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Erstgutachter:	Prof. Dr. Klaus F. Zimmermann (Freie Universität Berlin)
Zweitgutachter:	Prof. Dr. Axel Werwatz (Technische Universität Berlin)

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Eigenanteil

Kapitel 1:

Ko-Autoren:	Klaus F. Zimmermann
	Amelie F. Constant
Anteil:	1/3

Kapitel 2:

Ko-Autoren:	keine
Anteil:	100%

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Contents

Chapter 1

Introduction

1.1 Motivation

In 2010, the political debate over the successful integration of immigrants in Germany heated up in reaction to the book *Deutschland schafft sich ab* (Germany abolishes itself) by Thilo Sarrazin, Berlin's former senator of Finance and former member of the German Central Bank executive board. In the book he claims lack of integration effort for some immigrant groups, mainly Turks and Arabs, and, in particular, Muslims. During the ensuing debate, various researchers, including Foroutan et al. (2011), refuted his claims emphasizing the importance of objective measures of structural, cultural and social integration, a differentiated perspective and the consideration of developments over time.

Against this background, this thesis gives insight into a broad variety of integration indicators, with particular focus on intermarriages, that is marriages between immigrants and natives, as one indicator of social proximity and commitment to the hosting society. Intermarriages reflect the degree of social interaction and provide the basis for individual intermixture. In that they counteract so-called *Parallelgesellschaften* (parallel societies) and are, therefore, of especial importance for successful social cooperation of people with different cultural backgrounds.

Furthermore, the dissertation highlights possible positive relations between intermarriage and economic success as measured by earnings, and economic behavior in terms of couples' relative labor supply. The first measure relates to indicators of structural integration into the labor market and was used as productivity measure in previous studies that studied integration processes of immigrants in other countries, such as the United States, Australia and France. However, this is the first study analyzing the economic implications of intermarriage for immigrants in Germany, and, beyond that, proposes a new methodology to mitigate possible estimation biases. The second measure captures possible differences in gender role attitudes and resource allocations within the partnership and, hence, refers to economic behavior rather than outcome. This introduces a completely new aspect and allows for a novel perspective on intermarriages. Intermarriages are thereby analyzed by distancing themselves from ethnically homogeneous

partnerships.

Before going into greater detail on the questions addressed in this dissertation, a general overview of the immigration history in Germany and its related problems is given. Only since 2000 has Germany acknowledged its status as an immigrant-receiving country, despite the fact that massive immigration inflows started already in the early post-war era. Severe shortages in labor supply and extreme economic growth during the *deutsche Wirtschaftswunder* (the German economic miracle) of the early 1950s lead to recruitment agreements signed between Germany and several, mostly Southern European countries, such as Italy, Greece, Spain, Turkey, Portugal, and Yugoslavia. In this context, mainly young men were recruited into predominately low-skilled positions in factories and a few industrial sectors where they often faced poor working conditions (Kalter and Granato (2007)). Following the idea of a "stay-and-return-migration" these immigrants, often called "guest workers", were expected to return to their home country after a set period of time. However, this "rotation model" failed, and also government's effort to encourage return migration after recruitment stopped in 1973 did not succeed. Since then, family members of the remaining guest workers, mainly from Turkey, immigrated as part of family reunification programs. In addition, since the 1980s and 1990s increasing numbers of immigrants came as asylum seekers during the civil wars in former Yugoslavia, and conflicts in Kurdish territories of Turkey and in northern Iraq, and as ethnic Germans (*Aussiedler*) after the fall of the Iron Curtain and the break-up of the Soviet Union. As a consequence, immigrants living in Germany today are often less educated, work in lower paid jobs and face higher unemployment rates than natives. Failures in the integration process, which have been made on both the immigrants' and the natives' side, are difficult to correct retroactively and require major effort, again on both sides.

Germany, as one of the biggest EU-countries, is currently struggling with the question of how to attract high-skilled immigrants in order to offset demographic trends and fill in shortages in labor supply in high-skilled sectors, while facing severe problems in the integration process of immigrants already living in Germany. It is therefore crucial to find measures that reflect the actual degree of integration and factors that may lead to a better social and economic status. Intermarriage may in that respect be one useful tool to identify social interaction and might possibly determine economic success and economic behavior.

1.2 Contribution

This dissertation studies in its first chapter different measures of cultural integration of immigrants in Germany and compares first and later generation immigrants to natives. In the second chapter, one particular indicator of social distance, namely intermarriage, is singled out and its relationship to economic success is highlighted. The third chapter focuses on a different aspect related to economic behavior in intermarried couples, specifically relative labor supply and the degree of specialization in intermarriage. Finally,

in chapter four, potential shortcomings and problems of the empirical analyses are discussed and an outlook for further research is given. The dissertation, thus, contributes to the ongoing debate by giving a broad overview on various cultural indicators, and particularly focusing on one aspect of social integration.

The empirical analysis of all chapters relies on data provided by the German Socio-Economic Panel (SOEP), although for different time periods. While the first chapter bases its analysis on 2005 to 2007 data, chapter two exploits all available data beginning with the first wave in 1984. The third chapter takes advantage of special information provided during the 1997 and 2005 waves. The definition of immigrants and natives is based on the general concept of "migration background"[1], while marital status is put on the same level as partnership and cohabitation. Definitions are identical in all three chapters.

1.2.1 Cultural Integration of Immigrants in Germany

Objective, mainly economic, indicators such as employment probability, growth in earnings, and the degree of self-employment often measure the degree of integration. "Softer" measures now account for subjective aspects of integration such as identification with the hosting society and attachment to the country of origin. In this context, a new integration measurement, the "ethnosizer", was introduced by Constant, Gataullina and Zimmermann (2009a) who combine various information on individual behavior and feelings to assign people to one of four categories, namely "assimilation", "integration", "separation" or "marginalization". Some of the factors used to define the degree of integration according to this measure are also used in the first chapter when analyzing the cultural integration of immigrants in Germany.

The novelty of this chapter is threefold. First, it identifies a huge variety of issues related to personality, behavior and attitudes for the most prominent immigrant groups in Germany. Among those factors are education and language abilities, religious affiliation and identification with Germany and with the country of origin, marital behavior in terms of age at marriage, age and educational gap between spouses, and number of children per woman, as well as self-reported political interest, risk proclivity, and overall life satisfaction. Second, it reveals the degree of convergence by comparing immigrants and natives. Third, it depicts developments over time by distinguishing between first and later generations of immigrants.

Various indicators are studied by comparing first and later generation immigrants to natives, men and women separately, first in pure descriptive statistics, and second in a simple econometric framework controlling for different birth cohorts, different countries of origin, and differences in years of schooling. The chapter is part of a book project encouraged and organized by the Centre of Economic Research (CEPR) that aims to compare the degree of integration of immigrants in several European countries. Thus,

[1]For further information on that definition and its relevance in the context of intermarriages see Nottmeyer (2009).

the purpose is to compare the status quo rather than detecting causal links. Possible endogeneity and measurement biases are therefore neglected in this study. However, these will be addressed in the later chapters.

Empirical findings indicate that immigrants indeed diverge from natives, for instance with respect to fertility rates, marital behavior and female labor market participation. However, regarding other measures such as overall life satisfaction differences between immigrants and natives are almost negligible. In particular, the distinction by country of origin and immigrant generation is crucial when making statements about the degree of integration. Accordingly, most immigrant groups including Turks, who are commonly viewed as the least well integrated, show a tendency towards better integration over time.

1.2.2 Intermarriages and Economic Success

One of the variables used to analyze the degree of integration of immigrants in the first chapter is intermarriage probability. Marriages and marriage like partnerships between immigrants and natives are often viewed as indicator of social proximity and reflect to what extent immigrants intermingle with members of the native society. Therefore these signal the degree of closeness and commitment to the hosting country.

Literature dealing with intermarriages mainly focuses on patterns and determinants of intermarriage, emphasizing the importance of structural factors of the marriage market, the influence of third parties, and, most prominently, the relevance of educational attainment of the immigrant. However, intermarriage's possible impact on economic success, as measured by employment rates, self-employment probability and earnings, is attracting increasing attention. Accordingly, intermarriage might foster economic success of the immigrant due to better knowledge of the local labor market, access to certain networks and enhanced language abilities induced by the native partner. In contrast, intermarriage might result from better education and greater commitment to the hosting country, and alleged positive affects from intermarriage are spurious due to sample selection based on unobserved individual factors.

To disentangle productivity effects from selection issues, previous studies mostly rely on instrumental variable approaches in cross-sectional settings. The analysis in this chapter, though, is based on panel data, which allows the incorporation of individual unobserved factors that influence both economic outcomes and marriage choice. A fixed effects earnings regression accounts for this kind of heterogeneity. Moreover, the proposed earnings equation allows for an immediate impact of intermarriage as well as for long term effects that arise in the course of the partnership. In addition, a specific interaction term captures better returns to labor market experience for those who eventually intermarry.

Empirical results imply that intermarriage is not related to higher earnings once unobserved, time-invariant factors are accounted for. However, being intermarried at some point in time seems to signal better economic integration and greater commitment

to Germany in general.

1.2.3 Relative Labor Supply in Intermarriages

The third chapter of the dissertation addresses the question of how intermarried immigrants and natives differ from those in ethnically homogeneous partnerships with respect to couple's division of labor. Until now, the focus lay predominately on immigrants and their characteristics and behavior. However, the behavior of the native partner and the interplay of both spouses are also relevant as marriage is a two-sided process.

In a short preliminary study, which was published as a DIW Weekly report (Nottmeyer (2010)), intermarried immigrants and natives are compared with respect to more objective criteria such as education, employment status and earnings, as well as to more subjective criteria like political interest, risk attitude, satisfaction in life and, especially, the so-called "big five" personality trait. Those traits are originally used in psychology and sociology but are attracting increasing interest from economists. "Conscientiousness", "openness", "extraversion", "agreeableness", and "neuroticism" (emotional stability) are the five traits that essentially determine individual's basic characteristics and behavior. According to the data, immigrants in intermarriage differ in their self-assessed personality traits from those married to other immigrants, while intermarried natives hardly differ in their answering scheme from those with native spouses. Hence, it can be expected that intermarried immigrants also behave differently in their marriage. As one facet of their differing behavior, intermarried couples might show a different degree of specialization than couples that are either both immigrants or both natives.

Thus, the question of the third chapter is whether intermarried couples provide more equal hours of labor versus immigrant and native couples that may have greater incentives to specialize. Differences in the degree of specialization can thereby stem from two different sources: First, intermarriage might be more prone to positive assortative mating by education, where partners place particular emphasis on similar education levels of the spouse. Second, native partners might have a stronger bargaining position in intermarriage than in marriages with natives, while the bargaining strength of the immigrant partner is comparably weaker than in immigrant marriages. This is the first study to address this particular question. It is embedded in the literature considering differences in the division of household labor, for instance, between married and cohabiting couples.

To measure the extent of specialization, a gender-neutral index is generated that equals one in case of complete specialization - in the sense that only one partner provides any labor market hours while the other partner does not work in the labor market at all - and zero if both spouses work equal hours per weekday in the labor market. This index is normalized between zero and one and assumed to result from an underlying maximization process explained, for example, by collective labor supply models. A two-limit random effects tobit regression is thus used to capture the nature of this index. As robustness check additional information about the final say in financial decisions is used to detect differences in bargaining strength in different marital constellations.

Findings indicate that partnerships between immigrant men and native women are more equal with respect to spouses' labor supply than purely immigrant or native partnerships. This finding remains also after accounting for possible endogeneity by using an ethnicity-gender-ratio to instrument intermarriage. Differences in relative labor supply of those couples might result from strong positive assortative matching by education, hence smaller comparable advantages and lower incentives to specialize. In addition, native women in intermarriage seem to have a stronger bargaining position than immigrant women, which is supported by robustness checks that confirm the assumption that bargaining strength is differently distributed in intermarriage than in other marital unions. Decision processes, at least, regarding financial aspect seem to favor the native partner.

1.3 Concluding Remarks and Policy Implications

What can be learned from findings presented in the first chapter of this dissertation is that statements about the integration ability and willingness of immigrants must take into consideration multiple indicators of integration and respect differences in the behavior of certain immigrant groups due to differences in immigration history. Integration efforts and success over time should thereby be credited. The degree of integration depends on the measure, the country of origin and, especially, the generation of the immigrant. While problems induced by a lack of integration must not be made light of, positive trends should not be dampened or hindered by single-edged, negative interpretations.

In this context, intermarriage is one aspect of social integration, although difficult to promote politically as feelings and sympathy can not be influenced by, for instance, governmental institutions. However, findings from the second chapter imply that positive productivity effects from intermarriage are most likely to be spurious and driven mainly by individual heterogeneity. Yet, better education is among the crucial factors fostering social interaction between immigrants and natives, and thus intermarriage, while also strongly determining economic success. Hence, it is of topmost importance to guarantee equal access to higher education for immigrants in order to foster social interaction and create economic prospects.

Finally, differences in economic behavior, as reflected in different division of labor of intermarried couples, should receive greater attention since those couples provide a basis of a peaceful engagement between people with different cultural roots. More research is needed before completely understanding what drives partner choice for immigrants and natives as well as what makes those couples special. One particular aspect, which is hardly explored in the literature is what determines the intermarriage choice on the native spouse's part. Research focuses predominately on characteristics of the immigrant partner, ignoring the two-sided nature of marital choice.

Another aspect left for future research is determining how to more deeply measure

bargaining strength in intermarriage. In the third chapter only one facet of bargaining power is considered, namely power over financial decisions. However, different measures would be of interest as well. Immigrants from non-EU countries who immigrate to Germany exclusively based on marriage to a German national, face major hurdles before being allowed to marry, and the risk of deportation in case of divorce during the first years of marriage. This induces strong emotional pressure on both partners; possibly shifting bargaining power toward the native partner. Changes in the German law in 2000 might enable researchers to detect such a shift and to measure its impact on individual's economic behavior.

Chapter 2

Cultural Integration of Immigrants in Germany

2.1 Introduction

Immigration to Germany basically began after the World War II, when substantial inflows of Germans, refugees and expellees from Eastern European territories immigrated to Western Germany. Immigrant labor was needed to rebuild a dilapidated Germany. In the late 1950's, under the auspices of the Federal Labor Institute (FLI) and in cooperation with labor unions and local authorities, German employers actively recruited foreign workers without any quota limits imposed by the government. The German immigration system was, therefore, demand-driven and project-tied. Employers, free from any government quota, determined the number and the origin of the immigrant flow so that their industries would easily absorb them. Germans from East Germany were a big chunk of these laborers, but treaties for recruitment were also signed with Italy in 1955 and Spain and Greece in 1960. While the inflow of East Germans ended with the erection of the Berlin wall in 1961, the demand for workers did not. A massive shortage in labor supply especially in low qualified sectors and an extraordinary fast economic growth made the need for imported labor imperative. Additional treaties for recruitment were signed with Turkey in 1961, Portugal in 1964, and Yugoslavia in 1968.

Immigrants from Italy, Greece, Spain, Turkey, Portugal and Yugoslavia were called "guest workers" implying that their presence in Germany was only of temporary nature and based on "stay-and-return migration" in what was called a "rotation model". These immigrants prompted the transformation of the southern regions, like Bavaria and Baden Württemburg, from mostly agrarian into modernized industrial states. By the late 1960's, upward economic and occupational mobility of native Germans, as well as sluggish demographic growth, contributed to the tremendous inflow of guest workers (500,000 workers annually) with the subsequent German economy dependence on guest workers. It is worth noting that during this era of the "German economic miracle", West Germany had virtually no unemployment. Not only native Germans were faring very

well, but immigrants were faring well also in terms of attachment to employment and wages.

On November 22, 1973, with the oil crisis intensifying a beginning recession in Germany, the German government was forced to change its immigration policy and halt active recruitment by firms, thereby controlling the inflow of alien workers. The 1973 ban excluded immigrants from the European Common Market countries. While this new policy was effective in reducing the number of labor migrants, it backfired and increased the actual size of the foreign population, which increased through family reunification and high fertility rates. Specifically, by 1974 17.3 percent of all births in the Federal Republic of Germany were from guest workers (Mehrlander (1985)), and 65 percent of the total gross immigration, after the 1973 ban, was due to family reunification of guest workers (Velling (1994)). Therefore, the composition of immigrants shifted from young males to women and children who arrived in Germany to join their husbands and fathers, creating a strong second generation of immigrants. The government's efforts to promote return migration did not succeed resulting in an extension of duration of stay in Germany and immigrants turning from guest workers to permanent residents. After the recession "labor migrants" from Turkey, Yugoslavia, Greece, Italy and Spain were the dominant immigrant groups in Germany working in unskilled menial positions, concentrated in very few sectors and under unfavorable work conditions (Kalter and Granato (2007)).

Various geopolitical reasons contributed in a yet changing composition of immigrants to Germany. In the 1980s and early 1990s the immigration inflow was boosted by asylum seekers[1] and "ethnic" Germans coming to Germany in the aftermath of the fall of the Iron Curtain and due to liberalized travel regulations. Immigration of the latter, the so-called *Aussiedler*[2] from Poland, Romania and the former Soviet Union, increased until a new more restrictive law was enforced in 1993. Most recently, labor migrants from Poland, the (former) Czech Republic and other Eastern European States contribute mainly to the immigration inflow to Germany.

By 2000, almost 9 percent of the German population were foreigners (non-German citizens). Despite this long migration history, Germany kept quiet about being an immigration nation. Taking a pioneering stance, the German government introduced the Immigration Act (*Zuwanderungsgesetz*) in 2001, a reduced version of which came into effect on January 1, 2005. The act acknowledges Germany's status as an immigration country and addresses to an increasing degree difficulties accompanied by divergences between natives and immigrants. The question of how to obtain a sufficient degree of economic and social integration is thus one of the pressing topics in the current political debate. Integration as a harmonic coexistence and cooperation between different ethnic groups is fostered in order to mitigate potential conflict while preserving highly precious

[1] mainly due to civil wars in Yugoslavia, conflicts in Kurdish territories of Turkey and northern Iraq. Iranians as well as Vietnamese and Chinese occupied a large percentage of asylum seekers.

[2] Immigrants who proved that they were of German decent were by law German and granted German citizenship almost immediately after arrival.

synergies by the mix of cultures.

One of the major concerns of researchers and politicians is how to measure the degree of integration of immigrants. In contrast to economic integration, which is comparatively easy to gauge through widely accepted indicators such as labor market participation, wage growth and immigrant earnings convergence to those of natives, cultural and social integration is more difficult to define and quantify. The role of ethnic identity surfaces as important determinant of socio-economic integration. A major difficulty that studies try to tackle is potential endogeneity of the processes of economic performance and social and cultural interactions. Akerlof and Kranton (2000) offer a novel theoretical framework of the utility maximization function by incorporating an individual's self-identification as a powerful motivation for behavior. They imply that if individuals achieve their "ideal self" and are comfortable with their identity then their utility increases, otherwise, their utility decreases. Bénabou and Tirole (2007) model a broad class of beliefs of individuals including their identity, which people value and invest in. They also study endogenously arising self-serving beliefs linked to pride, dignity or wishful thinking. These emerging important contributions can also explain labor market integration and wage differentials. Accordingly, while some individuals have the drive and human capital to integrate and succeed in the labor market they may not reach their goal because of behavioral norms and unfulfilled or confused self-identity images.

