 "Eingetragene Lebenspartnerschaft".
518 This also applies to the categories "registered civil partnership annulled" and "divorced".
519 Esser 2001, p. 26.
520 See Rjosk, Weirich 2017, pp. 404–405 for results concerning the educational success of immigrants compared to natives in the primary sector. See Kristen and Granato 2007 for looking into the differences in achieving "Abitur" between German natives and second-generation migrants. See Diehl et al. 2009 for an examination of ethnic differences in the access to the German system of vocational training. Seibert 2008 examines disadvantages for migrants at the German labour market due to poorer educational and professional degrees.
521 See OECD 2012 for international data, see Schnell and Azzolini 2015 for assessing the achievement gap between 15 year old migrants and natives in southern European countries.
522 Kogan 2011, p. 113.
523 Söhn and Özcan 2006, p. 101.

The German dual system of vocational education and training finds an equivalent in only very few countries. Consequently, the recognition quota for foreign degrees in the segment of professional education is only around 50 %.[524] The under-representation of immigrants in the segment of intermediate qualifications and professional training can partly be explained with this particularity in mind.[525] A study of the background to the less frequent access of second-generation immigrants to the dual education system provides Hunkler (2014).

All information about educational or professional degrees from several variables in the dataset is merged into a single categorical variable in order to avoid multicolinearity. Seven categories from 1 ("no educational or professional degree") to 7 ("Ph.D.") measure the highest achievements in this field. Consequently, each individual can only be sorted into one of those categories[526], so for example the absence of an individual's general school degree is neglected when the individual instead obtained a professional degree of any kind. At the same time a vocational training is offset by a degree from a university, an individual will only be counted as holder of an academic degree in that case.

Language proficiency is a precondition for establishing social contacts as well as for accumulating and utilizing human capital.[527] However, information about language skills are not included in the German Microcensus, thus they cannot be included in this analysis. Information about language proficiency could serve as another important indicator for integration and should be included in the future as it is available in other data, for example the Socio-Economic Panel (SOEP).

6.2 Model Description

The empirical procedure is as follows: Information about the immigrant status is available for each observation. A probability model is now used which estimates the migration status as accurately as possible on the basis of the available information given by the explanatory variables. Therefore, a probit model is estimated, which assigns each observation a probability between 0 and 1 of being an immigrant in the respective definition. The basis for this is the set of explanatory variables described above. The better the model can distinguish between migrants and natives, the more they systematically differ in their socio-economic

524 Babka von Gostomski 2010, p. 16.
525 Brücker 2013, p. 13.
526 See *Table 12* in Appendix D).
527 Brücker et al. 2014, p. 1151, Esser 2001, p. 26.

characteristics. These objectively measurable differences are then interpreted as the degree of structural integration. Subsequently, the average probability for all migrant observations and for individual groups of origin is converted into an index of 0 to 100. 100 stands for perfect (structural) integration, 0 for complete segregation.

6.2.1 The Probit Model to Predict Immigrant Status

The non-linear probit model belongs to the qualitative response models and is used for modelling binary outcomes of a dependant variable Y_i using a vector of explanatory variables $\boldsymbol{x_i}$. We do so by estimating for each observation the probability for Y_i to be 1 (migrant probability π_i), given the observable realisations of the independent variables $\boldsymbol{x_i}$. As naturally only Y_i is observed, as opposed to π_i, the probability is estimated with a statistical model. A linear model such as OLS would ignore the discreteness of the dependent variable Y_i and would not limit the resulting migrant probabilities, which are finally turned into the integration index, to the logical range between 0 and 1.[528]

In this application, the *"success probability"* or migrant probability $\pi_i = P(Y_i = 1|\boldsymbol{x_i}) = F(\boldsymbol{x_i'\beta})$ is assumed to vary across observations, depending on the respective manifestations of the regressor variables $\boldsymbol{x_i}$ and the regression coefficients to be estimated $(\boldsymbol{\beta})$.[529] The functional form of F used to model the relation between $\boldsymbol{x_i}$ and π_i, distinguishes the most important binary outcome models, the probit model used here as well as the logit model.[530] In order to achieve a π_i between 0 and 1 the functions are specified to be cumulative distribution functions (CDF).[531] The probit model uses the CDF of the standard normal distribution. The probit model in particular can thus be written as

$$Prob(Y_i = 1|\boldsymbol{x_i}) = \pi_i = \int_{-\infty}^{x'\beta} \varphi(t)dt = \Phi(\boldsymbol{x_i}'\boldsymbol{\beta}),$$

with $\Phi(t)$ being the standard normal distribution function.[532] *Figure 13* shows a graphical representation of the standard normal CDF mapping the real number $\boldsymbol{x_i}'\boldsymbol{\beta}$ onto the unit interval.

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528 Cameron and Trivedi 2008, p. 464.
529 Cameron and Trivedi 2008, p. 463.
530 In the empirical application it is mostly a matter of taste which of the two models one uses, since the results do not differ much. This is especially true for applications like the one in this study, where the results are averaged over the whole sample and no statements are made about single observations, see Cameron and Trivedi 2008, p. 472.
531 Cameron and Trivedi 2008, p. 466.
532 Greene 2012, p. 728.

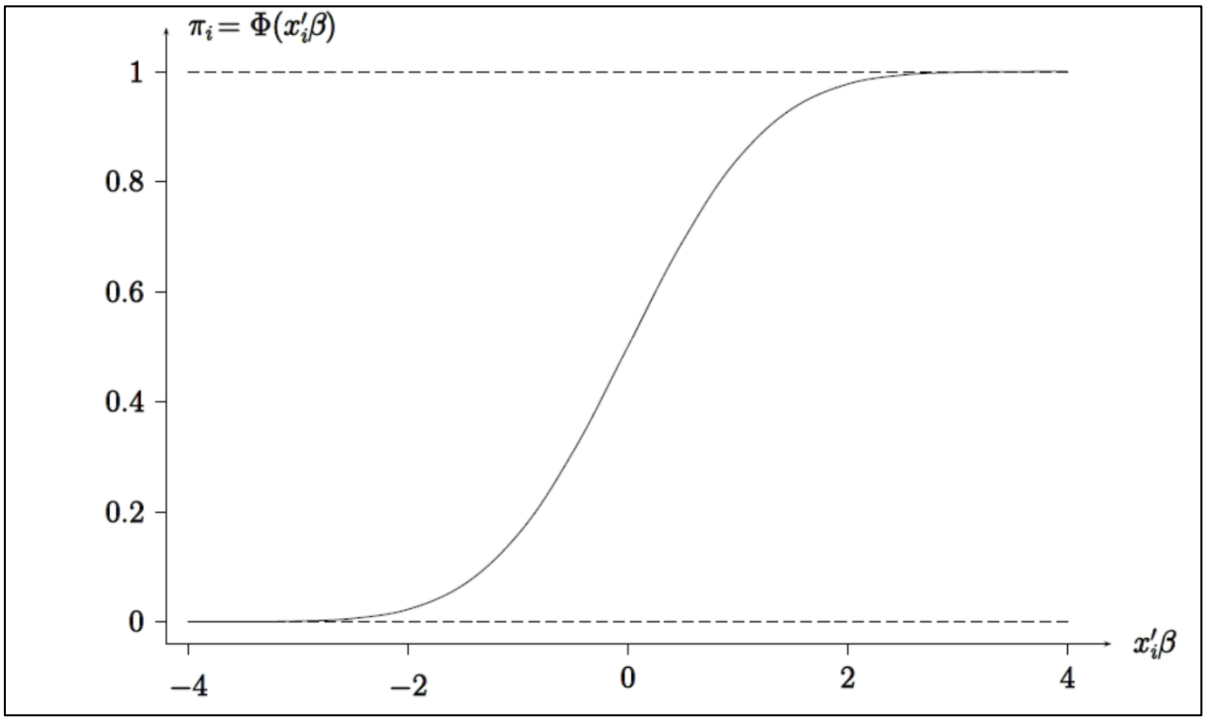

Figure 13: Probability Function in the Probit Model[533]

As the last piece of the modelling procedure, the coefficients $\boldsymbol{\beta}$ are obtained via Maximum-Likelihood (ML) regression.[534] In a random sample of n observations for the Bernoulli[535] random variable Y_i the ML algorithm is based on a joint probability- or likelihood function (LF) of observing the n Y_i values of the form:

$$Prob(Y_1 = y_1, Y_2 = y_2, \dots, Y_n = y_n|\boldsymbol{x}) = \prod_{y_i=0}[1 - \Phi(\boldsymbol{x_i}'\boldsymbol{\beta})] \prod_{y_i=1} \Phi(\boldsymbol{x_i}'\boldsymbol{\beta}).$$[536]

The objective of the ML algorithm is to maximize the LF by obtaining those values for $\boldsymbol{\beta}$ that result in the highest probability of observing the actual given set of Y_i.[537] This maximisation problem requires an iterative solution which is conducted by statistical software.[538]

Verbally expressed, the ML algorithm identifies and uses the characteristics which are most relevant to predict the immigrant status or, put differently, the ones with the strongest correlation to the observation being an immigrant. It is this procedure, that distinguishes this integration index from other monitoring

533 Source: Winkelmann and Boes 2006, p. 100.
534 Cameron and Trivedi 2008, p. 465.
535 As it is either 0 or 1, each Y_i can be treated as a single draw from a binomial Bernoulli distribution, see Greene 2012, p. 730.
536 Greene 2012, p. 730, Gujarati 2003, p. 634.
537 Gujarati 2003, p. 634.
538 In this case STATA 15 was used.

strategies in which the relevance of indicator variables is assumed subjective and arbitrarily.[539]

Other than in linear models, the coefficients $\boldsymbol{\beta}$ associated with each respective explanatory variable cannot be interpreted directly in their magnitude.[540] However, they are still an important intermediate result, since their sign determines whether the respective variable is positively or negatively associated with the migrant status. In addition, the coefficients are also the basis for the calculation of marginal effects, which provide further, more interpretable information. The marginal effects give us, in simple verbal terms, information about the effect of an observations' characteristic – for example being a home-owner – on the respective migrant probability, and are further explained and reported in the sub-chapters 7.2.2 and 7.3.3.

In order to ensure representativeness the model is weighted by the standard statistical weights given in the Microcensus.

In dichotomous outcome models like the probit model, measuring the goodness of fit is of secondary importance. Instead, the signs of the regression coefficients and their statistical significance are relevant.[541] Nevertheless all standard measures of model evaluation are reported in the appendix.

In a second step, the model results are then converted into an index from 0 to 100, the integration index, with the following formula.

$$I_o = \frac{1}{1-t} * (100 - 100 * \overline{\pi_o})$$[542]

The predicted probability π_i for each observation to be a migrant is averaged across the respective group of origin o, resulting in $\overline{\pi_o}$. That value is incorporated in the second part of the formula where it brings the resulting figure closer to 100, the lower the average migrant probability is. The true proportion of migrants in the random sample t which is set to 50 % for this thesis[543] is used in the first multiplier which increases for high shares of immigrants in the random sample.

In the case of perfect integration, the result is as follows: the average predicted probability for a migrant group $\overline{\pi_o}$ equals the true proportion t of the random sample as the prediction is completely arbitrary and the model cannot identify

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539 Vigdor 2008, p. 27.

540 Winkelmann and Boes 2006, p. 104.

541 Gujarati 2003, p. 606.

542 This is the generalized index formula, based on the one in Vigdor 2008, p. 33.

543 For reasons explained in the next sub-chapter. As a consequence the first multiplier equals 2 in this case.

migrants at all and is thus no better than a coin toss. The index would be 100 and complete structural integration is assumed.
In the other extreme of completely omitted integration, the model can identify every migrant perfectly and thus assigns each migrant observation a migrant probability of 100 % (and native observations 0 % respectively). In this theoretical case, the index value is zero.
Note that the index values are completely model driven; an additional variable enables the model to distinguish migrants and natives better, resulting in a lower index without any change in the underlying data. As already mentioned, comparisons of index values are thus only legit if they are calculated with identical models exploiting the same set of variables.

6.2.2 Immigrants as *"Rare Events"* in the Data

One problem arises when the dataset is unbalanced. In this context, unbalanced means that the number of immigrant observations is much smaller than the number of native observations or vice versa. This is a common problem for several research fields involving the analysis of "rare events" modelled as binary outcomes, for example tornadoes or international conflicts.[544] In the context of this thesis it means that an immigrant observation (binary variable $Y_i = 1$) is a "rare event" compared to a relatively high number of native observations. In the data used in this thesis, the share of immigrant observations is around 15 % when examining first generation immigrants and only around 2 % when examining second-generation immigrants exclusively. These figures are considered as moderately or highly unbalanced.[545] In the case of second generation immigrants one could simply classify every observation as native and achieve correct guesses in 98 % of the times, in fact it will be virtually impossible to attach the status of an immigrant to any observation.[546]
The unbalanced classification changes the statistical properties of binary dependent variable models[547] and thus causes algorithms like the probit-model to fail to properly perform on the observations classified as the rare events.[548] This is manifested in a systematic underestimation of the probability of $Y_i = 1$.[549] A correct

544 Maalouf and Trafalis 2011, p. 168.
545 According to van Hulse et al. 2007, p. 935. and King and Zeng 2001, p. 157.
546 Greene 2012, p. 742.
547 King and Zeng 2001, p. 138.
548 van Hulse et al. 2007, p. 935.
549 As described in King and Zeng 2001, pp. 146–147.

classification of a rare event should have a much greater value than correctly classifying a majority observation, nevertheless both events are treated equally.[550]
In the context of this thesis this means that immigrant observations are harder to identify in unbalanced samples and thus get assigned lower migrant probabilities. As a consequence, higher integration index values are observed for unbalanced samples compared to balanced ones when studying the same immigrant observations. The more pronounced the unbalanced classification is, the greater the distortion of the results. This pattern is displayed in *Table 3* in the case of first-generation immigrants in this thesis, the differences are small but when analysing the second generation, with a low number of immigrant observations, the differences are quite notable.

Model 1	First Generation			Second Generation		
	interm	intermx	no interm	interm	intermx	no interm
With 50/50 Sub-Sample						
Assimilation Index Total, 2010	67.8	53.2	71.2	68.77	73.8	77.26
Without 50/50 Sub-Sample						
Assimilation Index Total, 2010	71.9	56.3	78.0	91.01	94.7	97.17

Table 3: Comparison of the Results of Balanced and Unbalanced Samples

One solution is to draw a subsample of all or most immigrant observations (since they are the minority observations) and the same number of randomly chosen native observations. It is called under-sampling, since observations from the majority class are eliminated and is the favourable solution due to the relatively high absolute number of immigrant observations in the Microcensus.[551] In this subsample of 50 % immigrant and 50 % native observations adding up to a relatively high absolute number of observations[552] the algorithm can perform optimal.[553]

[550] Maalouf and Trafalis 2011, p. 168.
[551] Oversampling would mean to copy immigrant observations with the risk of overfitting and altering the dataset to not be representative anymore, see Maalouf and Trafalis 2011, p. 169.
[552] In both specifications the number of immigrant observations exceeds a few thousands and thus is not small in the sense of King and Zeng 2001, p. 157.
[553] King and Zeng 2001, p. 143 Vigdor 2008 uses the same sampling strategy.

6.2.3 Three Different Model Specifications

Using German Microcensus data for such a wide time horizon bears several problems concerning the availability and comparability of information. Firstly, detailed information about migration and migration history of a person are only available in the data after 2005 when a change in the Microcensus law from 2003 came into force.[554] That concerns the classification of the migration background as well as information about the region of origin, both important factors in this analysis. Secondly, some variables are not available in the same quality or accuracy and thus are not comparable over the time horizon from 1996-2012.[555]
That is a problem since the model depends on a consistent selection of the same variables with the same possible characteristics in order to deliver comparable results for several years. Not including a variable deprives the model of relevant information and leads to a reduced ability to distinguish migrants and natives and thus to a higher measured integration without any changes in the "real" integration. Summarizing, there is a trade-off between a detailed model with all available information included but only for one year and a model including a large time span but in less detail. This trade-off is respected by using three different model specifications as shown in *Table 4* with different degrees of detail and a different time-horizon.

Name	Properties	Time Horizon
Model specification 1	Snapshot Analysis with all variables, detailed information about region of origin, birthplace as immigrant indicator	2010
Model specification 2	No home-ownership, detailed information about region of origin, birthplace as immigrant indicator	2007 - 2012
Model specification 3	All years, reduced model, less detailed information about region of origin, no (late) repatriates distinguishable, foreign citizenship as immigrant indicator	1996 - 2012

Table 4: Model Specifications

554 Statistisches Bundesamt 2017c, p. 4.
555 One important example being the ranking of occupation which can only be used in some model specifications.

Model 1 uses the highest number of variables and therefore is the most detailed whereas model 3 allows to track integration over a long time period (1996-2012), respecting the long-term nature of this process. In models 1 and 2, only first-generation immigrants (foreign born) are examined in order to improve international comparability, since the German concept of the migration background is far from being an international standard in the definition of immigrants.[556] The country of birth criterion on the other hand got established as a standard at least in the European and U.S. American context.[557] However, it remains controversial whether the second generation of immigrants should also be equated with the first generation and examined together.[558] In this thesis, the second generation is examined separately in order to measure the intergenerational progress in immigrant integration.
Model 3 distinguishes immigrants and natives by citizenship, since data about the place of birth or the migration history of the parents is missing for the years prior to 2005. It is important to note that index results from a model can only be compared within this exact model specification.

6.3 Additional Methodical remarks

6.3.1 Repeated Cross-sectional Data and Selective Remigration

The probit models of the last two model specifications of this thesis are repeatedly applied to cross-sectional Microcensus data of several years or decennials. Consequently, there is a classical threat to validity of the results due to a selective return migration bias.[559] A distortion of the results happens when return migration is non-random but depends on the immigrant's success on the labour market or integration in general. Estimates are than calculated using only the respective pool of stayers, while leavers are not included in later samples anymore. Consequently, the estimators are distorted upwards or downwards depending on whether the leavers represent a positive or negative selection in terms of integration success in the past.
Borjas and Bratsberg (1996) were the first to investigate this problem theoretically and empirically with data from the U.S.. They identify two possible motives

[556] Sachverständigenrat deutscher Stiftungen für Integration und Migration (SVR) GmbH 2017, p. 7,10.
[557] See for example Bijl and Verweij 2012, p. 18, Constant et al. 2009a, p. 278.
[558] Bijl and Verweij 2012, p. 19.
[559] Borjas and Bratsberg 1996, p. 165.

for return migration: (1) As a planned step as part of the *"optimal life-cycle residential location sequence*" *(Borjas and Bratsberg 1996, p. 165)* or (2) as a correction of an original migration decision made under incomplete information.[560] It is intuitive that the former will be positively selected as they intend to use their increased human capital in their home country where it generates a relatively high return. The latter are negatively selected for they have (usually due to a lack of human capital) not fulfilled the hope of economic success in the country of origin. The authors conclude that self-selection mechanisms work differently for different migrant groups.

Interestingly, according to their theory, self-selection in emigration works in the same way as it did with regard to the original entry of this migrant group. If the immigrants were positively selected with regard to their skill level,[561] the respective emigrants are subsequently assumed to be negatively selected because mainly the unsuccessful leave the country again. Let us now assume, in the reverse case, that the immigrants were negatively selected, since the return on human capital in the country of origin was relatively high and the low-skilled individuals therefore had strong incentives to escape the inequality by migration. Now the above-average skilled immigrants have the strongest re-migration motives, since their (ideally) higher skill level now enables them to occupy a relatively high social position in their country of origin. The low-skilled immigrants still have nothing to gain by emigrating and remain in the host country.[562]

In accordance with the theory, studies investigating the selectivity of return migration in Germany come to mixed results when analysing the migrant population as a whole. Gundel and Peters (2008, p. 779) used SOEP data to analyse emigration patterns in Germany and come to the conclusion that especially the high-skilled migrants have a great tendency to re-migrate, i.e. emigrate from Germany again. This is not only explained by the skill level but also by the origin of the migrants. Since high-skilled migrants often come from other EU countries and are not subject to any migration restrictions, it is naturally easier for them to migrate than for third-country nationals. However, the commitment to Germany also play a role, as can be seen from the low emigration rates of ethnic German

560 Borjas and Bratsberg 1996, p. 165.

561 For example because a high level of human capital in the receiving country offers higher returns than in the country of origin.

562 Borjas and Bratsberg 1996, 167,175.

(late) repatriates, and among those immigrants who have already obtained German citizenship and could therefore even easily re-enter Germany.[563]
Diehl and Liebau (2014) analyse the motives of return migrants with Turkish roots, one of the numerically largest immigrant groups in Germany. They do not find evidence for any specific qualification profiles being associated with a higher willingness to re-emigrate. Neither do they find any significant influence of integration into German society or experience of discrimination on the remigration decision. The authors conclude that in this case exogenous processes in the home country could play a role.[564]
Constant and Massey (2003) examine the potentially selective return migration using longitudinal German SOEP data as well. They find that return migration is not influenced by human capital but by social and economic attachment to Germany in contrast to the country of origin. Additionally, they test whether cross-sectional earnings estimates in German microdata (SOEP) are biased due to selective out-migration and conclude that this is not the case.[565] Since the Microcensus and SOEP are both representative samples of the German population I assume that those results can be transferred to the dataset used in this thesis. Furthermore, since the subject of the study is the integration of the migrant population in Germany in one respective year and not for instance the wage development of migrants depending on their length of stay, this problem is not seen as decisive for the results presented here.

6.3.2 Systematic Differences between Females and Males

For some of the used variables it is likely that the values of their respective regression coefficients (vector $\boldsymbol{\beta}$) differ significantly between men and women. Thus, participation in the labour market could have a stronger explanatory power for a female observation than for a male one when it comes to estimating the migrant probability. Labour market participation is a good example since the gender employment gap is usually wider in among immigrants than among natives.[566] Other studies in the in the research field of immigrant integration also address this problem in several ways, depending on their methods.[567]

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563 Gundel and Peters 2008, p. 779.
564 Diehl and Liebau 2014, pp. 24–25.
565 Constant and Massey 2003, p. 651.
566 OECD/EU 2018, p. 15 Barslund et al. 2017, pp. 2–3, Rendall et al. 2010, p. 385.
567 Constant et al. 2012 use separate regression for men and women, Vigdor 2008 uses interaction terms for every variable.

This thesis' empirical strategy is based on Vigdor (2008). Accordingly, it includes a full set of gender interaction terms to address the issue raised above. Therefore it allows variying effects of the explanatory variables depending on the gender. While allowing a more precise estimation, the usage of interaction terms further complicate the interpretation of the coefficients in non-linear models like the probit model. The more complex interpretation is due to the dependence of the interaction terms on the values of all covariates in the model.[568] Since the interpretation of the marginal effects also takes into account the values of the covariates,[569] and these are more easily to interpret, the marginal effects are reported below instead of the coefficients and interactions.[570]

6.3.3 Test for Multicollinearity

Multicollinearity is a high (but not perfect) correlation between two or more independent explanatory variables.[571] This may occur, for example, when the variable of highest vocational qualification is closely related to another variable, such as occupational status or income. Multicollinearity itself does not necessarily bias the fitted regression coefficients but rather "inflates" the standard errors and confidence intervals. To obtain correct values for those indicators we rely on uncorrelated coefficients and we test this assumption by inspecting the Variance Inflation Factor (VIF) of each predictor variable. There is no universal value above which a VIF indicates a problematic correlation. In the literature, however, the value 10 has become the rule of thumb. The VIF for all explanatory variables should therefore be lower.[572] As *Table 15* in the appendix shows, most of the predictor variables fulfil this criterion.

568 Norton et al. 2004, p. 156, Ai and Norton 2003, p. 129.
569 Ai and Norton 2003, p. 129.
570 For the sake of completeness and comparability with the Vigdor studies, the probit coefficients and the interactions are presented in the appendix.
571 Wooldridge 2013, p. 95.
572 Wooldridge 2013, p. 98.

7 Integration Index Results and Interpretation

7.1 What determines Integration Success? Five Hypotheses

Before preseting the results of the integration index, the basis for the later interpretation and discussion of the results will be laid down here. Successful integration is interpreted in the sense mentioned in chapter 2.2 as a decrease in structural differences between migrants and natives with respect to objectively measurable characteristics.

Five different hypotheses are presented below that seek to explain the different pace of integration in a host society exhibited by immigrants from different migration contexts. Any single hypothesis cannot entirely explain a successful or bad case of integration. At best, it can be used to state a tendency, but will never apply to all individuals. In other words, different factors mentioned in another hypothesis can outweigh the advantages or disadvantages of the first hypothesis. The factors determining integration identified here will be taken up again later as they represent important starting points and levers for a successful integration policy. The issue of policy will be outlined in a later chapter. Therefore, the hypotheses are summarized once again at the end of the chapter in an overview table.

The Cultural Distance Hypothesis (H1)

One of the most obvious hypotheses is that concerning the impact of the initial cultural distance between an immigrant group and the host society consisting of natives and integrated immigrants. Cultural distance is part of a larger construct of *"psychic distance"* between two countries/societies which will not be elaborated here.[573] It is important that the cultural distance between groups of people is derived from differences between their respective home countries and the culture prevailing there.

Cultural distance here means the degree to which a common psychology or mentality is shared, together with societal norms, values, and beliefs.[574] It is difficult to measure these topics objectively as this field is dominated more by qualitative

[573] See Figueiredo et al. 2015 for details on this matter.
[574] Gavrila and Brandt 2013, p. 89, Wang et al. 2014, p. 7.

variables for its relative and intangible nature and its numerous dimensions.[575] Furthermore, one has to decide whether to use data at the country level or individual data instead.[576] Nevertheless, quantitative measures for cultural distance have been often and widely used in the business literature, for example in human resource management,[577] but only rarely in integration research. It has been shown, for example, that productivity gains of immigrants due to comparative advantages are the largest with intermediate levels of cultural proximity and decrease with higher levels of cultural distance.[578] The implications of cultural differences at the company level, should not differ in their nature from those that occur in a whole society.

In a broader socio-economic context, Wang et al. (2014) evaluate responses to attitudinal survey questions of the European Social Survey (ESS) in order to reveal and measure differences regarding the norms, values, and beliefs of immigrants and natives. With this subjective measure they find out that areas with a larger range of average cultural differences between its inhabitants are less attractive for residents as well as for new immigrants.

During the integration process, individual members of two cultures need to find a mode that enables them to live together and to trust each other on a societal level to a certain degree.[579] Only in this case immigrants could hope to be integrated in the sense of aligning objectively measurable criteria with the majority population. However, finding this mode, means overcoming cultural differences to a certain extent, which is obviously more difficult and time-consuming when initial cultural differences are large.

Religion is the most prominent and one of the most important cultural factors that can either help integration or impede it by closing or enlarging the cultural distance.[580] Since doing so would go beyond the scope of this thesis, the complex relationship between religious and ethnic identity will not be covered. However, there are some basic findings on the interplay between religion and integration that are briefly presented as follows.

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575 Wang et al. 2014, p. 4, Shenkar 2001, p. 519.

576 de Santis et al. 2016, p. 1083.

577 Shenkar 2001, p. 519 Examples for this literature are found in Kandogan 2012, p. 197.

578 Alesina et al. 2016, p. 103.

579 In accordance with chapter 2.2, it is not important whether assimilation or multiple integration occurs as long as the immigrant develops a sense of commitment and belonging to the host society.

580 Esser 2001, p. 29.

The crucial question is whether an immigrant practices the same religion as the mainstream society or a different one, or is in general unreligious. But whether religion plays an advantageous or a disruptive role in integration depends not only on the name and characteristics of the respective religion and the level of orthodoxy. It also depends on the general relationship between state and religion in the host country.[581]

In the USA, relatively strong religiousness of the population as compared to other Western industrial societies, combined with currently weak links between the state and individual churches,[582] can be observed. Those circumstances allow each practiced religion to play a positive role in the integration process.[583] However, this has to be seen and evaluated against the background, that large part of the U.S.-immigrants are associated with Christianity and thus belong to the most widespread religion practiced in the USA.[584]

In a setting like contemporary USA, religion can help integration in several ways: First, immigrants with a different religion could convert to the main religion of the host country. In the USA this occurs among immigrants from many Asian countries, among whom Christianity is much more widespread than in their respective countries of origin. These immigrants might intend a faster integration into the mainstream society using the widespread and established religious networks. These work as additional catalysts for integration, even in the presence of different traditions or levels of religiosity.[585]

Besides this, practicing a different religion is also an accepted way of becoming part of the religious society of the U.S. by participating in local communities.[586] Work in those local church communities or parishes improves the civic skills of new migrants by teaching them internal democracy and organisational processes.[587] Additionally, these communities also satisfy important material and immaterial needs of immigrants. Hirschman (2004, p. 1228) summarizes those needs as *"refuge, respectability, and resources"*. *Refuge* refers to the protection

581 Foner and Alba 2008, p. 361.
582 Of course there were also periods of discrimination and even persecution in America of certain religious groups that did not belong to Protestant Christianity.
583 Foner and Alba 2008, pp. 361–362.
584 Foner and Alba 2008, p. 374.
585 Foner and Alba 2008, p. 366.
586 Hirschman 2004, p. 1207.
587 Foner and Alba 2008, pp. 364–365.

against experiences of discrimination as well as the joint coping with the potential trauma of international migration and resettlement. The religious communities further offer *respectability* above all in contrast to the majority society, which – in a socio-economic regard – often allows new immigrants only a slow ascent. The relevant reasons on the part of the migrants (like a lack of language skills) are partly omitted in the context of the ethnic-religious community, which is why faster success can be achieved here. Last but not least, working in or even just belonging to a religious community also offers access to material and immaterial *resources*.[588] This includes, for example, language courses and access to networks of former migrants that provide job opportunities and housing.[589]

In Western Europe, the situation is different on several levels. First, the majority of post-war immigrants were Muslims coming to secular but predominantly Christian societies.[590] They came across and still come across a largely non-religious society[591], which takes a critical view of demands for religious reasons, but at the same time does not question the historically grown interdependencies between the state and the Christian churches.