Following a burgeoning literature on the role of ethnic identity, Constant, Gataullina and Zimmermann created a measurable index of ethnic identity. They were the first to introduce the multidimensional concept of ethnic identity in economics by borrowing literature from social psychology and other social sciences. Following the original work by Berry et al. (1989), they developed a framework of ethnic identity and tested it empirically with German data.[3] Specifically, they created a two-dimensional quantitative index - the "ethnosizer" - that measures the degree of the ethnic identity of immigrants. Ethnic identity is how individuals perceive themselves within an environment as they categorize and compare themselves to others of the same or different ethnicity. It is the closeness or distance immigrants feel from their own ethnicity or from other ethnicities, as they try to fit into the host society; it can differ among migrants of the same origin, or be comparable among migrants of different ethnic backgrounds. In stark distinction to ethnicity, ethnic identity attempts to measure how people perceive themselves rather than their ancestors. The authors allow for the individuality, personality, distinctiveness and character of a person in an ethnic group to prevail, to differ from one person to another, and to alter and evolve in different directions. They define ethnic identity to be the balance between commitment to, affinity to, or self-identification with the culture, norms and society of origin and commitment to or self-identification with the host culture

[3]Constant and Zimmermann (2009a) and (2009b); Constantet al. (2006); Zimmermann, Zimmermann and Constant (2007); Zimmermann (2007a) and (2007b); Zimmermannet al. (2008); Zimmermann, Constant and Gataullina (2009); Constant, Zimmermann, and Zimmermann (2009d); Constant, Kahanec and Zimmermann (2009b); Constant, Roberts and Zimmermann (2009c); Constant and Zimmermann (2008).

and society.

The ethnosizer contains four states or regimes of ethnic identity differentiated by the strength of cultural and social commitments to the home or host country: "assimilation, a pronounced identification with the host culture and society, coupled with a firm conformity to the norms, values and codes of conduct, and a weak identification with the ancestry; "integration", an achieved amalgam of both dedication to and identification with the origin and commitment and conformity to the host society. This is the case of a prefect bi-cultural state; "marginalization", a strong detachment from either the dominant culture or the culture of origin; and "separation", an exclusive commitment to the culture of origin even after years of emigration, paired with weak involvement in the host culture and country realities. The ethnosizer is composed of five essential elements of the ethnic identity: language ability, ethnic self-identification, visible cultural elements, ethnic interaction and future citizenship and locational plans.

This chapter focuses on the cultural integration of immigrants in Germany, a powerful player in the EU and the Western world with the largest immigrant population in the EU. The aim of this chapter is to depict the current integration status of immigrants in Germany by comparing educational gaps between partners, marriage and intermarriage rates, age at first marriage, age gaps between spouses, the number of children per woman, age at first child birth; political interest, risk attitudes, overall life satisfaction and female labor force participation. Additionally, immigrant groups are compared with respect to self-reported language abilities, ethnic self-identification and their religious believes. Thus, several determinants combined with the ethnosizer are also used in this study to determine the current degree of cultural integration. All indicators are defined as deviations from natives and differentiated by ethnic origin and immigrant generation. Empirical findings are based on panel data from the German Socio-Economic Panel (SOEP) allowing for statements about development over time.

The structure of this chapter is as follows: Data and definitions as well as remarks about the empirical methods used in this study are introduced and discussed in the next sections. Descriptive statistics and corresponding estimation results are presented and interpreted afterwards. The paper concludes with a summary of the findings from the analysis. Graphs are included in the Appendix at the very end of the dissertation.

2.2 Data Source and Definitions

The analysis of the cultural integration of immigrants in Germany is based on data from the German Socio Economic Panel (SOEP). The SOEP is a nationally representative longitudinal study that in 2007 contained information about roughly 20,000 individuals and 11,000 private households in Germany.[4] This unique data source provides a wealth of information about various social, cultural, political and economic aspects of individuals living in Germany and allows the testing of corresponding social and economic theories.

[4]For further information about the survey, see: Wagner, Frick, Schupp (2007).

Due to its panel design and an over-sampling of immigrants it opens unique analytical possibilities especially with regards to integration over time based on the behavior of different immigrant generations. The descriptive statistics presented refer to the period from 2005 to 2007, or the most recent year for which information is available. The regressions are also estimated on data from the same time period in order to exploit the richness of the data.

A well acknowledged problem related to immigrant populations and international comparisons is the definition of who is an immigrant. Depending mainly on laws about who is a native and who is an immigrant, different countries have different definitions. For example, in the U.S., the prevailing law is the ius soli that makes all individuals born in the U.S. American citizens by default. Until recently, Germany was recognizing the ius sanguinis or bloodlines as the only law for being a German citizen. With the new developments, Germany now allows under certain exceptions the law of soil to determine citizenship as well. Accordingly, we define an immigrant to be a person either (a) not born in Germany or (b) a person who is born in Germany but either is not a German citizen or whose mother or father is not German born or has a non-German nationality. In those cases where both parents are not born in Germany but also not born in the same country, the country of origin of the mother outweighs the country of origin of the father assuming that cultural habits and norms are more likely to be transferred from the mother to the child than from the father.[5]

Distinctions between first and second generations of immigrants are based on the country of birth. By definition, individuals who are not born in Germany belong to the first generation of immigrants regardless of the age at which they immigrated to Germany. Individuals who were born in Germany but fullfil at least one of the criteria mentioned above[6] are considered second generation immigrants. It is important to mention that second or even third generation immigrants in Germany may not be German citizens. More emphasis is hence placed on the country of origin than on nationality. Nationality may change over time and be related to a feeling of belonging and commitment to a specific country. Similar to ethnic identity[7], nationality may be a dynamic feature expressing a certain degree of integration, assimilation, segregation or marginalization. In contrast, country of origin or ethnicity remains unchanged even after naturalization. Ethnicity therefore reflects cultural influences during childhood and throughout a person's adult life. Only in case there is no information available about the country of birth of the immigrant or the parents, nationality is taken as the single criterion to determine immigrant status.

[5]This definition of immigrants defines *Aussiedler* as belonging to the group of immigrants. *Aussiedler* are not born in Germany but eligible for German citizenship immediately after immigration due to their German bloodlines. *Aussiedler* are mostly born and raised in Eastern European countries, and will be treated as part of the immigrant population and do not take on an exceptional role in this analysis.

[6]hold other than German citizenship, or one of the parents is not German born or has a foreign nationality.

[7]see e.g. Phinney et al. (2001); Phinney (1992); Constant, Gataullina and Zimmermann (2009a).

2.3 Immigrant Population in Germany

According to the definition of immigrants given above, SOEP data show that 12.18 percent of Germany's population have an immigration background either personally or induced by their parents (Table 2.1). Since the SOEP over-samples the foreign population in Germany there may be discrepancies between SOEP statistics and official statistics by the German Statistical Office. Most recently, the German Statistical Office did not only report immigrant status defined by nationality, but introduced a new classification, which is supposed to account for migration background. Accordingly, individuals residing in Germany either belong to the group of persons with or without migration background. Previously, individuals holding other than German citizenship were counted as *Ausländer* (foreigners) ignoring country of birth and family background.

Depending on which definition is used, official data state that 8.8 percent of Germany's population is of foreign nationality in contrast to almost 19 percent of people with a migration background. Among these persons with migration background, roughly 68 percent belong to the group of people with their own migration experience (comparable to the first generation immigrants) and 32 percent to the group of persons without migration experience (second or later immigrant generation).[8] Also in the SOEP data, the majority of the immigrants observed, namely 76.82 percent, are classified as first generation whereas 23.18 percent are second generation immigrants (Table 2.2). This bias from official data might be related to the fact that the SOEP contains information mostly about individuals who are older than 16 years of age. This restriction possibly underestimates the share of younger immigrants on the total population and thus the share of second generation immigrants in the sample. In total, the data used within this study include 11,078 immigrants and 79,863 Germans.[9]

Table 2.1: Immigrant Share on Total Population

	Freq.	**Percent**
German	79,863	87.82
Immigrant	11,078	12.18
Total	90,941	100

Source: German Socio-Economic Panel (SOEP) unweighted sample, 2005-2007

Furthermore, immigrants are distinguished by country of origin. We concentrate on immigrants coming from one of the five sending countries during the guest worker period, namely Turkey, the former Yugoslavia, Spain, Greece and Italy.[10] Additionally, we include Polish and Russian immigrants since nowadays they are increasingly important ethnic groups in Germany. Table 2.3 shows the distribution of these ethnic groups living in Germany between 2005 and 2007. Accordingly, Turkish immigrants represent 21.13

[8] see Statistisches Bundesamt, 2009.

[9] All numbers presented are not weighted.

[10] The category "Former Yugoslavia" includes immigrants from Croatia, Bosnia and Herzegovina, Macedonia, Slovenia and Kosovo-Albania.

percent of the immigrant population and are therefore the single biggest ethnic group present in Germany. Even though Spanish immigrants made up a major part of the guest worker population coming to Germany during the 1950s and 1960s, immigrants who originate from Spain are an almost negligible part of the immigrant community these days and represent only 2.06 percent of the immigrant population. Hence, results regarding this group need to be treated with caution. Findings reported in the tables might not be representative of Spanish immigrants. They are stated, nonetheless, mostly for reasons of completeness. The ethnic group labeled "Other" refers to the immigrant population in Germany that originates from other countries than those explicitly mentioned above.

Table 2.2: Generational Distribution

Ethnic Origin	**1.Gen**	**2.Gen**
Other	81.27	18.73
Turkey	72.70	27.30
Ex-Yugoslavia	75.85	24.15
Greece	63.25	36.75
Italy	57.67	42.33
Spain	61.40	38.60
Poland	86.66	13.34
Russia	94.93	5.07
Total	76.82	23.18

Source: German Socio-Economic Panel (SOEP) unweighted sample, 2005-2007

Considering the generational distribution of immigrants, Table 2.2 shows that within each immigrant group the majority of individuals belong to the first generation. This holds especially true for immigrants from Poland and Russia who represent the most recent trends of immigration inflows to Germany. The share of first generation immigrants from these countries lies at 86.66 percent for Poles and even 94.93 percent for Russians. Thus, statements regarding differences between first and second generation of these two ethnic groups must be treated carefully due to the small numbers of observations in the second generation. As a consequence, regressions that account for differences in behavior by generation occasionally do not include Russian second generation immigrants.

Table 2.3: Immigrant Groups

Ethnic Origin	**Freq.**	**Percent**
Other	3,854	34.79
Turkey	2,341	21.13
Ex-Yugoslavia	1,263	11.4
Greece	517	4.67
Italy	1,049	9.47
Spain	228	2.06
Poland	1,057	9.54
Russia	769	6.94
Total	11,078	100

Source: German Socio-Economic Panel (SOEP) unweighted sample, 2005-2007

Comparing the ethnic distribution by generation, Table 2.4 shows that the share of

Turkish, Italian, Greek and Spanish immigrants, is greater in the second than in the first generation. First generation Russians (8.58 percent) and Poles (10.76 percent) are also quite dominant ethnic groups, whereas the share of second generation Poles and Russians is relatively small. The share of immigrants from the countries of former Yugoslavia is almost identical in both generations.[11]

Table 2.4: Ethnic Distribution by Generation

Ethnic Origin	**1.Gen**	**2.Gen**
Other	36.80	28.12
Turkey	20.00	24.88
Ex-Yugoslavia	11.26	11.88
Greece	3.84	7.40
Italy	7.11	17.29
Spain	1.65	3.43
Poland	10.76	5.49
Russia	8.58	1.52

Source: German Socio-Economic Panel (SOEP) unweighted sample, 2005-2007

2.4 Integration Indicators

2.4.1 Empirical Model

We now turn to the cultural indicators that can provide insight to the integration process of immigrants in Germany. The estimation methods used to measure the effect of ethnic groups and generations on selected indicators are based on simple pooled OLS and Logit techniques run on data during the period 2005 to 2007.[12] Explanatory variables used in each model are dichotomous variables accounting for membership to one of the ethnic groups interacted with a dummy variable capturing belonging to the first or second immigrant generation. Additionally, three different birth cohorts are distinguished and included in the regression. The first cohort depicts immigrants born before 1942 who are older than 65 in 2007. The second birth group includes immigrants born between 1942 and 1967. In 2007 they are thus between 40 and 65. This group is set to be the base category in all estimations. Consequently, the last age group contains immigrants who are younger than 40 in 2007. The regression model includes years of schooling as an additional explanatory variable.[13] Native Germans are the ethnic reference group. Finally, each regression is run separately for men and women to account for possible gender peculiarities. The regression results are presented as tables within the text, figures visualizing these results are attached in the Appendix on pages 106*ff.*

[11]The ethnic distribution by generation does not differ much by gender. Corresponding data disaggregated by sex are not shown but can be added on request.

[12]In case there is no information available for 2005 to 2007, the most recent year is considered instead.

[13]Except in the regression on the individual gender gap in education.

2.4.2 Education

Table 2.5 shows the average years of schooling for each ethnic group and additionally differentiated by generation and gender. Accordingly, both male and female second generation immigrants tend to have higher education than first generation immigrants.[14] The increase in education between generations is especially big (almost two additional years of schooling) for Greek immigrants. But still, even for Greek immigrants, average years of education are lower for immigrants regardless of gender compared to natives and this holds for the second generation as well. Turkish immigrants in particular have very low education levels, usually less than high school. That is, Turkish women have 9.29 and men 9.93 years of schooling. In contrast, native women have on average 12.11 years of education and men 12.55 years. In general, immigrants from one of the guest worker countries have less education than more recent immigrant groups such as Poles or Russians indicating different patterns in the educational composition of more recent migration inflows.

Table 2.5: Average Years of Schooling

	Women		**Men**	
Ethnic Origin	**1.Gen**	**2.Gen**	**1.Gen**	**2.Gen**
Other	11.83	11.93	12.22	12.36
Germany	12.11		12.55	
Turkey	9.29	11.24	9.93	10.79
Ex-Yugoslavia	9.92	11.53	10.67	11.01
Greece	9.56	11.99	10.50	12.35
Italy	9.46	11.37	10.02	11.53
Spain	10.27	10.23	9.97	13.15
Poland	11.78	13.31	11.91	10.98
Russia	11.04	no obs.	10.85	13.07

Source: German Socio-Economic Panel (SOEP) unweighted sample, 2005-2007

Gender comparisons further show that in almost every ethnic group first generation men have more education than first generation women. Interestingly, the opposite is true for the second generation at least for Turks, ex-Yugoslavs and Poles. Second generation women from these ethnic groups have more years of schooling than their second generation male counterparts. For natives, gender differences in education can also be observed showing higher levels of education for German men than for German women.

Considering, whether differences in education are not only present for ethnic groups in general but also between spouses and thus on an individual level, Table 2.6 reports the average gap in education between partners differentiated by ethnic group and immigrant generation. Here we consider only individuals who report living with a partner in the same household. The question is whether educational diversity is more common among immigrants than among natives.

To that end, we construct a variable of the difference of *"own years of education"*

[14] With exception of Poles and Spaniards, but as mentioned before, these numbers might not be representative due to small sample sizes.

minus *"years of education of the partner"*. A negative difference, as is usually the case for most first generation women, indicates that on average this gender group has less education than their partner. Consequently, for first generation immigrant men the education differences are mainly positive indicating more education for the husband compared to his wife.[15] Accordingly, first generation Turkish men have on average 0.31 more years of education than their partner; Turkish women who also belong to the first generation have an educational deficit of more than 0.63 years. In contrast, Turkish women who are born in Germany and hence part of the second generation, have even more education than their partners (0.55 years). For their second generation male counterparts the partner difference decreases compared to the parental generation to merely 0.13 more years of education but still remains positive.[16]

Table 2.6: Individual Gap in Education between Spouses

	Women		**Men**	
Ethnic Origin	**1.Gen**	**2.Gen**	**1.Gen**	**2.Gen**
Other	-0.35	-0.39	0.45	0.69
Germany	-0.48		0.48	
Turkey	-0.63	0.55	0.31	0.13
Ex-Yugoslavia	-0.90	1.36	0.76	-1.22
Greece	-0.76	0.86	0.38	0.30
Italy	-0.73	0.25	0.20	0.78
Spain	-0.98	0.00	-0.97	-1.77
Poland	0.03	-0.18	0.05	-2.70
Russia	0.42	no obs.	-0.16	3.00

Source: German Socio-Economic Panel (SOEP) unweighted sample, 2005-2007

Table 2.7 shows estimation outcomes for the individual differences between spouses on the explanatory variables mentioned above[17] for men and women separately. Accordingly, the average difference in the education of native women who were born between 1942 and 1965 is negative indicating that women of this generation have less schooling than their partner. The difference decreases for younger birth cohorts ("cohort 3") and increases for older generations ("cohort 1"). For Turkish women who were not born in Germany ("Turkey (1^{st} Gen.)") the difference is greater and significantly different from native women indicating greater disparities between husband and wife in this ethnic group. In contrast, for second generation Turkish women the difference becomes positive implying better schooling levels for them compared to their partner. Similar patterns hold for female immigrants from ex-Yugoslavia. Polish and Russian women are an exception in that they show better educational skills of the wives compared to their

[15]The numbers presented in Table 2.6 need not be identically reverse due to mixed marriages and different ethnic classifications for men and women.

[16]Please note that there is no information available on the gender gap in education of second generation Russian immigrants. Please also keep in mind that results for Spanish immigrants might be misleading due to small observation numbers.

[17]Ethnic group dummies interacted with generation dummies and dichotomous variables accounting for three different birth cohorts, born between 1942 and 1965 being the reference category.

husbands for the first generation already; at least for immigrants born after 1942.[18]

Table 2.7: Individual Gap in Education between Spouses

Ethnic Origin	Women	Men
Other (1st Gen.)	0.0725	0.0001
	(0.0825)	(0.0888)
Other (2nd Gen.)	-0.1557	0.4518
	(0.2950)	(0.2648)
Turkey (1st Gen.)	-0.3358**	-0.0068
	(0.1074)	(0.1026)
Turkey (2nd Gen.)	0.6130*	0.1766
	(0.2616)	(0.2668)
Ex-Yugoslavia (1st Gen.)	-0.4806**	0.3445*
	(0.1552)	(0.1555)
Ex-Yugoslavia (2nd Gen.)	1.5038***	-1.2416**
	(0.3564)	(0.4363)
Greece (1st Gen.)	-0.2315	-0.1730
	(0.2396)	(0.2293)
Greece (2nd Gen.)	0.9074	0.2181
	(0.4662)	(0.5255)
Italy (1st Gen.)	-0.2621	-0.2156
	(0.2080)	(0.1689)
Italy (2nd Gen.)	0.3495	0.6875
	(0.2957)	(0.3601)
Spain (1st Gen.)	-0.4252	-1.3976***
	(0.4828)	(0.3758)
Spain (2nd Gen.)	0.2144	-1.8926*
	(0.9300)	(0.7424)
Poland (1st Gen.)	0.4233**	-0.3851*
	(0.1467)	(0.1640)
Poland (2nd Gen.)	-0.1262	-2.6499*
	(0.5976)	(1.1012)
Russia (1st Gen.)	0.8640***	-0.5805**
	(0.1712)	(0.1790)
Russia (2nd Gen.)		2.5827
		(1.4209)
Cohort 1	-0.6578***	0.5761***
	(0.0453)	(0.0415)
Cohort 3	0.3829***	-0.4674***
	(0.0419)	(0.0453)
Constant	-0.4332***	0.4173***
	(0.0241)	(0.0243)
N	20459	20461

Source: SOEP, 2005-2007

OLS Regressions; Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

For men the picture is slightly different. As expected, German men between 40 and 65 have on average more years of schooling than their partners. While this educational gap is even bigger for older birth cohorts, it decreases and reverses for the youngest age group. Turkish, Greek and Italian men do not significantly differ from German men when it comes to education differences within the partnership, whereas for the remaining immigrant groups the difference in education decreases for both immigrant generations. First generation ex-Yugoslav as well as second generation Russian men are an exception.

[18]There is no information available for second generation Russian women.

The decrease in the educational gap is even bigger for second generation individuals indicating more equality among partners in later immigrant generations.

Summing up, the educational advantage of men over women is present and even increases for first generation immigrants compared to Germans. However, it vanishes or becomes negative for second generation individuals. These findings indicate that women in the second generation have on average better education in terms of years of schooling compared to their partners than women in their parental generation and hence converge towards more equal education levels within the partnership.

2.4.3 Marital Behavior

Table 2.8 shows that most first generation immigrants are married and living in the same household as the partner whereas most second generation immigrants are single. This is not so much surprising and possibly due to the different age structures in the two generations as can be seen from Table 2.9. On average, the first generation is slightly older than native Germans whereas the second generation is markedly younger.

Table 2.8: Marital Behavior

	Women			
	1. Gen		**2. Gen**	
Ethnic Origin	**Single**	**Married**	**Single**	**Married**
Other	39.83	60.17	73.62	26.38
Turkey	24.39	75.61	65.08	34.92
Ex-Yugoslavia	36.87	63.13	63.41	36.59
Greece	28.30	71.70	65.31	34.69
Italy	38.55	61.45	63.95	36.05
Spain	51.72	48.28	74.36	25.64
Poland	40.49	59.51	74.03	25.97
Russia	39.02	60.98	100.00	0.00
Germany	51.68	48.32		

	Men			
	1. Gen		**2. Gen**	
Ethnic Origin	**Single**	**Married**	**Single**	**Married**
Other	37.74	62.26	71.62	28.38
Turkey	24.26	75.74	67.59	32.41
Ex-Yugoslavia	36.60	63.40	75.18	24.82
Greece	23.81	76.19	71.74	28.26
Italy	27.99	72.01	72.99	27.01
Spain	40.24	59.76	57.14	42.86
Poland	36.36	63.64	92.19	7.81
Russia	39.65	60.35	86.36	13.64
Germany	50.56	49.44		

Source: German Socio-Economic Panel (SOEP)
unweighted sample, 2005-2007

Turning to the marital behavior of the first generation we see that it differs noticeably from that of the native population. Especially Turkish immigrants show very high marriage rates. For instance, among first generation Turkish men the share of those living with a partner is 75.74 percent compared to a marriage rate of only 49.44 percent for German men. First generation women exhibit a similar marital behavior to men of

the same ethnic group with marriages rates mostly at or above 60 percent. In contrast, second generation women have marriage rates only around 25 to 35 percent. They are noticeably higher (between 34 and 37 percent) for immigrants from the former guest worker countries. For second generation men marriage rates are somewhat smaller especially for Poles and Russians. Only 32.41 percent of Turkish men have similar marriage rates to their female counterparts. For natives, there are hardly any differences in the marital behavior of men and women. The share of married Germans is almost 50 percent indicating a higher tendency of natives towards singledom compared to immigrants.

Table 2.9: Average Age

	Women		**Men**	
Ethnic Origin	**1.Gen**	**2.Gen**	**1.Gen**	**2.Gen**
Other	45.47	28.20	46.51	29.77
Germany	41.44		40.06	
Turkey	44.56	25.08	45.49	24.55
Ex-Yugoslavia	48.94	28.85	48.81	27.15
Greece	54.99	28.44	54.23	28.79
Italy	52.27	28.82	51.79	28.12
Spain	53.48	26.97	52.13	30.35
Poland	43.69	23.26	46.50	20.58
Russia	46.22	19.18	44.57	24.00

Source: German Socio-Economic Panel (SOEP) unweighted sample, 2005-2007

These descriptive findings are confirmed in the estimation results presented in Table 2.10. Regardless of their gender, first generation immigrants tend to be more likely to be married than Germans whereas second generation immigrants seem to be less likely to be living with a partner. Polish women and Spanish men are the only groups whose marital behavior does not differ from that of natives irrespective of generation. And also second generation Turks show no significant deviations from Germans with respect to marital behavior.

2.4.4 Intermarriage

Analyzing differences in marital behavior even further, Table 2.11 shows that the type of marriage differs noticeably by immigrant generation and ethnic group. Intermarriage in this course is defined as the living partnership of an immigrant with a native German. Consequently, a marriage between for instance a Greek and a Turkish immigrant is not considered intermarriage. This restrictive definition is based on the assumption that intermarriage is supposed to indicate integration to the German society. An immigrant who is living with a native partner possibly signals greater commitment to Germany than an immigrant who marries another immigrant or even marries within his or her own ethnic community.[19]

[19]For further research on intermarriage see e.g. Kalmijn (1998); Lievens (1998) and (1999); Kantarevic (2004); Meng and Gregory (2005); Meng and Meurs (2006); Gonzáles-Ferrer (2006); Chiswick and Houseworth (2008); Furtado and Theodoropoulos (2010); Furtado (2006).

Table 2.10: Marriage Probability

	Women	**Men**
Other (1st Gen.) (d)	0.0552***	0.0831***
	(0.0119)	(0.0107)
Other (2nd Gen.) (d)	-0.2490***	-0.1827***
	(0.0348)	(0.0331)
Turkey (1st Gen.) (d)	0.2047***	0.1888***
	(0.0106)	(0.0063)
Turkey (2nd Gen.) (d)	-0.0375	0.0385
	(0.0341)	(0.0229)
Ex-Yugoslavia (1st Gen.) (d)	0.0643**	0.0893***
	(0.0217)	(0.0173)
Ex-Yugoslavia (2nd Gen.) (d)	-0.1517***	-0.1282*
	(0.0453)	(0.0503)
Greece (1st Gen.) (d)	0.1575***	0.0993***
	(0.0273)	(0.0281)
Greece (2nd Gen.) (d)	-0.1987**	-0.1728**
	(0.0617)	(0.0627)
Italy (1st Gen.) (d)	0.0270	0.1268***
	(0.0326)	(0.0168)
Italy (2nd Gen.) (d)	-0.1158**	-0.1082**
	(0.0391)	(0.0409)
Spain (1st Gen.) (d)	-0.1850*	-0.0388
	(0.0746)	(0.0551)
Spain (2nd Gen.) (d)	-0.1515	0.0286
	(0.1132)	(0.0586)
Poland (1st Gen.) (d)	0.0348	0.0559*
	(0.0222)	(0.0217)
Poland (2nd Gen.) (d)	-0.0733	-0.3785**
	(0.0761)	(0.1168)
Russia (1st Gen.) (d)	0.0745**	0.0599**
	(0.0233)	(0.0213)
Russia (2nd Gen.) (d)		-0.2500
		(0.2119)
Cohort 1 (d)	-0.2617***	0.0069
	(0.0076)	(0.0072)
Cohort 3 (d)	-0.2223***	-0.3162***
	(0.0068)	(0.0067)
Years of Schooling	0.0089***	0.0149***
	(0.0011)	(0.0010)
N	31839	29018

Source: SOEP, 2005-2007

Logit Regressions; Marginal effects; Standard errors in parentheses

(d) for discrete change of dummy variable from 0 to 1

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Among those who are married, intermarriage rates are especially low for first generation Turks ranging between 1.94 percent for first generation women and 5.79 percent for men. In contrast, Italian men show comparably high intermarriage rates of 17.28 to 27.42 percent already in the first generation possibly indicating better integration of Italians compared to Turks. However, one should note that low intermarriage rates need not automatically indicate low integration ability but is highly related to the availability of a partner within the own ethnic group. Thus, immigrants who belong to a dominant immigrant group, as do Turks, might simply face a bigger market of potential partners with the same ethnic background, which decreases the probability to intermarry. This argument is supported by the intermarriage rates of Germans - as the biggest ethnic group. German men only show intermarriage rates of 4.49 percent, that of German women are even lower (3.89 percent). Therefore, it is important to also look at differences by generation and thus behavior over time.

Second generation immigrants who were born in Germany and thus had the opportunity to socialize with natives all their lives, are expected to be more likely to intermarry than immigrants who migrated to Germany possibly already married to another immigrant. This assumption is actually supported by empirical findings for most immigrant groups. Only second generation Greeks and Spaniards show lower intermarriage rates compared to the parental generation. For all remaining ethnic groups, second generation immigrants are more likely to be married to a native than immigrants from their parental generation indicating greater mixing with the native population of the younger generations. Thereby, the increase of intermarriage rates between generations is especially big for Turkish men. In contrast, second generation Greek women are as likely to intermarry as those in the first generation.

Table 2.12 shows estimation results from logistic regressions on the probability to intermarry. When comparing martial behavior by ethnic group and generation with that of natives, immigrant men show a higher probability to intermarry than Germans. With the exception of Turkish and Greek women of either generation, this also holds for immigrant women. The likelihood to intermarry is in general bigger for second generation immigrants than for the first generation. This suggests that immigrants born in the host country show more ability to integrate in the marriage market than members of their parental generation. The only exception is Turkish women who behave just like Germans regardless of the generation.

2.4.5 Age at First Marriage

There are not only differences by immigrant group regarding partner choice but also with respect to age at first marriage. Table 2.13 reports the share of people who are older than 25 but were first married before the age of 25. Our results show that first generation immigrants are more likely to be married before the age of 25 regardless of gender than individuals of later generations. Marriage rates at age 25 for that group are at or above 70 percent for most immigrant groups and even higher for Turks.

Table 2.11: Intermarriage Rates

			Women	
Ethnic Origin		**Intermarriage**	**Intra-ethnic**	**no Class.**
Other	*1.Gen*	45.39	51.41	3.20
	2.Gen	80.00	12.22	7.78
Turkey	*1.Gen*	1.94	97.57	0.49
	2.Gen	3.43	95.47	1.10
Ex-Yugoslavia	*1.Gen*	14.01	81.85	4.14
	2.Gen	33.90	59.32	6.78
Greece	*1.Gen*	6.14	90.35	3.51
	2.Gen	6.06	84.85	9.09
Italy	*1.Gen*	17.28	79.63	3.09
	2.Gen	33.72	61.63	4.65
Spain	*1.Gen*	51.85	48.15	0.00
	2.Gen	36.36	36.36	27.27
Poland	*1.Gen*	30.31	66.56	3.13
	2.Gen	90.00	10.00	0.00
Russia	*1.Gen*	15.70	82.64	1.65
	2.Gen	15.70	82.64	1.65
Germany		3.89	91.59	4.52

			Men	
Ethnic Origin		**Intermarriage**	**Intra-ethnic**	**no Class.**
Other	*1.Gen*	37.89	59.78	2.33
	2.Gen	74.77	16.82	8.41
Turkey	*1.Gen*	5.79	93.92	0.30
	2.Gen	16.04	74.53	9.43
Ex-Yugoslavia	*1.Gen*	13.44	85.90	0.66
	2.Gen	31.43	68.57	0.00
Greece	*1.Gen*	15.27	80.92	3.82
	2.Gen	19.23	69.23	11.54
Italy	*1.Gen*	27.42	71.77	0.81
	2.Gen	66.67	31.58	1.75
Spain	*1.Gen*	63.27	34.69	2.04
	2.Gen	72.73	0.00	27.27
Poland	*1.Gen*	21.03	77.38	1.59
	2.Gen	100.00	0.00	0.00
Russia	*1.Gen*	3.29	96.24	0.47
	2.Gen	100.00	0.00	0.00
Germany		4.49	92.95	2.56

Source: German Socio-Economic Panel (SOEP)
unweighted sample, 2005-2007, only persons who report a partner

Table 2.12: Intermarriage Probability

Ethnic Origin	**Women**	**Men**
Other (1st Gen.) (d)	0.3285***	0.3024***
	(0.0138)	(0.0153)
Other (2nd Gen.) (d)	0.3154***	0.3195***
	(0.0341)	(0.0327)
Turkey (1st Gen.) (d)	-0.0029	0.0385**
	(0.0084)	(0.0123)
Turkey (2nd Gen.) (d)	0.0152	0.0995**
	(0.0189)	(0.0319)
Ex-Yugoslavia (1st Gen.) (d)	0.1199***	0.0857***
	(0.0212)	(0.0208)
Ex-Yugoslavia (2nd Gen.) (d)	0.1756***	0.1316**
	(0.0409)	(0.0460)
Greece (1st Gen.) (d)	0.0476	0.1151***
	(0.0287)	0.1151***
Greece (2nd Gen.) (d)	0.0042	0.0614
	(0.0252)	(0.0424)
Italy (1st Gen.) (d)	0.1465***	0.2774***
	(0.0319)	(0.0316)
Italy (2nd Gen.) (d)	0.1971***	0.3182***
	(0.0371)	(0.0460)
Spain (1st Gen.) (d)	0.3356***	0.5140***
	(0.0747)	(0.0618)
Spain (2nd Gen.) (d)	0.2334*	0.4839***
	(0.1094)	(0.0883)
Poland (1st Gen.) (d)	0.2251***	0.1404***
	(0.0230)	(0.0243)
Poland (2nd Gen.) (d)	0.4929***	0.1893*
	(0.0833)	(0.0862)
Russia (1st Gen.) (d)	0.1174***	-0.0024
	(0.0230)	(0.0138)
Russia (2nd Gen.) (d)		0.4410*
		(0.1929)
Cohort 1 (d)	-0.0105***	-0.0091***
	(0.0022)	(0.0025)
Cohort 3 (d)	-0.0045*	-0.0118***
	(0.0019)	(0.0023)
Years of Schooling	0.0026***	0.0028***
	(0.0003)	(0.0004)
N	31839	29018

Source: SOEP, 2005-2007, only persons who report a partner
Logit Regressions; Marginal effects; Standard errors in parentheses
(d) for discrete change of dummy variable from 0 to 1
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Thus, almost 89 percent of first generation Turkish women were married before the age of 25. This sharply contrasts to less than 57 percent among native women. In general, the second generation shows lower shares of individuals who marry prior to their 25^{th} birthday and a higher tendency towards marriage at later ages. The exception here are Spanish and Italian immigrants.[20]

Compared to natives, estimates presented in Table 2.14 and the corresponding Figures show that for women there is no statistically significant difference in the probability to be married before the age of 25 between Germans and second generation immigrants; Turkish women being an exception. In contrast, first generation immigrants seem to be more likely to be married young compared to natives. We find positive and significant effects for Turkish, Greek, Polish and Russian women as well as for men from Turkey, the former Yugoslavia, Greece and Poland. While this confirms the different marriage behavior of first generation immigrants, there is no difference in marriage behavior between Germans and the second generation.

2.4.6 Age Gap between Spouses

We now turn our attention to age disparities between partners as partner constellations might be different also with respect to age of the spouses. Immigrants living in a partnership where age differences between partners are about the same as for Germans might reflect greater adaption to German norms and marital habits and thus more social integration. Table 2.15, shows that the age gap between spouses differs moderately by generation and ethnic origin. For Germans, the average age gap between partners is about 2.7 years. For most first generation immigrants from the guest worker countries the difference is slightly bigger with a maximum average difference of 4 years for Greeks. For Poles and Russians the marital age difference is mainly smaller than among natives. For second generation immigrants the difference between partners is smaller except among Italians, Spanish, and Polish women.

Controlling for educational levels and birth cohorts, the estimation coefficients presented in Table 2.16 indicate that among first generation Italian and Greek women the difference in the spouse's age widens, whereas it decreases for Spanish, Polish and Russian women. This is partly confirmed by findings for men. Here, the difference increases for first generation Turkish, ex-Yugoslavian, Greek and Italian men but diminishes for first generation Russians. There is hardly any difference between spousal age gaps of natives and second generation individuals, second generation Turkish women being an exception.

2.4.7 Number of Children

In addition, we find that differences exist in the family structure, namely with respect to the number of children per woman. These differences emerge not only between natives

[20] Please note that there is no information available about the marriage behavior of second generation Polish immigrants.