If there are, as in many places in Europe, and also in Germany, historical links between Christian, or Jewish[592] churches and an actually secular state (e.g. in the collection of church taxes and the special status of public entities, *"öffentliche Körperschaften",* in general)[593], the next obstacle to integration is the institutionally anchored unequal treatment of different religions. Islam (and other religions) are disadvantaged in that respect, as European governments refuse to grant these religions the same subsidies and facilities in order to develop in the European context.[594] On the other hand, in many cases Islamic religious communities do not fulfil the institutional requirements (e.g. keeping membership lists, etc.) for such legal recognition, at least in Germany.[595]

So instead of accompanying the development of a European Islam, Germany and other European countries have allowed money and religious personnel from

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588 Hirschman 2004, pp. 1228–1229.
589 Heckmann 2015, p. 172.
590 Foner and Alba 2008, p. 375.
591 Germany, France, and the Netherlands belong to the countries with the weakest religious attachment in Europe, see de Santis et al. 2016, p. 1085.
592 Muckel and Hentzschel 2018, pp. 7–8.
593 Muckel and Hentzschel 2018, p. 8.
594 Foner and Alba 2008, p. 370,381.
595 Spielhaus and Herzog 2015, pp. 17–18.

more or less conservative Islamic countries of origin to partly fill this gap.[596] There can only be speculation about the exact extent of foreign financing and organisation, as there are no general and reliable figures on this.[597] However, it is assumed that a large part of the expenditure is financed by voluntary donations from members.[598]

It ought to also be mentioned that a survey showed that the majority of between 1,700 and 2,500 Muslim religious servants in Germany stand for an "Islam ready for dialogue".[599] In any case, some countries in particular are not necessarily interested in the development of a modern, liberal, European Islam[600], which is why their influence is increasingly viewed critically in that sense.[601] In addition, a complete integration of European Muslims into the respective host society also partly contradicts their interests, since in this case they would lose political influence.

The institutional discrimination of their religion as well as the general scepticism towards religious activities in society added two further socio-cultural dimensions to the socio-economic distance of the often low-skilled Muslim guest workers from the respective host society in the past.[602] Unfortunately, this pattern seems to repeat itself in the current prevalence of – predominantly Muslim – refugee migration from the Middle East and Africa.

In summary, the circumstances in Europe, in contrast to those in the USA, hardly permit a positive role of a foreign religion in the integration process. Belonging to another religion, especially to the critically viewed religion of Islam, can thus, in the European context, be seen as a factor increasing cultural distance.

However, it is important to stress that it is not the foreign religion per se that is to blame for its negative effects the cultural rapprochement and the associated economic rise of immigrants. For example, Muslims in the USA are in general better integrated than the average immigrant[603], in concrete terms they are more

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596 Wissenschaftlicher Dienst 2016, p. 6, Bundesministerium des Innern 2019, Deutsche Welle 2018.
597 Wissenschaftlicher Dienst 2018, p. 15.
598 Muckel and Hentzschel 2018, p. 9.
599 Halm et al. 2012, p. 4,7.
600 For example, Iranian Shiites loyal to the Iranian regime who exert influence in Germany, see Bundesministerium des Innern 2016, p. 206.
601 Deutsche Welle 2018, Pick 2018.
602 Foner and Alba 2008, pp. 370–371.
603 Vigdor 2011, p. 18.

likely than average to obtain a university degree.[604] Thus it depends on the institutional and social environment whether religions can play off their potentially positive or negative influences on integration.
In Europe, religion has proven to be the least influenceable cultural aspect, often remaining unchanged even in an environment of cultural approximation in other fields. In contrast to other cultural characteristics, which can change particularly noticeably in the case of children of immigrants, religion usually persists in the transition of generations.[605] For reasons of identity assurance, immigrants sometimes live more religiously in their new homeland than in their own country of origin. Religiousness can also increase in the second generation to counter the pressure to adapt to the majority society.[606] This is particularly the case when second generation young migrants find themselves between the country of origin and the host country and are not fully accepted in any society.[607] Religion is then the only institution or environment that creates a sense of identity and is lived out accordingly.

The Group Size Hypothesis (H2)

Much of the empirical literature about integration was based on individual characteristics before economists first acknowledged the role of the ethnic group networks or diasporas for the immigrants' daily life and the integration progress.[608] These networks are often characterised by family relationships, but ethnic associations, religious communities, political organisations, ethnic media, and informal meeting places also play a role.[609] In short, the hypothesis says that large ethnic groups diminish the incentives but also the opportunities to integrate into the host society.[610] This hypothesis was tested – among others – by Lazear (1999) who finds evidence for a negative relationship between minority group size and culture or language adaption.
Members of a small immigrant group have higher returns on learning the majority language than those of groups that account for a relatively large portion of the

604 Foner and Alba 2008, p. 376.
605 Heckmann 2015, pp. 170–171.
606 Heckmann 2015, p. 171; Pollack et al. 2016, p. 11 find this tendency among second- and third-generation Turkish immigrants.
607 Foner and Alba 2008, p. 373.
608 Chiswick and Miller 1996, pp. 19–20.
609 Heckmann 2015, p. 286.
610 Danzer and Ulku 2008, p. 6.

total population. Thus, the refusal to learn a new language and adapt a new culture could be a rational response to a sufficiently large ethnic community in some cases.[611] According to this theory, an existing ethnic community in the host country poses an alternative to assimilating or integrating into the host society. The diaspora networks offer a social place where everyday business can be done,[612] even one where social advancement can be achieved. This can be done utilizing the country-of-origin-specific human capital without having to adapt to the local native society.[613]

On the other hand, ethnic networks can also help with integration by stabilising new immigrants in a foreign country and providing them with important information in order to better fulfil the major task of labour market integration. This connection has been demonstrated, for example, for Mexican immigrants in the USA.[614] In the medium and long term, however, migrants must also move out of the ethnic enclave into the host society, a progress which tends to be enhanced by smaller group sizes.[615]

A German study sees large immigrant networks as insurance schemes for low-skilled immigrants who do not have much to gain from integrating and thus acquiring host-country-specific human capital. To boost integration, economic incentives for education efforts which exceed the outcomes offered by the migrant network are therefore necessary.[616]

The marriage market, on which important interactions regarding integration take place, is emphasized as a paramount channel for the group size to influence integration measures.[617] A small immigrant group size offers fewer possibilities to find a partner of the same ethnic background and vice versa. As we will see in the results, in this examination too, migrant marriage is the most important variable.

The larger the network is, the sooner a segmented parallel society can develop there and vice versa.[618] Note that the mere existence of a large minority does not

611 Lazear 1999, 124.
612 Bauer et al. 2000, p. 26.
613 Esser 2001, pp. 25–26.
614 Munshi 2003, p. 597.
615 Heckmann 2015, p. 286.
616 Danzer and Ulku 2008, p. 28.
617 Chiswick and Miller 1996, p. 29.
618 Danzer and Yaman 2012, pp. 21–22, Esser 2001, p. 29.

necessarily lead to the formation of ethnic enclaves and the cessation of integration efforts.[619] A larger group size merely opens up the possibility of separating oneself from the majority society without losing social contacts, which members of smaller minorities do not have.
As a further negative effect, a large group reduces the positive selection pressure faced by migrants, as the total costs of relocation are reduced when existing migrant networks are established. This also allows "lower quality" migrants with a low skill or ability level to migrate. This will be taken up again in the next hypothesis.

Self-Selection Hypothesis (H3)

Another well-known explanation for integration success is based on the *"Migration Costs and Returns"* theory first established in Sjaastad (1962) where the migration decision is modelled as an investment in human capital. These early considerations on the migration decision itself already include some aspects that are also decisive for the later integration performance when the migration is executed. *Figure 14* shows why.
Potential emigrants in their country of origin weigh up the expected costs and benefits of an exit (the investment) before leaving. The costs not only consist of the direct travel costs, but also include the complete costs of a relocating and establishing themselves in a new country (for example search costs of job-hunting, costs of learning a new language, opportunity costs of lost income in the country of origin).[620] The distance between countries and legal hurdles increase these total costs, while, for example, a well-connected migrant enclave in the host country will lower the cost of finding accommodation or entering the labour market.[621] The expected benefits for the immigrants result from income increases in the host country compared to the country of origin, which is usually described as a higher return on skills. The migration is therefore simply assumed to be carried out as soon as the expected benefits exceeded the expected costs.

619 Esser 2001, p. 29.
620 Chiswick 2000, pp. 2–3.
621 Beine et al. 2011, p. 39.

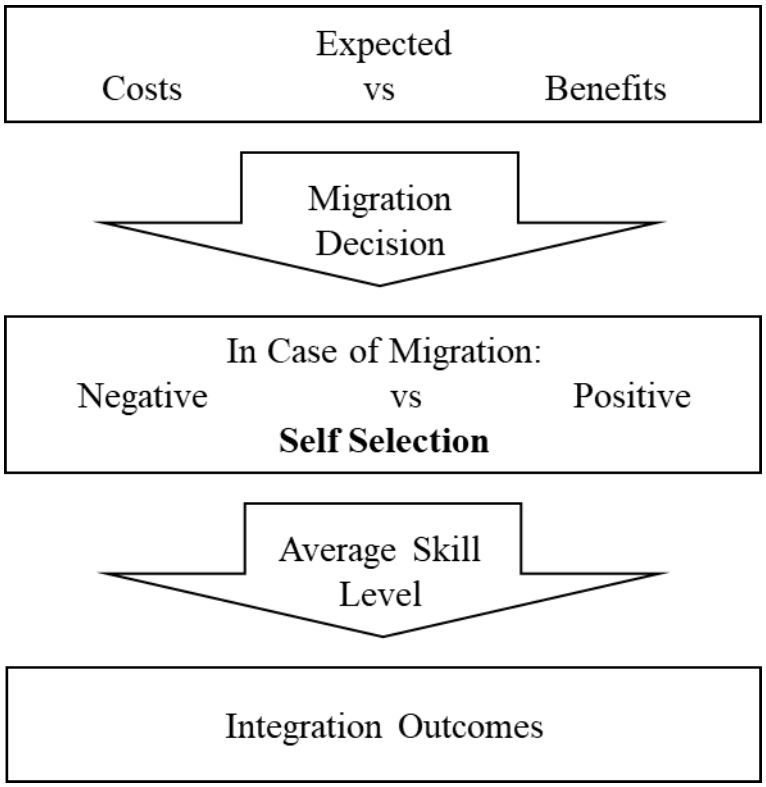

Figure 14: Self-Selection Hypothesis

So while the cost and returns theory was intended to explain the migration decision itself and thus the absolute number of migrants, other scholars expanded the framework to also explain the composition of migrants with regard to their ability to be successful in the host society.

The crucial point is that the benefits (and in some cases the costs) depend on the ability level. Here, ability can have a multitude of hidden or observable dimensions, such as intelligence or motivation, but it is usually approximated by the skill level.[622] However, there is evidence that the unobservable variables such as motivation are even more important than the measurable skill level.[623] Nevertheless, it is assumed that the respective returns on skills in the two countries are decisive for the migration decision and subsequently for the direction of the self-selection.[624]

Migration costs are also and more importantly seen to influence – in addition to the number of immigrants on a particular migration corridor – the composition of the respective migrant population.[625] By composition we mean the distribution

[622] Chiswick 2000, p. 3, Brücker and Defoort 2007, p. 3.
[623] Borjas et al. 2019, p. 27.
[624] Borjas et al. 2019, p. 1.
[625] Brücker and Defoort 2007, p. 16, Urrutia 1998, p. 28.

of integration-relevant properties such as education, settling motives, and the will to integrate, or summarized, the general ability level.

According to later advocates of this hypothesis, immigrants on average are more successful in countries which are far away from their home countries. The reason is seen in the positive self-selection induced by the higher immigration costs, which can only be afforded by high-potential migrants.[626] As potential emigrants are assumed ex-ante to rationally weight the expected costs and benefits of moving to another country, low-skill individuals will be discouraged by the high expected costs and low expected benefits. This consideration on the part of the migrants is used as an explanation for the proof of a positive self-selection in a number of studies.[627]

Migration costs are greatly reduced by an existing migrant network in an ethnic enclave in the host country, which adversely affects selection dynamics. Even potential migrants who, because of their ability level, are not actually suitable for economic success and integration in the host country will no longer be deterred by migration costs.[628] This could be one reason for the observation that the quality of migrants is declining in a long-lasting stream of chain migration.[629]

Chiswick (2000) adds that these observations are, however, limited to economic migrants, since only they can rationally weigh up the respective costs and benefits. Migrants who immigrate involuntarily or for reasons other than economic ones (e.g. refugees or family members) will not be equally positively selected.[630]

The often discussed positive self-selection however has a counterpart, the negative self-selection described by Borjas (1987). According to his classic paper, negative self-selection takes place if two conditions are simultaneously fulfilled:

- The inequality in the country of origin is relatively higher than in the potential host country.
- There is a strong and positive correlation between the potential earnings for one individual in both countries.[631]

If both conditions are met, emigrants will predominantly stem from the lower end of the socio-economic stratification in the country of origin exceptionally frequently.

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626 Chiswick 2000, p. 17, Vigdor 2013, pp. 3–4.
627 For example Chiquiar and Hanson 2002 and Akee 2010.
628 Spitzer and Zimran 2018, p. 10.
629 Beine et al. 2011, pp. 39–40, Borjas 2015, pp. 515–516.
630 Chiswick 2000, p. 12.
631 Borjas 1987, p. 552.

Concerning the migration costs, Borjas (1987) assumes that these are proportional to the income and can therefore be neglected. This, however, is unrealistic, which is why sufficiently low migration costs could be added as a third condition. To illustrate the results, imagine two countries: A and B where A is the potential emigration country and B is the immigration country. Hence, if country A shows more economic inequality than country B, poor and uneducated people have an incentive to improve their relative economic situation by emigrating from A to B and thus into a country with a lower socio-economic "drop height". In contrast to the country of origin (A), the host country (B) achieves lower inequality by taxing high skilled workers with progressive income taxes while subsidizing low skill workers via social benefits.[632] The economic prospects of negatively selected immigrants in the new host country B are not overly promising either, but they are better than in the country of origin which is characterized by great poverty at the bottom of society. Low migration costs enable those poorer potential migrants to turn into actual immigrants. Since poor countries are often characterised by extreme inequality and a small elite possesses almost all assets, the following condensation fits the picture: *"the poorer the source country, the poorer the [integration] performance" (Hatton 2014, p. 44).*

A tax and benefit system with strong redistributive components as in the Western European immigration countries tends to reduce *"positive selection pressure"* Preston (2014, F574) and can even repel high-skilled immigrants, inducing a negative selection with regard to the skill composition of attracted immigrants.

The first condition of Borjas (1987) is also essentially about the different returns on skills. As in many other publications on this topic, the returns on skills are only approximated by the relative income inequality in the two countries.[633] He argues that in societies with unequal wealth distribution, a skilled elite receives all wealth, while the broad masses without observable skills live in poverty in the absence of income redistribution. However, the use of inequality as an approximation for of return of skills is criticised regularly. For instance, returns of skills may also be low due to a generally poor economic situation caused by an unfavourable institutional environment, while inequality and poverty may be high. Accordingly, the relationship between income inequality in the source

632 Borjas 1999, p. 1713.
633 Spitzer and Zimran 2018, p. 9.

countries and immigrant self-selection cannot be empirically proven with certainty.[634]

In addition to economic incentives and the resulting self-selection, political restrictions can also determine the composition and thus the selection of immigrants. In a positive sense, this applies to skill-based immigration restrictions i.e. the division into different visa classes, which are issued with varying frequency or a point system that rewards education and skills.[635] On the other hand, the recruitment of low-skilled and low-cost temporary "guest workers" naturally contributes to negative selection as a result of political action.

There is no general consensus on the direction of self-selection procedures for migrants, as each individual migration context is too complex to be conclusively evaluated.[636] Attempts at providing empirical evidence of self-selection are regularly hampered by the lack of adequate data, as there is data on immigrants in the host country, but rarely on their circumstances and status in their country of origin.[637] In addition, selection processes at the national and local levels have to be distinguished, which may contradict each other.[638] However, it is possible to make well-founded assumptions about the direction in which individual components of the theory for example the migration costs or the expected return to skill, are likely to work.

With regard to the cost side, the distance between the host country and the country of origin is still a good approximation for the direct migration costs. Weighing these (and other) costs against the expected gains or benefits from migration results in either positive or negative self-selection by potential emigrants in the society of origin. The higher the total costs of relocating the centre of life are, the fewer people can afford migration and the stronger the positive selection pressure will be.

Higher returns of skill in the host country will tend to attract highly qualified immigrants from countries with a more balanced income distribution. Low inequality, on the other hand, will tend to attract low-skilled migrants from unequal countries. The immigrant composition in a host country in terms of education, motivation and ability, which are prerequisites for integration, is a consequence

634 See for example Brücker and Defoort 2007, p. 15 or Spitzer and Zimran 2018, p. 6.
635 Aydemir 2013, p. 438.
636 Spitzer and Zimran 2018, p. 10.
637 Akee 2010, p. 323.
638 Spitzer and Zimran 2018, pp. 47–49.

of those self-selection mechanisms. These aspects determine the integration effort and success.

The Time Horizon Hypothesis (H4)

This hypothesis is tied to the migrants' own motivation for integration, and is based on the observations of Borjas (1982). They reveal systematic differences in the rate of assimilation between political refugees and economic migrants of the Hispanic-born population in the United States.[639] Generalizing as well as explicitly formulating and testing this hypothesis, Dustmann (1999) suggests that migrants invest more in host-country-specific human capital the more long-term their motives for residence are. Both migration itself and the degree of the integration efforts are seen as economically rational decisions, where investments are only made when the expected benefits over time exceed the costs. The shorter the expected timespan in which the host-country-specific human capital can be utilized is, the weaker the incentive to acquire it.

Temporary working migrants who intend to return to their home country after a phase of intensive labour and relatively low consumption[640] will thus put less effort in learning the host language than, for instance, political refugees who have no return perspective.[641] From the point of view of the employers in the host country, short periods of residence for migrant workers are also undesirable, as this repeatedly leads to recruitment and training costs. The opportunistic guest worker recruitment of European countries from the 50's to the 70's, where immigrants were seen as a *"Lever in the boom and Buffer in the crisis"*, did not include any assurances for the immigrants regarding the duration of their stay.[642] In principle, entry and exit were dependent on cyclical fluctuations according to which the host countries aligned their immigration policies. Of course, this also contributed to the immigrants seeing themselves as temporary guests with the corresponding consequences for the integration efforts undertaken during that time.

The intended time-horizon of the stay in the host country can also be limited involuntary due to legal immigration restrictions. Illegal migrants and migrants

639 Borjas 1982, p. 353.
640 Due to higher savings and remittances than immigrants with permanent motives, see Dustmann and Görlach 2016, p. 127.
641 Dustmann 1999, p. 312.
642 Schulte 2011, pp. 35–36.

with an insecure residence status are among the worst integrated minorities.[643] The reason is that, in addition to the lack of incentives for integration due to the constant fear of deportation, they often lack the means for basic legal economic transactions such as a bank account or a work permit. In general, the low investment in host-country-specific human capital leads to segregated communities whose members often fail to participate in the local economy, thus failing to utilize their full potential.[644]

In Germany the "Duldung" (or "toleration") is an official version of an uncertain residence status. It is issued when one has to leave the federal territory, but legal, urgent humanitarian or personal reasons stand in contradiction to this. It certifies to the holder a "temporary suspension of deportation" but not a permit to stay, therefore the obligation to leave the country remains. The "Duldung" comes with a restricted access to the labour market and needs to be renewed every 6 months. It was conceived as a short-term interim solution for individual cases, but in the meantime this situation is already affecting more than 100,000 people, more than 27,000 of whom have been in this temporary state for more than eight years.[645] Since 2015 a new law allows immigrants who have been in the state of a "Duldung" for at least eight years to apply for a temporary residence permit under certain preconditions.[646] This permit can be subsequently delimited into a permanent residence permit after two years of time.[647]

In addition to the "Duldung", there are also other forms of temporary residence permits in Germany which are sometimes issued again and again at short notice over years and decades. Taken together, more than 500,000 migrants who have been in Germany for more than 10 years were without a permanent residence permit in 2016.[648]

The Triangle Hypothesis (H5)

This hypothesis is elaborated at the end as it incorporates aspects of the aforementioned hypotheses and adds some, often overlooked, factors. Epstein and

643 Alba and Nee 1997, pp. 854–855.
644 Dustmann and Görlach 2016, p. 124.
645 Deutscher Bundestag 2015, p. 27.
646 For example, to commit oneself to the free democratic basic order of the Federal Republic of Germany, to have a job and at least a basic knowledge of the German language, and to have no entry in the criminal records.
647 Mediendienst Integration 2015.
648 Statistisches Bundesamt 2017b, p. 17.

Gang (2009, p. 67) introduce three elements that determine *"how well a minority does in comparison to the majority" (Epstein and Gang 2009, p. 69)*, which translates to the term "integration" defined in the context of the empirical part of this thesis. Those three elements are (1) the integration efforts undertaken by the immigrants, (2) the time spent in the host country, and (3) the *"degree to which the majority welcomes the minority" (Epstein and Gang 2009, p. 67).* The third one can also be called openness of the society for migrants. The three elements are incorporated in a game-theoretic model with two players (majority and minority). In the game, the majority can decide the degree of discrimination to maintain existing wage and consumption privileges, the minority on the other hand decides their integration efforts. In the following, the model results are briefly presented and related to empirical results to prove the relevance of the three factors. Please note that the focus here is on the general three-part model structure and not on the exact results in detail.

The results for the factor time correspond with what is generally expected: Over time, even minorities, that were initially critically eyed and discriminated against in the majority society, integrate themselves as well. They become part of the majority and some will start discrimination activities against newer minorities themselves. Catholic immigrants into the protestant majority of the 19th century United States are presented as a historical example.[649]

Time spent in the host country is arguably not a first order decisive determinant of integration since capable and motivated immigrants can feel integrated into a host society after a short time under favourable conditions. At the same time, there are numerous examples for immigrants who live in a state of segregation in a host country for a long time, for example without speaking the host language. The time factor thus seems to rank behind other factors. However, it is clear that integration in general is a long-term process and that time always works in favour of integration, even if only slightly.[650] In the end, time is a proxy for the exposure of the immigrants to the majority culture and therefore plays a role in integration models.[651] Consequently, studies in the field typically report some integration progress over time.[652] Another consequence of the time factor is that the immi-

649 Epstein and Gang 2009, pp. 84–85.
650 Bonin 2014, p. 34.
651 Dustmann 1996, pp. 41–42.
652 For example Vigdor 2013, pp. 5–6, Danzer and Ulku 2008, 6,33.

gration cohorts considered are gradually followed by others, with their own problems and prejudices on the part of the host society. *"Past migrants are more popular than current ones." (Diehl and Schnell 2006, p. 786).* This leads to an "upslide" effect, as the previously new immigrants are now considered relatively integrated compared to those who arrived last.

The element which takes up insights from the first four hypothesis is the integration effort undertaken by the immigrant him/herself, as some of its determinants are already explained by the four previous hypotheses, for instance by the group size. However, these determinants are all on the part of the immigrants and can only be influenced indirectly by the host society through migration control and the resulting selection and composition of immigrants.

This fifth hypothesis was added to this list in order to emphasize the interplay between the respective behaviour of the majority (the degree of welcome expressed) and the minority and its consequences for migrants' integration efforts. This factor is well established among sociologists as an explanation of a large part of the variation of integration outcomes. However, economists have not always attached the necessary importance to the *"context of reception"* when, for example, they examine integration into a labour market without taking into account the social environment and the reactions of the host society.[653]

The model shows that a lack of integration effort can be the consequence of rejection through members of the majority population, forming the third element of the hypothesis.[654] The discussion in chapter 3.3 has shown that the integration of migrants is a compelling necessity for an immigration society if it is not to provoke major socio-economic problems and disruptions. A "culture of welcome" within German society and a policy of reaching out should therefore not be seen as a generous gift to migrants.[655] Rather, it is a necessary precondition for rapid integration, which is also in the interest of the host society. However, it is often overlooked that the integration of the locals themselves into their own society plays an important role in determining the degree of openness towards migrants. A citizen who sees himself marginalized in his own country is more reserved towards new fellow citizens and less tolerant of cultural differences than someone who is fully integrated himself.[656]

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653 Hatton 2014, p. 44.
654 Epstein and Gang 2009, p. 84.
655 Woellert and Klingholz 2014, p. 8.
656 Esser 2001, p. 25.

It is easy to understand that a person who is rejected for racist reasons will make less of an effort to integrate and instead distinguish himself from the majority on the basis of ethnic and religious characteristica. In the game-theoretical model, if the majority is united and strong enough to decrease or maintain the immigrant productivity at a low level through means of isolation and discrimination, the immigrants will give up integration efforts eventually.[657] Furthermore, the wish to maintain and protect a cultural heritage, which tends to become stronger when facing rejection, can lead to insufficient integration efforts.[658]

This result is confirmed by empirical research.[659] An obvious example for this phenomenon is the discussion about Islam in the USA, Europe and other important immigration countries in the aftermath of the September 11, 2001 terrorist attacks and its effects on Muslim minorities.[660] Social-psychological research has found out that individuals react with *"reactive religiosity"* to discrimination experiences in order to cope with the negative consequences to their self-perception.[661] This is expressed, for example, in the fact that Turkish immigrants of the second or third generation in Germany more often describe themselves as "deeply religious" than their parents' generation, although they practice Islam less actively (measured by mosque visits and daily prayers) than their parents.[662] However, this mechanism is not exclusively limited to Islam but occurs among Christians as well if they have to live as a minority in a society that rejects them.[663] In general, this occurs in form of a *"reactive ethnicity"* but with the same properties as the example about religion above, leading to this phenomenon naturally impeding integration of the society.[664]

Violent xenophobic attacks as an extreme form of rejection add a further dimension to the problem, which goes beyond one's own individual fear for physical safety and the certainty of not being welcome in this society. Since media reports make the attacks perceptible to the entire attacked part of the immigrant population, the experience of fear and rejection is not limited to the individual "micro-level". Those attacks also influences the immigrants' integration efforts as a

657 Epstein and Gang 2009, p. 84.
658 Epstein and Gang 2009, p. 68.
659 Hatton 2014, p. 44.
660 Voas and Fleischmann 2012, pp. 536–537, Gould and Klor 2016, pp. 2108–2109.
661 Voas and Fleischmann 2012, p. 537.
662 Pollack et al. 2016, p. 11.
663 Aydin et al. 2010, p. 750.
664 Voas and Fleischmann 2012, p. 537.

"macro-level" shock.[665] Migrants react to this shock with strengthened return intentions and consequently (in accordance to hypothesis H4) lower levels of investments in host-country-specific human capital, such as the spoken language.[666] As pointed out in chapter 3, omitted integration imposes massive costs on the society. In addition to the incalculably high personal costs of those directly affected, such attacks also cause significant indirect consequential costs due to slower or entirely prevented integration.[667]

However, the openness of a society and the integration of migrants also costs a society resources. It must also be stressed that the material and psychological resources of a society available for the reception and integration of migrants are limited. An increase in xenophobic attitudes in society and increased outbreaks of racist hate crimes can – in spite of the palpable vileness – be a sign that one of the two types of resources is overburdened. It is particularly important for the psychological resource that immigration is perceived as controlled and regulated. An effective immigration regime is therefore indirectly a prerequisite for successful integration.[668]

Table 5 gives an overview and a short summary of the five hypotheses which will help to interpret the results presented hereafter.

665 Steinhardt 2018, p. 12.
666 Steinhardt 2018, p. 25.
667 Steinhardt 2018, p. 25.
668 Heckmann 2015, p. 283.

	Name of Hypothesis	Main Point
H1	Cultural Distance Hypothesis	Larger initial cultural differences impede integration.
H2	Group Size Hypothesis	Larger minority groups reduce the incentive to integrate.
H3	Self-Selection Hypothesis	Migrants can be positively or negatively selected from their home population in terms of education, abilities, and motivation and will perform accordingly with regard to their integration.
H4	Time Horizon Hypothesis	Integration efforts increase with a longer expected residency.
H5	Triangle Hypothesis	Time spent in the country and the openness of the host society determine integration outcomes as well.

Table 5: Hypotheses Regarding the Integration Success

7.2 Cross-Sectional Results in 2010

7.2.1 State of Integration for 2010

As a general remark, note that all index values for immigrant sub-groups are averaged across the respective population. This means that even in a group of origin that is generally relatively poorly integrated, there are of course individuals who are very well integrated. Furthermore, the total integration index is more than a weighted average across all immigrant subgroups, since it also contains observations whose origin is not identifiable or not classified into a subgroup. This overall value indicates an index value for integration for the entire migrant population in Germany at a given point in time.