Table 2.13: Married before the Age of 25

		Share of Women	
Ethnic Origin		**not married before 25**	**married before 25**
Other	*1.Gen*	37.47	62.53
	2.Gen	58.79	41.21
Turkey	*1.Gen*	11.78	88.22
	2.Gen	30.61	69.39
Ex-Yugoslavia	*1.Gen*	29.81	70.19
	2.Gen	63.30	36.70
Greece	*1.Gen*	23.27	76.73
	2.Gen	63.49	36.51
Italy	*1.Gen*	24.81	75.19
	2.Gen	51.80	48.20
Spain	*1.Gen*	46.55	53.45
	2.Gen	58.82	41.18
Poland	*1.Gen*	28.82	71.18
	2.Gen	68.97	31.03
Russia	*1.Gen*	24.62	75.38
	2.Gen	24.62	75.38
Germany		43.22	56.78
		Share of Men	
Ethnic Origin		**not married before 25**	**married before 25**
Other	*1.Gen*	55.45	44.55
	2.Gen	89.33	10.67
Turkey	*1.Gen*	28.76	71.24
	2.Gen	54.88	45.12
Ex-Yugoslavia	*1.Gen*	41.98	58.02
	2.Gen	87.91	12.09
Greece	*1.Gen*	59.52	40.48
	2.Gen	78.18	21.82
Italy	*1.Gen*	57.18	42.82
	2.Gen	76.42	23.58
Spain	*1.Gen*	50.00	50.00
	2.Gen	75.68	24.32
Poland	*1.Gen*	40.65	59.35
	2.Gen	100.00	0.00
Russia	*1.Gen*	29.89	70.11
	2.Gen	30.63	69.37
Germany		61.78	38.22

Source: German Socio-Economic Panel (SOEP)
unweighted sample, 2005-2007, only persons older 25

Table 2.14: Probability of being first married before 25

	Women	**Men**
Other (1st Gen.) (d)	0.0663***	0.0631***
	(0.0145)	(0.0172)
Other (2nd Gen.) (d)	-0.0241	-0.2442***
	(0.0473)	(0.0339)
Turkey (1st Gen.) (d)	0.2578***	0.3288***
	(0.0156)	(0.0190)
Turkey (2nd Gen.) (d)	0.2677***	0.3258***
	(0.0252)	(0.0376)
Ex-Yugoslavia (1st Gen.) (d)	0.0221	0.1578***
	(0.0286)	(0.0301)
Ex-Yugoslavia (2nd Gen.) (d)	-0.0431	-0.2232***
	(0.0556)	(0.0637)
Greece (1st Gen.) (d)	0.1098*	-0.0846*
	(0.0450)	(0.0380)
Greece (2nd Gen.) (d)	0.0131	0.0729
	(0.0720)	(0.0904)
Italy (1st Gen.) (d)	0.0497	-0.0568
	(0.0398)	(0.0295)
Italy (2nd Gen.) (d)	0.0111	-0.0115
	(0.0491)	(0.0622)
Spain (1st Gen.) (d)	-0.2318**	-0.0003
	(0.0733)	(0.0616)
Spain (2nd Gen.) (d)	-0.1338	-0.0018
	(0.1492)	(0.1184)
Poland (1st Gen.) (d)	0.1185***	0.1706***
	(0.0244)	(0.0316)
Poland (2nd Gen.) (d)	0.0476	
	(0.1016)	
Russia (1st Gen.) (d)	0.1736***	0.3001***
	(0.0262)	(0.0328)
Cohort 1 (d)	-0.0834***	-0.0132
	(0.0079)	(0.0074)
Cohort 3 (d)	-0.3057***	-0.2924***
	(0.0075)	(0.0065)
Years of Schooling	-0.0489***	-0.0290***
	(0.0012)	(0.0012)
N	29020	26378

Source: SOEP, 2005-2007, only persons older 25
Logit Regressions; Marginal effects; Standard errors in parentheses
(d) for discrete change of dummy variable from 0 to 1
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 2.15: Average Age Gap between Spouses

	Women		Men	
Ethnic Origin	**1.Gen**	**2.Gen**	**1.Gen**	**2.Gen**
Other	-3.61	-2.65	2.68	1.57
Germany	-2.69		2.78	
Turkey	-2.80	-2.66	2.73	2.02
Ex-Yugoslavia	-3.49	-3.64	3.23	2.66
Greece	-3.97	-2.50	3.79	2.46
Italy	-3.81	-3.37	3.60	3.45
Spain	-0.63	5.63	2.69	1.31
Poland	-2.29	-2.90	2.23	-0.40
Russia	-2.00	no obs.	1.20	3.00

Source: German Socio-Economic Panel (SOEP)
unweighted sample, 2005-2007, only persons reporting a partner

and immigrants but also between different ethnic groups. As documented in Table 2.17, first generation Turkish women have on average more children than women from any other country and in particular more children than natives.[21] The average number of children for German women is less than 2, whereas for first generation Turkish women it is more than 3. The number of children per woman in the second generation is, in general, lower than in the first generation, and often also smaller than for natives. However, Turkish women have higher birth rates than natives even in the second generation. For Greek, Italian and ex-Yugoslav the average number of children per women in later immigrant generations is noticeably smaller.

As can be seen from estimation results presented in Table 2.18, differences in the number of children are mainly statistically significant for first generation immigrant women who have consistently more children than natives. This is especially true for first generation Turkish women who have on average one more child than German women. For second generation female Turks the effect is not significant. Negative trends can be observed for second generation immigrants from the former Yugoslavian countries. In general, for Spaniards, Greeks and the second generation the number of children does not significantly differ from that of natives. This indicates that later immigrant generations integrate not only with respect to marriage behavior such as the age gap between spouses, age at marriage and marriage probability but also with regards to family structure reflected in the number of children.

2.4.8 Age at First Child

Apart from marital behavior and family composition, birth behavior might also give insight to the cultural adaptation and integration success. Considering the age at first child birth as depicted in Table 2.19, first generation immigrant women seem to be only slightly younger when they give birth to their first child compared to natives, while second generation women seem to be a little older. Again, Turkish women stand out with a comparably young age at first child: on average 22.74 for the first generation.

[21] The numbers presented refer to women older than 40.

Table 2.16: Age Gap between Spouses

	Women	**Men**
Other (1st Gen.)	-0.6688***	-0.0511
	(0.1481)	(0.1586)
Other (2nd Gen.)	0.5818	-0.6182
	(0.4969)	(0.4574)
Turkey (1st Gen.)	0.2661	0.4047*
	(0.1989)	(0.1853)
Turkey (2nd Gen.)	1.3275**	0.4781
	(0.4645)	(0.4609)
Ex-Yugoslavia (1st Gen.)	-0.4357	0.8790**
	(0.2674)	(0.2774)
Ex-Yugoslavia (2nd Gen.)	-0.4982	0.8539
	(0.6162)	(0.7646)
Greece (1st Gen.)	-1.2288**	0.8434*
	(0.4342)	(0.4072)
Greece (2nd Gen.)	0.8562	0.4396
	(0.8396)	(0.9035)
Italy (1st Gen.)	-1.1146**	1.1838***
	(0.3764)	(0.3015)
Italy (2nd Gen.)	-0.0572	1.3473*
	(0.5168)	(0.6157)
Spain (1st Gen.)	1.9772*	-0.0066
	(0.8686)	(0.6594)
Spain (2nd Gen.)	10.9491***	-0.9010
	(1.7048)	(1.1650)
Poland (1st Gen.)	0.6539*	-0.5186
	(0.2627)	(0.2962)
Poland (2nd Gen.)	0.5154	-1.9631
	(1.0102)	(2.0179)
Russia (1st Gen.)	0.8405**	-1.4171***
	(0.3007)	(0.3212)
Russia (2nd Gen.)	0.0000	0.1440
	(.)	(2.6037)
Cohort 1	1.0921***	0.8310***
	(0.0832)	(0.0748)
Cohort 3	-0.7485***	-1.1176***
	(0.0739)	(0.0806)
Years of Schooling	0.0369**	0.0351**
	(0.0122)	(0.0112)
Constant	-3.1784***	2.3300***
	(0.1585)	(0.1518)
N	21792	21487

Source: SOEP, 2005-2007, only persons reporting a partner
OLS Regressions; Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 2.17: Average Number of Children per Women

Ethnic Origin	1.Gen	2.Gen
Other	2.14	2.20
Germany		1.84
Turkey	3.17	2.00
Ex-Yugoslavia	2.26	0.70
Greece	2.04	1.00
Italy	2.80	1.23
Spain	1.87	2.57
Poland	2.01	no obs
Russia	2.56	no obs

Source: German Socio-Economic Panel (SOEP) unweighted sample, 2005-2007, only women older 40

Interestingly, the age at first child is much higher for second generation Turkish women (27 years of age). In comparison, German women give birth to their first child at the age of 25 on average. Results from a simple regression support the first impression of hardly any differences between immigrants and natives. The difference in age at first child almost vanishes for all second generation immigrants. It differs significantly from natives only for a few immigrants groups such as Spaniards (Table 2.20).

2.4.9 Religion

Turning now from family matters to religious aspects, Table 2.21 shows the distribution of religious beliefs within each ethnic group differentiated by gender and generation. It is obvious from this table that no religious differences can be observed between men and women or between first and second generation immigrants within a single ethnic group. That is, regardless of gender or generation, the majority of Turkish immigrants who report a religion are Muslims, most Italian, Spanish and Polish immigrants are Catholic and the majority of Russian immigrants are Christian Orthodox. Among Germans, Protestants are a slight majority closely followed by Catholics.

2.4.10 Language Proficiency

Proficiency in the language of the host country has been proven to be of paramount importance for social and economic integration. Using SOEP's subjective answers on language skills (both oral and written), we measure linguistic abilities on a scale from 1 to 5, where 1 denotes "very good" language ability and 5 "very poor" skills. In general, reported written skills are worse than speaking abilities regardless of ethnic group and immigrant generation. These statistics are presented in Table 2.22. They refer to the 2005 wave, the most recent year with information on language proficiency.

It is assumed that second generation immigrants should have better languages skills than first generation immigrants since by definition immigrants who belong to the second generation were born in Germany and therefore mostly attended school and further education in Germany. As expected, their reported language abilities are higher regard-

Table 2.18: Number of children

Ethnic Origin	**Women older 40**
Other (1st Gen.)	0.3026***
	(0.0437)
Other (2nd Gen.)	0.2717
	(0.2115)
Turkey (1st Gen.)	1.0065***
	(0.0697)
Turkey (2nd Gen.)	0.1759
	(0.7114)
Ex-Yugoslavia (1st Gen.)	0.2079**
	(0.0747)
Ex-Yugoslavia (2nd Gen.)	-1.2079**
	(0.3901)
Greece (1st Gen.)	0.0912
	(0.1198)
Greece (2nd Gen.)	-0.8480
	(0.4660)
Italy (1st Gen.)	0.5746***
	(0.0963)
Italy (2nd Gen.)	-0.5065
	(0.2629)
Spain (1st Gen.)	-0.0874
	(0.1820)
Spain (2nd Gen.)	0.7790
	(0.5033)
Poland (1st Gen.)	0.1686*
	(0.0766)
Poland (2nd Gen.)	0.0000
	(.)
Russia (1st Gen.)	0.6729***
	(0.0899)
Russia (2nd Gen.)	0.0000
	(.)
Cohort 1	0.1576***
	(0.0189)
Cohort 3	-0.0773
	(0.0877)
Years of Schooling	-0.0612***
	(0.0034)
Constant	2.5279***
	(0.0437)
N	21029

Source: SOEP, 2005-2007, only women older 40
OLS Regressions; Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 2.19: Age at First Child Birth

Ethnic Origin	1.Gen	2.Gen
Other	25.33	26.03
Germany		24.97
Turkey	22.74	27.00
Ex-Yugoslavia	23.01	26.17
Greece	23.91	25.25
Italy	23.86	25.53
Spain	24.56	23.29
Poland	23.92	
Russia	24.10	

Source: German Socio-Economic Panel (SOEP) unweighted sample, 2005-2007, only women older 40

ing both spoken and written use of German regardless of ethnic group. This implies a positive linguistic integration of second generation immigrants.

Linguistic comparisons by ethnic groups show that Turks have the lowest German language proficiency among all ethnic groups. They seem to be least integrated with respect to language. A possible explanation is related to the fact that language proficiency is self-reported and might impose measurement errors and group specific characteristics. Some immigrant groups might overstate their abilities while other groups might continuously understate their skills. This might bias the results. Another explanation for low language abilities of Turks might be by group size and enclave effects. Since Turks represent the largest single ethnic group in Germany, they are more likely to socialize within their ethnic community and do not need to put much effort into learning the German language in order to manage everyday life situations. Thus, poor language abilities might indeed signal less integration and more ethnic segregation among Turks.

Differences by gender within each ethnic group indicate that in particular first generation women of Spanish, Polish and Russian origin have better German language skills than men from the same origin. In the other immigrant groups first generation women report, on average, worse skills than men. For members of the second generation German language abilities seem to be mostly better for women than for men regardless of ethnic group regarding both spoken and written use of language.

Concerning the language of the country of origin the opposite results are obtained. Here it is the first generation, which reports better language abilities. This can be explained by a greater attachment of this generation to their home country, the fact that they were raised using this language, or the possibility that even though some of them are only little literate they still know how to speak the origin's language while it is much more difficult to learn a foreign language.[22]

[22]For further research on the impact of language on earnings see e.g. Chiswick and Miller (1995); Chiswick and Miller (1998); Dustmann and van Soest (2002).

Table 2.20: Age at First Child Birth

	(1)
Ethnic Origin	**Women older 40**
Other (1st Gen.)	0.5174**
	(0.1713)
Other (2nd Gen.)	1.5093
	(0.8393)
Turkey (1st Gen.)	-0.2487
	(0.2712)
Turkey (2nd Gen.)	2.6110
	(2.6516)
Ex-Yugoslavia (1st Gen.)	-0.4985
	(0.2938)
Ex-Yugoslavia (2nd Gen.)	1.5441
	(1.8760)
Greece (1st Gen.)	0.3218
	(0.4666)
Greece (2nd Gen.)	0.0025
	(2.2979)
Italy (1st Gen.)	0.4211
	(0.3613)
Italy (2nd Gen.)	1.6586
	(1.1492)
Spain (1st Gen.)	1.6142*
	(0.7372)
Spain (2nd Gen.)	-1.9351
	(1.8762)
Poland (1st Gen.)	-0.4798
	(0.2917)
Poland (2nd Gen.)	0.0000
	(.)
Russia (1st Gen.)	-0.2744
	(0.3482)
Russia (2nd Gen.)	0.0000
	(.)
Cohort 1	1.0951***
	(0.0746)
Cohort 3	1.4746***
	(0.3544)
Years of Schooling	0.5598***
	(0.0138)
Constant	17.9516***
	(0.1762)
N	18866

Source: SOEP, 2005-2007, only women older 40
OLS Regression; Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 2.21: Religious Affiliation

				Women			
Ethnic Origin		**Catholic**	**Protestant**	**Other Christ.**	**Islam**	**Other Rel.**	**Undenom.**
Others	*1.Gen*	32,75	35,81	9,17	3,28	2,18	16,81
	2.Gen	33,71	41,57	2,25	3,37	0,00	19,10
Turkey	*1.Gen*	0,47	0,00	2,37	87,20	1,42	8,53
	2.Gen	0,00	1,37	2,74	84,93	1,37	9,59
Ex-Yugoslavia	*1.Gen*	43,09	4,07	24,39	20,33	0,00	8,13
	2.Gen	36,36	4,55	20,45	20,45	0,00	18,18
Greece	*1.Gen*	0,00	0,00	92,31	5,13	0,00	2,56
	2.Gen	8,33	12,50	75,00	0,00	0,00	4,17
Italy	*1.Gen*	83,08	3,08	6,15	0,00	0,00	7,69
	2.Gen	80,70	10,53	8,77	0,00	0,00	0,00
Spain	*1.Gen*	93,33	6,67	0,00	0,00	0,00	0,00
	2.Gen	100,00	0,00	0,00	0,00	0,00	0,00
Poland	*1.Gen*	81,95	8,27	1,50	0,75	0,00	7,52
	2.Gen	50,00	16,67	0,00	5,56	0,00	27,78
Russia	*1.Gen*	19,23	51,92	17,31	0,00	2,88	8,65
	2.Gen	0,00	100,00	0,00	0,00	0,00	0,00
German		28,99	39,40	1,23	0,08	0,05	30,25
				Men			
		Catholic	**Protestant**	**Other Christ.**	**Islam**	**Other Rel.**	**Undenom.**
Others	*1.Gen*	28,29	34,45	7,84	5,60	1,96	21,85
	2.Gen	38,46	28,57	0,00	4,40	0,00	28,57
Turkey	*1.Gen*	0,93	0,00	0,93	88,43	1,39	8,33
	2.Gen	0,00	0,00	7,14	81,43	4,29	7,14
Ex-Yugoslavia	*1.Gen*	29,36	1,83	25,69	32,11	0,00	11,01
	2.Gen	43,75	9,38	18,75	21,88	0,00	6,25
Greece	*1.Gen*	0,00	0,00	88,64	4,55	0,00	6,82
	2.Gen	4,00	8,00	68,00	4,00	0,00	16,00
Italy	*1.Gen*	90,24	2,44	2,44	0,00	0,00	4,88
	2.Gen	81,25	8,33	4,17	0,00	0,00	6,25
Spain	*1.Gen*	89,47	0,00	0,00	0,00	0,00	10,53
	2.Gen	41,67	25,00	0,00	0,00	0,00	33,33
Poland	*1.Gen*	75,26	6,19	3,09	0,00	0,00	15,46
	2.Gen	53,85	15,38	0,00	7,69	0,00	23,08
Russia	*1.Gen*	23,33	51,11	10,00	0,00	2,22	13,33
	2.Gen	0,00	100,00	0,00	0,00	0,00	0,00
German		27,46	34,86	0,95	0,10	0,15	36,47

Source: German Socio-Economic Panel (SOEP), unweighted sample, 2005 - 2007

Table 2.22: Language Proficiency

	German Language				Language of Country of Origin			
	Women		Men		Women		Men	
Ethnic Origin	**1.Gen**	**2.Gen**	**1.Gen**	**2.Gen**	**1.Gen**	**2.Gen**	**1.Gen**	**2.Gen**
	Speaking				**Speaking**			
Other	1.77	1.14	1.82	1.15	1.68	2.20	1.80	2.35
Turkey	2.84	1.45	2.39	1.50	1.69	2.10	1.63	2.20
Ex-Yugoslavia	2.13	1.18	2.05	1.27	1.57	2.09	1.56	2.27
Greece	2.40	1.22	2.34	1.33	1.54	1.65	1.36	1.89
Italy	2.29	1.33	2.26	1.32	1.57	2.05	1.53	2.19
Spain	1.75	1.00	2.07	1.10	1.30	2.67	1.52	2.00
Poland	1.68	no obs	1.88	no obs	1.74	no obs	1.75	no obs
Russia	1.89	no obs	2.08	1.00	1.81	no obs	1.78	1.00
	Writing				**Writing**			
Other	2.01	1.33	2.11	1.23	1.91	2.60	2.11	2.50
Turkey	3.38	1.64	3.04	1.74	2.15	2.47	1.94	2.71
Ex-Yugoslavia	2.86	1.31	2.57	1.39	1.83	2.73	1.77	3.12
Greece	3.05	1.39	2.85	1.41	1.89	2.22	1.66	2.41
Italy	3.23	1.55	3.12	1.62	2.05	2.56	1.90	2.94
Spain	2.75	1.33	3.07	1.20	1.65	2.67	1.83	3.10
Poland	1.91	no obs	2.20	no obs	2.10	no obs	2.19	no obs
Russia	2.21	no obs	2.45	1.00	1.99	no obs	2.05	1.00

Source: German Socio-Economic Panel (SOEP), unweighted sample, 2005
Scale from 1 ("very good") to 5 ("none at all")

2.4.11 Political Interest

The degree of political interest of a country's population can be extremely informative when we look at integration processes. Table 2.23 depicts immigrants' and Germans' political interest in 2005. It is measured on a scale from 1 to 4, where 1 refers to "very interested" and 4 to "completely disinterested". Most immigrants show less interest in politics than natives. Turks in particular, show a comparably low interest in politics regardless of immigrant generation, whereas Poles seem to be the most interested in politics. Comparison across generations shows that the second generation tends to be politically more interested than the first one indicating again a greater commitment to Germany of later generations.

Running a simple regression on the degree of political interest (Table 2.24) confirms the picture given by the descriptive statistics. Accordingly, the index increases for almost all immigrant groups regardless of gender implying lower political interest for most immigrant groups compared to natives. But since the increase is stronger for the first compared to the second generation within each ethnic group the assumption that second generation immigrants are more interested in politics is supported by these results. Indeed, later generations exhibit greater concern in political and social processes in Germany and immigrants born in Germany are thus better politically integrated.