With the first model, the immigrant integration in cross-sectional data of 2010 is measured. 2010 is the most recent year[669] with all relevant data available (for example, data about housing is only available every 4 years). Therefore, for 2010 the most detailed model is used which logically results in the lowest index values. The number of observations and the Pseudo-R^2 of the underlying probit model are reported in *Figure 15*.

[669] As of 2017.

With regard to migrant marriages, the second variant (spouse must be born abroad to count as an immigrant) is chosen and will here be presented in full length. A comparison with index results from other migrant marriage definitions can be found in *Figure 25* in the appendix.
In model specification 1 (and 2) in the static analysis the immigrant definition is strictly limited to first generation immigrants, thus people born outside Germany. Second generation immigrants are removed from the sample so as not to interfere with the calculation. This is a common approach when examining immigration.[670] Following from that, integration is measured by comparing characteristics of immigrants with migration experience to those of native Germans without a migration background.[671] Remember that index values can only be compared within a model specification, not between different models.
The regions of origin are chosen t o represent groups of immigrants who arrived at a certain time or simply with geographic or cultural proximity in mind.[672] The categorization is constrained by data availability and no category contains less than a few hundred observations.[673] As presented in sub-chapter 6.1.2, by far the highest numbers of immigrants are categorized as (late) repatriates or ethnic Germans coming from countries of Eastern Europe and the former Soviet Union after the fall of the Iron Curtain. Other important immigrant origins are Central/Eastern Europe (apart from the ethnic German repatriates) and Turkey.

[670] Sachverständigenrat deutscher Stiftungen für Integration und Migration (SVR) GmbH 2017, p. 4. See section 5 for more examples.
[671] The immigrant definition for model specification 1 and 2 is comparable to the definition used in Vigdor 2008 and can also be found for example in Laurentsyeva and Venturini 2017, p. 286.
[672] See sub-chapter 6.1.3 for an overview of the regions and the nationalities from which they are derived.
[673] See *Table 2* for a display of the number of observations for each region of origin.

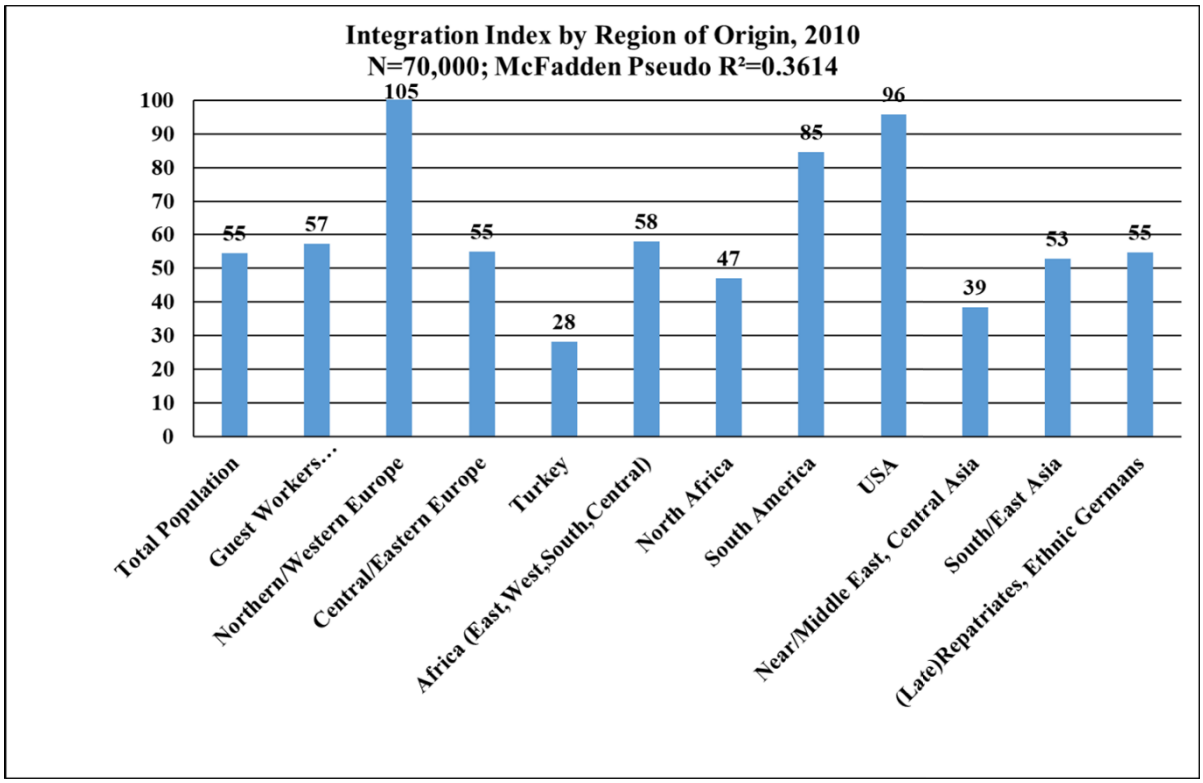

Figure 15: Integration Index 2010[674]

In *Figure 15*, one can see that a total index value for all immigrants of 55 masks a wide disparity of integration progress between different migrant groups.[675] The integration of immigrants from Turkey (28) is the lowest of all groups of origin, which is in line with other publications measuring immigrant integration in Germany.[676] Immigrants from the Near/Middle East, Central Asia and from North Africa have also been found at the lower end of the scale with index results below the average.

At the top end of the scale, immigrants from Northern/Western Europe and the USA show index values of over 100 or over 95 respectively, which speaks for a perfect integration. Immigrants from South America are close behind, with index values of about 84. The value above 100 can be reached by Northern/Western European immigrants since they show attributes that are associated with a native status by the model to a greater extent than natives themselves. The successful integration of people from Northern and Western Europe finds affirmation in Adsera and Chiswick (2007, p. 508) who find similar earnings for immigrants from the EU and natives in Germany, even at the time of the immigrants' arrival.

674 Own Calculations based on Microcensus 2010 SUF.

675 Other studies report similar differences, see for example Algan et al. 2010, F8, Vigdor 2008, p. 6, or Woellert et al. 2009, pp. 34–48.

676 See for example Constant et al. 2012, p. 111.

Immigrants from Africa (without North Africa) and the early "guest worker" countries Italy, Spain, Portugal and Greece show integration index numbers slightly above the total index value for all immigrants. However, the evaluation of social science data from 2006 showed that migrants from Italy, Spain, Portugal and Greece are now perceived as being part of the majority society,[677] which is a great success in terms of integration. The contradiction between those results and the average index numbers which were determined in this thesis is a reminder that integration is also a subjectively perceived state on both sides, which can only be quantified to a limited extent.

Immigrants from Central and Eastern Europe as well as from South East Asia exhibit index values slightly below the average.

(Late) repatriates and ethnic Germans are a special case when taking into account migrant marriage patterns. Their slightly below average integration index is somewhat misleading in this variant, where the spouse must be born abroad to qualify the observation as married to a migrant. As *Figure 25* shows, when using a different variant of the migrant marriage variable, the integration results are much higher (94) and stand at a similar level as North/Western Europeans and U.S. Americans. Since the group of (late) repatriates enjoyed a facilitated naturalisation process, their naturalisation rates are high despite their relatively short time in the country (compared to guest worker families who entered in the 1960's). On the other hand, they are a large group with a wide range of potential marriage partners from the same migration background. Their high propensity of marrying fellow repatriates who are born abroad but are also German citizen consequently biases their otherwise very good integration results downwards. As *Figure 25* in the appendix shows, the cross-sectional model specification 1 is much more robust to changes of the migrant marriage variable when it comes to the other groups of origin.

7.2.2 Interpretation of Marginal Effects

The estimation coefficients reported in appendix F) indicate how strong and in which direction each independent variable affects the values of the cumulative distribution function of the standard normal distribution. As described in chapter 6.2, this value is mapped on a unit interval [0,1] representing the probability

[677] Faist 2013, p. 96.

of being an immigrant conditional on the manifestations of the independent explanatory variables. Obviously, this interpretation of the coefficients is complex and not straightforward. Moreover, the inclusion of gender-based interaction terms further complicates the interpretation. Thus, instead of the estimation coefficients, the marginal effects[678] of each independent variable are reported here as they are more straightforward to interpret in this non-linear model with interaction terms than the estimation coefficients.

A marginal (probability) effect always has the same sign as the corresponding estimation coefficient but, differing from them, marginal effects can also be interpreted in magnitude. Three different kinds of marginal effects can be calculated: Marginal effects at the means (MEM), average marginal effects (AME), and marginal effects at representative values (MER).[679] In this context, reporting the AME makes the most sense, as they correctly work with the fact that many binary variables are involved for which calculations at the respective means wouldn't make sense. For the average marginal effect, the marginal effect of a change in each respective variable is calculated for every single observation, and finally these results are averaged.

Figure 16 shows a selection of average marginal effects for model 1 in 2010.[680] For reasons of readability, only the significant AME's are reported here. Furthermore, the categorical variable of ESeC-classes is excluded with the exception of the important information about unemployment. The AME can be interpreted as follows: The average marginal effect for the binary variable (Y/N) "homeownership" (-0.093) means that an individual who owns his/her accommodation on average has a 9.3 percentage points lower probability of being an immigrant compared to the otherwise equivalent individual who does not own his accommodation.

For a categorical variable (Categorical Variables 1-3) like the marital status or the educational outcome, the AME are interpreted slightly differently. Here, the respective outcome of a variable, for example "no school degree", is compared to an omitted base category (here: professional/vocational qualification). The

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678 If we retain to the denominations introduced in sub-chapter 6.2.1, the marginal effects can be formalized in probit models as follows: $\frac{\partial \Pr[y_i=1|\boldsymbol{x_i}]}{\partial x_{ij}} = F'(\boldsymbol{x_i'\beta})\beta_j = \varphi(\boldsymbol{x_i'\beta})\boldsymbol{\beta}$, see Cameron and Trivedi 2008, p. 467.

679 See Williams 2012, p. 309.

680 For the full set of AME and a comparison between the three versions of model 1, see *Figure 26* in the appendix.

base categories for all categorical variables are chosen to be the most common characteristic in terms of the number of observations falling into this category. All other manifestations of this variable are compared to this base. As a verbal interpretation of the AME of a categorical variable one could say: The probability of being a migrant is 31.5 percentage points higher for a person with no school degree compared to a person from the base category who has a professional/vocational qualification but otherwise the same characteristics.

The third type of variables used in the model is the continuous variable (Cont.). An example is the number of children below the age of 27 in the observations household. The AME can here be interpreted as the effect in percentage points on the probability of being an immigrant for an individual if one more child lived in the same household. Note that the marginal effects of continuous variables cannot be compared to each other in size, since their magnitude depends on the scale for the underlying variable. If the log net income would be measured in Cents instead of Euros, the marginal effect would change by factor 100.

In conclusion, the magnitude of the AME shows the explanatory power of the respective variable, the sign shows the direction of the effect.

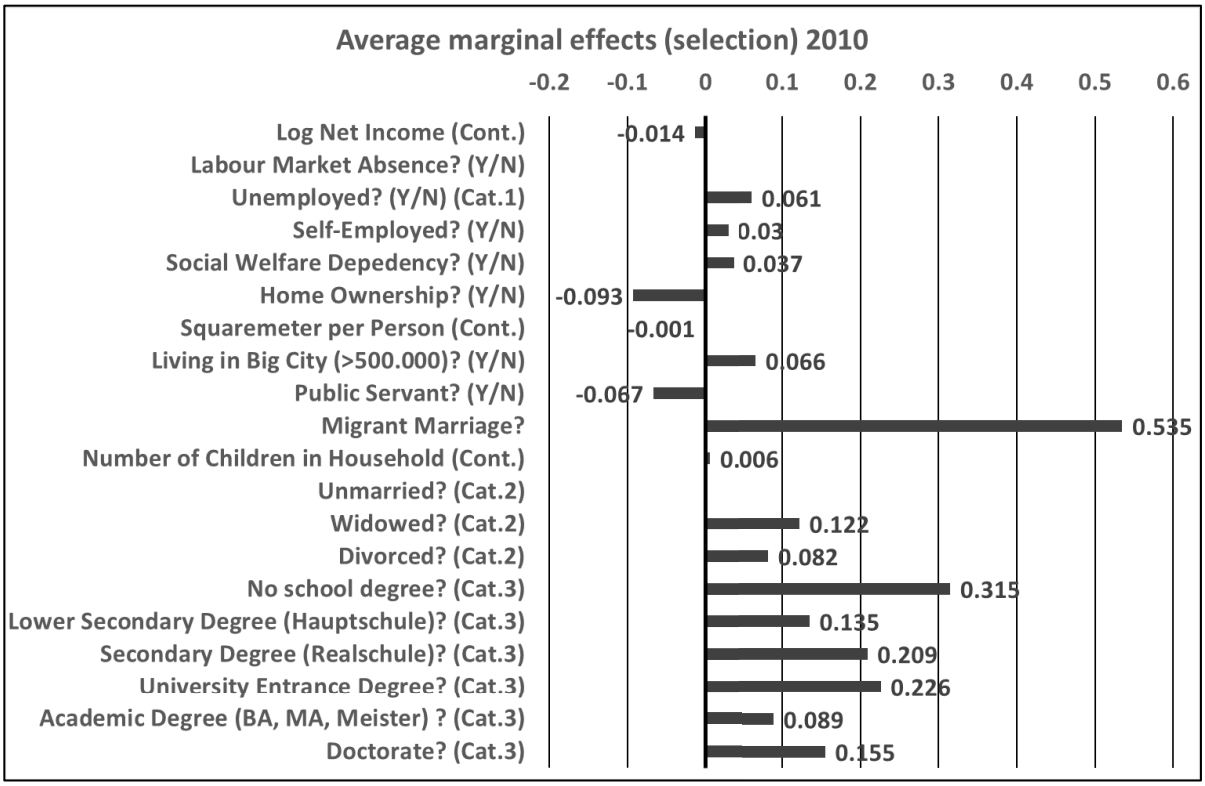

Figure 16: Model Specification 1 Average Marginal Effects in 2010[681]

[681] Own Calculations based on Microcensus 2010 SUF.

Figure 16 indicates that a unit increase of the log net income lowers the probability of the individual being a migrant. Immigrants are more prone to be unemployed.[682] Labour market participation on the other hand is not significant as a predictor variable in the used model variant. Self-employment and entrepreneurship are positively associated with migrant status, the same is true for the dependency on social welfare benefits. It is easy to understand the fact that immigrants are disadvantaged in terms of their housing situation. Home-Ownership reduces the probability of the individual being an immigrant by almost 10 percentage points. At the same time, the size of the living space per person is negatively linked to migrant status. Furthermore, immigrants in Germany are overrepresented among the population of the biggest cities with more than 500.000 inhabitants and underrepresented among public servants.

The strongest predictor variable for migrant status in this model specification is the migrant marriage variable. Since it is such a strong predictor for migrant status whether or not the spouse or partner is born abroad, a robustness check in that respect is conducted for all model specifications.[683] For all variables except the categorical variable "marital status", the AME are robust in sign and magnitude with respect to altering the variant of the intermarriage variable.

However, as mentioned above, the variant of the migrant marriage variable used has a different impact on different immigrant groups depending on marriage- and naturalization patterns. For example, for late repatriates and ethnic Germans, defining a partner born abroad as being married to an immigrant is a much stronger predictor than a partner being an "Ausländer". That is because late repatriates are born abroad by definition, but their naturalization rates are higher than in other immigrant groups. Thus, for them the different definitions of intermarriage mean a huge difference in their measured integration. On the other hand, for people in Northern/Western Europe who tend to keep their native citizenship while living and marrying in Germany, the difference between the intermarriage variables is much smaller.

The average marginal effects of the categorical variable of the highest educational and professional degree show that immigrants are overrepresented on both ends of the educational scale. These findings indicate a pattern in the immigrant

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682 Note that the information about unemployment stems from the categorical variable of the ESeC-classes and displays an unemployed persons migrant probability compared to the otherwise same individual in the base category "Lower Salariat").

683 See appendix H) for more information and alternative model results.

schooling distribution that has been detected for most OECD countries.[684] At the same time, immigrants are underrepresented in the baseline category of vocational or professional training, the reasons for this are stated in sub-chapter 6.1.4. In conclusion, the AMEs of the chosen predictor variables are mostly significant and point in the expected direction which is furthermore confirmed by international literature on integration.

7.2.3 The Duality of Economic and Socio-cultural Integration

Traditionally, sociologists on the one hand and economists on the other focused either on social aspects of immigration, including integration or exclusively on the basic economic aspects, thus neglecting social implications. The focus of economic immigration related research was the direct impact on labour markets and public finances rather than the economic or general integration of immigrants.[685] More recent papers increasingly shifted integration into the focus of economic research,[686] seeing as for example the fiscal impact crucially depends on the degree of (economic) integration.[687]

Integration is often examined or measured separately in several dimensions, namely economic, civic/organisational and social/cultural integration.[688] Due to data restrictions many scientists either focus on economic or on socio-cultural integration.[689] These two major integration contexts can exhibit different properties in terms of pace or their reacting to more immigration of people from the same country.[690]

Furthermore, the question of the interplay and dependencies between economic and cultural integration is raised.[691] If one knew, for example, that employment or other economic factors are a necessary precondition for social integration or

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684 Blau and Kahn 2015, p. 800.

685 Algan et al. 2012, p. 1. See chapter 3.2 for an analysis of labour market effects of migration.

686 See Piché et al. 2002, for economic integration and Laurentsyeva and Venturini 2017, for social integration.

687 Woellert et al. 2009, p. 75.

688 Vigdor 2008 uses civic integration as a third component along with economic and cultural integration. This is similarly expressed in Esser 2001 who names three basic mechanisms of integration: via the market, the organisation and via values. However, his deeper division into system integration and social integration goes beyond the scope of this thesis.

689 See for example Constant et al. 2012, p. 71.

690 Contucci and Sandell 2015, p. 1272.

691 See for example Laurentsyeva and Venturini 2017, p. 292, Furtado and Trejo, p. 21.

vice versa, one could draw conclusions in order to develop more efficient integration policies. The general availability of information on cultural integration is criticised as being too low.[692]

Based on the approach of Vigdor (2008, p. 6), this thesis contributes to answering these and other questions by separately measuring economic and cultural integration in a second examination of the data. Therefore, the first cross-sectional model is reduced to exclusively process variables from the economic or cultural sphere to calculate a social or economic index instead of a composite index with all variables. *Table 6* shows the distribution of the predictor variables in the respective context. Of course, it would have been interesting to evaluate other variables in the cultural field, such as language skills. Furthermore, the tendency of migrants to give their children common names of the host society has also been studied as an indicator of cultural integration.[693] Unfortunately there are no other informative cultural variables in the available data.

Economic Indicators	Cultural Indicators
Income	Living in a large city (>500.000)
Labour market participation	(Migrant Marriage)
Ranking of Profession	Number of children in household
Self-employment	Marital status
Dependency of social assistance	
Home Ownership	
Educational/Professional Degree	

Table 6: Economic and Cultural Indicators

Naturally, the resulting index values will be higher than those of the composite model using the full set of variables, as a model with fewer variables is able to generate less powerful predictions for the migrant status. In accordance with the limitations placed on the comparability of the other model specifications, the results of the individual indices cannot be compared across different models. *Figure 17* shows the economic and social integration in contrast to the composite integration index of chapter 7.2.1.

692 Sachverständigenrat deutscher Stiftungen für Integration und Migration (SVR) GmbH 2017, p. 4.

693 Gerhards and Hans 2009.

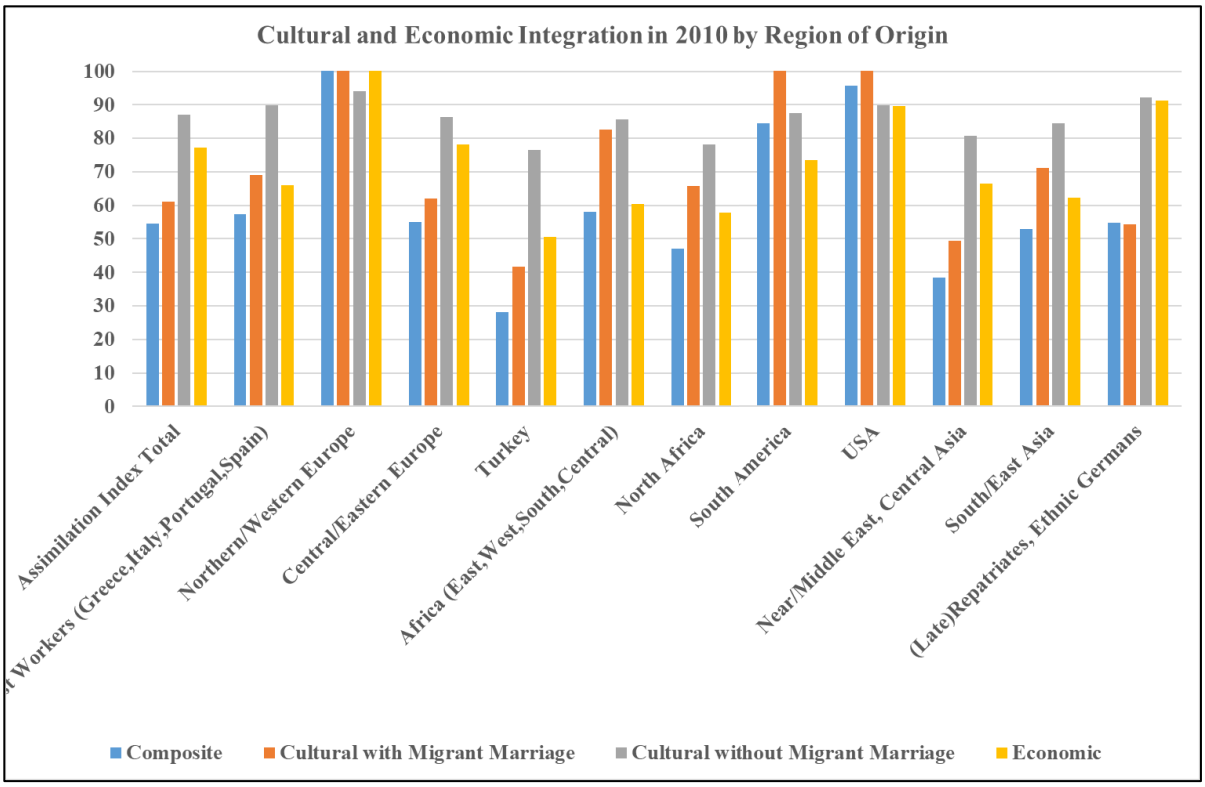

Figure 17: Integration in 2010 by Country of Origin[694]

The results for the cultural and economic integration measured separately further demonstrate the heterogeneity of the migrant population. The immigrant population in total appears less integrated along cultural than economic lines when using the variables listed above. This is mostly due to the great explanatory power of the migrant marriage variable, which may cover up the influence of unobservable variables. When excluding this important predictor, cultural integration is calculated to be higher than economic integration. However, the great heterogeneity between migrants from different regions of origin calls for a closer look.

The main results of course resemble the analysis of the composite index. Immigrants from Northern and Western Europe and the USA can claim to be (almost) perfectly integrated. South American immigrants are in general well integrated as well but show a relatively low economic integration when compared to their high cultural integration. The good cultural integration could be favoured by the small group size. Immigrants from South America are indistinguishable from natives if migrant marriages are included as an explanatory variable. Their measured integration deteriorates slightly if the variable is disregarded. This points to

694 Own Calculations based on Microcensus 2010 SUF.

a small selection of potential spouses from their own ethnic group resulting in either marrying a native or not marrying at all.

The (late) repatriates are almost perfectly integrated along economic and cultural lines as well, when neglecting the migrant marriages. They combine their outstanding economic integration with below-average cultural integration and thus provide an interesting example of the duality between economic and socio-cultural integration. As the only group of immigrants in Germany's migration history they have had access to financial help and other assistance programs as well as language courses. Furthermore, they had a legal claim to fast naturalisation. The seamless integration into German society from an economic point of view serves as an example of the effectiveness of the support measures mentioned above. The low cultural integration measured when examining (late) repatriates and ethnic Germans comes from a large share of people with a spouse not born in Germany. When using citizenship as decisive factor in determining the state of migrant marriage, the low cultural integration vanishes.[695] The reason for that large difference in cultural integration index values is the large proportion of (late) repatriates and ethnic Germans who are naturalised citizens. The number of people in that immigrant group who can be identified by their citizenship is much lower than their number when defined by place of birth.

Immigrants from the early guest worker countries (Greece, Italy, Portugal, Spain) display a higher than average cultural integration, which is probably based on their relatively long duration of stay and is reflected in a high degree of acceptance by the local population.[696] Their economic integration however is lower than that of the immigrant population as a whole. This shows the late effects of the immigration of low-skilled workers who had difficulty in advancing their careers due to a lack of education. This fate is shared by many immigrants coming from former "guest workers" countries.

The immigrants with Turkish origin face the same economic difficulties as the other early guest workers from Southern Europe and North Africa which is reflected in similar economic integration. For those of Turkish origin, however, this is aggravated by a greater initial cultural distance, which has a negative effect on cultural integration today and causes this group to fall further behind. The

695 See *Figure 25*.
696 Faist 2013, p. 96.

same pattern also applies to immigrants from the Near and Middle East and Central Asia but with slightly higher index values.
In conclusion, a small group size seems to favour cultural integration more than economic integration. This pattern can be derived from the situation of African and South American immigrants in particular. An explanation for their relatively high socio-cultural integration is the low number of immigrants from these countries, increasing the probability of finding a native German partner, which tends to lower migrant marriage rates for those groups. Moreover, the general exposure to the host society's culture is higher for smaller ethnic groups. Immigrants living in an ethnic enclave (Diaspora) among large numbers of other immigrants are more likely to find a spouse with migration experience.
The economic integration seems to be determined by education and skills which are closely linked to the opportunities the immigrant had in the respective home country even before his or her emigration.

7.3 Repeated Cross-Sectional Analysis

7.3.1 Development of Integration from 2007 to 2012

The second model uses a slightly different specification to offer comparable results for a time span of 6 years. The biggest difference is the different version of the intermarriage variable (see chapter 6.1.4 for details). Here, due to a lack of data about spouses' birthplaces in earlier years of the micro census, a person counts as married to an immigrant if his spouse or partner is an "Ausländer" or foreigner. This change has a varying effect dependent on the immigrants' origin. *Figure 18* shows the results.

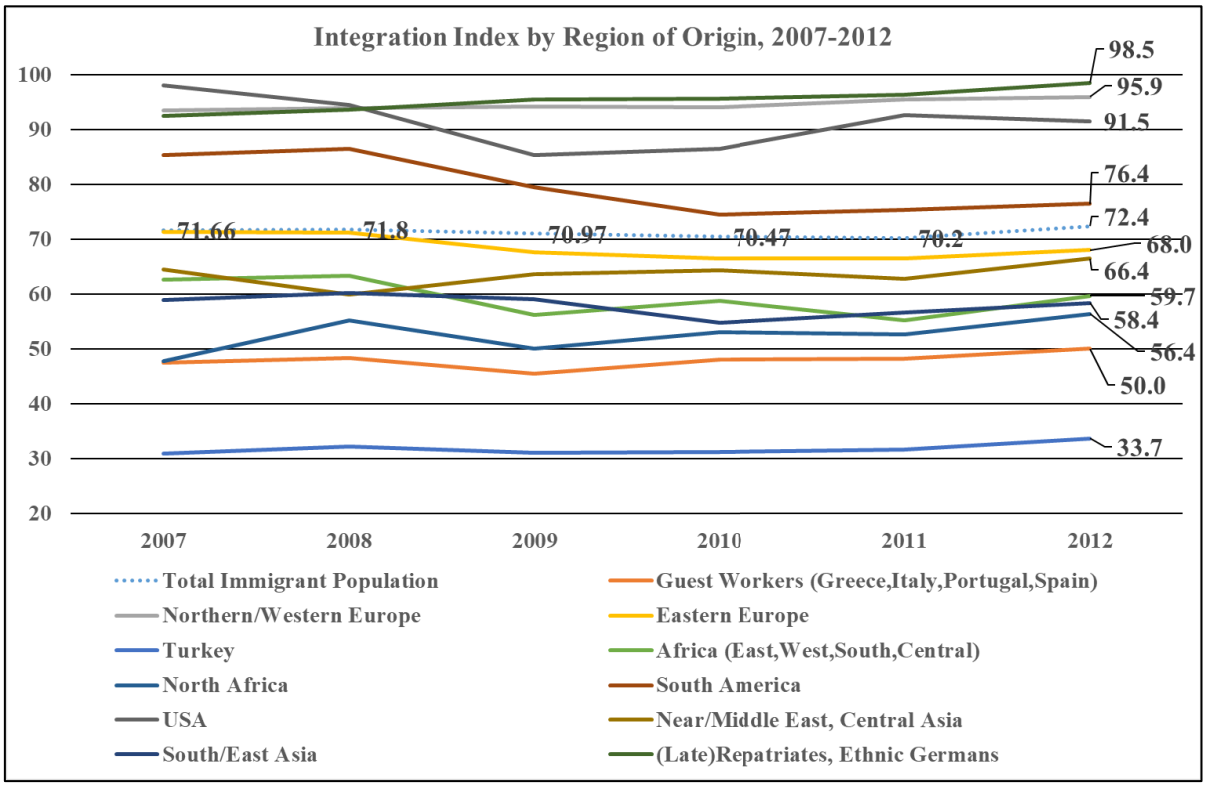

Figure 18: Integration Index Model 2 by Region, 2007-12[697]

Due to the different migrant marriage definition in model 1 compared to model 2, the (late) repatriates and ethnic Germans are much harder to identify in model 2 and thus jump to the top end of the scale. Their successful integration among other lines than the migrant marriage has been hinted at in the previous chapter. Otherwise, the composition and order of the index results resemble those from model 1. The immigrant groups which also had the highest values in the cross-sectional model specification 1, namely immigrants from the U.S. and Northern/ Western Europe, closely follow the ethnic Germans with values above 90. South American immigrants are integrated above "average" as well, although their integration declined slightly during the examined time period. On the lower end of the scale with a low level of integration, we find immigrants from Turkey and the first Guest worker countries, as well as North Africa. Immigrants from Africa, Eastern Europe, and South East Asia have index values which stand little below the average.

One can see that migration is a lengthy progress which can take decades or generations to accomplish. Consequently, the indices are quite constant when exam-

697 Own Calculations based on Microcensus 2007-12 SUF.

ined over the course of only six years. This is also due to the moderate immigration to Germany in the years 2006 to 2010,[698] with the net migration even being negative in 2008 and 2009[699], which left the stock of immigrants almost unchanged.[700]

It is expected that newly arrived immigrants are naturally less integrated than the immigrants who have lived in a country for a longer time. New arrivals normally have to learn the language and the cultural norms before culturally and economically participating in the host society. Thus, in an environment with a rapidly growing immigrant population, a stable index is a sign for successful integration since the inflow of unintegrated new arrivals is compensated by integration progress of the "older" immigrants. Inversely, a stagnating index value with a constant migrant population, as is the case in Germany, is not a sign of progress in terms of integration. Other studies of immigrant integration in Germany find a slight improvement for the years from 2005 until 2012 with different estimation methods.[701]

For an overview over the average marginal effects measured while using the second model specification see appendix J).

7.3.2 Development of Integration from 1996 to 2012

In model specification 3 the integration development of almost 20 years can be tracked. Remember that, for this model specification, an immigrant is defined as a person with a non-German passport and not by birthplace as in the other models.[702] The group of people identified as foreigners might be negatively selected since well-integrated immigrants might be more inclined to obtain the German citizenship. It is thus especially important not to compare index values from model specification 3 with those of other model specifications where immigrants are defined by birthplace. In contrast to model specification 1 or 2, the late repatriates and ethnical Germans cannot be identified due to a lack of data, therefore the classification of the regions of origin is purely geographical in model specification 3.[703]

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698 Statistisches Bundesamt 2018a.
699 Statistisches Bundesamt 2018d.
700 See *Table 10*.
701 Woellert and Klingholz 2014, p. 6.
702 It is irrelevant whether the first or second citizenship is a foreign one, see chapter 6.1.2 for details.
703 See sub-chapter 6.1.3.

Starting in 1996 with around 47 index points, the integration index of all immigrants climbs to a value of around 65 in 2012. The improvement of around 18 index points is in general a sign of an increasing homogeneity between immigrants and natives living in Germany with respect to certain relevant variables and thus of an increasing integration. For immigrants from the largest minority groups, namely those with Turkish, Italian, Greek, or Yugoslavian passport, the results from model 3 are in line with results from other studies examining integration in Germany.[704]

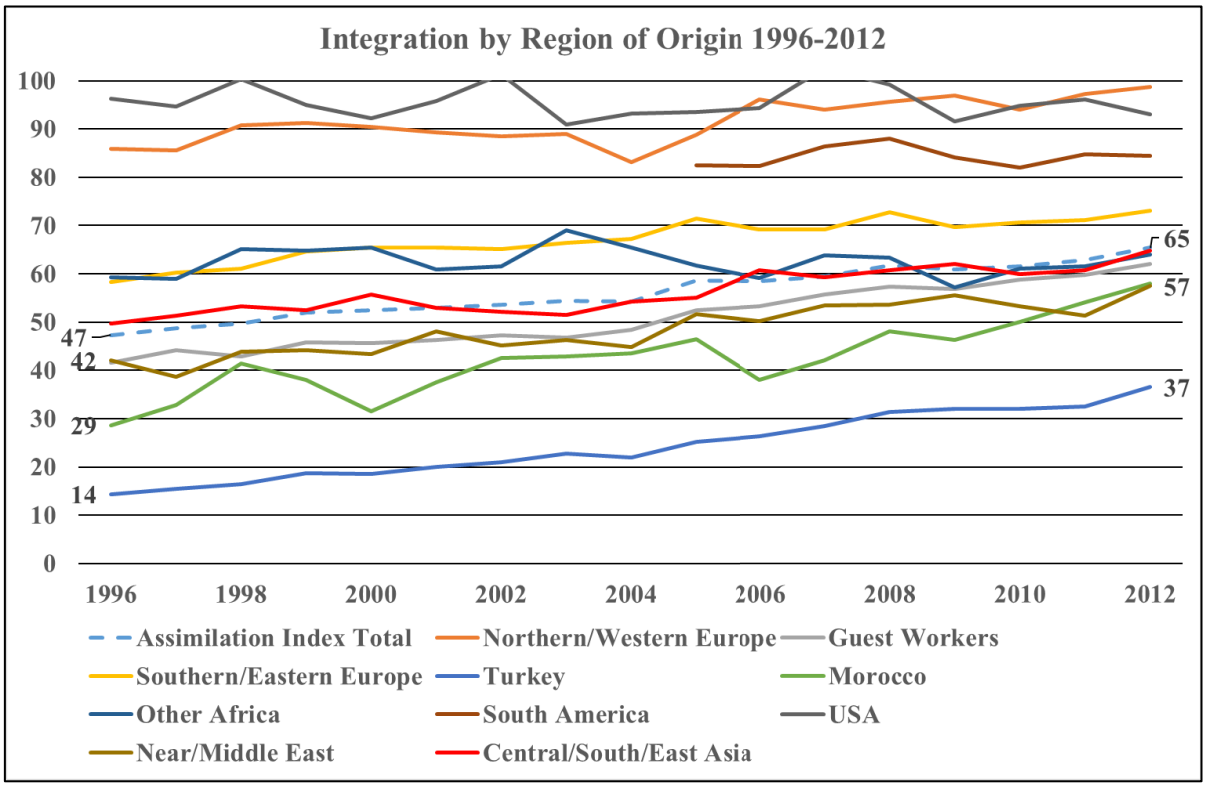

Figure 19: Integration Index 1996-2012[705]

Again, the total index value masks heterogeneous developments among different immigrant groups.

As shown before, the U.S. immigrants lead in terms of integration, although their number is relatively small. Their small number may make them irrelevant for the discussion about the cultural consequences of Germany's transformation into an immigration society, their high index values however serve as a measure of comparison. Their index value floats between 90 and 100 points for all years and thus constitutes the upper end of the scale.

704 For example Babka von Gostomski 2010, p. 21.

705 Own Calculations based on Microcensus 1996-2012 SUF.

In the years after 2005, the U.S. Americans in Germany are caught up by another very well integrated group of immigrants, namely the Northern and Western Europeans whose values improve from around 85 to around 100 in the time from 1996 to 2012.
People from South America (distinguishable only after 2005) also belong to the very well-integrated immigrants in line with the results of the previous model specifications.
People from Africa (apart from Morocco) are also integrated well above the average in the years before 2006, their index value fluctuating between 60 and 70 until 2003. After 2003, a small decline of the integration index brings this group down to the same level of the total immigrant population. This also means that – in contrast to other migrant groups – they did not improve their measured integration over those 17 years and are now caught up to by groups with improving values.
People from Southern and Eastern Europe (without the "classic" guest worker countries Italy, Spain, Greece and Portugal) have had slowly increasing index values until 2006 from where on the index stagnates on a level well above the total index value for all immigrants. As displayed in, the number of relevant observations for these groups increases dramatically after 2004, a development that finds its counterpart in the official population statistics where it is traced back to the Eastward EU Enlargement in the years 2004 and 2007. In light of the vast increase of newly arrived and thus naturally unintegrated immigrants from Eastern Europe, the halt of the upward trend is explainable and not necessarily a sign of a stagnating integration process. On the contrary, it requires a steady integration progress for an immigrant group in order to keep a certain index level when the share of newly arrived immigrants in this particular group increases.
Immigrants from Central/South/East Asia almost perfectly follow the path of the total index, lying just a few points higher. Their index starts from around 50 points in 1996 and proceeds to around 64 points in 2012. Note that migrants from Central Asia were considered along with migrants from the Middle East in the other model specifications. The reason for the deviation is the regional classification in the Microcensus dataset, which differed over the years. See subchapter 6.1.3 for an overview of the regions of origin in all model specifications.
The immigrants from the Near and Middle East also lag the total index with values a few points lower than all immigrants measured together. Thereupon, they

could increase their integration measure from 42 to almost 57 over the course of 18 years.

Although they belong to the first big wave of immigrants coming to Germany, the Guest workers and/or their descendants from Italy, Greece, Portugal, and Spain have integration index values lower than the "average". They start at around 42 in 1996 and manage to add more than 20 index points by improving the objectively measurable integration into the majority society in Germany. This is one of the strongest improvements of all immigrant groups. Their index numbers compare to those of immigrants from the Near and Middle East and – despite all progress – reveal an ongoing need for integration measures or related politics. Their relatively large number underlines the importance of these measures.

On the lower end of the scale, we find immigrants from Morocco as a proxy for Northern Africa as well as from Turkey. Both immigrant groups start with low index values but exhibit the strongest growth of all regions. Turkish immigrants start with the lowest value of around 14 points in 1996 and from this were able to more than double their index in 2012. This progress needs to be supported and continued if one is to to speak of a successful integration in the future, since the Turkish integration index in 2012 of around 36 points is still well below the total index for all immigrants. The number of Turkish immigrants is also high, as they constitute the second largest immigrant group in this specification after the people from Southern and Eastern Europe.

Moroccan immigrants are the smallest group. Nevertheless, with a minimum of 150 observations, their number is still high enough to calculate an average index value. They achieved the largest progress in terms of integration from 1996 to 2012, increasing their index value from around 28 to around 58.

In conclusion, there has been an increase in objectively measurable integration for most immigrant groups in the time from 1996 to 2012. Furthermore, a convergence of the different migrant groups can be observed, as the poorly integrated groups at the beginning of the period studied have recorded the highest increases. However, these were generally not sufficient to fully catch up with the well-integrated immigrants from the USA and Europe. In subchapter 7.5, the available results for all model specifications are interpreted in greater detail. As all these results stem from (repeated) cross sectional analysis, they are in danger of being biased by factors like a declining average skill level of newly arriving

immigrants or selective return migration.[706] Since the present study is intended to measure the respective integration status of the migrant population one year at a time and does not seek to make any statistical prediction about what successes can be expected in the (further) course of time, this is not seen as a problem here. However, it must be assumed that measurable integration tends to be reduced by selective emigration from Germany. This is because highly qualified people who are potentially better integrated are more likely to leave the country than are low-skilled immigrants.[707]

7.3.3 Marginal Effects at Different Points in Time

Changes in the marginal effects may indicate which character traits immigrants and natives have converged toward. The analysis can therefore provide information along which lines the integration of migrants has improved. *Figure 20* shows the average marginal effects (AME) produced by the third Probit model specification for a selection of variables and for three representative dates. Only statistically significant AME's are reported. The chronological first and last values are shown in the figure for comparison.

[706] Chiswick et al. 2005, p. 333.
[707] Gundel and Peters 2008, p. 779.

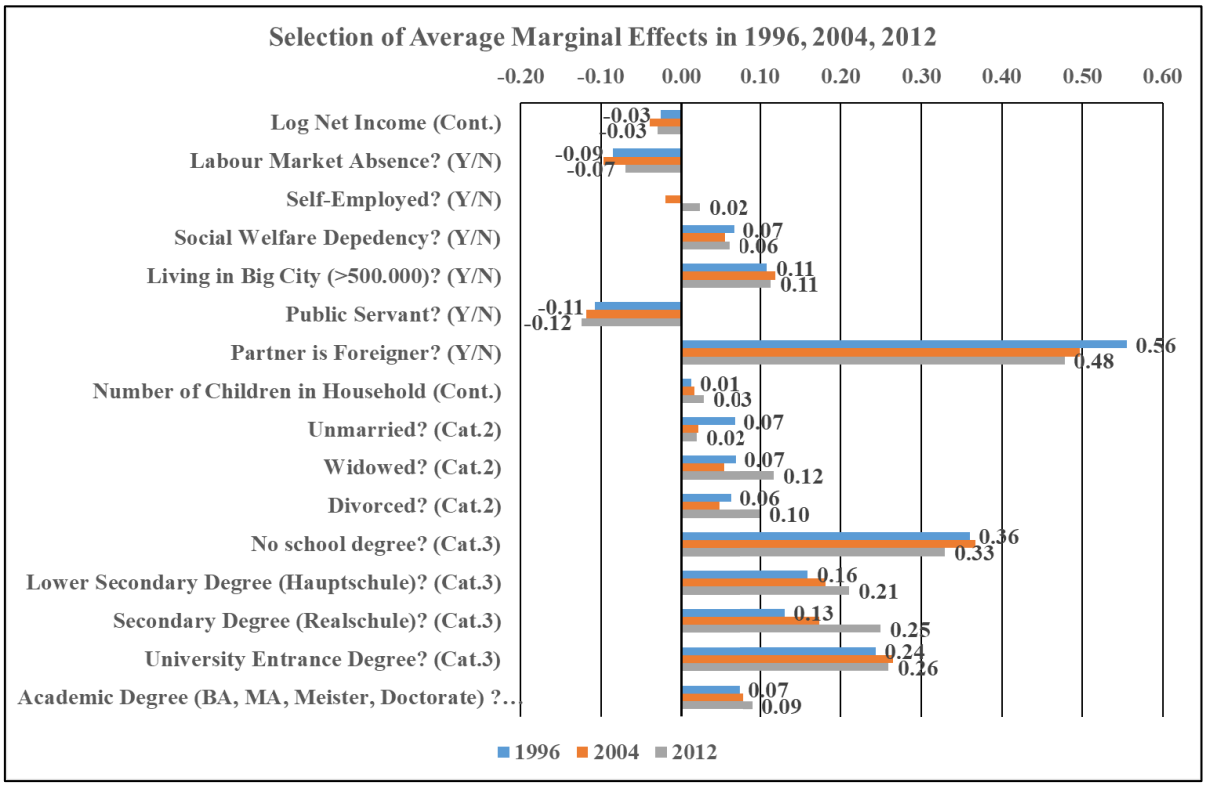

Figure 20: Average Marginal Effects, Model Specification 3[708]

When inspecting the AME's over time the first thing that stands out is the high constancy over this long period of 17 years. Self-Employment is an exception to this pattern, as it is not a significant predictor in the 1996 data and changes its sign from negative to positive between the latter two time points. The predictive power of the intermarriage variable decreases over time, which should explain a large part of the progress in integration described above. In actual fact, when abstracting from the important migrant marriage variable, a progress above 10 index points can only be measured for the immigrants from Morocco and the "classical" guest workers without Turkey.[709] Those two migrant groups have made the biggest progress in aligning their characteristics to the "German" (by passport) population. The measured integration progress of the total immigrant population is reduced by around 50 % when excluding the migrant marriage variable.

The decreasing predictive power of the migrant marriage variable however does not necessarily mean that immigrants more often marry native Germans or vice versa, which would in fact indicate for increasing integration. Since the decisive

708 Own Calculations based on Microcensus 1996, 2004, 2012 SUF.

709 See Figure 28 in the appendix for the results of model specification 3 without the migrant marriage variable.

variable in this model specification is citizenship rather than birthplace due to the data situation, naturalised migrants are only recognizable when they keep their second citizenship. It is therefore conceivable that increased numbers of naturalisations due to the modernised legislation since the 2000s have reduced the number of recognised migrant marriages for migrants but also for the natives.

7.4 Comparing the First and Second Immigrant Generation

In this chapter, the intergenerational progress in immigrant integration is addressed. Many scholars are convinced that a large part of achievement in terms of integration is made by second generation immigrants born in the host country to immigrant parents.[710]

As mentioned in chapter 6.1.2, in the German context they are called people with migration background but without migration experience. The binary variable describing whether or not the individual is a second-generation immigrant is operationalised as follows: An individual counts as a second-generation immigrant if he or she is not a first-generation immigrant, but at the same time:

- holds a foreign citizenship next to or instead of the German citizenship
- has not obtained the German citizenship by birth (but through a naturalisation process)
- is born in Germany to a parent born abroad or born in Germany without the German citizenship

With this definition, due to the last bullet point, a number of observations which are technically already third-generation immigrants are counted to the second generation.

Unfortunantely, as we see in *Table 8* and *Table 9* in the appendix, the share of second generation immigrants in the relevant age group is small in Germany (1.9 % in 2010, 2.3 % in 2015), which is reflected in the data sample. Only around 2 % of the observations (around 4.000 observations in 2010) can be identified in this category. In addition to their low number, the region of origin cannot be determined due to a lack of information concerning the ethnic and cultural heritage of people born in Germany. Thus, in the dynamic analysis, only the integration of the second-generation immigrant population as a whole can be examined and no statement can be made about the intergenerational integration

[710] Kalter and Granato 2004, p. 62, Card 2005, pp. 25–26, Duncan and Trejo 2011, p. 603.

progress of any immigrant sub-group. In addition, the distribution according to regions of origin is different in the second generation as compared to the first generation, since the various migrant groups have different proportions of first and second generation migrants.[711] It is thus important to keep the heterogeneity among the different regions of origin in mind which, analogous to the other evaluations, is hidden behind the condensed result below.

As in the static case, for the dynamic analysis described here, a random sub-sample of native observations of the same size as the second-generation immigrant sample is used for the Probit-model. Using this randomly generated 50/50 sub-sample avoids distortions that occur while calculating the index with a very high percentage of native observations.[712] With regard to the important migrant marriage variable, all variants of the model are included for comparison.

All first-generation immigrant observations are deleted for this analysis, thus the second-generation is compared directly to natives without a migration background.

Migrant Marriage Variant / Generation	V1: Spouse = Foreigner	V2: Spouse = First Gen.	V3: No Migrant Marriage Variable
First Gen.	69	55	71
Second Gen.	69	73	77

Table 7: Comparison of Index Values of First and Second Generation Immigrants in 2010[713]

In two of the variants of model specification 1, one can see that the second generation is better integrated than the first generation. The most noticeable difference regarding the integration of the two immigrant generations occurs in the results for the "born-abroad-intermarriage" variant. The second generation reaches an index value almost 20 points higher than the first generation in the most important model variant. This variable seems much less relevant for second generation immigrants, a sign of an alignment of the interethnic marriage patterns, which is an important indicator for perceived integration. However, it can be assumed that, in the second generation, potential spouses with the same citizenship status will continue to be preferred to the same degree as in the parent's

711 Constant et al. 2012, p. 77 demonstrate this with SOEP data.
712 See sub-chapter 6.2.1 for more information.
713 Data Source: Microcensus 2010 SUF, Own Calculations.

generation, even if both partners were born in Germany. When using citizenship as an indicator for a migrant marriage (Variant 1) instead of birthplace (Variant 2), intergenerational integration progress is no longer measurable. When excluding the important intermarriage variable (Variant 3), an advance in terms of integration can also be measured.
These results are in line with the results from other studies examining the intergenerational progress regarding immigrant integration.[714]

7.5 Interpretation and Discussion of Results

This chapter summarises and explains the results for different groups of origin and classifies them in their respective migration contexts. The respective groups are dealt with in different degrees of detail, depending on their significance for the German immigrant population due to their size or special characteristics. The hypotheses on the process of integration listed at the beginning of Section 7 are verified by these results.
Note that – as it applied throughout this thesis – an immigrant is defined by his place of birth outside of Germany unless otherwise indicated. The differentiation by migration background, as it is quite common in Germany, is not applied here in order to maintain international comparability.

"Guest Workers" (Greece, Italy, Portugal, Spain)

The migrants from the "classic" European guest worker countries are integrated below the "average" level of the total immigrant population in most specifications of the model used for this thesis. The largest integration deficits compared to other migrant groups occur when using the migrant marriage variable defined by citizenship (variant 1). This is the case in model specification 2 and 3 (repeated cross sections from 2007 to 2012 and from 1996 to 2012 as shown in *Figure 18* and *Figure 19* respectively). When examining the most detailed model specification 1 (*Figure 15*), with migrant marriage defined by the birthplace of the spouse, the immigrants from guest worker countries appear slightly better integrated than the immigrant population as a whole.
This findings can be explained as follows: Since all migrants in this group come from current member countries of the European Union, they have secure residence and work permits in Germany due to their nationality. Consequently, they

[714] For example Sachverständigenrat deutscher Stiftungen für Integration und Migration (SVR) GmbH 2016, pp. 34–35, Bratsberg et al. 2014, F646, Bisin et al. 2011, p. 86.

have only weak incentives to apply for a German nationality and give up the citizenship of their country of origin. As migrants often tend to marry migrants from the first or second generation, citizenship of the spouse is an even stronger predictor for the migrant status than the birthplace of the spouse.[715] *Figure 25* compares the 2010 integration index values for three migrant marriage variable variants and demonstrates the differences mentioned above. It becomes apparent that migrants from Northern and Western Europe and especially those from the USA and South America follow this pattern as well. Here, too, the nationality of the partner is more significant than the place of birth, since the foreign nationality is relatively often retained in the second generation.

In the repeated cross-sectional analysis of model specification 3, immigrants from the European "guest worker"-countries achieve strong gains regarding their integration index value. They exceed the "average" gains of the immigrant population as a whole as presented in *Figure 19*. This is at least partly due to the changed skill distribution of newly arriving migrants from the countries discussed here. Results for immigrants from the former European "guest worker" countries can be explained as follows:

Every industrialisation process (or re-industrialisation in the case of post-war Germany) can be described as a concentration of capital in geographically limited industrial centres which requires a concentration of labour in the same area. This demand for labour can typically only be covered by labour migration, which is why it has been an integral part of every industrialisation process in history.[716] The history of the first "guest workers" in post-war Germany is no exception. The immigrant group from the South European, former "guest worker" countries[717] belongs to the largest ones[718] and is especially heterogeneous. This is due to the fact that during the "guest worker" movement of the 1950s to 70s, mainly low-skilled workers from these countries came to Germany with temporary settling motives. As only individuals from age 25 to 65 are examined here, the earliest "guest workers" are not included in the observed data, at least in the recent years. The number of observations in this group of origin slowly decreases from

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715 An exactly opposite effect can be observed with the (late) repatriates, who are virtually all naturalized citizens but were often born abroad. This will be discussed in greater detail below.

716 Castles 1986, p. 774.

717 Without Turkey, Morocco and former Yugoslavia. As we will see, typical integration obstacles of "guest workers" apply to immigrants from those countries as well.

718 See *Table 2*.

1996 until 2012, as more individuals turn older than 65 and get dropped from the data than immigrants are arriving newly from this countries.

Since the 1990s, there had been a period of time characterised by net emigration from Germany into these countries, which, in the wake of the European economic crisis since 2008/09, has turned to the opposite. Subsequent increase in immigration from these countries since the late 2000s has been characterised by highly qualified migrants who were looking for improved job prospects internationally. Unemployment is sharply increased even among highly educated young people at the same time in their home countries.[719]

The term "guest worker" (which in retrospect was misleading from the very beginning) is therefore not appropriate for later immigrants. The people, who were "guest workers" from Italy, Spain, Greece and Portugal, arrived with completely different preconditions and expectations than their compatriots arriving after 1990. Also, the conditions of their admission and willingness of the local population to accept them as part of society are not comparable. However, as the mass of migrants from this group still belong to the "guest worker" generation, those are more likely to be decisive in measuring structural integration. The quantitative proportions are shown in *Figure 21*. Two-thirds of all immigrants from these countries of origin living in Germany in 2012 entered the country before 1990.[720]

719 Woellert and Klingholz 2014, p. 22,34.

720 Source: Microcensus 2012 SUF, own calculations.

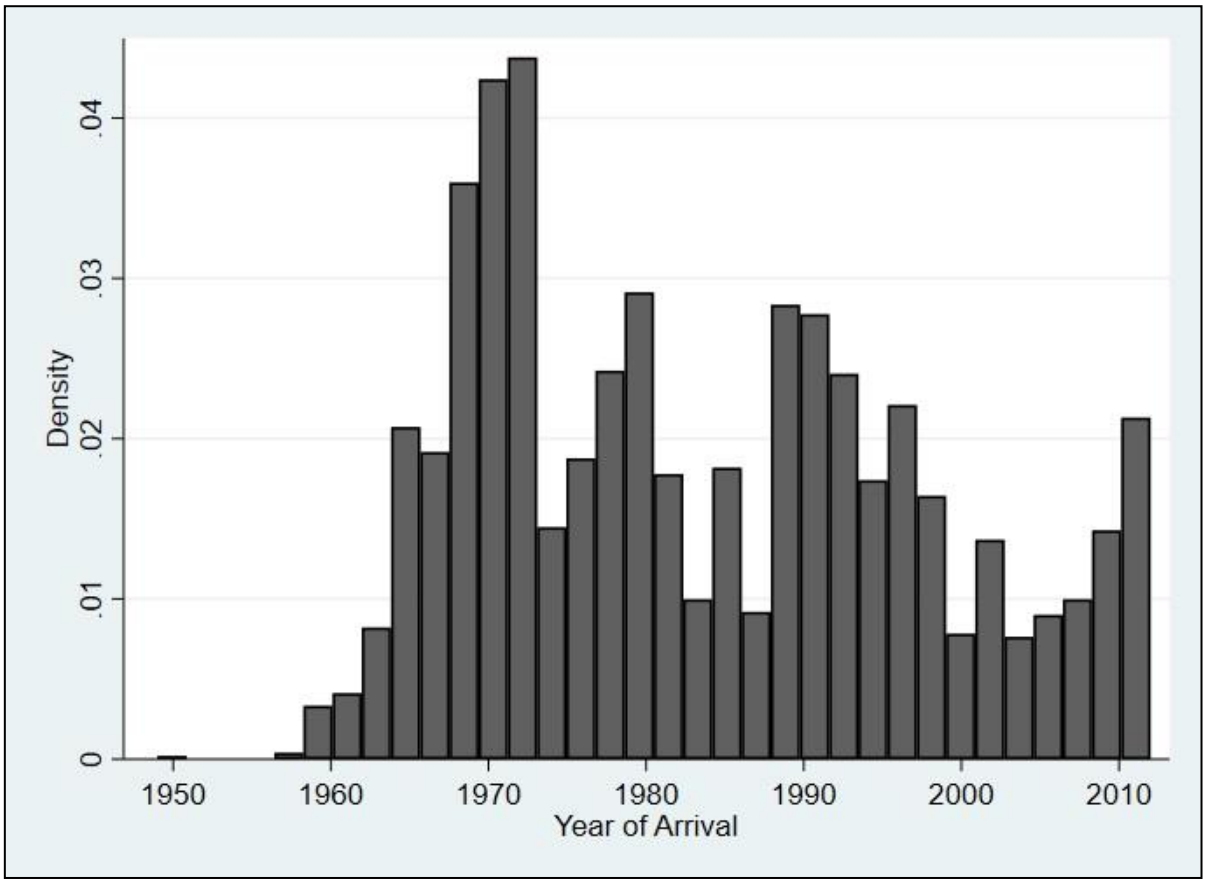

Figure 21: Year of Arrival from "Guest Worker" Immigrants[721]

The first hypothesis of cultural distance (H1) predicts greater difficulties in integration the greater the original cultural distance between the migrant and the native group had been. In the early years of the guest worker movement there certainly was a degree of cultural distance to the local population. Due to cultural and institutional convergence of present modern Europe, few cultural differences are discernible, especially between young people from both groups.[722] This impression is enhanced by the comparative presence of other migrant groups marked by relatively greater cultural distances. Together with the great length of stay of many people from the southern European recruitment countries, this contributes to the fact that these immigrants are now perceived as a natural part of the majority society.[723] Their subjectively felt integration should therefore be far above the objectively measurable structural integration as presented here.

721 Own Calculations based on Microcensus 2012 SUF.
722 Woellert and Klingholz 2014, p. 34.
723 Faist 2013, p. 96.

According to group size hypothesis (H2), the large size of the community of immigrants from Italy, Greece, Spain, and Portugal in Germany should rather hinder the structural integration. This is all the more true since immigrants from the recruitment countries of the "guest workers" still concentrate strongly in certain industrial regions in the south and west of Germany.[724] The integration index results below-average (even if it is abstracted from the migrant marriage variable, see *Figure 25*) seem to validate this conclusion.

Typical for immigrants from the "guest worker" phase[725], workers from Italy, Greece, Spain, and Portugal came to Germany to relieve strong demand for unskilled labour in industry and agriculture of the years of the *economic miracle*. Therefore, the majority of them were unskilled and low-skilled workers who were only planning for a temporary work stay. In addition, migration costs were relatively low due to relatively short distances, the institutional organisation of the "guest worker" movement, and due to well-developed transport routes within Europe. Although the illiteracy rate among the emigrants was lower than among those who stayed at home[726], one cannot speak of a positive selection in the sense of hypothesis 3 due to the low average education. Nevertheless, the other factors like migration costs indicate a negative selection with regards to skill level. It could therefore be assumed that the migrants from these countries who came here before 1990 were negatively selected with regard to education and skill-level in the sense of hypothesis H3. Negative selection would result in a low measured integration, so the results shown above approve the hypothesis.