Table 2.23: Political Interest

	Women		Men	
Ethnic Origin	**1.Gen**	**2.Gen**	**1.Gen**	**2.Gen**
Other	3.00	3.11	2.64	2.59
Germany	2.78		2.44	
Turkey	3.51	3.25	2.97	3.03
Ex-Yugoslavia	3.24	3.17	2.91	2.88
Greece	3.47	3.21	3.01	3.13
Italy	3.34	3.23	2.94	2.95
Spain	3.00	2.86	3.03	2.69
Poland	3.09	2.91	2.58	2.61
Russia	3.23	3.63	2.92	2.56

Source: German Socio-Economic Panel (SOEP), unweighted sample, 2005
Scale from 1 ("very interested") to 4 ("not at all interested")

2.4.12 Self-Identification with Germany

The facts that the second generation is more integrated becomes also visible from Tables 2.25 and 2.26 that report self-identification with Germany and with the country of origin. Identification is measured on a scale from 1 to 5, where 1 refers to "complete identification" with either Germany or the country of ancestry and 5 refers to "no identification" with the respective country. As depicted in these two tables the second generation has a clear tendency toward more identification with Germany and less identification with the country of the parents' origin. This tendency is noticeable for all immigrant groups. Considering single ethnic groups one can see that especially Poles and Russians show a great commitment to Germany whereas Turks and Greeks still feel closely bound to their country of origin.

2.4.13 Risk Behavior

Turning now to more general differences in characteristics between immigrants and Germans, Table 2.27 shows self-reported information about risk attitudes. Studies have shown that adaptation to the attitudes of the majority population closes the immigrant-native gap in risk proclivity, while stronger commitment to the home country preserves it (Bonin et al. (2006), and Bonin et al. (2009)). As risk attitudes are behaviorally relevant, and vary by ethnic origin, these findings could help to explain differences in the socio-economic assimilation of immigrants. The risk loving tendencies of people are measured on a scale from 0 to 10 where 0 refers to "completely risk aversion" and 10 to "completely risk affinity". We find that second generation immigrants seem to be more risk loving than their first generation counterparts. This generational difference is especially pronounced for female Turks. The average risk level of first generation Turks is 2.57 and thus on the lower level of the scale whereas the average value for second generation Turkish women is 4.15 and therefore very close to the average value of native women (4.07). In general first generation immigrants seem to be more risk averse than Germans whereas second generation immigrants tend to be as risk loving as natives or even more risk taking.

Table 2.24: Political Interest

Ethnic Origin	**Women**	**Men**
Other (1st Gen.)	0.1665***	0.1574***
	(0.0200)	(0.0244)
Other (2nd Gen.)	0.1477**	-0.0143
	(0.0482)	(0.0493)
Turkey (1st Gen.)	0.3902***	0.2395***
	(0.0293)	(0.0302)
Turkey (2nd Gen.)	0.1691**	0.1645**
	(0.0555)	(0.0592)
Ex-Yugoslavia (1st Gen.)	0.2439***	0.2884***
	(0.0368)	(0.0428)
Ex-Yugoslavia (2nd Gen.)	0.1038	0.1059
	(0.0654)	(0.0796)
Greece (1st Gen.)	0.4988***	0.4061***
	(0.0623)	(0.0655)
Greece (2nd Gen.)	0.2796**	0.4980***
	(0.0867)	(0.0946)
Italy (1st Gen.)	0.3296***	0.2803***
	(0.0514)	(0.0480)
Italy (2nd Gen.)	0.1791**	0.2597***
	(0.0577)	(0.0676)
Spain (1st Gen.)	0.1210	0.3480***
	(0.1030)	(0.0953)
Spain (2nd Gen.)	-0.1284	0.2645
	(0.1636)	(0.1366)
Poland (1st Gen.)	0.2323***	0.0787
	(0.0357)	(0.0455)
Poland (2nd Gen.)	-0.0090	-0.0467
	(0.1174)	(0.1412)
Russia (1st Gen.)	0.3487***	0.3276***
	(0.0415)	(0.0482)
Russia (2nd Gen.)	0.0000	-0.1803
	(.)	(0.2918)
Cohort 1	-0.1771***	-0.1603***
	(0.0105)	(0.0118)
Cohort 3	0.2400***	0.1926***
	(0.0095)	(0.0108)
Years of Schooling	-0.0919***	-0.0997***
	(0.0016)	(0.0017)
Constant	3.8573***	3.6589***
	(0.0211)	(0.0227)
N	31689	28877

Source: SOEP, 2005

OLS Regressions; Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Scale from 1 ("very interested") to 4 ("not at all interested")

Table 2.25: Identification with Germany

	Women		Men	
Ethnic Origin	**1.Gen**	**2.Gen**	**1.Gen**	**2.Gen**
Other	2.29	1.90	2.13	2.33
Turkey	3.89	3.25	3.60	2.97
Ex-Yugoslavia	3.29	2.76	3.32	2.67
Greece	3.85	3.04	3.72	2.70
Italy	3.54	2.81	3.59	2.84
Spain	3.38	3.13	3.42	2.54
Poland	2.03	no obs	1.93	no obs
Russia	1.65	no obs	1.60	no obs

Source: German Socio-Economic Panel (SOEP), unweighted sample, 1999
Scale from 1 ("complete identification") to 5 ("no identification")

Table 2.26: Identification with Country of Origin

	Women		Men	
Ethnic Origin	**1.Gen**	**2.Gen**	**1.Gen**	**2.Gen**
Other	3.15	3.20	3.36	3.67
Turkey	2.18	2.90	2.26	2.76
Ex-Yugoslavia	2.33	2.59	2.29	3.03
Greece	1.84	2.29	1.82	2.82
Italy	2.02	2.54	1.95	2.47
Spain	1.77	3.13	1.68	2.38
Poland	3.15	no obs	3.22	no obs
Russia	3.16	no obs	3.53	no obs

Source: German Socio-Economic Panel (SOEP), unweighted sample, 1999
Scale from 1 ("complete identification") to 5 ("no identification")

Table 2.27: Risk Attitude

	Women		Men	
Ethnic Origin	**1.Gen**	**2.Gen**	**1.Gen**	**2.Gen**
Other	3.56	4.81	4.63	5.71
Germany	4.07		4.98	
Turkey	2.57	4.15	4.01	5.21
Ex-Yugoslavia	3.03	5.55	4.29	5.50
Greece	2.28	3.92	3.20	4.97
Italy	3.13	4.14	4.32	5.65
Spain	3.57	4.26	4.17	5.17
Poland	3.95	4.31	4.82	6.09
Russia	3.23	5.33	3.94	3.50

Source: German Socio-Economic Panel (SOEP), unweighted sample, 2005
Scale from 0 ("completely risk averse") to 10 ("completely risk loving")

These raw statistics are supported by estimation results presented in Table 2.28. The risk index is smaller for most first generation women - except Spaniards - compared to natives indicating more risk aversion. Among second generation women only Turkish, Polish and ex-Yugoslav women differ from natives. For men the picture is slightly different. Second generation men seem not to differ at all from natives, while first generation Turks, Greeks, ex-Yugoslav and Russians tend to be more risk averse than German men. Especially men and women who belong to the first generation Turks, Greeks and Russians show high levels of risk aversion compared to natives. These results may clash with what was previously believed or with what intuition would predict but are in line with previous studies. Bonin et al. (2009) confirm that first generation immigrants have lower risk attitudes than natives, which only equalize in the second generation. One explanation could be related to the first generation's insecurities in their social and economic situation in Germany. Yet, first generation immigrants may have been more willing to take risks than their co-ethnics who never left their home county but this risk could subside once they arrived in the host country.

2.4.14 Overall Life Satisfaction

With respect to overall life satisfaction Table 2.29 shows that there is not much difference between immigrants and natives. Life satisfaction is also measured on a scale from 0 to 10 where 0 denotes "complete dissatisfaction" and 10 "complete satisfaction". Second generation immigrants score, on average, greater values on that index (at or even above 7). Evidently, they tend to be more satisfied in life than their parents who were foreign-born. The life satisfaction values of natives lie between the values of first and second generation immigrants.

Estimation outputs in Table 2.30 imply hardly any significant deviation between immigrants and natives. Only for some groups such as first generation Turks and first generation ex-Yugoslav men the index decreases indicating a lower life satisfaction for these immigrants than for Germans. The deviation from natives is especially big for first generation Turks of either gender. In contrast, second generation Italian women and first generation Russians seem to be more satisfied than natives. Overall, we find that immigrants integrate perfectly in terms of self-reported life satisfaction.

2.4.15 Female Labor Force Participation

Finally, in Table 2.31 we consider one aspect of economic integration, namely female labor force participation by ethnic group and generation. The variable of interest equals one if the woman is working full- or part-time and zero if she is unemployed or irregularly working. Schooling and no information are coded as missing. The underlying sample is restricted to women older than 20 and under the age of 65. The share of women working full- or part-time differs noticeably by immigrant group and generation. Only 21.11 percent of first generation Turkish women work full- or part-time, whereas in

Table 2.28: Risk Attitude

Ethnic Origin	**Women**	**Men**
Other (1st Gen.)	-0.5979***	-0.4748***
	(0.0658)	(0.0741)
Other (2nd Gen.)	0.4696**	0.1367
	(0.1558)	(0.1454)
Turkey (1st Gen.)	-1.2518***	-0.7447***
	(0.0936)	(0.0893)
Turkey (2nd Gen.)	-0.3704*	-0.2663
	(0.1816)	(0.1849)
Ex-Yugoslavia (1st Gen.)	-0.7370***	-0.5969***
	(0.1177)	(0.1267)
Ex-Yugoslavia (2nd Gen.)	0.8736***	0.2534
	(0.2124)	(0.2417)
Greece (1st Gen.)	-1.2250***	-1.2120***
	(0.1955)	(0.1946)
Greece (2nd Gen.)	-0.3524	-0.3650
	(0.2730)	(0.2847)
Italy (1st Gen.)	-0.5345**	-0.2017
	(0.1635)	(0.1425)
Italy (2nd Gen.)	-0.1927	0.1156
	(0.1915)	(0.2072)
Spain (1st Gen.)	-0.3151	-0.5418
	(0.3204)	(0.2800)
Spain (2nd Gen.)	0.1074	-0.4959
	(0.5173)	(0.4052)
Poland (1st Gen.)	-0.3753**	-0.1191
	(0.1154)	(0.1367)
Poland (2nd Gen.)	-1.0322**	0.8118
	(0.3885)	(0.4440)
Russia (1st Gen.)	-0.8887***	-1.0461***
	(0.1371)	(0.1498)
Russia (2nd Gen.)	0.0000	-2.2127*
	(.)	(0.9911)
Cohort 1	-0.8838***	-0.8800***
	(0.0340)	(0.0355)
Cohort 3	0.4113***	0.5992***
	(0.0315)	(0.0334)
Years of Schooling	0.1145***	0.1048***
	(0.0053)	(0.0051)
Constant	2.7723***	3.6847***
	(0.0691)	(0.0693)
N	28063	25530

Source: SOEP, 2005

OLS Regressions; Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Scale from 0 ("completely risk averse") to 10 ("completely risk loving")

Table 2.29: Overall Life Satisfaction

	Women		Men	
Ethnic Origin	**1.Gen**	**2.Gen**	**1.Gen**	**2.Gen**
Other	7.07	7.20	7.03	7.00
Germany	6.95		6.95	
Turkey	6.32	7.04	6.28	6.86
Ex-Yugoslavia	6.56	7.17	6.59	6.94
Greece	6.50	7.13	6.76	7.10
Italy	6.47	7.28	6.70	7.37
Spain	6.48	6.95	6.90	7.40
Poland	6.86	7.45	6.85	7.54
Russia	7.03	7.50	7.09	7.78

Source: German Socio-Economic Panel (SOEP), unweighted sample, 2005-2007
Scale from 0 ("completely dissatisfied") to 10 ("completely satisfied")

later generations the share is 10 percentage points higher, namely 30.40 percent. Similar differences can be observed for ex-Yugoslav women. Here the difference between first and second generation also amounts to about 10 percentage points: it is 37.53 and 47.14 percent respectively. Clearly, labor market participation is higher for second generation immigrants from these groups. However, it is still much lower than the labor force participation rate of native women (about 50 percent). The exception is Greek women who have higher labor market participation rates than German women in both generations. Interestingly, first generation Greek women have higher labor market participation rates than later generations. Similarly, first generation Italian women show very high participation rates of over 45.00 percent.

Estimation results presented in Table 2.32 corroborate these raw statistics. Accordingly, first generation Italian, Greek and Polish women are more likely to work than natives. Turkish women are less likely to work compared to Germans regardless of generation. This indicates lower economic integration by some immigrant groups but also very good labor market integration by others. In general, there are hardly any differences between second generation immigrants and natives with respect to full- or part-time work for those who are not in school and for whom information about their labor market status is available.

2.5 Conclusion

This chapter studies the cultural integration of immigrants in Germany. To gauge integration, we use natives as the gold standard and refer to them every time we look at the cultural and general socio-economic and political progress of immigrants. We cover various social and economic aspects of the life of immigrants in Germany using data from the German Socio-Economic Panel (SOEP) for the period 2005 to 2007. Specifically, we study marital behavior, family structure, soft skills such as risk attitudes and overall life satisfaction, German language proficiency and self-identification as well as economic characteristics such as female labor force participation. In order to capture trends and

Table 2.30: Overall Life Satisfaction

Ethnic Origin	**Women**	**Men**
Other (1st Gen.)	0.1333**	0.1504**
	(0.0502)	(0.0559)
Other (2nd Gen.)	0.0116	-0.0549
	(0.1208)	(0.1126)
Turkey (1st Gen.)	-0.3624***	-0.4075***
	(0.0735)	(0.0690)
Turkey (2nd Gen.)	-0.2061	-0.2548
	(0.1393)	(0.1355)
Ex-Yugoslavia (1st Gen.)	-0.1542	-0.1946*
	(0.0923)	(0.0979)
Ex-Yugoslavia (2nd Gen.)	0.0545	-0.0343
	(0.1642)	(0.1823)
Greece (1st Gen.)	-0.1553	0.1371
	(0.1569)	(0.1495)
Greece (2nd Gen.)	-0.0574	-0.1069
	(0.2191)	(0.2166)
Italy (1st Gen.)	-0.1519	0.0545
	(0.1293)	(0.1100)
Italy (2nd Gen.)	0.3305*	0.2553
	(0.1442)	(0.1548)
Spain (1st Gen.)	-0.2142	0.3408
	(0.2584)	(0.2181)
Spain (2nd Gen.)	0.1430	0.3804
	(0.4104)	(0.3128)
Poland (1st Gen.)	-0.0644	0.0159
	(0.0894)	(0.1044)
Poland (2nd Gen.)	0.1510	0.3197
	(0.2945)	(0.3233)
Russia (1st Gen.)	0.1478	0.3188**
	(0.1042)	(0.1106)
Russia (2nd Gen.)	0.0000	0.3994
	(.)	(0.6680)
Cohort 1	0.0906***	0.2384***
	(0.0264)	(0.0270)
Cohort 3	0.2873***	0.3204***
	(0.0239)	(0.0247)
Years of Schooling	0.0925***	0.1104***
	(0.0041)	(0.0039)
Constant	5.7082***	5.4029***
	(0.0529)	(0.0520)
N	31686	28874

Source: SOEP, 2005-2007

OLS Regressions; Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Scale from 0 ("completely dissatisfied") to 10 ("completely satisfied")

Table 2.31: Female Labor Force Participation

Ethnic Origin		Unempl. or Irreg. Empl.	Full- or Part-time	Schooling or no Info
Other	*1.Gen*	45.00	39.21	15.79
	2.Gen	34.43	40.57	25.00
Turkey	*1.Gen*	65.00	21.11	13.89
	2.Gen	42.73	30.40	26.87
Ex-Yugoslavia	*1.Gen*	44.52	37.53	17.95
	2.Gen	37.86	47.14	15.00
Greece	*1.Gen*	31.45	54.03	14.52
	2.Gen	37.97	50.63	11.39
Italy	*1.Gen*	37.38	45.33	17.29
	2.Gen	34.92	43.92	21.16
Spain	*1.Gen*	46.94	32.65	20.41
	2.Gen	35.71	21.43	42.86
Poland	*1.Gen*	31.40	50.78	17.82
	2.Gen	39.58	35.42	25.00
Russia	*1.Gen*	38.64	43.05	18.31
	2.Gen	28.57	0.00	71.43
Germany		37.23	49.38	13.39

Source: German Socio-Economic Panel (SOEP)
unweighted sample, 2005-2007, women aged 20 to 65

developments over time we analyze and study these indicators of socio-cultural and economic aspects for first and second immigrant generations. Additionally, emphasis was put on differences between certain immigrant groups, in particular immigrants who originate from one of the former guest worker countries as well as immigrants from Poland and Russia who represent more recent influences in immigrant inflows to Germany. We examine and present both raw statistics and estimation results on the above mentioned indicators.

Considering marriage patterns is crucial in the integration process of immigrants since marriage and partner choice express individual commitment and attachment to the members of a host country's society at a very intimate level.[23] Convergence between immigrants and natives with respect to family behavior signals to what extent immigrants adapt to German specific norms and embrace German habits.

Empirical results imply trends towards more singledom among native Germans. This trend seems to be adopted by the second generation. Similar findings are observed regarding age at first marriage and age and educational gap between spouses. Accordingly, first generation immigrants tend to get married more often and at younger ages than natives and the second generation. Clearly, they seem to cling to different role allocations and traditions than Germans and their offspring generation.[24] Age gaps and educational differences between partners are greater for older generations and mostly not different from natives for younger cohorts. Intermarriage rates depict an intimate link between immigrants and the native population. This can be seen as a special integration measure fostering economic integration. In general, the bigger the single ethnic group the less

[23]For further research on the effect of marriage on economic success see e.g. Korenmann and Neumark (1991); Angrist (2002).

[24]see e.g. Backer and Benjamin (1997) for differences in the human capital accumulation of immigrants.

Table 2.32: Female labor force participation

Ethnic Origin	Women between 20 and 65
Other (1st Gen.) (d)	-0.0922***
	(0.0160)
Other (2nd Gen.) (d)	-0.0025
	(0.0384)
Turkey (1st Gen.) (d)	-0.2088***
	(0.0229)
Turkey (2nd Gen.) (d)	-0.1194**
	(0.0430)
Ex-Yugoslavia (1st Gen.) (d)	-0.0056
	(0.0282)
Ex-Yugoslavia (2nd Gen.) (d)	0.0561
	(0.0479)
Greece (1st Gen.) (d)	0.2223***
	(0.0397)
Greece (2nd Gen.) (d)	0.0024
	(0.0650)
Italy (1st Gen.) (d)	0.0847*
	(0.0372)
Italy (2nd Gen.) (d)	0.0367
	(0.0421)
Spain (1st Gen.) (d)	-0.0517
	(0.0851)
Spain (2nd Gen.) (d)	-0.0977
	(0.1318)
Poland (1st Gen.) (d)	0.0757**
	(0.0265)
Poland (2nd Gen.) (d)	-0.1090
	(0.0894)
Russia (1st Gen.) (d)	-0.0126
	(0.0335)
Cohort 1 (d)	-0.5108***
	(0.0105)
Cohort 3 (d)	-0.0490***
	(0.0070)
Years of Schooling	0.0421***
	(0.0014)
N	24244

Source: SOEP, 2005-2007, women aged 20 to 65
Logit Regression; Marginal effects; Standard errors in parentheses
(d) for discrete change of dummy variable from 0 to 1
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

likely their members are to intermarry. This holds especially for Turks and members of the native population who show the lowest rate of intermarriage among all ethnic groups.