The typical "guest worker" migrant was a young man, who intended to earn as much money as possible in a short period of time in Germany in order to return home and build up a livelihood there.[727] Due to the temporary motive for residence and the lack of incentives to become a cultural part of German society, integration was not an issue at all during the first years after arrival. The illusion of an impending return of the "guest workers" to their home countries, although the stay was already de facto permanent, existed for a long time, not only from the viewpoint of native German society, but also as perception of the migrants themselves.[728] The time horizon hypothesis has precisely that aspect as its point

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724 Statistisches Bundesamt 2019 Note that the map also contains observations of the recruitment countries of Northern Africa and Turkey.

725 For example, Turkish workers who will be discussed in detail below.

726 Höhne et al. 2014, p. 7.

727 Herbert 2017, p. 212.

728 Castles 1986, p. 761.

and predicts poor structural integration in view of the temporary residence motives of the "guest workers" and, last but not least, expectations of the host society for an upcoming departure. Relative weak values of the integration index of former "guest workers" from several countries therefore speak in favour of the validity of hypothesis H4.

The migrants discussed here have the longest duration of stay of all migrants in Germany, as they were among the first foreign "guest workers" of post-war period. According to the first part of hypothesis 5, the long stay should have had a positive effect on integration. Considering that the measured integration in this group is relatively low allows for two conclusions to be drawn:

- First of all, as suspected above, other explanations for successful integration seem to be more important than the time past since immigration.
- Secondly, the time that has passed since immigration could have an impact on the subjectively felt integration on both sides, as opposed to the objectively measurable one. For the subjectively felt integration for immigrants of the European guest worker countries is demonstrably high, as mentioned above.

The two remaining factors of the "Triangle Hypothesis" (H5) can be described as follows. Openness of the local society towards migrants, which is very important for the willingness to integrate, has changed in recent decades with regards to European immigrants. While the first European "guest workers", among those from other recruitment countries, had to endure hostilities and xenophobia from the start, immigrants from the European countries are now more naturally perceived as being part of the majority population.[729] The basic attitude of politicians and local population, according to which Germany is not a country of immigration, leading to immigrants not being welcome, was maintained until the late 1990s against all scientific evidence.[730] This defensive attitude of the population was expressed in pointless political programmes such as "temporary limited integration" and "maintaining the willingness to return".[731] According to hypothesis 5, this is an explanation for weak structural integration of guest workers. The relatively poor structural integration is common to former "guest workers" from all recruitment countries (including Morocco, Turkey, and the former Yugoslavia). Doing the work that the native population no longer wanted to do (this is typical not only in Germany), lead to the positioning of the "guest workers" in

729 Faist 2013, p. 96.
730 Bade 2017, p. 27.
731 Bade 2017, p. 27.

lower classes, which are separated not only socio-economically but also linguistically and culturally from the majority population.[732] This triple isolation, not affecting well-educated migrants from rich countries to this extent, explains the severity for former "guest workers" to integrate themselves in an objectively measurable way.

Northern/Western Europe

Close initial cultural proximity[733] and good education ensure that this migrant group is placed at the top when it comes to successful integration into the German majority society along cultural and economic lines. In some model specifications these immigrants even achieve an index value slightly above 100, which happens due to the model properties. This "strange" result has to be explained by the fact that some characteristics that are statistically more associated with natives (such as a high income or an advantageous labour market position) are even more common among North/West European immigrants. Other studies also emphasise good integration of these immigrants and attribute this to their high levels of education and advanced labour market opportunities.[734] In addition, the results match the findings in other studies that measure subjectively felt integration. There, too, a certain part of EU immigrants sees themselves as being even more a part of German society than native Germans without migration background.[735] This group of origin belongs to the larger groups of immigrants present in Germany, as *Table 2* shows. However, the group consists of immigrants from many different European countries with different languages and therefore cannot be regarded as a large coherent group, contrary e.g. the Turkish immigrants and their descendants. This absence of ethnic enclaves results in more contacts with the host society at all levels and, according to the group size hypothesis (H2), increases the chances of good integration.
The North/West European immigrants obtained free movement for workers and freedom of establishment in Germany, due to the regulations regarding internal

732 Höhne et al. 2014, p. 10.
733 Measurements of cultural distance have shown that Germany plays a mediating role between two cultural "blocs" in Europe, and that it belongs to both of them in some respects. These are the Northern and Western European bloc on the one hand and the Southern and Eastern European bloc on the other, see Kaasa et al. 2016, p. 236.
734 Woellert and Klingholz 2014, p. 35, Verwiebe et al. 2014, p. 134, Noll and Weick 2011, p. 3.
735 See the results of Sachverständigenrat deutscher Stiftungen für Integration und Migration (SVR) GmbH 2016 presented in chapter 5.2.

migration of the EU. They move in from other modern welfare states, therefore under condistions excluding an important potential push-factor regarding unskilled migration. These immigrants are equipped with a high level of human capital[736] and high geographic mobility and possess advanced labour market opportunities in many countries. This enables them to accept jobs in their pertinent qualification field more often than other migrant groups, thus avoiding overqualification.[737] In Germany they are mostly attracted by comparably good labour market opportunities.[738] Members of this group can therefore be seen as positively self-selected in the sense of hypothesis H3, a feature which facilitates their integration process into German society.

At the same time, their high mobility, enhanced by several EU programs and measures[739], leads to them being the migrant group with the highest remigration rates in Germany.[740] Due to the high mobility and the relatively good living conditions in the respective home countries, the time horizon of their planned stay is therefore often not to be expected to be very long or permanent.[741] According to hypothesis 4, a temporary motive for residence and a strong tendency to return to the home country are more likely to prevent good integration, but in this group the factor seems to be fully compensated by the advantageous characteristics in other respects.

According to Hypothesis 5, the acceptance of culturally closely related Europeans by the host society also plays a role for successful integration. Due to the broad acceptance of intra-European migration, which is also reflected in the dismantling of internal migration barriers within the EU, it can be assumed that xenophobia hardly plays a role, especially towards the culturally close North/ West Europeans.

The results of North/West European immigrants can be compared to results for Canadian immigrants to the U.S.[742] who exhibit similar positive prerequisites for integration into U.S. society.

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736 Verwiebe et al. 2014, pp. 130–131.
737 Verwiebe et al. 2014, p. 131.
738 Woellert and Klingholz 2014, pp. 34–35.
739 Verwiebe et al. 2014, p. 127.
740 Gundel and Peters 2008, p. 779.
741 Verwiebe et al. 2014, p. 131.
742 Vigdor 2008, p. 7.

Central and South East/East Europe

Central/South-Eastern European immigrants show average integration index values in the first two model specifications, where birthplace decides about immigrant status. In the third model specification, they permanently record above-average values and can moderately increase their measured integration by 14 index points between 1996 and 2012. It should be noted that relatively well integrated (late) repatriates from the countries grouped here, cannot be distinguished in the third model specification and thus remain included.[743] This should explain the difference in measured integration between the third and the first/second model specification, in which such a differentiation is made and in which (late) repatriates are listed separately.

The number of observations in this group of origin has risen relatively sharp since 2005,[744] which is attributed to the eastward expansion of the EU. This development has continued until now, driven by the fact that this group contains Romania, Bulgaria, and Poland, as 3 of the top 5 countries of origin of migrants in Germany in 2016.[745] It can be assumed that without such an enlargement of the group by new immigrants, initially poorly integrated by nature, integration would have progressed even further.

This migrant group likewise is the largest in this study after the (late) repatriates. In addition to the more recent developments mentioned above, this is also due to a long-standing history of guest worker immigration, especially from the countries of the former Yugoslavia. Later, in the 1990s, it was mainly war refugees, including many families, who came from these countries. Immigrants from the former Yugoslavia in particular are therefore disadvantaged in terms of integration because of their immigration context. In addition, this group also includes many eastern states that joined EU in 2004 and 2007. Immigrants from these countries can immigrate to and work in Germany relatively easily and they do so in increasing numbers, but often only temporarily. The various historical migratory flows as well as the large number of countries and different languages pooled in this group make the group particularly heterogeneous. Consequently, we cannot speak of a large and relatively homogeneous diaspora community which, according to hypothesis H2, would hinder integration.

743 (Late) Repatriates and Ethnic Germans are only identified in the Microcensus after 2007.
744 See Figure 27 in the appendix.
745 Statistisches Bundesamt 2018b, p. 15.

In contrast to their counterparts from Northern/Western Europe, the Eastern European immigrants to Germany have lower average education, intermediate degrees being the most prevalent. In overall European context, however, it could not be described as unskilled migration on large scale, for the very reason that only 15 % of Eastern European emigrants are low-skilled.[746] Eastern European migrants in Europe have more problems finding a suitable job for their skill level than North/Western Europeans, which is an obstacle to their economic integration. The reasons cited are the lack of (informal or formal) recognition of the educational qualifications acquired in their home country.[747]
Since the 2000s there has been a trend towards seasonal or circular migration, particularly among Eastern European migrants.[748] Many of these immigrants therefore have only short-term residence motives, similar to the former "guest workers", but it cannot be ruled out that these will also transform into permanent settlement motives.
The at least initially non-permanent motives of many immigrants of this group, such as former "guest workers", circular migrants or civil war refugees, to settle in part explains the difference in measured integration to the very well integrated (late) repatriates. The immigration context, however, creates further difficulties, such as educational deficits compared to very well integrated migrant groups. However, all facts considered, the Central and South/East European immigrants are better integrated than other former guest workers from North Africa or Turkey. Greater cultural proximity between Eastern Europe and Germany might be pivotal,[749] while the separating dimension of religion is broadly absent. As a side note it should be added that in this group women achieve an index 10 points higher than men. This could be related to the higher migrant marriage rate of men (*Table 17*), which, similar to other migrant groups, points to the existence of female marriage migration.

Turkey

The measured integration of Turkish immigrants to German society is the lowest of all groups in all model specifications, a result that confirms and concurs with

746 Verwiebe et al. 2014, pp. 130–131.
747 Verwiebe et al. 2014, p. 131.
748 Verwiebe et al. 2014, p. 132.
749 Kaasa et al. 2016, p. 236.

other empirical literature on the topic.[750] Those unfavourable results however are not unchangeable and Turkish immigrants do not per se integrate worse than others. As results from the U.S. – where Turkish immigrants are integrated above the average – show[751], integration depends on circumstances of immigration and composition of the respective immigrant population.

The low objectively measured integration of Turkish immigrants can be traced back to various reasons, most of which were discussed in chapter 7.1.

Initial cultural distance to host society is higher than for other groups, not least because of the different religions.[752] But also the linguistic distance, as important cultural dimension, is higher than for other immigrant groups, as Germanic, Slavic and Romance languages are Indo-European languages whereas Turkish is not.[753] This makes integration even more difficult in comparison to other groups, especially since Islam is increasingly viewed critically in the host society during recent years for reasons unrelated with the Turkish guest worker immigration. The "debate on Islam", which flared up anew in 2010 with publication of a controversial book by Thilo Sarrazin, and which is in part populist and demagogic, masks previous integration successes and contributed to the alienation of the Muslim population.[754] According to the cultural distance hypothesis (H1), Turkish immigrants might have a disadvantage compared to immigrants from i.e. Western Europe who arrive exhibiting a closer cultural proximity.

Furthermore, immigrants from Turkey form one of the biggest groups of origin of all immigrants in Germany. More than 1.3 million first generation immigrants live in Germany, in addition to almost 1.5 million immigrants in the second- or third generation (with Turkish migration background but without migration experience).[755] The group size hypothesis (H2) therefore predicts weaker integration, as economic and social relations are possible without investing in host-specific human capital. The large ethnic community is especially important for low-skill Turkish immigrants of the first, second, and third generation. There is evidence that social integration into German society only seems to generate a premium for high-skill individuals. Low-skill individuals on the other hand benefit

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750 For example Sachverständigenrat deutscher Stiftungen für Integration und Migration (SVR) GmbH 2016, p. 33, Woellert and Klingholz 2014, pp. 30–31.

751 Vigdor 2011, p. 38, Vigdor 2008, p. 37.

752 Esser 2001, p. 29.

753 Gerhards and Hans 2009, p. 1109.

754 Bade 2017, pp. 91–92.

755 Bundesministerium des Innern and Bundesamt für Migration und Flüchtlinge 2016, p. 162.

economically from a strong ethnic network but not from social integration into the host society.[756]

The Turkish diaspora in Germany partly consists of Kurds, primarily those who fled the armed conflict between the Kurdish organization PKK and the Turkish state in the 1990s. The violent conflict, also intensified tensions between and within the various subgroups of migrants of Turkish origin in the diaspora in Germany.[757] Since conflicts tend to be detrimental to positive economic development, this internal conflict also plays a negative role in the objectively measured integration, especially since it has the potential to unsettle the uninvolved natives and alienate them from their new fellow citizens.

The initial phase of Turkish immigration to Germany was the "guest worker" movement of the 60s and 70s. At that time there was a demand for unskilled workers who often moved from the economically weak regions of their home countries to Germany.[758] In the 1970s and 1980s, the already existing Turkish communities expanded by including asylum seekers and refugees fleeing political unrest.[759] Consequently, the immigrants of this time were negatively selected with regard to education and skill level according to the Self-Selection Hypothesis H3 and were thus disadvantaged on the German labour market as compared to natives. In international comparison, in Germany typically educational achievements and social status are cross-generational passed on relatively frequently; systematic disadvantages thus are also passed on to the next generation.[760] Therefore, people of Turkish descent still have major disadvantages until today when looking at educational attainment and subsequently also on the labour market.[761] However, there were also strong signs of discrimination on German labour market, especially against Turkish applicants or German applicants with a Turkish migrant background.[762]

When Turkish guest workers arrived in Germany, integration was not a debated issue, neither for Germans, the immigrants, or the Turkish state, as every actor

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[756] Danzer and Ulku 2008, p. 4.

[757] Aydın 2016, p. 5 of course the Turkish diaspora is also diverse in other respects, see Aydın 2016, p. 6 for more information.

[758] Söhn and Özcan 2006, pp. 101–102.

[759] Aydın 2016, p. 4.

[760] Söhn and Özcan 2006, p. 116.

[761] Söhn and Özcan 2006, p. 116.

[762] For example Seibert and Solga 2005, pp. 379–380 find evidence for labour market discrimination of Turkish, even when they received a vocational training degree in Germany.

expected the stay to be temporary.[763] The Germans perceived the immigrants as temporary limited economic factor that helps to overcome shortage of labour.[764] Turkish government used emigration as an outlet to take pressure off the domestic labour market[765] and mitigate the social consequences of high unemployment. In addition, they were interested in increasing foreign exchange reserves with help of remittances from migrant workers. Another reason for actively promoting temporary emigration was the expectation that human capital acquired in the host country would increase domestic productivity after the anticipated return to Turkey.[766] Finally the Turkish guest workers themselves often planned to return home and establish an own business after a few years of work in the host country with far higher wages than would have been possible in Turkey at that time.[767] According to the time horizon hypothesis (H4), the expected temporary nature of the stay in Germany impeded integration, simply because neither side had any intention or incentive to promote it.

Long period of residency of many Turkish migrants and their children would speak in favour of an advanced integration according to the Triangle hypothesis (H5), although in case of Turkish immigrants it seems that other negative factors are overcompensating this positive effects.

The level of openness and affirmation of the native German society towards Turks and Germans of Turkish origin can be described as relatively low when compared to other immigrant groups.[768] Generally anti-Muslim and racist attitudes have long been present in parts of the German society and Turkish immigrants in particular have long borne the brunt of this burden.[769] Even most serious acts of violence, among others in the form of several devastating arson attacks with fatalities as well as decades-long undiscovered series of murders of the "NSU", which was targeted especially at Turkish-looking people, must unfortunately be accepted as part of this common history. Of course, these actions have had the potential to frighten and unsettle this part of the immigrant population

763 Aydın 2016, p. 13.
764 Castles 1986, p. 770.
765 Due to high fertility rates and mechanisation of the agricultural sector, see Sayari 1986, p. 90.
766 Sayari 1986, pp. 90–91.
767 Sayari 1986, p. 89.
768 A corresponding "Muslim malus" has been documented for the similar immigration societies of the Netherlands and Great Britain, see Sobolewska et al. 2017, p. 75.
769 Schulte 2011, p. 38.

and to make them feel unwanted and out of place. This is especially conditioned by long delay and unsatisfactory investigation of failures of the public authorities, which made the long persistence of the NSU murder series possible in the first place.[770] From the viewpoint of hypothesis H5, which attaches importance to the openness of a society towards immigrants for their integration, one can assume a negative influence through this channel on the utilisation of integration opportunities in the case of Turkish immigrants. Consequently, a further prerequisite for successful integration, namely a society in which the respective migrant group is also permanently welcome, was not present in Germany in the case of Turkish immigrants, at least for a long time and due to the context and reasons discussed above.

Integration of Turkish immigrants was neither promoted by policymakers. To the contrary, the Turkish-German migration and integration politics looks back on a *"decades-long history of failures, misunderstandings and missed opportunities" Bartsch et al. (2010)*. For waste amount of time politics were characterised by a lack of awareness and conclusion of all parties concerned that in many cases migration became permanent and not temporary. Additionally, a stubborn refusal to take political measures for integration took place. These aspects together explain the low measured integration into the German society today.

A look to the USA documents that a different composition of immigrants in terms of education and expected length of stay is of great importance for the measured structural integration. Of course, the other context of the USA as a "classical" immigration country with a very heterogeneous ethnic population for a long time should also be mentioned here. There, immigrants from Turkey belong to the above-average integrated groups.[771]

To sum up, almost all factors negatively influencing integration occur more frequently and intensively in or towards the Turkish community compared to other immigrant communities. There are however signs of a recent positive development in Germany regarding the integration of people from Turkish descent: In the repeated cross section, foreigners with Turkish roots are – although starting from low level in 1996 – among the immigrant groups with the largest improvements in the examined years. In addition, experience has shown that the arrival

770 Bade 2017, p. 490.
771 Vigdor 2013, p. 20.

of new migrant groups can have an "upslide effect" on groups of previous migrants. Typically, in view of the great cultural distance to the unknown, newly arriving group, the perceived, subjective distance between two groups living longer together decreases. For this development, objectively measurable integration does not even have to increase. Historical examples of this phenomenon in Germany are guest workers from southern European countries, who are now perceived as well integrated, not least because attention has meanwhile turned to the integration of later immigrants.[772] Another positive development in terms of integration is the decline in new immigration. Since 2006, net immigration from Turkey to Germany has been negative.[773] Since newly arrived migrants are naturally the worst integrated, this will tend to increase the average measurable and perceived integration.

There are also signs of improvements in education levels of Turkish immigrants. For example, people with a Turkish migrant background hardly have any systematic educational deficits, provided they have passed through the German education system and have assumed German citizenship.[774] This shows that structural integration of people with a Turkish migrant background is possible under suitable conditions.

Emphasizing the subjective feeling of solidarity with the host country as a measure of integration, immigrants of Turkish origin have recently shown themselves to be well integrated. In a representative study, 87 % of all individuals with a Turkish migration background report a *"very close or close connection"* to Germany whereas 85 % report the same in relation to Turkey.[775] These high values are certainly a consequence of the long tradition of Turkish immigration to Germany and the associated long stay of first-generation migrants of Turkish origin. However, it should be added that only 39 % of those surveyed regard the adoption of German culture as an indicator of successful integration. Respect for law and language learning are considered far more important.[776] In addition, 76 % of those questioned are in favour of self-confidently standing by their own culture and origins. This figure is even higher among members of the second and third

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772 This is not intended to underestimate the integration successes that this group has undoubtedly achieved by its members' own efforts.

773 Aydın 2016, pp. 7–8. The author emphasizes however that a large-scale remigration to Turkey is not taking place. Instead the patterns are to be seen as part of a circle migration.

774 Noll and Weick 2011, p. 3.

775 Pollack et al. 2016, p. 3.

776 Pollack et al. 2016, p. 6.

generations. Some of these figures speak in favour of a subjective multiple integration of most people with Turkish roots, which cannot be found to the same extent in objective figures due to the historical course of events and the resulting economic disadvantages.

Africa without North Africa

According to measured integration, African immigrants are empirically in the midfield of all regions of origin by means of the first, most detailed model specification *(Figure 15*). In contrast to other migrant groups, here marriage to a migrant is of minor importance in estimating the migrant status as their migrant marriage rates are relatively low (*Table 17*). This could be a positive effect of their small group size, which is addressed in hypothesis H2. However, their characteristics other than migrant marriage differ more clearly from natives than those of other migrants. Consequently, they fall behind many other migrant groups when abstracted from the most important explanatory variable (*Figure* 25).
The repeated cross-section of model specification 3 indicates that, in contrast to other groups of origin, hardly any progress in integration was measurable during the years from 1996 to 2012, which is the reason why they fell back from an above-average position to midfield (*Figure 19*).[777] Since the economic and political conditions in large parts of Africa are unstable combined with a steadily growing population, further migration from Africa to Europe is to be expected in the future.

North Africa

Immigrants from North Africa mark the lower end of the integration scale just above the ones from Turkey in model specification 1. In the repeated cross section study of the more recent cohorts (model specification 2), however, they perform better in terms of integration than immigrants from the "classic recruiting countries" Italy, Greece, Spain, and Portugal.
Note that in model specification 3, only immigrants from Morocco are distinguishable from the southern part of Africa instead of North Africa as a whole as in model specification 1 and 2. They are therefore used as approximation for North African immigrants. As a result, there are few observations available, just

[777] It should be mentioned here that in the third model specification all North African countries except Morocco fall into this category. This is due to the lack of differentiation in the Microcensus in older datasets.

under 200 of them, so results in this group must be viewed with caution for this model specification. The Moroccan immigrants are the group of origin that was able to increase their measurable integration the most between 1996 and 2012. Starting from the second lowest initial value (after Turkey as a country of origin), they have managed to catch up with other groups of origin and in some cases even surpass them. However, they remain well below the measured integration for the entire migrant population.
Similar to Turkish migrants they share the double challenge of being former "guest workers" with comparatively low educational qualifications, combined with a large initial cultural distance between their non-European and Islamic countries of origin and the German majority society.

South America

Immigrants from South America belong to the better integrated immigrants in German society in all model specifications.[778] In this group women are better integrated than men, too. Similar to other groups, this difference stems from a relatively large difference in the propensity to marry a native German between South American women and men.[779]
Successful integration of South American immigrants can partly be attributed to their very small group size in Germany.[780] The low number of compatriots, due to the low number of immigrants from South America overall, is reflected in very low migrant marriage rates as displayed in *Table 17*. It can be seen that a small selection of potential partners of the same ethnic group leads to a more frequent marriage with partners from the majority society, which greatly increases the structural and, above all, perceived integration. Since this variable is most important, South American immigrants appear to be very well integrated in the standard model specifications. However, if the migrant marriage variable is omitted, these immigrants can still reach values on the index that correspond to those of the entire migrant population on average.[781]

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778 Please note that South Americans can only be reasonably distinguished from other groups of origin after 2006.
779 See *Table 17* in the appendix for more information.
780 Accordingly, and as displayed in sub-chapter 6.1.3, the number of observations in the Microcensus is very small at several hundred, but is sufficient to make a statement about their integration.
781 Marriage with a native is seen by some as a sign of strong integration, which is why the high index values of the corresponding variants, taking into account the migrant marriage variable, are in the foreground.

With regard to the Self-Selection Hypothesis (H3), the relatively high migration costs and the practical impossibility of illegal migration from South America to Germany are notable. These factors, as well as the presence of a western industrial country (USA) as a geographically closer migration target, speak for a positive self-selection in terms of skills and education of South American immigrants to Germany. This is also a reason for the good structural integration.
South Americans' good integration into German society is especially interesting since they are the group of origin with the most distinctive problems to integrate into the U.S. society according to Jacob Vigdor's examination of U.S. immigrant integration.[782] These different integration successes of a group of equal origin, but in different destination countries coincide with the theoretical and empirical results of other studies. Here, the differences in migration costs play a pronounced role in explaining differences.[783] These results again show that no culture or ethnic group is "non-integrable" instead it depends on the circumstances mentioned in the five integration hypotheses whether or not an integration process has good chances of success.

USA

U.S. Americans are among the best integrated migrants in all model specifications with values just behind those of North/Western European immigrants and (late) repatriates. They are thus far above the integration index value for the migrant population as a whole. Very good integration values can partly be explained in a similar way to those of the North/West Europeans. The bulk of them are likely to be well-trained, internationally mobile specialists who immigrated to Germany for work. In addition, there are major cultural overlaps with the local majority society.
Another special feature of this group is the very small number of observations. A corresponding small size of the ethnic group forces immigrants to come into contact with the majority society in most situations, which promotes integration. This integration advantage is evident from the small proportions of migrant marriages in this group (*Table 17*), too.

782 See Vigdor 2008, p. 6. There, there are above all immigrants from Central America, who, however, cannot be separated from South American immigrants in the German data.
783 Urrutia 1998, p. 3.

Near/Middle East, Central Asia

Immigrants from the Near and Middle East and Central Asia[784] belong to the weakest integrated groups in all model specifications. In model specification 1 and 2, where the Central Asian countries are grouped up with the Middle Eastern ones, there is a large difference in the measured integration, depending on how migrant marriage is operationalised.[785] If the partner's place of birth is taken as the criterion (variant 2, the standard case in model specifications 1 and 2), integration is lower than if the partner's citizenship is taken into account. This suggests a high propensity for naturalization among first-generation migrants in this group of origin. According to Woellert and Klingholz (2014, p. 25), the high number of naturalisations can be traced back to Kazakhs who experienced rapid naturalisation as ethnic Germans, but did not see themselves as (late) repatriates or at least did not classify themselves as such in the Microcensus.

In the repeated cross section from 1996 to 2012, immigrants from Central Asia are no longer in the same group of origin. In this analysis, the group of immigrants from the Near/Middle East is the only one of all below-average integrated migrant groups with a relatively weak growth rate of the index values.

The initial cultural distance of this migrant group to the majority society must be regarded as large, above all because of different religions. The role of Islam[786] in the integration into German society is already discussed above more detailed within the interpretations of the results of Turkish immigrants. Problems or delays caused by initial cultural distance are likely to be common to migrants of this group of origin and their Turkish counterparts. According to hypothesis H1, large initial cultural distance hampers structural integration, which is confirmed by the low index values.

Immigrants from the Middle East and Central Asia were among the larger immigrant groups in Germany in 2010. This is also reflected in the available observa-

[784] Note that in model specification 3, the Central Asian countries cannot be separated from the South/East Asian countries in the data and therefore fall into their group. Their number however is relatively low. Central Asia is grouped together with the Middle East in other publications as well, see for example Woellert and Klingholz 2014, p. 25.

[785] See *Figure 25* in the appendix.

[786] Which is relevant for most but not all countries in this group.

tions of the relevant age group given by the Microcensus. Since then, their number has risen sharply again due to the refugee inflow of 2015 and 2016.[787] Integration problems for this group are expected to intensify due to the large number of newcomers, who by their very nature are hardly integrated or not integrated at all. Therefore, a decrease or at least stagnation of the measured integration for this group can be expected in the coming years. In addition to this "newcomer effect", which will only appear in the data in a few years' time, the group-size hypothesis (H2) predicts weaker integration for larger groups of origin.
Another reason for relatively low integration related to this group and a confirmation of the Time Horizon Hypothesis (H4) could be the relatively high number of people without a permanent resident permit. Without the intention and/or the permission to stay in a country for long term, the incentives to bear the personal and financial costs of integration into the local society disappear. This indeed will have a negative impact on the integration measured. *Figure 22* displays the share of all foreigners[788] who are undocumented or only have a *"Duldung"*[789], or an *"Aufenthaltsgestattung"*[790] and thus no permanent residence permit (yet) by region of origin[791]. For better readability, only the respective relevant groups of origin are shown, which does not mean that portions of the other groups must necessarily be zero.

[787] About 830.000 persons immigrated to Germany from Syria, Afghanistan, Iraq and Iran in 2015 and 2016 alone which makes up more than 20 % of the total immigration in that time, see Statistisches Bundesamt 2018b, pp. 15–18.

[788] German citizens have a permanent residence permit by definition

[789] As described in chapter 7.1, a *"Duldung"* or toleration is the temporary suspension of deportation for certain groups of foreigners for reasons of international law or humanitarian law, or for the protection of the political interests of the Federal Republic of Germany. The obligation to leave the country remains unaffected, see Statistisches Bundesamt 2018c, p. 6.

[790] The *„Aufenthaltsgestattung"* is a temporary residence permit for foreigners who applied for Asylum in Germany. During the asylum procedure, the stay in Germany is permitted, another residence permit is not required during this time, see Statistisches Bundesamt 2018c, p. 6.

[791] In the delineation of the first two model specifications, see *Figure 11*.