Furthermore, fertility rates, age at first child and female labor force participation differ significantly between natives and first generation immigrants indicating different conceptions of gender roles and division of labor within the family between those groups. Differences vanish or, at least, diminish for later immigrant generations implying greater adaption to German norms and perceptions for immigrants born in Germany. Comparing language and identification indexes among different ethnic groups, we observe noticeable discrepancies between generations. Accordingly, second generation immigrants report higher levels of language proficiency than members of their parental generation indicating better linguistic integration. Additionally, self-reported identification with Germany is stronger for immigrants born in Germany expressing greater commitment to Germany and its society. All these findings fit the assumption that second generation immigrants can enjoy a successful integration.

Finally, the underlying data provide information about soft characteristics such as risk aversion, overall life satisfaction and political interest opening unique opportunities to compare immigrants and natives also in the field of behavioral economics. Accordingly, immigrants and natives do not differ much with respect to life satisfaction. They do differ though regarding risk attitudes. Immigrants seem to be slightly less risk loving than natives. However, differences mainly disappear for later immigrant cohorts, indicating that also from that perspective, younger immigrants converge towards native attitudes. Regarding political involvement, immigrants are in general less politically concerned than natives but again the second generation's political interest is more in line with that of natives expressing better integration also in this dimension.

As a final remark, and referring to Turks as one immigrant group with pronounced differences, this analysis shows that comparison by generation is crucial when making statements about the integration process of ethnic groups in Germany. Turks differ in various ways from natives and also from other immigrant groups. They are more likely to be married in general, more often married at young ages and often have more children than the average German woman. Their language abilities are worse compared to other immigrants, they report a lower identification with Germany and more commitment to their home country than others, and their religious believes are diverse from that of natives and co-immigrants. They report the lowest level of political interest and lower levels of life satisfaction than other immigrant groups. And finally, their labor force participation rates are comparably low.

All these findings indicate that Turks are the least integrated immigrant group with respect to the integration indicators considered in this study. But when studying Turkish immigrants by generation, it becomes clear that the second generation shows a tendency toward parity with native Germans. Second generation Turks show higher intermarriage rates, similar behavior as natives in terms of age at first marriage, age at first

child and number of children. They report better German language proficiency both regarding speaking and writing skills as well as greater identification with Germany and simultaneously less commitment to the country of ancestry. Hence, even if this group of immigrants seems to be often poorly integrated, trends over time need to be honored and encouraged.

Chapter 3

Intermarriages and Economic Success

3.1 Introduction

Suppose love creates the closest relationship possible between two people and ideally drives the decision to marry. Further assuming that each person is intrinsically tied to his or her family and marked by his or her ethnic origin, marriage between people with different ethnic backgrounds expresses the closest feasible connection to the culture of the spouse. Marriages and marriage-like partnerships between immigrants and natives, termed 'intermarriage', are thus commonly considered to be an indicator of a high level of social integration, an index of assimilation, an indicator of social distance and cultural proximity, as well as an intimate link between social groups (Prince and Zubrzycki (1962), Gurak and Fitzpatrick (1982), Klein (2001), Kalmijn (1998), and Muttarak (2004)).

For this reason, studies analyzing marriages between persons of different ethnicity or race have a long history, especially in traditional immigrant nations like the United States. Against the backdrop of the current political debate concerning the successful integration of immigrants and Germany's status as an immigration country, it is also important to examine in greater depth the connections between intermarriage and economic status of immigrants in Germany. The aim of this paper is thus to analyze the effect of intermarriage on economic success for immigrants in Germany.

When studying the relation between intermarriage and labor market outcomes, two competing hypotheses are relevant: (a) the productivity hypothesis, and (b) the selection hypothesis. According to the productivity hypothesis, intermarriage fosters economic integration as native spouses boost linguistic adjustment, provide knowledge of the local labor market, access to social networks, and insight into important structures. In addition, they can explain local customs, norms, and peculiarities. Daily practice with the spouse enables intermarried immigrants to better communicate with native colleagues and to become better integrated into the working environment. Furthermore, intermarriage signals greater adaptability to the host country's society and a high level of

familiarity with its foreign culture.

However, if intermarriage basically reflects commitment and the decision to stay immigrants who intermarry may experience economic success resulting mainly from their greater attachment. Those who intermarry may be more eager to acquire precious skills that are highly valued in the labor market, and meeting a native partner is merely a side product of this process. In addition, economic outcomes could be affected by other unobservable productivity characteristics correlating with intermarriage. Thus, according to the selection hypothesis, the relationship between intermarriage and economic success is spurious, and effects from intermarriage are biased if self-selection into intermarriage based on individual factors is ignored. Consequently, intermarriage needs to be viewed as a treatment that is possibly endogenously related to economic outcomes.

The empirical analysis benefits from using German Socio-Economic Panel (SOEP) data. Panel data are more appropriate than cross-section data for this type of study because they allow to control for unobserved heterogeneity. The longitudinal design provides a different estimation method from previous studies which are predominately based on cross-sectional observations and rely on instrumental variables to control for self-selection. Instead, in this paper, a fixed effects regression framework is used to resolve the omitted variable problem. In addition, the empirical specification allows for the different timing of possible effects of intermarriage and accounts for general marital pay differentials. The empirical analysis considers both men and women, while briefly examining possible effects of intermarriage for natives.

Empirical findings indicate that male immigrants' immediate benefits from intermarriage are mainly driven by unobserved time-constant factors and vanish once selection into marriage is taken into account. In this regard, effects do not differ statistically between intermarriage and marriage between two immigrants. However, those who eventually live with natives receive greater returns to labor market experience indicating generally enhanced productivity. Thus, intermarriage seems to signal greater economic integration of immigrants. Native men do not receive any extra benefit from either marriage type, while native women seem to gain an advantage from marrying an immigrant. Immigrant women, on the other hand, do not benefit from either type of marriage, although negative effects are mitigated when controlling for unobserved factors and other observable characteristics. However, results for women must be treated carefully as selection issues related to their labor market participation are mainly set aside.

In the next chapter a short overview of German-specific facts and theoretical concepts related to intermarriage are presented. This includes a literature review of studies that analyze the determinants of intermarriage and its impact on economic assimilation in other countries. The empirical model is introduced in Section 3.3. Due to Germany's immigration history, definition issues are discussed separately in Section 3.4. Descriptive statistics of the underlying sample are given in Section 3.5. In Section 3.6 estimation results and its interpretation are presented. The paper concludes with a summary and an outlook on further research.

3.2 Background

Only in the years after 2000 did Germany acknowledge its status as an immigration nation. At the same time there is greater government attention to integrating immigrants. German-language requirements, accepting Germany's democratic norms, and accepting the rule of law are mandatory for those wanting to naturalize. But beyond language fluency and other indicators such as educational success and employment status, marriage to natives is generally considered a test of integration.[1]

Contrary to traditional immigrant countries like the United States, research on intermarriage in Germany began comparably late. However, there is much interest in understanding marriage patterns among immigrants in Germany. A significant part of the literature examines the social and economic factors fostering interethnic partnerships. Thus, most studies focus on describing marriage patterns and its determinants leaving aside economic implications (Kane and Stephan (1988); Klein (2001); Haug (2006); Schroedter (2006)).

According to that strand of literature, structural constraints in the marriage market such as gender ratios and partner availability (Angrist (2002)), interference by third parties, religious beliefs, socio-economic status, as well as cultural and linguistic proximity are the principle influences on the likelihood to intermarry. In addition, in certain cases intermarriage is related to the acquisition of citizenship and permanent residency, depending on legal status and country of origin. In this regard, intermarriage may be one possible way to legally immigrate to a foreign country. On the other hand, "importing" spouses from the country of origin is sometimes the only legal route for admittance to the host country (Gonzàles-Ferrer (2006); Lievens (1999)). Thus, the likelihood of intermarriage is expected to differ by country of origin.

In addition, personal characteristics such as individual preferences, age, years since immigration, language abilities, and education are among the most relevant determinants of intermarriage (Lievens (1998); Chiswick and Houseworth (2008); Kalmijn (1998); Kalmijn (1991); Bisin and Verdier (2000); Bisin, Topa and Verdier (2004)).

As stated by Becker (1974), individuals generally prefer spouses with similar bundles of resources. Thereby the partner does not have to have the exact same level in each characteristic, but needs to compensate for shortages in one area by offering richness upon another. In particular, people usually prefer partners with similar education levels, which is called "assortative mating by education" (Chiswick and Houseworth (2008)). Moreover, highly educated immigrants are expected to intermarry more often as discussed by Furtado (2006) and Furtado and Theodoropoulos (2010). Accordingly, and apart from the fact that educational institutions provide platforms to meet potential partners, higher education accompanied by better communication skills enable immigrants to approach others, including natives, and help improve adaptation to dif-

[1]The "ethnosizer" is another measures of social integration (see Zimmermann, Zimmermann, and Constant (2007); Zimmermann (2007a) and (2007b); Constant and Zimmermann (2008); Constant, Gataullina, and Zimmermann (2009a)).

ferent cultural habits (adaptability effect). Furthermore, highly educated immigrants are more likely to move away from ethnic enclaves and to live in neighborhoods with predominately native inhabitants. This, in turn, increases the likelihood of intermarriage (enclave effect). In addition, German law favors immigration of highly educated people who seek to immigrate based on marriage to a German national. Immigrants coming from EU-member states and other well developed countries, such as the United States, Canada, Australia, New Zealand, Switzerland, Japan, South Korea or Israel, face fewer hurdles for marriage-based immigration than immigrants from less developed countries. Consequently, intermarried immigrants are likely to be a highly selective, well educated subgroup of the total immigrant population.

This illustrates how important selection issues are when analyzing the relationship between intermarriage and labor market outcomes. Consequently, two competing hypotheses are crucial in this context: (a) the productivity hypothesis, and (b) the selection hypothesis. According to the first, immigrants who intermarry assimilate faster to the host society due to greater productivity fostered by the native spouse. In that regard, intermarriage can be beneficial for several reasons. Marriage to a native person can foster language acquisition, provide access to social networks, open up valuable contacts and occupation opportunities, ease the process of adapting to a foreign country, help to understand unfamiliar customs and norms, as well as help to learn the unique host country peculiarities and requirements. Consequently, intermarriage can increase the feeling of belonging and lead to greater acceptance. Intermarriage can thus contribute positively to the well-being of immigrants who, as a result, become more productive.

Contrarily, according to the selection hypothesis, the relationship between intermarriage and higher assimilation rates of immigrants is spurious due to sample selection. Immigrants who marry native spouses possibly belong to a highly selective sample of immigrants who possess highly valued labor market skills that are also highly valued in the native marriage market (Kantarevic (2004)). Consequently, the effect of intermarriage on wages is biased if selection into marriage is not taken into account.[2]

Beyond that, intermarriage can induce costs, especially psychological ones, which can even have the opposite effect. As shown by Bratter and Eschbach (2006), intermarriage is associated with an increase in severe distress for some immigrant groups in the United States. Immigrants marring spouses from different ethnic groups may no longer be supported by members of their own ethnic group. They may face a lack of understanding and feel detached from their ethnic group, and, as a consequence, rely neither on family ties nor social networks from their ethnic community to find a job. This, in turn, can decrease the possibility of finding a job that matches immigrant's capabilities. As argued by Furtado and Theodoropoulos (2009a), marriage between immigrants fosters better employment matches in terms of qualification than intermarriage. In addition,

[2]These arguments are mainly derived from research on the male marriage premium as discussed by Nakosteen and Zimmer (1987); Korenman and Neumark (1991); Loh (1996); Hersch and Stratton (2000); Ginther and Zavodny (2001); Antonovics and Town (2004); Dougherty (2006); Cornwell and Rupert (2007); Chen (2007).

immigrants in intermarriage may be confronted with intolerance from the native partner's side. Relatives and friends may fail to tolerate and accept unfamiliar ways of living and unaccustomed perspectives. Consequently, intermarried couples may be exposed to many difficulties from both the ethnic group of the immigrant partner and the native society.

Finally, different perceptions and norms challenge the couple inducing a high potential for conflicts within the marriage.[3] Kalmijn, Graaf and Janssen (2005) find a positive correlation between intermarriage and divorce supporting the assumption that intermarriage imposes greater stress than marriages between two immigrants. Hence, even though intermarriage is associated with many benefits it can also be costly.

Analyzing the economic assimilation of intermarried immigrants in the United States, Kantarevic (2004) finds evidence for an intermarriage premium in terms of higher earnings if selection into marriage is ignored. Once selection is taken into account, the premium from marrying a native partner vanishes. In contrast, Meng and Gregory (2005) analyze the impact of intermarriage for immigrants in Australia finding evidence for a premium from intermarriage even after controlling for unobservable characteristics. Their finding is supported by Meng and Meurs (2006) in their study of intermarried immigrants in France. Other studies, focusing on immigrants in Sweden (Dribe and Lundh (2008)) and the Netherlands (Gevrek (2009)), find positive effects on wages for Swedish immigrants and positive correlations between intermarriage and economic outcomes for Dutch immigrants. Furtado and Theodorpopoulos (2009a) and (2009b), as well as Georgarakos and Tatsiramos (2009) focus on different labor market outcomes such as employment probabilities, network effects, and self-employment, and find positive effects from intermarriage for immigrant men in the United States. However, little is known about the relationship between intermarriage and economic performance of immigrants in Germany. Thus, this paper aims at filling this gap in the literature.

3.3 The Model

Most studies exploring the relation between intermarriage and earnings are based on instrumental variable approaches in cross sectional settings. The authors account for endogeneity of intermarriage by using specific ethnic group and gender ratios that measure the availability of partners within ethnic groups. The underlying assumption is that these ratios determine partner choice but are exogenous in the earnings equation.

In contrast, the model used here relies on a fixed effects (FE) approach to account for unobserved heterogeneity. The earnings equation is derived from a Mincer (1974) wage equation and allows for individual specific factors in the error term. It follows a model proposed by Bratsberg, Ragan, and Nasir (2002) who measure the effect of naturalization on wage growth. The advantage of this model is that it allows for different timings for the effects on wages while mitigating selection biases induced by time-constant individual

[3] See Stöcker-Zafari (2007) for real life experiences of intermarried couples.

characteristics.

The model accounts for both short and long term effects on earnings, whereby long term effects are measured via experience acquired in the course of marriage. Short term effects are captured by the immediate change in marital status. Furthermore, immigrants who eventually intermarry may principally invest differently in their human capital. Being intermarried then proxies better economic integration in general, and those who marry natives benefit more from experience acquired in the local labor market than those who remain single or marry other immigrants.

The earnings equation looks as follows:

$$\begin{aligned}\ln w_{it} = \alpha_0 Mig_{it} + \beta_0 Nat_{it} + \alpha_1 Mig_{it}(X_{it} - X_{iMig}) + \beta_1 Nat_{it}(X_{it} - X_{iNat}) \\ + \alpha_2 \bar{Mig}_i X_{it} + \beta_2 \bar{Nat}_i X_{it} + \zeta_1 X_{it} + \zeta_2 X_{it}^2 + \zeta_3 Z_{it} + \mu_i + u_{it}.\end{aligned}$$

In the final setting square terms, $Nat_{it}(X_{it} - X_{iNat})^2$ and $Mig_{it}(X_{it} - X_{iMig})^2$, are included to account for decreasing returns to experience.

The dependent variable, w_{it}, denotes monthly labor gross earnings of immigrant i in period t, and is used as productivity measure for individual i. Nat_{it} is an indicator variable which equals one if in period t person i is married to a native and zero else. The immediate effect of intermarriage for immigrants is then captured by β_0. A supplementary regressor, Mig_{it}, denotes marriage with another immigrant. Consequently, Mig_{it} and Nat_{it} capture effects from each type of marriage in comparison to those who are unmarried at this point in time.[4]

Apart from short term effects, marriage may affect labor market success gradually. For that reason, Korneman and Neumark (1991) include duration of marriage as an additional regressor. Here, a slightly different measure is used: X_{it} and X_{iNat} (X_{iMig}) refer to labor market experience in period t and at the point of intermarriage (marriage with an immigrant). For immigrants the difference between X_{it} and X_{iNat} therefore captures experience gained during intermarriage. Equivalently, the difference between X_{it} and X_{iMig} captures experience gained in the course of marriage with an immigrant.

In case α_1 and β_1 are greater than zero, immigrants benefit from additional labor market experience acquired during the marriage compared to those who remain single. This might be due to favorable specialization within the marriage. Negative coefficients could result from less flexibility and less mobility in comparison to singles, or stem from a lack of possibilities to search for jobs that optimally match one's abilities. Different signs of α_1 and β_1 could indicate different search patterns, gender roles, or human capital allocations within the marriage.

Apart from short and long term effects, the decision to eventually intermarry may reflect greater commitment to the hosting country in general. Immigrants who find a native partner may be more attached to the hosting country than those who never

[4]Regarding natives, the interpretation of the coefficients goes exactly the opposite direction: In this case, Nat_{it} refers to marriage with a native and Mig_{it} refers to intermarriage.

intermarry. They may have invested in human capital specific to the local labor market and developed precious skills that are highly valued possibly independent of the current marital status. As a consequence, those who eventually intermarry may obtain greater returns to their labor market experience than others.

To account for that, $\bar{Nat}_i$ is included as a time-invariant indicator for immigrants who eventually marry a native spouse. The variable is set to one in the years prior, during and after an intermarriage, assuming that abilities can be gained beforehand and need not become redundant with the end of marriage. Because relationships change with time, $\bar{Nat}$ refers to those who may have several but always native partners. This indicator variable is interacted with experience such that if $\beta_2 > 0$ greater returns to experience are permitted for immigrants who eventually live with native spouses. Immigrants who exclusively marry within the immigrant community are denoted by $\bar{Mig}_i$.[5] Consequently, persons who remain single the whole time are the base category.[6]

Parameters ζ_1, ζ_2 and ζ_3 refer to returns to experience, X_{it}, its square term, X_{it}^2, and to returns to other observable characteristics captured in Z_{it}. Experience in this context refers to experience in full-time employment acquired in the host country. Z_{it} includes education indicators, self-reported language proficiency, firm size, actual hours worked, tenure and its square term, full-time work, region and industry dummies. Even though years since migration seem to be an important determinant of the probability to intermarry, as argued among others by Chiswick and Housworth (2008), it is not included in Z_{it} as it evolves similar to experience. Hence, it is not possible to separate the effects of experience and years elapsed in the country.[7] Furthermore, marriage could result from an increase in earnings in previous periods. To account for this correlation and possible reverse causality, dummy variables denoting marriage with a native or with an immigrant in the next period are included.