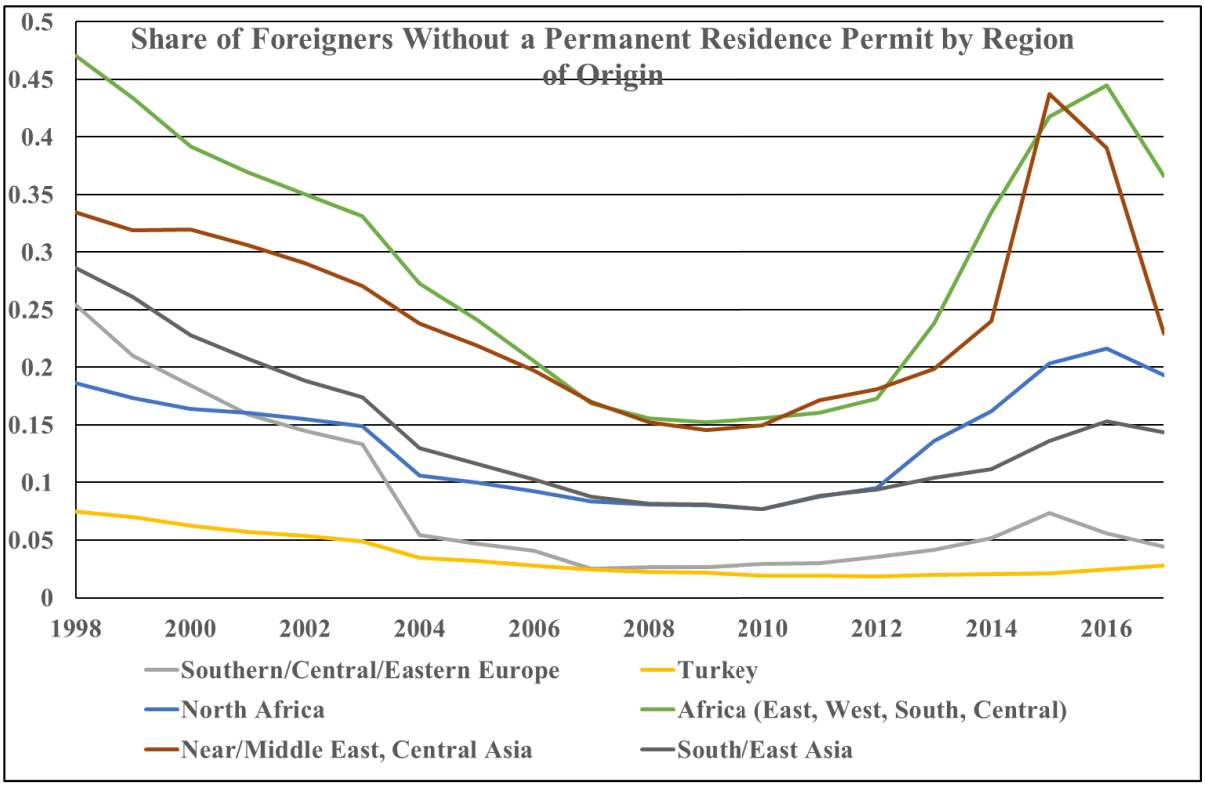

Figure 22: Share of Foreigners with Temporary Resident Status only[792]

Figure 22 shows that foreigners from the Near/Middle East, and Central Asia belong to the group with the highest proportions of (legally) temporary migrants[793]. Although the respective proportion of migrants from Africa (excluding North Africa) is similar, they could be compared only to a limited extent because the absolute number of cases is much lower for African foreigners.[794] The influence of refugee immigration in 2015 and 2016, which is unfortunately not yet included in the data of the integration index, can be seen clearly here. The peak in 2016 is followed by a period characterised of departures and/or processing of open asylum applications, which reduces the proportion of temporary residence statuses described here.

Summarizing and as stated in the Time Horizon Hypothesis (H4) in chapter 7.1, the expected length of stay could be positively correlated with the expected returns of an investment in host-country specific human capital and therefore determine the motivation to integrate.

792 Own Calculations based on Statistisches Bundesamt 2018c, pp. 120–137.

793 Temporary for legal reasons. The voluntary departure after a short time cannot be investigated here.

794 See *Figure 29* in the appendix.

South/East Asia

Immigrants from Southern and Eastern Asia show an overall integration at the level of the entire migrant population or well below it, depending on the inclusion and variant of the migrant marriage variable. However, it is notable that in this group there are relatively strong integration differences between men and women, which is represented in *Figure 23* for all groups of origin. The index value for women is almost 20 points higher than that for men. In contrast to other migrant groups proportion of women is higher in this group. Therefore better integration of women compared to men might be the result of female migrants marrying native men and thus having relatively low migrant marriage rates.[795]

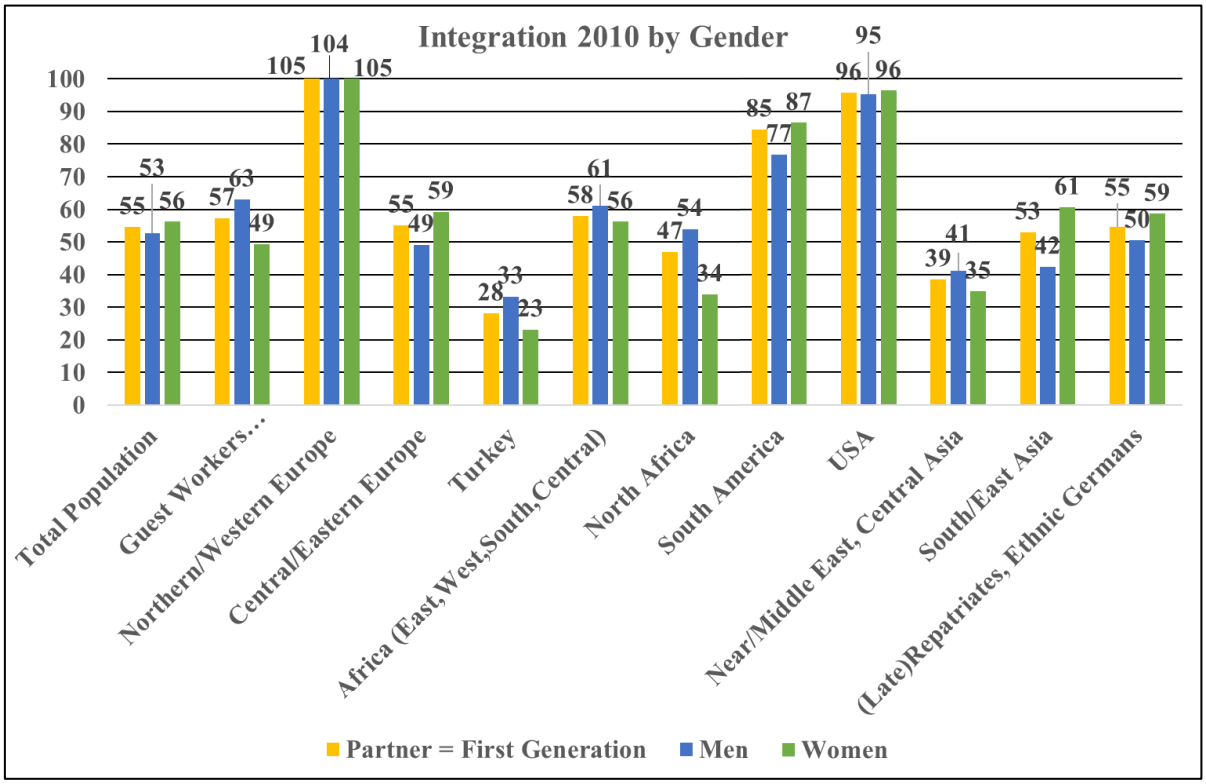

Figure 23: Integration in 2010 by Gender[796]

The data in *Table 17* confirms this presumption. Only 40 % of South/East Asian women are married to migrants compared to 60 % of the men. This is the highest gender difference regarding this feature among all groups of origin. Women of Eastern Europe and South America are likewise more often married to a native than men in their groups which indicates the presence of female marriage migrants in these groups as well.Abstracting from migrant marriage patterns by

795 Woellert and Klingholz 2014, p. 19.
796 Own Calculations based on Microcensus 2010 SUF.

evaluating integration without the migrant marriage variable, immigrants from South/East Asia are integrated well below the total immigrant population.[797] Lower integration index values can be explained with several factors besides the differences between Asian men and women.

First, the initial cultural distance between South/East Asia (except Japan) and Germany is comparably large.[798] Hypothesis 1 therefore predicts weak integration, and the measured index values thus confirm the hypothesis. The differences, however, are not so obvious and publicly discussed here, because there is no public perception of a visible common religion to these immigrants and Islam currently is in focus of political and societal discussion.

Sub-chapter 6.1.2 shows that Immigrants from South-/East Asia between 25 and 65 years old belong to one of the bigger groups of origin. It can therefore be assumed that larger ethnic enclaves can form at least selectively. However, the fact that the countries included in this group are culturally and linguistically very different speaks against this.

According to the costs and benefits hypothesis H3, the high geographical distance to the countries of origin and the relatively high migration costs associated with this suggest the influence of a positive self-selection mechanism in terms of education and skill. In fact, the rate of those with academic degrees within this group of origin is very high, even higher than among the natives.[799] This is illustrated by the high proportion of more than 33 % of Asian "Blue Card" recipients in 2017. The "Blue Card" is a residence permit specifically aimed at highly qualified immigrants from non-EU countries.[800] They are also above the average of all migrants in terms of the average level of their education. There are, however, problems with the number of migrants without any degree, which is significantly higher than the number of natives in this category.[801] Labour market data also show that the group members of immigrants from South East Asia have difficulties in effectively applying their high educational attainment to the labour market.[802] However, high educational attainment is always helpful for integration, so it can be assumed that the index will increase in the future as more immigrants

797 See *Figure 25* in the appendix.
798 Shulgin et al. 2017.
799 Noll and Weick 2011, p. 3.
800 Bundesamt für Migration und Flüchtlinge 2019.
801 Woellert and Klingholz 2014, pp. 37–38.
802 Woellert and Klingholz 2014, p. 38.

are able to obtain necessary country-specific human capital traits to integrate into the labour market.

Nearly two thirds of all migrants of this group of origin entered Germany after 1990, more than 35 % even after the year 2000.[803] This means that this migrants are still among the recent immigrants, especially in comparison to former "guest workers". The relatively short period of stay, according to hypothesis H5, tends to have a negative effect on structurally measurable integration. This is probably part of the reason for the below-average integration index values in this group of origin.

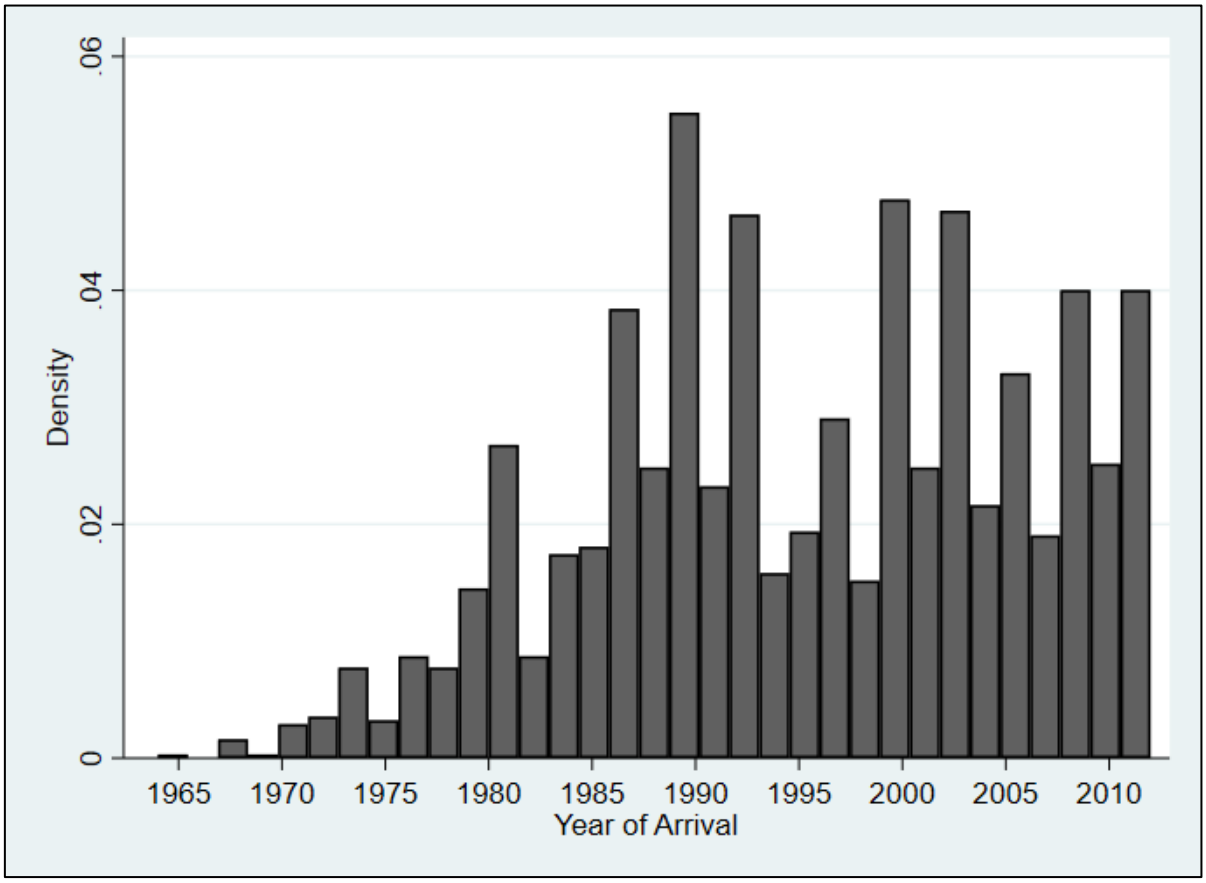

Figure 24: Year of Arrival, South/East Asian Immigrants[804]

(Late)-Repatriates and Ethnic Germans

"Aussiedler" or repatriates are those immigrants of German descent who lived for decades or even centuries in areas of Eastern Europe or Central Asia as mi-

[803] Source: Microcensus 2012 SUF, own calculations.
[804] Source: Microcensus 2012 SUF, own calculations.

nority and finally moved to the FRG or the GDR after 1945. This includes partners and descendants of ethnic Germans. This migration movement is consequently also referred to as re-migration.[805]

Before 1980 most of them came from Poland or Romania, since the 1990s mainly from countries of the former Soviet Union.[806] People of German descent who entered Germany after 1993 are called *"Spätaussiedler"*, meaning late repatriates. Most of the repatriates, who had arrived earlier, had a good knowledge of German language despite their long residence in foreign countries, which facilitated their integration. On the other hand (late) repatriates, who came to Germany after the fall of the Iron Curtain, were more likely to have only a basic knowledge of German after the longer period of residence in their foreign country of origin.[807] Compared to other migrant groups, these linguistic preconditions for integration were still relatively good.

As mentioned before, (late) repatriates are a special case in history of German immigration policy as they were granted citizenship upon arrival due to the "*Ius sanguinis"* principle on the basis of their ethnic German ancestry. That facilitated their entry to the German labour market. Since their integration was a political priority as compared to the integration of other migrant groups, they received comprehensive aids of a monetary and organisational nature to ensure integration.[808]

According to the calculations carried out in this thesis, the (late) repatriates are among the best integrated migrants in all model specifications, unless the migrant marriage variable is considered. If birthplace of spouse matters when deciding the immigrant's marriage status (first variant) instead of citizenship, (late) repatriates can be differentiated from natives just as easily as the immigrant population in total. This uniquely high difference within one migrant group between the different migrant marriage variable variants is shown in *Figure 25*. It can be explained by the high naturalisation rate among (late) repatriates in combination with a relatively large portion of married people.[809] As most immigrant groups

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805 Reitemeier 2007, p. 68.

806 Worbs et al. 2013, pp. 28–29.

807 In a 2003 survey, only 21 % of late repatriates surveyed stated that they had advanced or very good knowledge of German, see Friedrich-Ebert-Stiftung 2003, p. 32.

808 Organisation for Economic Co-operation and Development 2005, p. 18, Woellert and Klingholz 2014, p. 19.

809 Worbs et al. 2013, p. 42.

in most countries, (late) repatriates prefer partners from the same ethnic or cultural group.[810] However, unlike other migrants, virtually all of them are naturalised and can therefore be distinguished from natives by their birthplace but not by citizenship. This is particularly true when, as in the case of migrant marriage variable, the partner of an observation is relevant and not the observation itself.[811] Other studies confirm successful integration of late repatriates with regard to many socio-economic characteristics in recent years.[812] This did not come by itself, but rather during a lengthy process that is not yet completed.[813] However, this thesis argues with the figures that attest a successful integration as well[814], while the opposing figures are explained, but are of minor importance in the further course.

The fact that some classify the "return" of the (late) repatriates as re-migration does not hide the fact that there indeed was great need for integration in the context of this immigrant group. Most of those who came to Germany during the 1990s were born and socialised in former Soviet Union.[815] As far as the cultural distance to the German majority society is concerned, they were thus on the same or similar level as other migrants, despite some German language skills. Since they were already partly regarded as foreigners and disadvantaged in the Soviet Union, there is a specific danger of marginalization according to the description in chapter 2.2.[816] The (late) repatriates of first generation share this fate with children of all migrants in Germany, who in the absence of integration run the same risk of being accepted as part of society neither in Germany nor in their parents' home country.

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810 Worbs et al. 2013, p. 9.

811 Unlike in the case of the observed individual himself, the partner is not surveyed for his or her second citizenship. Therefore, a partner cannot be categorised as having a migration background if he or she has German citizenship, but also a second citizenship. The tendency toward dual citizenship with two different passports is even higher in this group than among people with a migrant background as a whole, see Worbs et al. 2013, p. 41.

812 Woellert and Klingholz 2014, p. 32, Sachverständigenrat deutscher Stiftungen für Integration und Migration (SVR) GmbH 2016, p. 33.

813 For example Brück-Klingberg et al. 2007 report problems especially of highly educated late repatriates to find a job corresponding to their qualifications, i.e. typical problems of migrants.

814 Thus, the results from the variant with migrant marriage defined by citizenship or from those without the migrant marriage variable.

815 Schader Stiftung 2007.

816 Vogelgesang 2006, pp. 152–153 calls this "dual homelessness".

However, they were able to access family and other social networks of other repatriates who had been living here for some time. Their Christian religion also gives them an advantage over immigrants practicing different religions, in terms of cultural integration in Germany.[817] The Cultural Distance Hypothesis (H1) would not predict any greater barriers to integration in this environment than in other migrant groups. Partly existing language skills as well as the Christian religion rather suggest slight advantages.

The (late) repatriates are the biggest immigrant group in Germany with about 3.2 million people in 2011.[818] However, the group is currently enlarging mostly due to its newborn descendants with a migration background, since the number of newly arriving immigrants of this category has fallen sharply since the late 2000s and now stands at a few thousand a year.[819] According to the Group Size Hypothesis (H2), the size of the minority has a negative effect on integration. However, several aspects suggest that the group size might not have had such a strong negative impact in this case. In order to counteract formation of homogeneous enclaves of repatriates and the concentration of economic and social challenges for the host communities associated with this in the initial phase of the stay, residence restrictions were valid until 2009. In the course of this, the place of residence could be determined for a certain time for newly arriving late repatriates. In most cases, the proximity to family members already living in Germany was decisive in determining the assigned place of residence.[820] This legal regulation, and the tendency to live in small and medium-sized cities rather than in large cities, has led to a relatively low spatial concentration of late repatriates in Germany.[821]

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817 A German Protestant pastor is quoted as saying that the late repatriates are a "living cell cure from the East" for his parish, see Vogelgesang 2006, p. 155 However, these positive aspects must be distinguished from the formation of relatively closed and dogmatic free churches, insofar as these tend to promote the differentiation from the majority society, see Vogelgesang 2006, pp. 156–157.

818 Worbs et al. 2013, p. 7. This is also reflected in the Microcensus data used here, as *Table* 2 shows.

819 Worbs et al. 2013, p. 33.

820 Glitz 2012, p. 180.

821 Worbs et al. 2013, p. 102.

Moreover, the (late) repatriates were not a homogeneous linguistic group, since they came from several different countries[822] and spoke different languages there, although Russian language dominated after 1990.[823]

Many (late) repatriates have experienced disadvantages in their countries of origin due to their German descent. For them, migration to Germany was therefore a return to their former homeland, which was usually undertaken with the entire family.[824] Consequently, more than in other immigrant groups, the majority of (late) repatriates have had planned permanent residencies in Germany from their arrival.[825] According to the Time Horizon Hypothesis (H4), the permanent settlement motives should result in a higher motivation for integration. Thus, greater efforts are made to increase the human capital specific to the host country and to integrate into society. The very good integration index results of the (late) repatriates speak in favour of that hypothesis in this case.

As most of them arrived in the 1990's after the fall of the Iron Curtain, the time of residence of the (late) repatriates is relatively low, especially when compared to guest workers and their descendants. The fact that this group is better integrated than other immigrants living here for longer suggests a low relevance of the time factor. However, it must be taken into that the arrival of most (late) repatriates was more than 20 years ago.

The Triangle Hypothesis (H5) names two other factors that determine integration besides the time since the arrival in the host country: Integration efforts of the migrants themselves and the degree of openness of the native majority. As the historical proof of ethnic belonging to the German people *("Nachweis der deutschen Volkszugehörigkeit"*[826]*)* was already provided upon entry, the (late) repatriates are in a different situation than other immigrants. This concerns both the degree of openness of the receiving society, i.e. the willingness to see the immigrants as part of their own people without restriction, and the self-perception of the (late) repatriates themselves. Although the German public was initially sceptical about the (late) emigrants as well and feared negative consequences of a failed integration,[827] it can be assumed that reservations were eliminated more quickly compared to other groups.

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822 Mostly the former Soviet Union, Poland, and Romania, see Glitz 2012, p. 179.
823 Worbs et al. 2013, pp. 28–29.
824 Woellert and Klingholz 2014, p. 19.
825 Worbs et al. 2013, p. 11.
826 Worbs et al. 2013, p. 21.
827 Haug and Sauer 2007, p. 58.

The very good structural integration of (late) repatriates into the German society measured here is reflected in a high subjectively expressed satisfaction with life in Germany which is at the level of the people without a migration background.[828] Furthermore, almost 90 % feel that they belong to the German society.[829] This is the highest value apart from the very well integrated immigrants from Europe.

7.6 Political Implications

As shown in the previous chapter with examples from Germany, the five hypotheses mentioned can be used to explain the success or failure of integration. They are therefore also the starting point for policy proposals aimed at improving the integration process in Germany. The policy proposals aim to prevent migrants from living in Germany under the circumstances of separation or marginalisation as described in chapter 2.2. Instead, the two forms of integration, namely assimilation or multiple integration (or a hybrid form), should be promoted. Foreign policy implications on the other hand are explicitly not considered.
It is important that each migrant group has different characteristics and immigrates to the host country in a different historical context. Policies must therefore, wherever possible, be tailored to the needs of the respective migrant group or -cohort. Therefore, not every policy approach is relevant for every immigrant group in Germany, but only for those who have special disadvantages in the respective areas.

Initial Cultural Distance

The initial cultural distance is an exogenous fact that cannot be changed but must be acknowledged with all its implications. It has been found out that the cultural distance in general decreases over time and with the next generation as migrants change and adapt to their environment, and secondly (to a lesser extent) the host society changes its culture and habits as well. The popularity and everyday availability of the Döner Kebab but also the insight to be an immigration society are examples from Germany.

828 Sachverständigenrat deutscher Stiftungen für Integration und Migration (SVR) GmbH 2010, p. 48.
829 Sachverständigenrat deutscher Stiftungen für Integration und Migration (SVR) GmbH 2016, p. 33.

One of the most important cultural aspects is religion. Chapter 7.1 describes the social circumstances under which religion is attributed a positive role in the integration process. Since Islam is currently the only controversial migrant religion in Germany[830], it is in the focus of this part. However, the measures demanded here should apply equally to all religions. The aforementioned favourable social circumstances are not present in Germany at the moment, so a foreign religion is understandably seen as an obstacle on the way to integration. Of course one cannot want to influence the degree of religiousness of the Germans. One can, however, start at the other relevant aspects in the relationship between religion, state and people in order to make religion in the long run less as an obstacle to integration in Germany. To reach this goal, the following changes would need to be made, which, like most integration-related measures, would have to be carried out on both sides involved, the migrants as well as the natives.

In principle, the development of a German, or even better, European, interpretation of Islam should be proactively promoted, instead of only tolerating this religion and leaving it to itself. This means that liberal interpretations, compatible with the constitution are supported, while radical and anti-democratic interpretations are opposed and banned. Neither is happening sufficiently yet. In theory, this European version of Islam, practiced by the Muslims living here and accepted as part of the German society and culture, could then have the identity-forming and stabilising effect on Muslim newcomers without alienating them from the majority society. Of course there will be great inner-Islamic difficulties to be overcome, such as the balancing of the interests of the different denominations like e.g. Shiites and Sunnis in Europe.[831] However, these difficulties cannot be discussed in more detail here, as the possibilities for German policy to exert influence are limited.

On the part of the local politicians as well as society, however, such a process would require a rethinking of the relationship between church and state and between Islam and state. This probably required a similar profound shift in the state of mind as the recognition of being an immigration country. All religions practiced in Germany (and thus belonging to Germany) would have to be put on an equal institutional footing following the U.S. American example. In particular, this would mean enabling other religions to collect a denominational tax similar

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[830] See Sachverständigenrat deutscher Stiftungen für Integration und Migration (SVR) GmbH 2016, pp. 91–96 for an overview about immigrant religions in Germany.

[831] Brunner 2012, p. 105.

to the (Christian) church tax to strengthen its independence from international donors with questionable motives. This would be particularly appropriate in view of the fact that the public also has certain expectations of those religious communities, such as the integration of refugees, de-radicalisation and public dialogue. In order to be able to fulfil these (justified) expectations, however, the Islamic religious communities must also be adequately equipped.[832]

Furthermore, the training of the Imams, the Muslim clergy, would also have to take place in Germany and with candidates from Germany. This has been demanded by Muslim and other scholars for a long time.[833] The intention behind these voices can be summarized as follows: *"If we can integrate the Imams, we can integrate the millions of Muslims in Germany."* (Rauf Ceylan, quoted in Pick (2018)).

In fact would have several advantages for an accelerated integration: Firstly, imams trained here would have a closer relationship to the needs of the local Muslim population. This would enable them to – besides their spiritual work – help more effectively with the problems of a minority in an immigration society, a task that members and leaders of religious communities in the USA traditionally take on. This also includes the fact that they regularly speak German in their sermons, which would improve the language skills of the respective community, where necessary. Secondly, it would help to prevent the influence of conservative Islamic countries who try to abuse religion for political influence on the immigrant population and hinder integration in the process.

To conclude the subject of religion one can say that in all religions there are orientations and movements that are in conformity with an open, democratic and modern immigration society and those that are not. The state must offer the former a transparent and equal playing field, while the religions must assume their responsibility for peaceful coexistence. The focus of the process of "integrating religions" must be on the needs of the German immigration society and the integration of its new members.

Group Size

Politicians can also address the content of the second hypothesis, the group size. On the one hand, this refers to the absolute number of migrants from one country of origin throughout Germany, which can be controlled within certain limits by

832 Molthagen 2018, p. 4.
833 Mazyek 2018, p. 29, Pick 2018.

immigration policy. The absolute number is usually unproblematic if the whole country is considered. Locally, however, a high total number of migrants can lead to a high concentration in certain city districts, which impedes integration.
It is true that an ethnic enclave can initially promote integration, since these informal networks can bring newcomers into contact with housing and jobs more quickly.[834] Some sociologists even assume that certain migrant types of the first generation (relatively old, relatively little education) move exclusively within the ethnic group and are only socially integrated there. This is preferable to marginalisation as a direct alternative, but must not be repeated as a pattern in the second generation.[835]
Thus, these "parallel societies" should act more as a stepping stone into mainstream society than as a permanent alternative to integration. For certain migrants, especially those at the lower end of the educational scale who have little to gain in the German degree-based work hierarchy, the ethnic group as a reference area becomes more and more attractive with increasing size.[836] This applies particularly to individuals living in districts with a high concentration of members of an ethnic or linguistic group where the need to come into contact with members of the host majority society is particularly low. This hampers integration with the negative consequences initially mentioned in this paper. Policymakers have various ways of responding to this.
Even in the case of large immigration movements, the creation of ethnic enclaves in certain cities or districts can be prevented, at least temporarily, by imposing residence requirements. This tool was and is used successfully in Germany,[837] but is more suitable for the efficient distribution of newly arriving migrants than for the correction of past integration failures. Of course, such measures are strong interventions in the right to personal freedom and must be well justified.
In case of existing districts, which are mainly dominated by migrants, politicians must provide incentives for more ethnic mixing. These can be incentives for locals to settle there by increasing the attractiveness of these neighbourhoods and reducing negative factors. Social housing with occupancy rates for certain countries of origin and for native Germans could also play a role in cultural diversification. On the other hand, immigrants must also be enabled to find work and

834 Munshi 2003, p. 597.
835 Esser 2001, p. 69.
836 Danzer and Ulku 2008, p. 28.
837 For example in the case of the (late) repatriates, see chapter 7.5.

housing outside the migrant districts in order to achieve a better mix of cultures. In the extreme case, it must be examined to what extent the further settlement of migrants of the predominant ethnic group can be discouraged or stopped.
Since language is an essential aspect of integration, it must be prevented that migrants with a long-term or permanent intention to stay do not have sufficient knowledge of German even after years of residence. In ethnic enclaves, knowledge of German is not a prerequisite for social life, which is why, especially in this context, language training, but also pressure and even coercive measures must be taken in individual cases to spread the German language. In general, a skill-based immigration policy is relatively ineffective if at the same time family reunification via migrant networks is used to bring in mainly individuals with a low ability level.[838] In particular, family reunification with migrants already living and working here should only be permitted if the immigrant relatives commit themselves to participating in German language courses. Such expenditure is in the long-term interest of all parties involved and should be considered as a public investment.

Self-Selection

The relevance of the Self-Selection Hypothesis lies particularly in the average ability level of new immigrants[839]. The general term "ability" covers observable features like educational and professional degrees as well as unobservables like intelligence or ambition. The ability level is likely to differ between different immigrant groups as all of them have gone through one of the two opposing mechanisms depending on the respective circumstances of their migration.[840]
The higher the skill level for each individual migrant, the more likely it is that they will be quickly and easily integrated into German society.[841] In the interest of an integrated post-migration society, it is therefore important to try to promote positive self-selection, while avoiding immigration contexts associated with negative self-selection. The majority of immigration processes for economic reasons

838 Beine et al. 2011, p. 40.
839 Accordingly, policies that address this issue are only relevant to new immigrants, while other measures need to be taken to integrate migrants already living here
840 Urrutia 1998, p. 28.
841 It should be noted that this is only a discussion of migration for economic reasons. Humanitarian migration is a political and social issue where economic aspects should be pushed into the background and which must in principle be resolved at the European level.

are characterised by positive self-selection.[842] It is therefore easier to identify and avoid situations where negative self-selection is a common occurrence. Abstracting from humanitarian migration, this is the case when migration costs are low or in case of chain migrations like family reunifications. A fixed immigration quota fails to enhance the positive self-selection.[843]

A rather radical or unorthodox proposal is therefore the introduction of visa auctions or entry fees for migrants. This approach has often been proposed and discussed by economists[844], but has not yet been seriously pursued in any country. An entry fee for all non-humanitarian immigrants, although being problematic for the sense of justice of part of the population, would solve a lot of problems related to immigration and integration. Economists who have studied the subject in more detail suggest an amount (Becker and Coyle 2011)(Becker and Coyle, 2011)(Becker und Coyle 2011)of about $50,000 for the USA, in Germany it could be in the same order of magnitude.[845] A commission composed of several stakeholders could propose a new price to the government annually or every few years, similar to the minimum wage procedure. It would limit the number of immigrants while at the same time increase their average ability level by strengthening the positive self-selection in terms of age, ability, and expected time of residency due to the higher immigration costs.[846]

Moreover, it would increase the acceptance of new immigration by the population already residing in the host country, as the substantial economic gains from integration would be shared among the immigrants and the host society.[847] Integration measures or other migration related expenses as well as compensations for negatively affected native-born population groups could be financed with the revenues. Higher acceptance by the host society enables migrants living here to integrate more easily. In the end, even more migrants could come to Germany on the basis of a higher receptiveness of the ageing and shrinking population, but they would find better social conditions for integration.

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842 Chiswick 2000, p. 16. It should be noted that this is only relative to the general level of education in the countries of origin. In very poor countries with few educational opportunities, even a positively selected migrant cohort will not be able to show any qualifications suitable for official recognition. Since it is above all the unobservable characteristics that are decisive for economic success and integration, this does not refute the theory.

843 Stark et al. 2017, p. 29.

844 For example Urrutia 1998, Freeman 2006, Becker and Coyle 2011.

845 Becker and Coyle 2011, p. 28, Freeman 2006, p. 34.

846 Urrutia 1998, p. 3.

847 Becker and Coyle 2011, p. 29.

This approach could be extended to include (partial) repayment of the fee to the immigrants, linked to successful integration.[848] This would provide further incentives for integration on the part of migrants, in so doing, would also counter the impression that Germany uses the economic misery in other countries unilaterally for its own economic advantage. An immigration loan program could give poorer potential immigrants another opportunity to enter the country. They would then be able to pay off the entrance fee over several years.[849] A sponsorship programme in which private employers could pay the fees for new employees from abroad would open up further avenues for legal, demand-driven labour migration.[850] In addition, Germany could give visas to highly gifted but destitute migrants from developing countries, which would be more effective than direct development aid since such direct "payments" to immigrants would not disappear into the pockets of corrupt regimes.

Time Horizon

From the statement of the fourth "Time Horizon" hypothesis one can derive policy proposals more straightforward. In short, it is a matter of avoiding (involuntarily) short periods of residence, and time limited stays as those deprive immigrants of any incentives to integrate.[851] Integration into a society is associated with high monetary and other costs, the returns of which must not be diminished by uncertainty about the future right of residence. Every immigrant who does not have a fixed departure date must therefore obtain an unlimited residence permit as quickly as possible. Even in the case of humanitarian refugees, one must not repeat the mistakes of the past and assume a temporary stay for too long. A large part of every refugee movement will not want or be able to return directly to their mostly destroyed or expropriated homes even after the immediate reason for their flight has ceased to exist.
Studies have shown that a permanent residence permit or even citizenship has a positive effect on successful integration.[852] This applies both to the migrants and to the host society, which regards the acquired domestic citizenship as a sign of

[848] This could be demonstrated by educational qualifications or language certificates obtained here as well as labour market successes.
[849] Becker and Coyle 2011, pp. 31–32.
[850] Freeman 2006, p. 33.
[851] Esser 2001, p. 69.
[852] Danzer and Ulku 2008, p. 10.

the will to belong to them.[853] Citizenship, in particular, can increase interest in the public and political processes in the host country as well as the sense of belonging. However, this effect is difficult to measure.[854] In other countries, the relatively generous granting of citizenships to immigrants after only a few years of permanent residence also helps to facilitate their integration.[855]

Attitude Towards Immigration

The fifth hypothesis brings into play the attitude of the host society towards migrants and its impact on the immigrants' motivation for integration. As explained in chapter 7.1, a rejecting or hostile public leads to turning away from integration efforts on the part of immigrants. Moreover, reactive ethnicity (most notably in the second generation) can occur here and further complicate integration. This phenomenon describes the retreat into the original culture or religion (of the parents) as a measure to secure one's own identity and to distinguish it from the host society. It occurs when the majority society meets the immigrants with negative prejudices for racist or xenophobic reasons.
It is therefore also the task of politicians to dismantle prejudices, to prevent xenophobia and to punish it consistently, since these do not only have personal negative consequences for those affected, but also impose costs on the society through hindered integration. Of course, an open and welcoming attitude in society cannot be imposed from above and can only be achieved to a very limited extent through information, since migration has always been a very emotional issue. It is therefore necessary for there to be a broad, non-partisan consensus that Germany is an immigration country and that this can be an advantage in this globalised world. Transnational ties and bilingualism need to be seen as valuable assets of each immigrant rather than as a factor impeding the integration. Initiating and sustaining international business relations which are important for an export-oriented economy like Germany in a globalised world is a competence for which immigrants are predestined. It can be assumed that they have at least a comparative, if not an absolute advantage over their native colleagues in that respect. This unique human capital resource must be perceived, valued and promoted as such.
In addition, there must be no larger local population groups that are themselves marginalized or do not participate in the society as a whole for economic or social

853 Sobolewska et al. 2017, p. 74.
854 Esser 2001, p. 72.
855 Gerhards and Hans 2009, pp. 1111–1112.

reasons.[856] The ability and willingness to accept new people into a community decreases massively if one does not see oneself as an equal part of it.

However, it must also be made clear that the adaptation of the host society to a new immigration situation generates emotional and material costs and therefore consumes resources. Consequently, there is a capacity limit above which an overburdened host society rejects the integration of further immigrants and thus makes it virtually impossible. Controlled and limited immigration is therefore a necessary precondition for integration, since otherwise a fundamental prerequisite, namely the participation of the host society and its willingness to adapt, are not given.[857] It should be noted that the public generally has an informed and stable, albeit strongly polarized, opinion on the topic of immigration. Polarization is therefore less the result of a part of uninformed people, but rather of different readiness to adapt to changes in living conditions.[858]

In general, one can say that a large part of the structural differences between immigrants and natives in Germany are caused by social and educational rather than geographical or cultural origin.[859] It is also particularly difficult in Germany for local children from a weak, educationally disadvantaged social class to achieve social advancement. Therefore, the general equality of opportunity must be increased so that poverty and a lack of education are no longer "inherited" to the same extent. The necessary measures have been proposed again and again for years, for example strengthening early childhood education, and the improvement of opportunities for further training alongside the job.

856 Esser 2001, p. 74.
857 Heckmann 2015, p. 59.
858 Lahav 2004, pp. 1176–1177 concludes this for the population of the EU.
859 Engels et al. 2011, p. 18.

8 Conclusion

Migration has always moved people and will continue to do so and, from the perspective of Europe as a destination, it is likely to increase further. This has good reasons and can be a curse or a blessing for the host countries, depending on whether the integration into the existing (immigration) societies succeeds. From a global point of view, economic migration is an outstanding means to increase "global GDP" as human capital is permitted to move from areas with low wages and high unemployment to areas where the opposite is true. This boosts worldwide per capita income[860] and at the same time has a balancing effect on worldwide income distribution.[861]

Immigrants to Germany exemplify this potential by increasing their net monthly wages by an average of 100 % through immigration.[862] Germany has become one of the most important immigrant destinations in the world, even exceeding the USA and other "classic" immigration countries in relative terms.[863] Due to the large number of different migration flows that came to Germany in the past, or which no value was placed on integration in some cases, the country today faces a variety of challenges.

This work has shown why the integration of immigrants already living here and future migrants is one of the most important social tasks that that also has major economic consequences. As has been shown, the fundamental effects of migration on the labour and capital markets are actually unproblematic, as the overall effect is positive in the vast majority of cases. The economy expands and absorbs the economic migrants who came precisely because of the good employment prospects in that process. However, not all market participants benefit to the same extent from the positive effects. Former migrants and low-skilled workers are particularly likely to suffer losses in wages and/or employment due to new immigration, at least in the short term. It is therefore necessary to compensate those negatively affected in order to increase the acceptance of the new arrivals and of the growth achieved in this way.

In most cases, international migration leads to an increase in ethnic and cultural diversity in a country, which can, without integration, cause a number of social

860 Brücker 2009, pp. 6–7, Clemens 2011, pp. 84–89.
861 Blau and Kahn 2015, p. 837.
862 Brücker et al. 2014, p. 1151.
863 Organisation for Economic Co-operation and Development 2005, p. 14.

and economic problems. In addition to the obvious fiscal costs of poorly integrated immigrants with low levels of education and labour market participation, there are also indirect political and economic problems. These therefore stem from the fact that diversity without integration, i.e. polarisation, makes the democratic balancing of preferences more difficult and tends to result in worse policy, thereby slowing growth. In addition, in such a case the endowment with welfare-promoting public goods decreases.

If, on the other hand, an integration of migrants is achieved, diversity can become a locational advantage for the economy with positive effects in different directions. They are mainly the result of the different skills which migrants bring with them and of their greater flexibility. Their connections to their country of origin can also be seen as an asset that simplifies international trade. However, these positive effects can only be achieved if migrants are well integrated, especially in the labour market. This integration was therefore subsequently examined in detail.

The integration of different groups of origin was examined separately in order to take into account the great heterogeneity of the migrant population. It has been shown that former "guest workers" and immigrants from countries with a relatively high initial cultural distance are the structurally worst integrated. This is a double problem for Turkish immigrants, which is why they mark the lower end of the integration scale. Very good integration can be measured among immigrants from Northern and Western Europe as well as ethnic German (late) repatriates. The particularly high skill level of the former groups, which points to a positive self-selection among these migrants, has facilitated the integration of Northern and Western European immigrants. The (late) repatriates were helped in particular by their knowledge of German in parts of their population at the time of arrival and by integration measures undertaken exclusively for them in the 1990s. The greater acceptance on the part of the host society compared to other immigration groups also contributes to the successful integration of this group.

Looking at the development of integration over a longer period from 1996 to 2012, it is striking that many but not all groups of origin have made substantial progress. This is to a large extent attributable to the most important explanatory variable, namely migrant marriage. Especially Turks and North Africans were able to improve their measurable integration during these years.

If one compares the results of this study internationally, it becomes apparent that migrants from the same country of origin perform quite differently in different host countries. Accordingly, there is no culture or country whose emigrants generally do not integrate, but integration is the result of various factors which were listed as hypotheses and later verified in this study. The most important determinants of successful integration are education and a long-term residence perspective. The distribution of these factors among migrants from different regions of origin is not random; some of the differences can be explained by the self-selection of migrants in the context of their country of origin. In addition, the receptiveness of the host society also plays a role, which varies depending on the initial cultural distance.

The path of migration is chosen for a variety of reasons and migrants have fundamentally different backgrounds. Depending on which country and in which time they came from, they can also have completely different experiences in the new country. Thus, with regard to the data situation, it would be desirable if immigration motives were statistically recorded. Being able to assess the integration paths of refugees and asylum seekers and migrants coming for economic reasons separately would furthermore serve to increase the validity of results like those arrived in this thesis. Furthermore, a self-assessment of the own perceived integration into the society for migrants and natives alike would be an interesting indicator to enhance the Microcensus and other datasets in the field. Information about these "soft factors" is becoming more and more appreciated and available, but has so far only been provided in examinations with smaller sample sizes.[864]

An advantage of the model applied here is the possibility of an easy extension and the feasibility of continuous updating with new Microcensus data as soon as they are published. At the time of purchasing the data for this thesis in early 2017, 2012 was the most recent year for which the Microcensus SUF was available. In the meantime, two further datasets have been published, including 2014, which allows the use of the most detailed model specification due to the correct selection of variables. For future research it would therefore be interesting to update the available index numbers with the Probit-model presented here.

[864] See for example Sachverständigenrat deutscher Stiftungen für Integration und Migration (SVR) GmbH 2016 or Constant et al. 2009a.

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10 Attachments

A) German Population (25-65 years) in 2015

<table>
<tr><td colspan="5">Population (25-65 years) in Germany 2015
44.8 Mio. (100 %)</td></tr>
<tr><td rowspan="3">Without Migration Background
35.3 Mio. (78.8 %)</td><td colspan="4">With Migration Background
Mio. (%)</td></tr>
<tr><td colspan="2">Germans
4.2 Mio. (9.3 %)</td><td colspan="2">Foreigners (“Ausländer”)
5.3 Mio. (11.8 %)</td></tr>
<tr><td>Without Migration Experience
0.4 Mio. (1.0 %)</td><td>With Migration Experience
3.7 Mio. (8.4 %)</td><td>Without Migration Experience
0.6 Mio. (1.3 %)</td><td>With Migration Experience
4.7 Mio. (10.6 %)</td></tr>
</table>

Table 8: Population in Germany (25-65 years) by Migration Status[865]

[865] Source: Authors illustration with data from Statistisches Bundesamt (2017c).

B) Immigrant Shares in the Weighted and Unweighted Sample

Year	Weighted Sample First generation Observations %	Reality First Generation (25-65) %	Weighted Sample Second Generation Observations %	Reality Second Generation (25-65) %	Weighted Sample Migration background Observations%	Migration Background Reality (25-65) %	Weighted Sample Ausländer Observations (25-65) %	Reality Other than German Passport (25-65) %
2012	17.0%	17.1%	2.1%	1.9%	19.1%	19.1%	11.6%	10.1%
2011	17.6%	16.7%	2.1%	1.9%	19.7%	18.5%	12.5%	9.8%
2010	17.3%	17.4%	2.1%	2.0%	19.4%	19.4%	12.0%	10.9%
2009	17.3%	17.3%	2.1%	2.0%	19.4%	19.3%	12.0%	10.9%
2008	17.4%	17.0%	1.8%	1.9%	19.1%	18.8%	11.8%	10.8%
2007	17.4%	16.8%	1.7%	1.8%	19.2%	18.6%	11.7%	10.8%
2006	17.5%	16.6%	1.6%	1.7%	19.1%	18.3%	11.6%	10.6%
2005	14.8%	16.3%	3.4%	1.7%	18.2%	18.0%	11.4%	10.5%
2004	not available	not available	not available	not available	not available	not available	10.5%	9.4%
2003	not available	not available	not available	not available	not available	not available	10.2%	10.2%
2002	not available	not available	not available	not available	not available	not available	9.9%	10.0%
2001	not available	not available	not available	not available	not available	not available	9.8%	9.8%
2000	not available	not available	not available	not available	not available	not available	9.5%	9.6%
1999	not available	not available	not available	not available	not available	not available	9.4%	9.5%
1998	not available	not available	not available	not available	not available	not available	9.2%	9.4%
1997	not available	not available	not available	not available	not available	not available	9.2%	9.3%
1996	not available	not available	not available	not available	not available	not available	9.2%	9.3%

Table 9: Immigrant Shares in the Weighted Sample Compared to Reality[866]

[866] Data Source: Microcensus 1996-2012 SUF, Statistisches Bundesamt 2017c.

Year	Total Observations 25-65	First-gen. migrant observations	First generation %	Second Gen Migrant Observations	Second Generation %	Migration background Observations	Migration background %	Foreign passport observations	Other than German passport %
2012	257,600	40,929	15.9%	4,887	1.9%	45,816	17.8%	26,688	10.4%
2011	252,876	39,825	15.7%	4,740	1.9%	44,565	17.6%	26,065	10.3%
2010	250,194	38,660	15.5%	4,515	1.8%	43,175	17.3%	24,442	9.8%
2009	250,209	38,331	15.3%	4,513	1.8%	42,844	17.1%	23,847	9.5%
2008	247,955	38,030	15.3%	3,745	1.5%	41,775	16.8%	23,093	9.3%
2007	249,621	37,981	15.2%	3,581	1.4%	41,562	16.7%	22,455	9.0%
2006	257,981	39,747	15.4%	3,521	1.4%	43,268	16.8%	23,477	9.1%
2005	250,689	32,227	12.9%	7,243	2.9%	39,470	15.7%	22,233	8.9%
2004	252,557	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	20,521	8.1%
2003	257,307	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	20,348	7.9%
2002	260,325	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	19,779	7.6%
2001	262,435	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	19,761	7.5%
2000	260,155	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	19,371	7.4%
1999	266,230	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	19,524	7.3%
1998	268,298	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	19,299	7.2%
1997	268,513	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	18,991	7.1%
1996	267,676	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	18,347	6.9%

Table 10: Unweighted Number of Observations Used in the Model[867]

[867] Data Source: Microcensus 1996-2012 SUF, Own Calculations

C) ESeC-Class Structure

	ESeC Class	Relevant Occupational Groups (Example in Microcensus*)
1	Higher salariat	Large employers, higher grade professional, administrative and managerial occupations (Architects, Engineers etc., Management Consultants)
2	Lower salariat	Lower grade professional, administrative and managerial occupations and higher grade technician and supervisory occupations (Specialists in the field of technical Engineering)
3	Higher grade white collar workers	Intermediate occupations (Other office employees, specialists of finance and sales)
4	Petit bourgeoisie or independents	Small employer and self-employed occupations (except agriculture etc.) (Heads of small companies)
5	Petit bourgeoisie or independents	Self-employed occupations (agriculture etc.) (Gardeners and Farmers)
6	Higher grade blue collar workers	Lower supervisory and lower technician occupations (safety and quality inspectors)
7	Lower grade white collar workers	Lower services, sales and clerical occupations (sellers, salespersons)
8	Skilled workers	Lower technical occupations (construction workers and related occupations)
9	Semi- and non-skilled workers	Routine occupations (workers in domestic services)
10	Unemployed	Never worked or long-term unemployed (currently not employed)

Table 11: ESeC Classification of Occupational Groups[868]

*most common ISCO08-occupation to be in the respective EseC Class.

[868] Author's Representation Based on Rose and Harrison 2007, p. 464.

D) Classification of Educational and Professional Degrees

	Description of Educational or Professional Degree
1	No secondary school certificate or professional degree
2	Lower secondary general school certificate, obtained after 9 years of school (“Hauptschulabschluss”)
3	Secondary school certificate, obtained after 10 years of school (“Mittlere Reife”, Realschulabschluss)
4	Upper Secondary School Certificate, University Entrance Certificate (“(Fach)-Hochschulreife”, Abitur)
5	Baseline category: Apprenticeship or Dual System of Vocational Training (“Lehre/Berufsausbildung”)
6	Academic degree, Other Tertiary Degree, („Akademischer Abschluss oder gleichwertiger beruflicher Abschluss; Bachelor, Master, Diplom, Techniker, Meister“)
7	Doctorate, (“Promotion”)

Table 12: Educational and Professional Degrees[869]

[869] Source: Kultusministerkonferenz 2015.

E) Overview over the Regions of Origin

Model 1/2 , detailed set of regions	
Region/Group of Immigrants	**Countries**
(Late) Repatriates, Ethnic Germans	Several
Early Guest Workers	[Greece] [Italy] [Portugal] [Spain]
Northern/Western Europe	[Belgium, Luxembourg] [Denmark, Finland, Sweden] [France] [Netherlands] [Austria] [Iceland, Liechtenstein, Norway, Switzerland] [Ireland, United Kingdom]
Southern/Central/Eastern Europe	[Albania, Andorra, Republic of Moldova, Monaco, San Marino, Vatican City, Belarus] [Bosnia and Herzegovina] [Bulgaria] [Croatia] [Cyprus, Estonia, Slovenia, Latvia, Lithuania, Malta] [Macedonia] [Kosovo] [Poland] [Romania] [Russian Federation] [Slovakia, Czech Republic] [Hungary] [Ukraine] [Serbia, Montenegro]
Turkey	[Turkey]
Maghreb/North Africa	[Morocco] [Egypt, Algeria, Libya, Tunisia]
Central, East, West, Southern Africa	[Central, East, Southern Africa] [West Africa]
South America	[Argentina, Bolivia, Brazil, Chile, Ecuador, Guyana, Colombia, Paraguay, Peru, Suriname, Uruguay,Venezuela, Other South America]
USA	USA
Middle East, Central Asia	[Afghanistan] [Armenia, Azerbaijan, Georgia, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan] [Irak] [Iran] [Kazzakhstan] [Other Near and Middle East, Yemen, Bahrain, Israel, Jordan, Qatar, Lebanon, Oman, United Arab Emirates, Saudi Arabia, Syria]
South/East Asia	[Vietnam] [Sri Lanka, India] [Mongolia, North Korea, Taiwan, Japan, South Korea] [Other South and Southeast Asia, Bangladesh, Bhutan, Brunei Darussalam, Indonesia, Cambodia, Laos, Malaysia, Maldives, Myanmar, Nepal, Pakistan, Philippines, Singapore, Timor-Leste] [Thailand] [China]
Not classified	[Canada, Central America and the Caribbean] [Australia, Oceania, Rest of World, Stateless]

Table 13: Regions of Origin for Model Specification 1/2

Table 14: Regions of Origin for Model Specification 3

Model 3	
Region of Origin	**Countries**
Guest Workers (Italy, Greece, Spain, Portugal)	[Greece] [Italy] [Portugal] [Spain]
North/Western Europe (Plus Exceptions)	[Denmark, Finland, Sweden] [France] [Belgium, Luxembourg, Netherlands] [Austria] [Iceland, Liechtenstein, Norway, Switzerland] [Ireland, United Kingdom]
Southern/Eastern Europe	[Albania, Andorra, Republic of Moldova, Monaco, San Marino, Vatican City, Belarus] [Bosnia-Herzegovina] [Bulgaria] [Croatia] [Cyprus, Estonia, Latvia, Lithuania, Malta, Slovenia] [Macedonia] [Kosovo] [Poland] [Romania] [Russian Federation] [Slovakia, Czech Republic] [Hungary] [Ukraine] [Serbia, Montenegro]
Turkey	[Turkey]
Morocco	[Morocco]
Other Africa	[Central, East, Southern Africa] [West Africa] [Egypt, Algeria, Libya, Tunisia]
South America	[South America]
USA	[USA]
Close/Middle East	[Iraq] [Iran] [Libanon] [Other Near and Middle East: Yemen, Bahrain, Israel, Jordan, Qatar, Oman, United Arab Emirates, Saudi Arabia, Syria]
Central/South/East Asia	[Afghanistan] [Middle East, Central Asia: Armenia, Azerbaijan, Georgia, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan, Mongolia] [Vietnam] [Sri Lanka, India] [Kazakhstan] [Other South and Southeast Asia] [Japan, Taiwan, North Korea] [Thailand] [China]
Not classified	[Canada, Central America and the Caribbean] [Australia, Oceania, Rest of World, Stateless]

F) Variance Inflation Factors

Variable	VIF	1/VIF
1.female	59.30	0.016864
logek	9.67	0.103419
1.labor	9.77	0.102390
esec		
1	3.03	0.329773
3	5.35	0.186832
4	2.17	0.460457
5	1.75	0.572633
6	1.81	0.553292
7	4.90	0.203884
8	3.29	0.303711
9	5.38	0.185867
10	17.87	0.055956
1.self	2.09	0.478771
1.soc	4.43	0.225549
1.hown	2.83	0.352941
sqmpp	3.10	0.322900
1.city	2.28	0.437721
1.public	2.89	0.346245
1.interm	2.46	0.405854
childnr	3.12	0.320828
marital		
1	2.59	0.386015
3	6.35	0.157603
4	2.88	0.347429
katab		
1	2.82	0.354206
2	2.71	0.368865
3	2.63	0.379994
4	2.23	0.448466
6	2.94	0.340068
7	1.87	0.534423
female# c.logek		
1	32.96	0.030338
female#labor		
1 1	12.25	0.081610
female#esec		
1 1	2.55	0.391719
1 3	6.44	0.155190
1 4	1.99	0.503164
1 5	1.72	0.582863
1 6	1.77	0.565431
1 7	5.79	0.172579
1 8	1.62	0.616389
1 9	5.52	0.181045
1 10	22.56	0.044335
female#self		
1 1	2.06	0.486520
female#soc		
1 1	3.95	0.252858
female#hown		
1 1	3.98	0.251400
female# c.sqmpp		
1	8.07	0.123975
female#city		
1 1	2.55	0.392848
female# public		
1 1	3.24	0.308435
female# interm		
1 1	2.66	0.375944
female# c.childnr		
1	3.97	0.251798
female# marital		
1 1	2.75	0.363106
1 3	6.55	0.152658
1 4	3.08	0.324798
female#katab		
1 1	3.07	0.325776
1 2	2.95	0.339463
1 3	2.70	0.369696
1 4	2.24	0.445551
1 6	3.18	0.314774
1 7	1.82	0.548760
Mean VIF	5.76	

Table 15: Exemplary Variance Inflation Factors, Model Specification 1, 2010[870]

[870] Source: Own Calculations based on Microcensus 2010 SUF.

G) Model 1: Complete Regression Output

As mentioned in sub-chapter 7.2.2, the probit coefficients are not easy to interpret since the change in the predicted probability of a one unit change of a variable depends both on the values of the other explaining variables and the respective starting value of the given variable. For the sake of completeness, however, the following presents the entire output of the underlying probit regressions for all three variants of the migrant marriage variable. For better readability, each output is divided into 3 parts. The first part shows the respective model summary with some key figures for the evaluation of the model. The second part reports the probit coefficients for male individuals. The third part displays the deviation of the female interaction terms from the previously shown coefficients. These are only relevant if the interaction is statistically significant.

The *"Prob < chi2"* value displays the probability of the Maximum-Likelihood model to result in a more extreme chi²-statistic than the one shown in the row above in case of all coefficients being zero. With a result of 0.000, the null-hypothesis (all coefficients are zero) can be rejected. This does not mean, however, that all variables are relevant and all coefficients significant. It just means that at least one coefficient is not equal to zero.

The *"Pseudo R2"* stands for the adjusted McFadden's R^2 value. Since the probit model is not an OLS- but a Maximum-Likelihood regression, a normal adjusted R^2 cannot be used to measure the goodness-of-fit of the model. Whereas the adjusted R^2 can be interpreted as the share of the total variability of the dependent variable explained by the model there is no such interpretation for the Pseudo-R^2. Instead the McFadden's R^2 measures the improvement of the model with all predictor variables compared to a model without predictor variables. It ranges from 0 to 1, and values from 0.2 to 0.4 are seen as appropriate. The adjusted McFadden's R^2 additionally punishes adding too many or weak predictors.