Finally, intermarried immigrants may possess different unobservable productivity characteristics which correlate with the decision to intermarry. The composite error term therefore consists of a time-invariant individual heterogeneity term, μ_i, and an idiosyncratic part, u_{it}.

[5]These variables are difficult to construct because they include all past and future decisions which are typically not observed in the data. Ideally, we would like to compare people for whom we have information about the whole life time and not just occasional short observation periods. However, this information is not available. So we can only consider the observation period and distinguish between those who report a native partner within this time frame and those who report no or an immigrant partner.

[6]Those who have both immigrant and native partners are not considered and dropped from the sample to reduce complexity.

[7]Both variables generally move together, increasing by one each year. Although, they might not always be perfectly collinear, any differences are probably due to endogenous labor supply decisions. As the model concentrates on returns to experience, years spent in the country are not included in the regression.

3.4 Definitions

Before turning to the data description, some remarks are necessary to understand possible difficulties related to the definition of immigrants in Germany.

German law defines *Germans* as persons holding German citizenship. In Germany, *Ausländer* (foreigners) are those holding citizenship from a foreign country only. As Germany does not grant citizenship to those born on German soil, children of foreign parents usually hold the same citizenship as their parents. If one parent is a German citizen, a child can gain dual citizenship. Persons with dual (German and foreign) citizenship count as Germans by the German Statistical Office.[8] Although Germany loosened its very strict naturalization law for children of first-generation foreigners, there are members of the second and third generations who have not naturalized. In nationality statistics, they are counted as foreigner regardless of how long they have lived in Germany.

Defining immigrant status by nationality is technically easy. Following this definition, intermarriage refers to marriage between a German citizen and someone who does not hold German citizenship, regardless of where that person was born. For example, an intermarriage by nationality could involve a German-citizen woman and the Turkish-nationality, German-born son of a Turkish guest worker.[9] It would also include, misleadingly, marriages between naturalized citizens and non-citizens who are both of Turkish background, for example.

Furthermore, nationality and, by that, intermarriage status can change over time if the non-citizen spouse naturalizes. Therefore, nationality does not sufficiently capture cultural diversity in the family. In contrast, country of birth remains unchanged also after naturalization. Combining information about nationality and country of birth therefore better reflects cultural influences in childhood and throughout adult life. Including parental nationality and country of birth incorporates familial immigration and allows for the distinction between immigrant generations.[10]

Accordingly, "first generation immigrants" are defined as persons who are not born in Germany. Those who are born in Germany but are (a) non-German citizens, or (b) whose mother or father is not German born or has non-German nationality are called "second generation immigrants".[11]

[8] Between ages 18 and 23, children with dual citizenship must choose one citizenship, as mandated by a law passed in 2000 commonly known as the "option model". People with dual nationality are not counted as foreigners in official statistics that use nationality as the single criteria.

[9] The term "guest worker" refers to foreigners who came to Germany in the course of the *guest worker recruitment* beginning in the 1950s. Until the mid70s Germany signed treaties with several mainly Southern European countries (Italy, Greece, Spain, Turkey, Portugal and Yugoslavia) to recruit predominately low skilled laborers to work in low qualified sectors. For more detailed and comprehensive information on Germany's immigration history see, for instance, Kalter and Granato (2007).

[10] In cases where there is no information available about country of birth for the immigrant and his or her parents, nationality is taken as a single criteria to determine immigrant status.

[11] In case both parents are not born in Germany but also not born in the same country, the country of origin of the mother is assumed to outweigh the country of origin of the father: According to a "classical" role allocation within the family, the mother raises the children while the father works to

Another peculiarity in Germany are *Aussiedler*. Those are people of German descent who moved to Germany, predominantly from Eastern Europe, and were granted German citizenship upon arrival by virtue of their ethnicity and family history. Between 1950 and 2005, *Aussiedler* came mainly from Poland, Hungary, Romania, and states that formerly belonged to the Soviet Union, Czechoslovakia, and Yugoslavia. They are counted as Germans in official statistics that use nationality as the single criteria for immigrant status. However, the definition of immigrant status in this paper defines *Aussiedler* as belonging to the group of immigrants since emphasis is put on cultural differences and German-specific knowledge of partners. Consequently, *Aussiedler* are treated as part of the immigrant population and do not take on an exceptional role even though their language abilities are often more advanced and they may feel more attached to Germany due to their German ancestry.

Starting in 2005, the German Statistical Office uses new rules to define immigrants and their children: "migration background". The foreign born have a migration background, within which is their "own migration experience". Their children and grandchildren have a migration background but are called "persons without own migration experience". A child with a native parent and a foreign-born parent, therefore, has a migration background but without their own migration experience. According to the 2005 definition, *Aussiedler* are included in the migration background category and in the subcategory of own migration experience. Thus, the definition of immigrants and classification of *Aussiedler* used in this paper principally resembles that of migration background in Germany's micro census.

Consequently, "Natives" are persons born in Germany, holding German citizenship, and whose parents are both German-born with German citizenship. "Intermarriage" is defined as marriage and marriage-like partnership between an immigrant and a native person. All other relationship types, where both individuals are immigrants, are considered "Intra-immigrant Marriage". This makes a marriage between a Turkish man and a Polish woman an intra-immigrant marriage even though both have different ethnic backgrounds. This definition emphasizes that the benefits of intermarriage, if present, result from the German-specific knowledge of one spouse. "Marriage" in this context does not refer to legal marital status but to a partner of the opposite sex living in the same household. Hence, marriage is put on level of partnership and cohabitation respectively. However, the majority of those who report a partner living in the same household also report to be legally married. In addition, positive impulses are assumed not to result from legal status but from social interaction which equally happens in marriage and cohabitation.

earn the money. Consequently, the influence, including cultural aspects, of the mother on the child is assumed to be greater than the influence of the father. Therefore, it is assumed that cultural knowledge is transferred from the mother to the child rather than from the father. This argumentation is in line with cross-cultural psychology literature as represented by Phinney et al. (2001) and Warikoo (2005). However, the number of those cases is negligible in the data underlying this study.

3.5 Data

The empirical analysis uses data from the German Socio-Economic Panel (SOEP). The SOEP is a representative longitudinal survey started in 1984.[12] The 2007 survey includes information for about 20,000 individuals and 11,000 private households. This data source provides information for a variety of social and economic issues. Due to its panel design and an over sampling of immigrants, it opens excellent possibilities for empirical research and is especially suited to analyze intermarriage behavior at the individual level.[13]

The analysis focuses on potential earning effects for the working population, hence persons aged 20 to 65 who are currently not unemployed and not enrolled in school. Arguments related to the productivity hypothesis are more convincing for immigrants who are not born in Germany. Thus, the focus lies on first generation immigrants.[14]

The underlying unbalanced sample consists of 3,518 first generation men and 3,339 first generation women.[15] The majority of male immigrants (79.4 percent) report a partner at least once during the oberserved time. For immigrant women the number is quite similar: 82.6 percent report a partner at least once. This leaves 20.6 and 17.4 percent, respectively, single throughout the survey duration. Those who report a partner predominately live with immigrant partners (65.6 percent of men and 68.3 percent of women). Among immigrant men only 13.8 percent ever live with a native women, and only 14.3 percent of the immigrant women report a native partner.[16]

Among immigrants coming from one of the five sending countries during the guest worker period in the 1950s and 1960s - Turkey, former Yugoslavia[17], Greece, Italy, and Spain - men with Turkish roots are especially unlikely to intermarry while Italian men

[12]For more detailed information about the SOEP see Wagner, Frick and Schupp (2007).

[13]Sample weights in the SOEP rely upon a different definition of immigrant status, namely nationality. They are particularly useful for comparison between foreigners and German nationals. Since in this study immigrant status is based on migration background rather than nationality, and comparison is made only within the group of immigrants no weighting factors are used.

[14]One could argue that with increasing age, one loses the ability to quickly learn a new language. Hence, immigrants who come to Germany at an older age face greater difficulties learning German than immigrants arriving at a younger age. Therefore, immigrant children who come at very young ages, might not be remarkably different in their language acquisition from children who are born in Germany to immigrant parents. Thus, separately considering first generation immigrants who immigrated after the age of ten, accounts for possible differences in language proficiency between immigrants born in the host country or who came at early ages on the one hand, and those who immigrated later in life on the other hand. Moreover, ten is the earliest age at which children finish primary school and are sorted into secondary education. Thus, using ten as a cut off point makes the sample more homogeneous in terms of primary education and language acquisition. However, the results do not change essentially with this modification and statistical significance changes most probable due to different sample sizes.
Results for all immigrants and those who immigrated after the age of ten are available upon request.

[15]Sample attrition is assumed to be unrelated to marriage and thus presumably does not bias the results.

[16]Immigrants who report a partner whose immigrant status is not defined are dropped from the sample. Furthermore, those who switch between native and immigrant partners are also excluded from the analysis due to ambiguous results. This restriction seems harmless since only few people switch between native and immigrant partners, and the number of cases where partner's ethnic origin is not definable is also negligible.

[17]includes immigrants from Croatia, Bosnia and Herzegovina, Macedonia, Slovenia and Kosovo-Albania

are particularly often in partnerships with natives, Table 3.1. Hence, with respect to intermarriage, Italian men seem to be more integrated than other immigrant groups.[18] The influx of Polish and Russian immigrants - partly including *Aussiedler* - developed more recently and those ethnic groups are less well established in the German society. However, women from Poland are especially often intermarried, while women with Turkish origin very seldom live with German men, Table 3.2.[19]

Table 3.1: Marriage Patterns of Men

	Single	**Eventually Married with**		**Total**
		Immigrant	**Native**	
		$\bar{Mig}$	$\bar{Nat}$	
Native Men	3,956	527	11,294	15,777
	25.1%	**3.3%**	71.6%	[81.8%]
1st Gen. Immigrant Men	724	2,307	487	3,518
	20.6%	65.6%	**13.8%**	[18.2%]
By Selected Ethnic Origin				
Turkey	168	689	39	896
	18.8%	76.9%	4.4%	[25.5%]
Ex-Yugoslavia	88	324	43	455
	19.3%	71.2%	9.5%	[12.9%]
Greece	52	211	17	280
	18.6%	75.4%	6.1%	[8.0%]
Italy	84	284	78	446
	18.8%	63.7%	17.5%	[12.7%]
Spain	58	146	29	233
	24.9%	62.7%	12.5%	[6.6%]
Poland	54	154	34	242
	22.31%	63.64%	14.05%	[6.88%]
Russia	39	125	5	169
	23.1%	74.0%	3.0%	[4.8%]
Other	181	374	242	797
	22.7%	46.9%	30.4%	[22.7%]

Source: German Socio-Economic Panel (SOEP), unbalanced panel from 1984-2007
People aged 20 to 65, unweighted sample.
Percentage share on total immigrant population in [ ].

Regarding selected characteristics presented in Tables 3.3 and 3.4, intermarrying immigrants - both men and women - have on average more years of schooling, spent more years in Germany and had more full-time labor market experience than other immigrants. Self-reported language skills of those who eventually live with natives are significantly better than of those who marry other immigrants. Thereby language proficiency is measured on a scale ranging from 1 to 5, with 1 referring to "very poor" language skills and 5 to "very good" abilities. Generally, writing skills are poorer compared to oral qualification regardless of marriage type but better for intermarrying immigrants.[20]

[18]The category labeled "Other" refers to immigrants coming from other countries than those explicitly referred to before. This category includes immigration from over one hundred different countries.

[19]As seen in the tables, small sample sizes do not allow for separate regressions differentiated by ethnic group. Hence, it is not possible to account for German-specific heterogeneity by differentiating between effects of intermarriage, for instance, for Turks and for *Aussiedler* - even though this would be of great interest.

[20]Information on language evaluation is available only for foreigners but not for German nationals, and is reported only in 1997, 1999, 2001, 2003 and 2005. The variable is linearly interpolated for the

Table 3.2: Marriage Patterns of Women

	Single	**Eventually Married with Immigrant** $\bar{Mig}$	**Native** $\bar{Nat}$	**Total**
Native Women	3,596	581	11,677	15,854
	22.7%	**3.7%**	73.7%	[82.6%]
1st Gen. Immigrant Women	582	2,279	478	3,339
	17.4%	68.3%	**14.3%**	[17.4%]
By Selected Ethnic Origin				
Turkey	124	667	7	798
	15.5%	83.6%	0.9%	[23.9%]
Ex-Yugoslavia	93	321	33	447
	20.8%	71.8%	7.4%	[13.4%]
Greece	31	210	5	246
	12.6%	85.4%	2.0%	[7.4%]
Italy	42	246	24	312
	13.5%	78.9%	7.7%	[9.3%]
Spain	29	147	8	184
	15.8%	79.9%	4.4%	[5.5%]
Poland	64	166	57	287
	22.3%	57.8%	19.9%	[8.6%]
Russia	25	122	22	169
	14.8%	72.2%	13.0%	[5.1%]
Other	174	400	322	896
	19.4%	44.6%	35.9%	[26.8%]

Source: German Socio-Economic Panel (SOEP), unbalanced panel from 1984-2007
People aged 20 to 65, unweighted sample.
Percentage share on total immigrant population in [ ].

The share of unemployed is especially high among women who marry within the immigrant community (52.8 percent). Intermarried immigrant women, on the other hand, have the lowest unemployment (39.7 percent). The share of unemployed intermarried immigrant men does not differ much from that of men in intra-immigrant marriage, although it is particularly smaller than that of singles. Average earnings are highest for intermarried immigrants, men and women. However, single immigrant women earn more than women in intra-immigrant marriage, while single immigrant men earn far less than men in intra-immigrant marriage and intermarriage.

3.6 Empirical Results

The study focuses on first generation male immigrants assuming that (a) men generally benefit from marriage in terms of earnings[21], (b) effects steming from a native partner are more valuable for the non-native partner, and (c) considering only males avoids selection issues related to female employment. Nevertheless, regressions are run also for immigrant women and natives, even though results for females need to be treated

missing years between 1997 and 2005 and extrapolated for the remaining years.

[21] see for instance Pollmann-Schult (2010) for an analysis of a marital wage premium for men in Germany.

Table 3.3: Selected Characteristics for Men

	Single	**Eventually Married with**	
		Immigrant	**Native**
		$\bar{Mig}$	$\bar{Nat}$
	1st Gen. Immigrant Men		
Years of Schooling	10.12 (2.15)	9.96 (2.10)	11.45 (2.84)
Speaking Abilities(1)	3.95 (0.96)	3.51 (0.89)	4.38 (0.71)
Writing Abilities(1)	3.40 (1.36)	2.79 (1.17)	3.74 (1.09)
Years since immigration	17.16 (8.24)	19.29 (8.77)	23.54 (11.14)
Share unemployed	32.5%	20.9%	19.7%
Full-time Experience	9.88 (9.98)	16.00 (8.96)	16.92 (11.51)
Earnings(2)	1,762 (897)	2,252 (1,045)	2,675 (1,929)
	Native Men		
Years of Schooling	11.95 (2.45)	12.29 (2.62)	12.31 (2.81)
Share unemployed	32.8%	18.6%	17.5%
Full-time Experience	8.42 (11.24)	21.16 (12.01)	19.26 (11.76)
Earnings(2)	1,960 (1,864)	2,863 (2,020)	2,987 (2,120)

Source: German Socio-Economic Panel (SOEP), unbalanced panel from 1984-2007
People aged 20 to 65.
Unweighted averages of pooled sample; Standard deviation in parenthesis.
(1): Measured on a scale from 1 ("none at all") to 5 ("very good")
(2): Inflation-adjusted monthly labor gross earnings

Table 3.4: Selected Characteristics for Women

	Single	**Eventually Married with**	
		Immigrant	**Native**
		$\bar{Mig}$	$\bar{Nat}$
	1st Gen. Immigrant Women		
Years of Schooling	10.43 (2.77)	9.43 (2.18)	11.98 (2.82)
Speaking Abilities[1]	3.96 (1.04)	3.30 (1.06)	4.46 (0.72)
Writing Abilities[1]	3.47 (1.40)	2.59 (1.30)	4.04 (1.10)
Years since immigration	18.36 (9.10)	17.64 (8.85)	21.81 (12.21)
Share unemployed	38.9%	52.8%	39.7%
Full-time Experience	10.05 (10.50)	7.66 (8.19)	9.73 (9.55)
Earnings[2]	1,488 (902)	1,330 (787)	1,523 (1,184)
	Native Women		
Years of Schooling	11.96 (2.50)	11.81 (2.38)	11.82 (2.59)
Share unemployed	39.6%	39.4%	36.3%
Full-time Experience	10.72 (12.65)	11.38 (10.06)	10.08 (9.62)
Earnings(2)	1,643 (1,561)	1,538 (1,125)	1,699 (1,233)

Source: German Socio-Economic Panel (SOEP), unbalanced panel from 1984-2007
People aged 20 to 65.
Unweighted averages of pooled sample; Standard deviation in parenthesis.
(1): Measured on a scale from 1 ("none at all") to 5 ("very good")
(2): Inflation-adjusted monthly labor gross earnings

especially carefully.[22]

Table 3.5: Earnings Regressions - 1st Gen. Immigrant Men

Dep. Var.	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Log Earnings	OLS - 1	OLS - 2	FE - 1	FE - 2	FE - 3	FE - 4	FE - 5
$Married$	0.116***						
	(0.02)						
Nat		0.217***	0.071	0.067	0.077	0.065	0.051
		(0.03)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
$Nat \times ExpDiff$				-0.001	-0.008	-0.012	-0.014
				(0.00)	(0.01)	(0.01)	(0.01)
$Nat \times ExpDiff^2$						0.000	0.000
						(0.00)	(0.00)
$\bar{Nat} \times Exp$					0.008	0.018	0.014
					(0.01)	(0.01)	(0.01)
$\bar{Nat} \times Exp^2$						-0.000	-0.000
						(0.00)	(0.00)
Mig		0.096***	0.087***	0.091***	0.090***	0.093***	0.083***
		(0.02)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)
$Mig \times ExpDiff$				-0.004	0.001	0.004	0.006
				(0.00)	(0.01)	(0.01)	(0.01)
$Mig \times ExpDiff^2$						-0.000	-0.000**
						(0.00)	(0.00)
$\bar{Mig} \times Exp$					-0.005	-0.008	-0.011
					(0.01)	(0.01)	(0.01)
$\bar{Mig} \times Exp^2$						0.000	0.000
						(0.00)	(0.00)
Exp	0.020***	0.022***	0.028***	0.030***	0.031***	0.030**	0.028*
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
Exp^2	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***	-0.000	-0.000
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Add.Expl.(1)	No	No	No	No	No	No	Yes
$Constant$	7.343***	7.336***	7.277***	7.245***	7.269***	7.277***	6.214***
	(0.03)	(0.03)	(0.02)	(0.04)	(0.05)	(0.05)	(0.13)
N	19865	19865	19865	19865	19865	19865	15919

Source: German Socio-Economic Panel (SOEP), unbalanced panel 1984 - 2007, unweighted sample
Immigrants aged 20-65; not unemployed, not enrolled in school, report positive earnings
Robust Standard Errors in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
(1): Hours worked, tenure, full-time dummy, firm size, region and industry dummies, imputation flag, and indicator variables for new marriage in the next period.