Variant 2 : Spouse = Foreign Born		
Probit regression	Number of obs =	70,000
Wald chi2(57) =		17657.93
Prob > chi2 =		0.000
Log pseudolikelihood = -5515.4816	Pseudo R2	0.3637

Table 16: Regression Output Model Specification 1, Migrant Marriage Variant 2

Variant 2 : Spouse = Foreign Born						
		Robust				
binmig1	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
female						
Yes	-0.384448	0.094557	-4.07	0.000	-0.569777	-0.199119
logek	-0.071782	0.00912	-7.87	0.000	-0.089657	-0.053907
labor						
Yes	-0.039145	0.046467	-0.84	0.400	-0.130218	0.0519277
esec						
Large employers, higher mgrs/professionals	0.0185797	0.038815	0.48	0.632	-0.057496	0.0946549
Intermediate occupations	-0.087563	0.044615	-1.96	0.050	-0.175007	-0.00012
Small employers and self-employed (non-agriculture)	0.3208379	0.066737	4.81	0.000	0.1900355	0.4516404
Small employers and self-employed (agriculture)	-0.001492	0.092899	-0.02	0.987	-0.183571	0.1805867
Lower supervisors and technicians	0.2442094	0.083134	2.94	0.003	0.0812693	0.4071496
Lower sales and service	0.1654335	0.04863	3.4	0.001	0.0701208	0.2607461
Lower technical	0.2341103	0.035684	6.56	0.000	0.1641713	0.3040494
Routine	0.3981882	0.03616	11.01	0.000	0.3273169	0.4690595
Unemployed/Out of Labor Force	0.1445582	0.0576	2.51	0.012	0.0316637	0.2574528
self						
Yes	0.0734891	0.03337	2.2	0.028	0.0080845	0.1388936
soc						
Yes	0.1585224	0.040421	3.92	0.000	0.0792985	0.2377463
hown						
Yes	-0.431185	0.020472	-21.1	0.000	-0.471308	-0.391062
sqmpp	-0.002243	0.000506	-4.43	0.000	-0.003234	-0.001251
city						
Yes	0.2733955	0.023617	11.58	0.000	0.2271065	0.3196844
public						
Yes	-0.337363	0.03414	-9.88	0.000	-0.404275	-0.270451
intermx						
Yes	1.95068	0.02693	72.44	0.000	1.897899	2.003462
childnr	0.0269294	0.010534	2.56	0.011	0.0062837	0.0475752
marital						
Unmarried	-0.048537	0.02335	-2.08	0.038	-0.094302	-0.002771
Widowed	0.3432204	0.083472	4.11	0.000	0.1796181	0.5068227
Divorced	0.2950677	0.033398	8.83	0.000	0.2296088	0.3605265
katab						
No Degree	1.203899	0.049431	24.36	0.000	1.107016	1.300783
Hauptschule	0.6526333	0.03276	19.92	0.000	0.588425	0.7168417
mittlere Reife	0.795938	0.058178	13.68	0.000	0.6819108	0.9099651
(Fach)Hochschulreife	0.8165655	0.045896	17.79	0.000	0.7266102	0.9065208
Academic Degree	0.2392859	0.024429	9.8	0.000	0.1914057	0.2871662
PhD	0.3862721	0.07651	5.05	0.000	0.2363156	0.5362286

Variant 2: Spouse = Foreign Born, Female interactions						
		Robust				
	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
female#c.logek						
Yes	0.0332999	0.010293	3.24	0.001	0.0131263	0.0534736
female#labor						
Yes#Yes	-0.016191	0.058528	-0.28	0.782	-0.130903	0.0985208
female#esec						
Yes#Large employers, higher mgrs/professionals	0.0094418	0.058683	0.16	0.872	-0.105575	0.124459
Yes#Intermediate occupations	0.124997	0.055133	2.27	0.023	0.0169391	0.2330549
Yes#Small employers and self-employed (non-agriculture)	-0.214587	0.105891	-2.03	0.043	-0.422129	-0.007046
Yes#Small employers and self-employed (agriculture)	-0.279065	0.155761	-1.79	0.073	-0.584351	0.02622
Yes#Lower supervisors and technicians	0.1018665	0.127994	0.8	0.426	-0.148997	0.3527304
Yes#Lower sales and service	-0.025554	0.060908	-0.42	0.675	-0.144931	0.0938234
Yes#Lower technical	0.1420021	0.071845	1.98	0.048	0.0011879	0.2828163
Yes#Routine	0.1334476	0.050682	2.63	0.008	0.0341119	0.2327833
Yes#Unemployed/Out of Labor Force	0.1348169	0.074047	1.82	0.069	-0.010312	0.2799459
female#self						
Yes#Yes	0.0671871	0.053706	1.25	0.211	-0.038074	0.1724479
female#soc						
Yes#Yes	-0.036532	0.052108	-0.7	0.483	-0.138662	0.0655972
female#hown						
Yes#Yes	0.0993743	0.028258	3.52	0.000	0.0439901	0.1547585
female#c.sqmpp						
Yes	-0.000321	0.000689	-0.47	0.641	-0.001672	0.0010293
female#city						
Yes#Yes	0.0061521	0.032429	0.19	0.850	-0.057408	0.0697123
female#public						
Yes#Yes	0.1473239	0.044213	3.33	0.001	0.0606686	0.2339791
female#intermx						
Yes#Yes	0.0431829	0.038755	1.11	0.265	-0.032775	0.1191405
female#c.childnr						
Yes	-0.014131	0.014328	-0.99	0.324	-0.042213	0.0139502
female#marital						
Yes#Unmarried	0.0235408	0.033929	0.69	0.488	-0.042958	0.0900396
Yes#Widowed	0.1597356	0.092148	1.73	0.083	-0.02087	0.3403417
Yes#Divorced	0.0798097	0.043136	1.85	0.064	-0.004736	0.1643553
female#katab						
Yes#No Degree	0.1037261	0.070623	1.47	0.142	-0.034692	0.2421437
Yes#Hauptschule	-0.272737	0.042758	-6.38	0.000	-0.35654	-0.188933
Yes#mittlere Reife	-0.129671	0.072766	-1.78	0.075	-0.272291	0.0129478
Yes#(Fach)Hochschulreife	0.1507625	0.065661	2.3	0.022	0.0220692	0.2794558
Yes#Academic Degree	0.1839159	0.033253	5.53	0.000	0.1187422	0.2490895
Yes#PhD	0.2805234	0.112933	2.48	0.013	0.0591788	0.501868
_cons	-0.084023	0.079321	-1.06	0.289	-0.23949	0.0714447

H) Model 1: Robustness Check for Migrant Marriage

As described in chapter 6.1.4, the migrant marriage variable is of paramount importance for the model. To test the robustness against changes to or the omission of the important intermarriage variable, three different versions of model 1 are estimated. For the first version, the dummy variable "intermarriage" is set to 1 if the person's spouse or partner is a Foreigner and 0 otherwise. This includes all cases, also unmarried observations which will also receive the value 0.
In the second version one observation receives the value 1 only if the partner or spouse is born abroad and 0 otherwise. This second version has proven to be the stronger variable in the sense that the resulting marginal effect is higher (see *Figure 26)*. For this reason and because the overlapping definition in Vigdor (2008), I chose to report the second version and use the others as robustness check. For the third variant of model specification 1, the intermarriage variable is omitted.

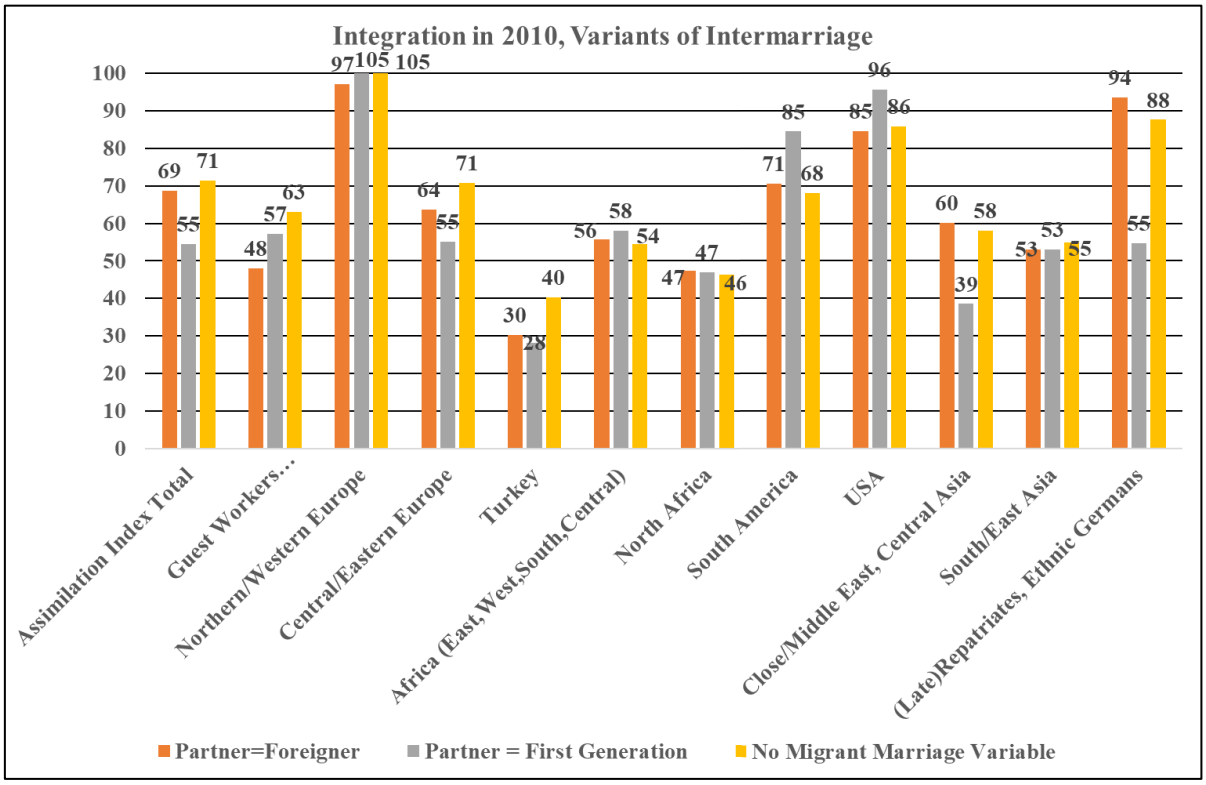

Figure 25: Model 1 Robustness Check – General

Figure 25 shows the integration index from model specification 1 in all three cases. The model results are by and large robust to the choice of migrant marriage variable. Only among (late) repatriates, and among migrants from the Middle East and Central Asia, there are larger differences in the index results. Here, the

high naturalization rates in these migrant groups seem to be responsible for a low degree of distinctiveness based on citizenship. The opposite is true for migrant spouses of U.S. and South Americans. German citizenship is rarely accepted due to their attractive own citizenship and a more frequent desire to return to their home countries at a later date. Therefore, the index calculated with the foreigner variable is lower.

	Migrant Marriage Rates		
Region of Origin	Women	Men	Difference Women-Men
Born in Germany	2.6 %	3.5 %	-0.9 %
Guest Workers (Greece)	58.2 %	42.9 %	15.3 %
Northern/Western Euro	21.2 %	23.7 %	-2.5 %
Central and South/Eastern Europe	50.3 %	60.0 %	-9.7 %
Turkey	73.6 %	67.7 %	5.9 %
Africa (East, West, South)	34.5 %	34.2 %	0.3 %
North Africa	62.8 %	43.6 %	19.2 %
South America	13.4 %	28.4 %	-15.0 %
USA	18.3 %	15.1 %	3.2 %
Near/Middle East, Central Asia	68.4 %	59.4 %	9.0 %
South/East Asia	39.4 %	60.2 %	-20.8 %
(Late)Repatriates, Et	58.8 %	66.2 %	-7.4 %
Total Population	10.7 %	11.5 %	-0.7 %

Table 17: Migrant Marriage Rates by Gender[871]

For this table, all first-generation immigrant observations between 25 and 65 years old, which have been used in model specification 1 are examined. Furthermore, the second variant of the migrant marriage variable is used, thus the binary variable is 1 when the spouse is born abroad and 0 otherwise.

[871] Source: Own Calculations based on Microcensus 2012 SUF.

I) Model 1: Robustness Check for Average Marginal Effects

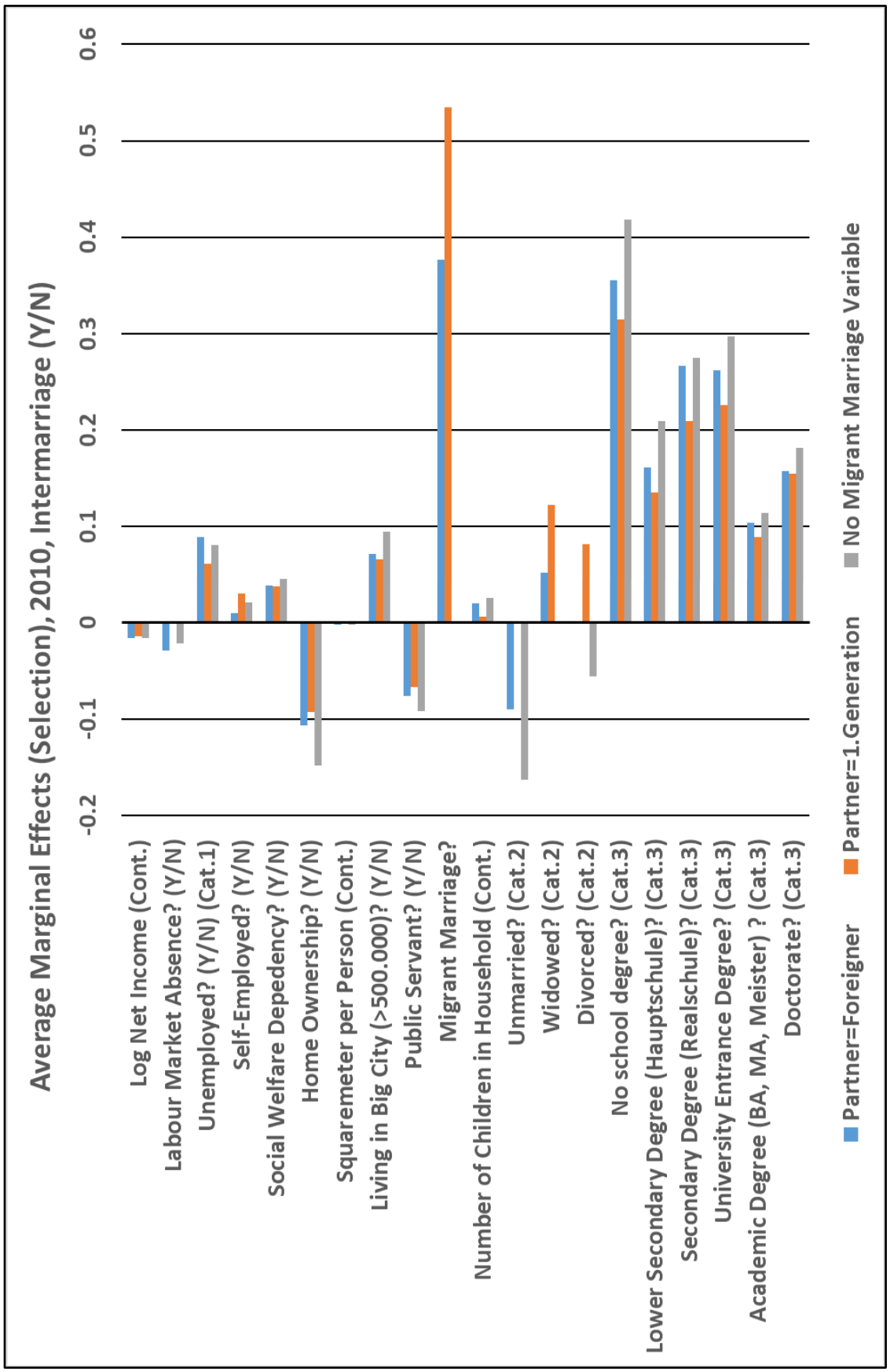

Figure 26: Model 1 Robustness Check of the AME[872]

J) Model Specification 2: Average Marginal Effects in 2012 and 2007

Selection of Average Marginal Effects in 2012 compared to 2007			
Predictor Variable	**2007**	**2012**	**Relative Change**
Log Net Income (Cont.)	-0.014	-0.022	157.1%
Labour Market Absence? (Y/N)	ns	-0.059	
Unemployed? (Y/N) (Cat.1)	0.096	0.067	-30.2%
Self-Employed? (Y/N)	-0.026	-0.02	-23.1%
Social Welfare Depedency? (Y/N)	0.076	0.057	-25.0%
Living in Big City (>500.000)? (Y/N)	0.086	0.096	11.6%
Public Servant? (Y/N)	-0.088	-0.099	12.5%
Partner is Ausländer?	0.402	0.416	3.5%
Number of Children in Household (Cont.)	0.016	0.036	125.0%
Unmarried? (Cat.2)	-0.11	-0.071	-35.5%
Widowed? (Cat.2)	0.057	0.038	-33.3%
Divorced? (Cat.2)	-0.019	0.022	-215.8%
No school degree? (Cat.3)	0.354	0.341	-3.7%
Lower Secondary Degree (Hauptschule)? (Cat.3)	0.188	0.191	1.6%
Secondary Degree (Realschule)? (Cat.3)	0.209	0.273	30.6%
University Entrance Degree? (Cat.3)	0.256	0.28	9.4%
Academic Degree (BA, MA, Meister) ? (Cat.3)	0.105	0.101	-3.8%
Doctorate? (Cat.3)	0.172	0.114	-33.7%

Table 18: Comparison of AME in Model Specification 2

The integration index performance of all immigrant groups is quite steady during the examined years. This applies to most AME's as well, with some exceptions like unemployment compared to the base category (lower salariat) or the number of children in the same household. Most prominently, the effect of the migrant marriage variable stayed more or less constant, accounting for a large share of the measured stability. Since the individual effects of each variable are, of course, usually small in absolute terms, there are still no major changes in the measured integration from 2007 to 2012.

K) Number of Observations in Model Specification 3 (1996-2012)

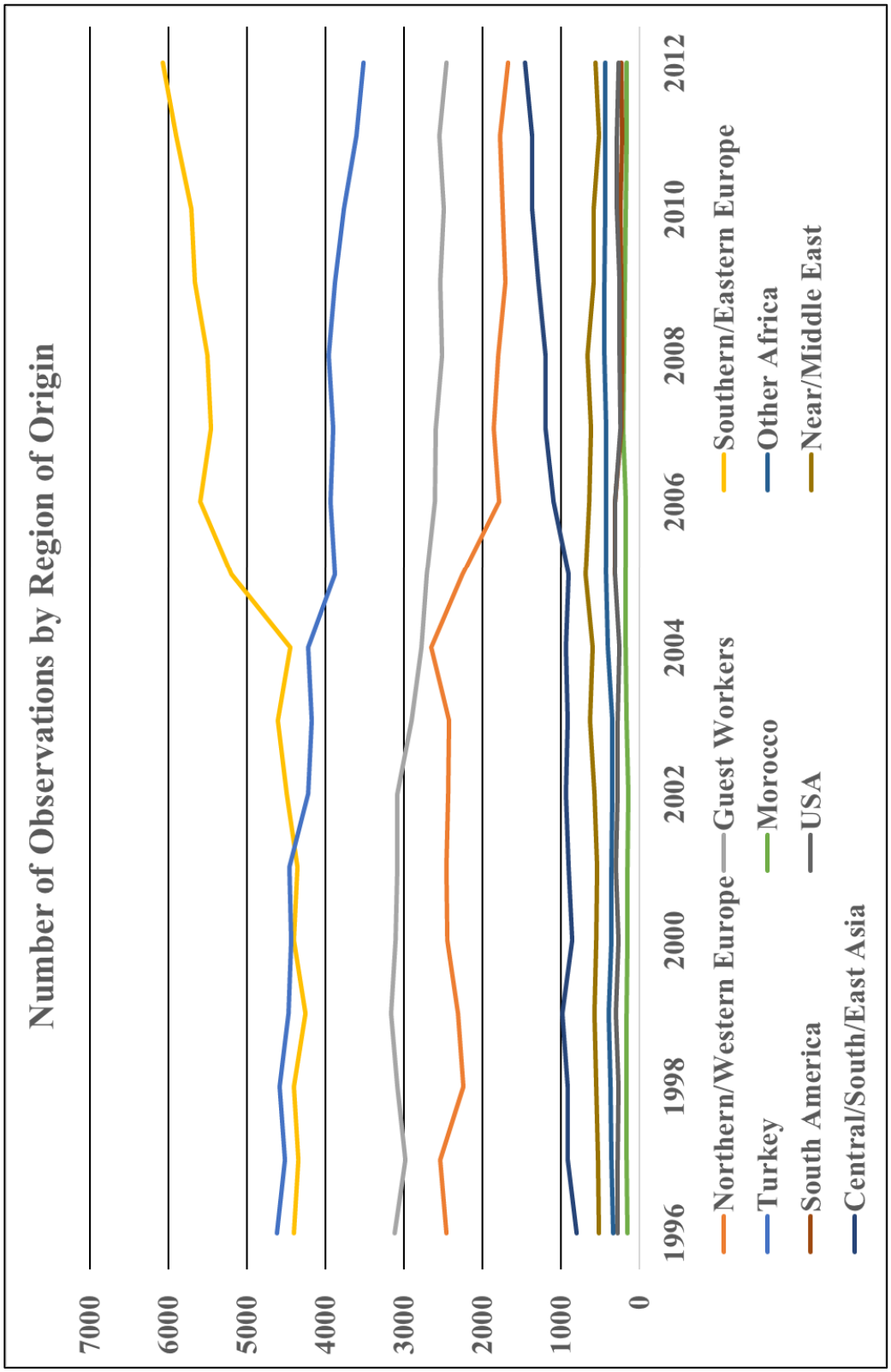

Figure 27: Number of Observations in Model Specification 3 by Country of Origin[873]Robustness Check of Model Specification 3 without Migrant Marriage

[873] Own Calculations based on Microcensus 1996-2012 SUF.

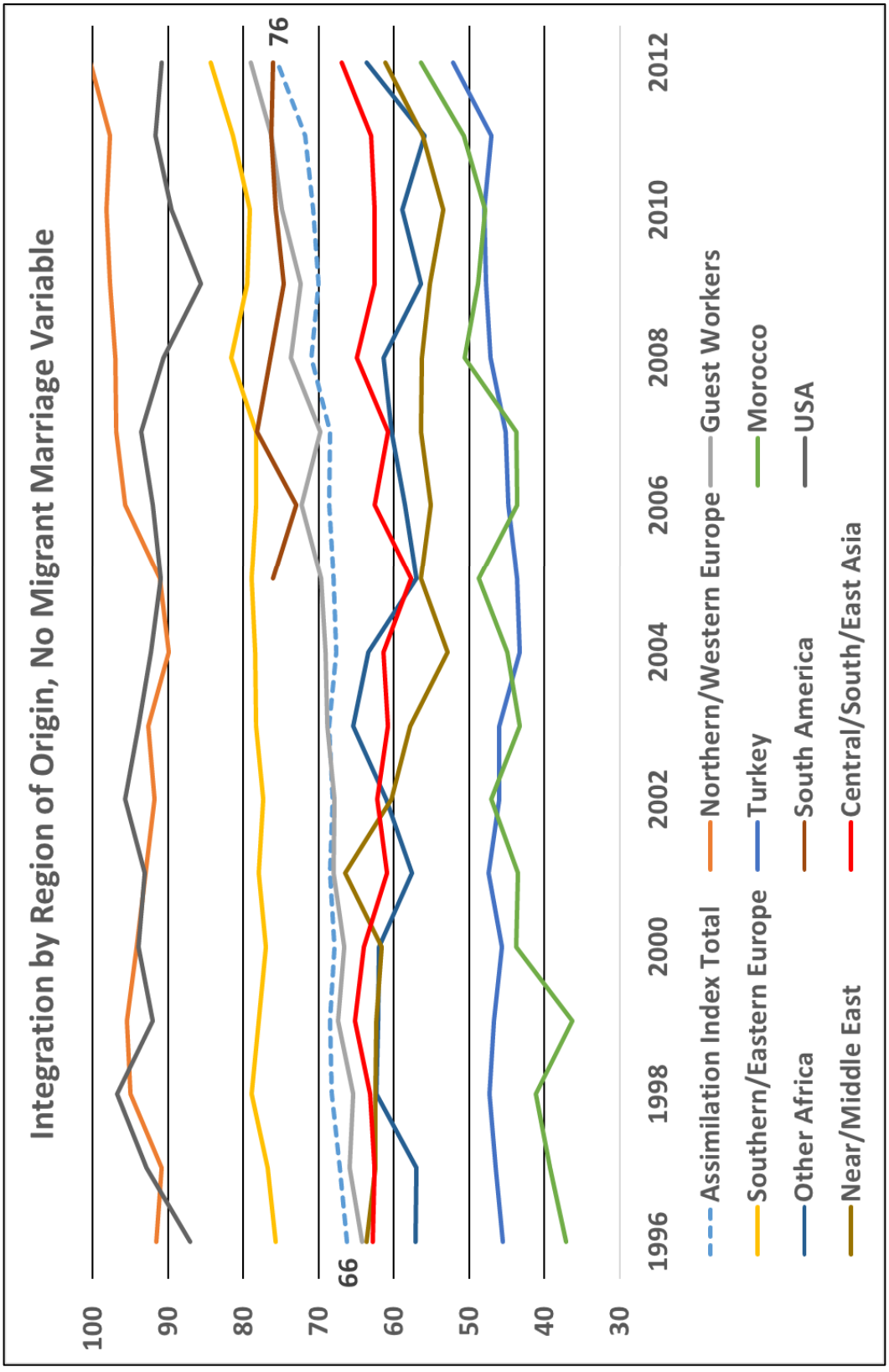

Figure 28: Integration 1996-2012 without Migrant Marriage Variable[874]

[874] Source: Own Calculations based on Microcensus 1996-2012 SUF.

M) Immigrants in Germany with Temporary Residence Status Only

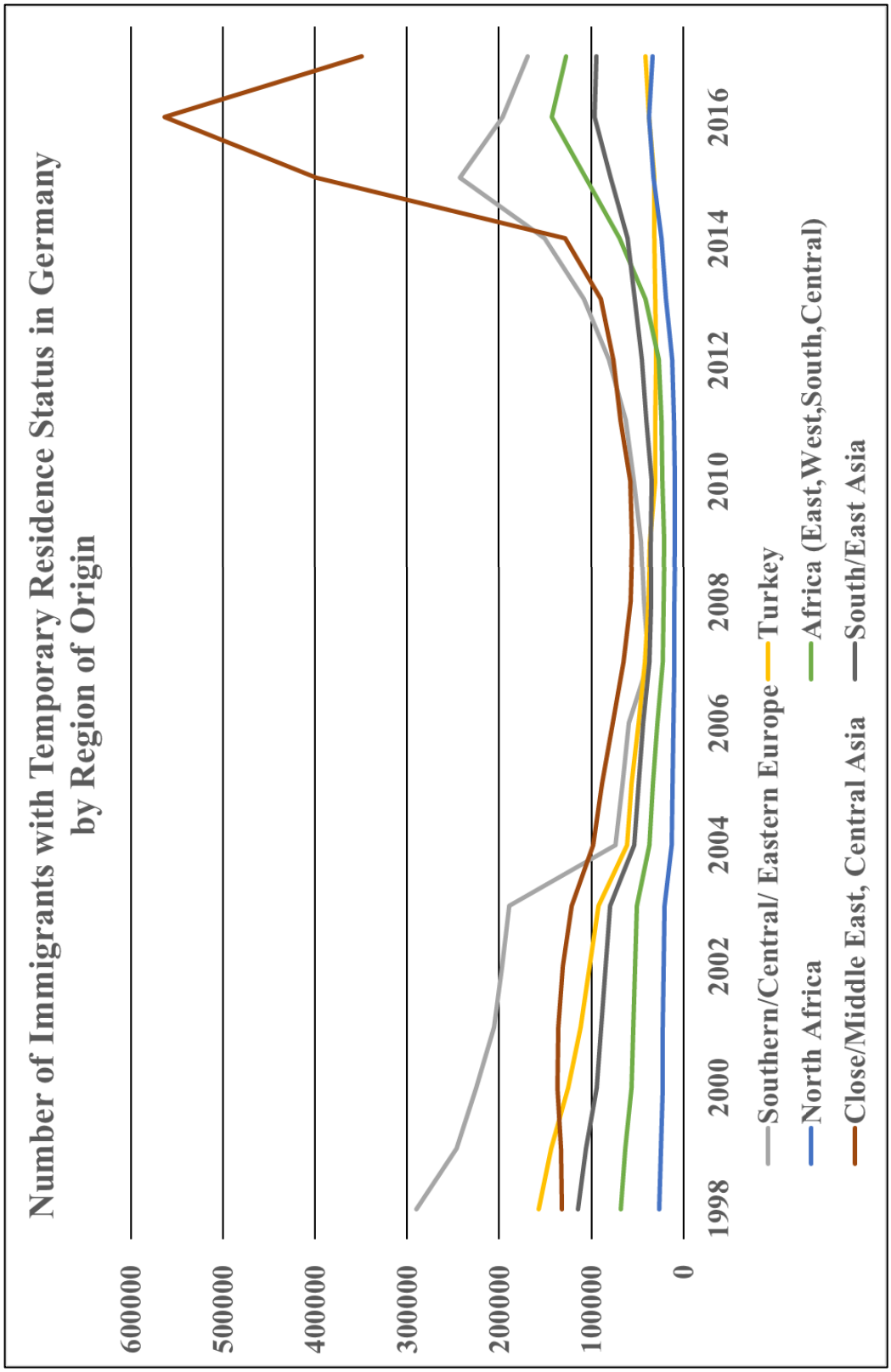

Figure 29: Number of Immigrants with Temporary Residence Status by Region of Origin[875]

[875] Source Own Calculations based on Statistisches Bundesamt 2018c, pp. 120–137.

Integration of Immigrants in Germany

Florian Peters-Olbrich

With regard to an expected further increase in migration movements within Europe and to Europe in the medium term, this thesis examines the economic consequences of immigration and the role that integration plays in it. In addition, existing integration monitoring systems will be presented and evaluated in order to present the integration index as a separate measure of migrant integration in Germany. The index measures the objectively measurable, structural integration on the basis of systematic differences between natives and migrants in the German microcensus. It thus responds to an important point of criticism of the current measurement of integration: Instead of presenting a large number of sub-indicators, all the information is combined into one number, which increases the significance and enables comparisons over longer periods of time with information from consistent data sources. At the end of the thesis, possible explanations for differences in measured integration between different migrant groups are presented and examined on the basis of the results.

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