The dependent variable is the logarithm of inflation-adjusted monthly labor gross earnings.[23] Apart from successively added marital variables, the baseline specification includes experience and its square term only. Further explanatory variables such as self-reported language abilities, tenure and its square, firm size, actual hours worked, and dummy variables accounting for full-time employment status, region, and industry are included in the regressions presented in the last columns of the tables. Regressions presented in these last columns also include dummy variables which capture changes in earnings one year prior to each type of marriage. They include indicator variables for each type of marriage, which equal one if in the next period a new intermarriage, intra-immigrant or intra-native marriage is observed.

[22] Due to a lack of persuasive exclusion restrictions, a selection correction such as suggested by Heckman would rely on the non-linearity of the model only. Because of this caveat no such a correction is made. But, since individual characteristics presumably determine selection into labor force participation, the fixed effects model, at least partly, accounts for possible selection biases.

[23] Earnings are adjusted by multiplication with the consumer price index. They are expressed in year 2000 earnings. Results do not change in principle if unadjusted earnings in combination with year dummies are used.

Table 3.6: Earnings Regressions - 1st Gen. Immigrant Women

Dep. Var.	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Log Earnings	OLS - 1	OLS - 2	FE - 1	FE - 2	FE - 3	FE - 4	FE - 5
$Married$	-0.225***						
	(0.03)						
Nat		-0.211***	-0.106*	-0.108*	-0.109*	-0.103	-0.046
		(0.05)	(0.05)	(0.05)	(0.05)	(0.06)	(0.05)
$Nat \times ExpDiff$				-0.002	-0.000	-0.005	0.001
				(0.01)	(0.01)	(0.02)	(0.01)
$Nat \times ExpDiff^2$						0.000	0.000
						(0.00)	(0.00)
$\bar{Nat} \times Exp$					-0.004	-0.016	0.006
					(0.01)	(0.02)	(0.02)
$\bar{Nat} \times Exp^2$						0.000	-0.000
						(0.00)	(0.00)
Mig		-0.228***	-0.117***	-0.104**	-0.108**	-0.116**	-0.018
		(0.03)	(0.03)	(0.03)	(0.04)	(0.04)	(0.03)
$Mig \times ExpDiff$				-0.005	-0.004	0.009	-0.001
				(0.00)	(0.01)	(0.01)	(0.00)
$Mig \times ExpDiff^2$						-0.001***	-0.001*
						(0.00)	(0.00)
$\bar{Mig} \times Exp$					-0.004	-0.016	0.002
					(0.01)	(0.02)	(0.01)
$\bar{Mig} \times Exp^2$						0.000	0.000
						(0.00)	(0.00)
Exp	0.069***	0.069***	0.045***	0.049***	0.051***	0.058***	0.024*
	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.02)	(0.01)
Exp^2	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001**	-0.000
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Add.Expl.(1)	No	No	No	No	No	No	Yes
$Constant$	6.766***	6.766***	6.815***	6.779***	6.788***	6.804***	5.320***
	(0.04)	(0.04)	(0.04)	(0.05)	(0.05)	(0.05)	(0.31)
N	12248	12248	12248	12248	12248	12248	9126

Source: German Socio-Economic Panel (SOEP), unbalanced panel 1984 - 2007, unweighted sample
Immigrants aged 20-65; not unemployed, not enrolled in school, report positive earnings
Robust Standard Errors in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
(1): Hours worked, tenure, full-time dummy, firm size, region and industry dummies,
imputation flag, indicator variables for new marriage in the next period, and dummy for children living in the household.

For first generation male immigrants, the effect of marriage - regardless of partner descent - amounts to a 12 percent change in earnings according to the OLS results given in the first column of Table 3.5. Distinguishing the influence of marriage by migration background of the partner leads to a large increase for those with native partners (coefficient = 0.22) and a decrease for intra-immigrant marriage (coefficient = 0.10), Column 2. The effects are not only significantly different from zero but also from each other. Thus, while ignoring self-selection, intermarriage seems highly beneficial over marriage with another immigrant.

However, once personal heterogeneity is accounted for results change noticeably, Column 3.[24] The effect of intermarriage is reduced drastically in magnitude (coefficient = 0.07) and loses significance compared to single immigrants. This implies that the effect of intermarriage is overestimated in the OLS model and the coefficient is upward biased if unobserved factors are ignored.[25]

Even though there seems to be no statistically significant effect from intermarriage compared to singles, the difference between effects from intermarriage and intra-immigrant marriage is also not statistically significant. This finding remains unchanged when further marital variables are added to account for development during marriage and general advantages of either marriage type, Columns 4 to 7. Thus, intermarriage does not appear to be immediatly beneficial to intra-immigrant marriage once individual heterogeniety is taken into account.

Although there seems to be no immediate advantage from one type of marriage over the other, there are - though rather small in magnitude - statistically significant differences in the returns to experience for those who eventually intermarry (coefficient = 0.02) and those who eventually marry an immigrant partner (coefficient = -0.01), Column 6. Those who will live with a native some time during their observation, receive greater returns to each additional year of experience in the local labor market than those who only live with immigrant partners. This difference becomes significant when the model accounts for non-linearity in the returns to experience. Adding further explanatory variables does not affect these main results, Column 7.

As opposed to men, no marriage premium is found for immigrant women, Table 3.6. Contrarily, women seem to receive a "penalty" from marriage in comparison to singles (coefficient = -0.23), Column 1. However, there is no significant difference between the effect of intermarriage and intra-immigrant marriage in any specification. The magnitude of the marriage coefficients is halved when individual fixed effects are taken into account, Columns 3 to 6, indicating that negative influences are overestimated in the

[24] According to the Hausman (1978) Test the Null-hypothesis of zero correlation between the explanatory variables and the unobserved heterogeneity is rejected. Thus, a random effects model would lead to inconsistent estimates whereas the fixed effects model is consistent - even though it might not be fully efficient.

[25] Insignificance of intermarriage compared to singles could also stem from little variance in the indicator variable. Identification in the fixed effects model comes from those who switch between being single and intermarriage. This identification is relatively limited since only few immigrant men switch between being single and reporting native partners during the observed time frame.

OLS model. The coefficients decrease even further and finally lose significance when additional explanatory variables are included, Column 7. These variables control for observable personal and job related characteristics and seem to explain most of the negative effects.

Table 3.7: Earnings Regressions - Native Men

Dep. Var.	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Log Earnings	OLS - 1	OLS - 2	FE - 1	FE - 2	FE - 3	FE - 4	FE - 5
$Married$	0.170***						
	(0.01)						
Mig		0.209***	0.122*	0.120*	0.116*	0.123*	0.099
		(0.03)	(0.05)	(0.05)	(0.06)	(0.06)	(0.05)
$Mig \times ExpDiff$				0.001	0.005	0.005	0.007
				(0.00)	(0.01)	(0.01)	(0.01)
$Mig \times ExpDiff^2$						-0.000	-0.000
						(0.00)	(0.00)
$\bar{Mig} \times Exp$					-0.006	-0.012	-0.010
					(0.01)	(0.01)	(0.01)
$\bar{Mig} \times Exp^2$						0.000	0.000
						(0.00)	(0.00)
Nat		0.168***	0.082***	0.077***	0.076***	0.067***	0.039***
		(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
$Nat \times ExpDiff$				0.002	0.003*	0.009***	0.009***
				(0.00)	(0.00)	(0.00)	(0.00)
$Nat \times ExpDiff^2$						-0.000***	-0.000***
						(0.00)	(0.00)
$\bar{Nat} \times Exp$					-0.003	-0.005	-0.004
					(0.00)	(0.00)	(0.00)
$\bar{Nat} \times Exp^2$						0.000	0.000
						(0.00)	(0.00)
Exp	0.045***	0.045***	0.046***	0.045***	0.047***	0.049***	0.038***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Exp^2	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
$Add.Expl.^{(1)}$	No	No	No	No	No	No	Yes
$Constant$	7.236***	7.236***	7.180***	7.201***	7.212***	7.212***	5.654***
	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.21)
N	84189	84189	84189	84189	84189	84189	76022

Source: German Socio-Economic Panel (SOEP), unbalanced panel 1984 - 2007, unweighted sample
Natives aged 20-65; not unemployed, not enrolled in school, report positive earnings
Robust Standard Errors in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
(1): Dummy for highest schooling degree, hours worked, tenure, full-time dummy,firm size, region and industry dummies, imputation flag, indicator variables for new marriage in the next period.

Native men generally benefit from marriage even after controlling for unobservable factors, Table 3.7. However, there are no significant differences between intermarriage and marriage with natives, neither in the OLS nor in the FE specifications. In contrast to immigrant men, experience gained during marriage with natives contributes positively for native men, although there seems to be no significant effect from experience gained during intermarriage, Columns 4 to 7. No differences in returns to experience are found between those who ever intermarry and those who do not, Columns 5 to 7. This is consistent with the assumption that differences in returns to experience signal greater commitment which is only convincing for immigrants.

Similar to immigrant women, native women do not seem to benefit from marriage, Table 3.8. However, for native women intermarriage seems to be "less harmful" than marriage to other natives - both with and without controlling for individual fixed effects.

In particular, disadvantages from intermarriage disappear once unobserved factors are taken into account and especially when controlling for additional observable characteristics.

Different effects on immigrants and natives may be explained by different resource allocation in intermarriage: Neither native men nor immigrant women experience immediate impulses from intermarriage or different returns to labor market experience depending on the origin of the partner. For them resources might be similarly distributed between spouses in the sense that, for example, educational differences between spouses are similar in marriages between immigrant women and native men, and in marriages between immigrant women and immigrant men. Therefore, immigrant women benefit equally from either type of partnership.

In particular, couples where the wife is an immigrant might follow more "traditional" gender roles where the husband works and the wife takes care of the household - in both intermarriage and intra-immigrant marriage. In intermarriage the position of the native husband may be relatively strong due to his advantage in the native's labor market, while in intra-immigrant marriages specific role allocations may favor men's abilities exceptionally: According to the "family investment hypothesis" (see, for instance, Baker and Benjamin (1997)), immigrant wives tend to accept any offered occupation upon arrival in order to support their husbands' human capital accumulation. Later, wives retire from the labor market and specialize in household production. Therefore, immigrant women follow similar gender role patterns in intermarriage and in marriages to immigrant men. Native men, on the other hand, might be better educated in intra-native partnerships but the relative educational difference between spouses might be the same as in intermarriage. Hence, his position is equally strong in both types of marriages and he benefits equally from both marital constellations.

In contrast, immigrant men who eventually live with native women seem to be better economically integrated in general than those who live with other immigrants. In addition, native women who live with immigrant men seem to be in an economically better position than those who live with native partners. This implies that especially intermarried couples where the wife is a native and the husband is an immigrant are better off. This might be due to a better general position of the intermarried immigrant man corresponding to better education in comparison to other immigrant men, and due to assortative mating by education which favors the native wife.

The immigrant man's better education signals better economic integration and provides a better starting position in the local labor market. In addition, educational institutions offer a platform to meet future spouses, in particular native wives. This fosters positive assortative mating by education and, as a consequence, makes those couples more homogeneous with respect to education. Hence, native women may have a better standing in intermarriages than in marriages with native men. Furthermore, immigrant partner might still face more difficulties in the local labor market than natives. Immigrant men who live with native women might therefore promote their wife's labor

market success more than native men, and native wives will benefit from that arrangement accordingly. In contrast, intra-native partnerships might be educationally more heterogeneous, and therefore native women receive less benefits from that partnership.[26]

All those explanations gives rise to the assumption that gender roles in intermarriage may differ from that in other marital constellations. However, by now this is mainly speculation and needs thoroughly verification.

Table 3.8: Earnings Regressions - Native Women

Dep. Var.	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Log Earnings	OLS - 1	OLS - 2	FE - 1	FE - 2	FE - 3	FE - 4	FE - 5
$Married$	-0.213***						
	(0.01)						
Mig		-0.078*	0.018	0.025	0.062	0.070	0.134*
		(0.04)	(0.05)	(0.05)	(0.05)	(0.06)	(0.05)
$Mig \times ExpDiff$				-0.003	-0.017*	-0.019	-0.019*
				(0.00)	(0.01)	(0.01)	(0.01)
$Mig \times ExpDiff^2$						0.000	0.000
						(0.00)	(0.00)
$\bar{Mig} \times Exp$					0.013	-0.003	0.008
					(0.01)	(0.01)	(0.01)
$\bar{Mig} \times Exp^2$						0.000*	0.000
						(0.00)	(0.00)
Nat		-0.221***	-0.102***	-0.102***	-0.105***	-0.109***	-0.015
		(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)
$Nat \times ExpDiff$				-0.000	0.002	0.008*	0.005*
				(0.00)	(0.00)	(0.00)	(0.00)
$Nat \times ExpDiff^2$						-0.000**	-0.001***
						(0.00)	(0.00)
$\bar{Nat} \times Exp$					-0.004	-0.012*	0.002
					(0.00)	(0.01)	(0.00)
$\bar{Nat} \times Exp^2$						0.000	0.000
						(0.00)	(0.00)
Exp	0.061***	0.061***	0.042***	0.043***	0.045***	0.051***	0.030***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Exp^2	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.000***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Add.Expl.(1)	No	No	No	No	No	No	Yes
$Constant$	6.836***	6.835***	6.835***	6.833***	6.840***	6.843***	5.140***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.27)
N	66082	66082	66082	66082	66082	66082	58208

Source: German Socio-Economic Panel (SOEP), unbalanced panel 1984 - 2007, unweighted sample
Natives aged 20-65; not unemployed, not enrolled in school, report positive earnings
Robust Standard Errors in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
(1): Dummy for highest schooling degree, hours worked, tenure, full-time dummy,firm size, region and industry dummies, imputation flag, indicator variables for new marriage in the next period, dummy for children living in the household.

3.7 Conclusion

Apart from educational and economic similarity, intermarriage is generally considered a measure of social integration. Additionally, intermarriage is suspected of affecting the economic performance of immigrants as native spouses may foster linguistic adjustment, provide access to certain networks, and help adaptation to the host country's society.

[26]This argument is related to those given to explain "working spouse penalties" as discussed, for instance, by Jacobsen and Rayack (1996); Hotchkiss and Moore (1999); and Song (2007).

However, enhanced productivity of intermarried immigrants might not stem from the native partner directly, but might be attributed to other productivity characteristics that simultaneously drive economic success and partner choice. Thus, accounting for endogeneity is crucial in the context of intermarriage and economic integration. To address that issue, a fixed effects framework is chosen to measure the effect of intermarriage on earnings. The advantageous structure of the data allows accounting for unobserved heterogeneity and to incorporate different times at which intermarriage might influence individual earnings.

The econometric model considers short and long term effects of intermarriage in contrast to singles and those in an intra-immigrant or intra-native marriage, and tests the assumption that marital choice signals different human capital accumulation. Accordingly, immigrants who marry natives may obtain greater returns to labor market experience because they better adapt to foreign customs and norms. In that case, the decision to intermarry signals greater commitment and generally better labor market integration of intermarrying immigrants.

Empirical findings for immigrant men indicate that immediate effects from intermarriage are present and exceed that of intra-immigrant marriage in the simple OLS model. Though, the corresponding coefficients decrease and lose significance once unobserved abilities are accounted for. There hence seems to be no significant difference between intermarriage and marriage among immigrants after selection issues are taken into account. However, those who ever intermarry receive greater returns to experience than those who exclusively live with other immigrants. This indicates better general labor market integration of those intermarrying. Findings imply that selection into intermarriage based on individual time-invariant characteristics is crucial and finding a native partner works as a signal for an advantageous economic status for male immigrants.

In contrast, immigrant women seem not to benefit from either type of marriage. However, negative relations are mitigated when accounting for unobservable factors and including additional explanatory variables. Native women, on the other hand, seem to benefit from marriage with immigrant men. Though, there are no effects from intermarriage for native men.

Finding different effects for immigrants and natives as well as for men and women possibly indicates different human capital allocations within each type of partnership. Further research should concentrate on possibly different gender roles within intermarriage.

Moreover, other economic productivity measures should be considered. As intermarriage might affect wages indirectly via access to better jobs and enhanced labor force participation, research on the effect of intermarriage on self-employment and employment rates or types of occupations as done by Georgarakos and Tatsiramos (2009), Furtado and Theodoropoulos (2009a) and (2009b) for immigrants in the United States is also desirable for immigrants living in Germany. Furthermore, possible economic effects of intermarriage for immigrants women should be considered in greater depth. In this

regard, special difficulties related to selection into female labor force participation need to be taken into account.

Thus, various aspects of whether and how intermarriage is related to economic success are not yet explored exhaustively leaving highly interesting questions still unanswered and encouraging further research on this very fascinating topic.

Chapter 4

Relative Labor Supply in Intermarriage

4.1 Introduction

Marriages between immigrants and natives, here termed 'intermarriage', is often viewed as indicator of social proximity and possibly a driving factor of individual economic success. Being intermarried seems to signal greater commitment and better integration in the host country. On average, intermarried immigrants tend to have better education, are more likely to work in high-qualified jobs as well as earn more than singles and immigrants who live with other immigrants.

The literature predominately focuses on patterns and determinants of intermarriage. Accordingly, structural characteristics of the marriage market, such as availability of potential partners within the own ethnic group, interference of third parties, personal characteristics including age at immigration, years elapsed in the country and, most prominent, education are among the most important factors.

Starting early in the 21st century, researchers have increasingly focused on intermarriages' potential effects on economic outcomes. Thus, intermarriage is related to economic success in terms of immigrants' wages in the United States, Australia, and France, as well as to employment and self-employment rates of U.S. immigrants.[1] However, little is known about what happens within the household and in particular how intermarried couples differ from immigrant and native couples with respect to the division of labor.[2]

The aim of this paper is to fill this gap by analyzing differences in relative labor supply of intermarried couples in comparison to immigrant and native couples, and testing whether they coincide with differences in partners' self-assessed bargaining power. In

[1]For the United States see Kantarevic (2004), for Australia Meng and Gregory (2005), and for France Meng and Meurs (2009). Dribe and Lundh (2008) and Gevrek (2009) address similar questions regarding immigrants in Sweden and the Netherlands, whereas Furtado and Theodopoulos (2009a) and (2007b), and Georgarakos and Tatsiramos (2009) consider employment and self-employment rates of U.S. immigrants.

[2]Some studies, for instance by Basilio, Bauer, and Sinning (2009) and other studies cited therein, investigate the labor market behavior of immigrants in a family context with particular interest in the so-called "family investment hypothesis".

particular, the hypothesis whether intermarried couples are less specialized than immigrant or native couples is tested. This could be due to (a) smaller comparative advantages induced by positive assortative mating by education which leads to more similar education and productivity levels of partners, and/or due to (b) differences in partners' perceived bargaining position as proxied by one's influence on financial and income decisions.

The decision on how much to work relative to the partner depends, among other factors, on the expected gains from specialization and the bargaining strength of each spouse. If expected gains are low, less specialization is optimal. Plus, if bargaining strength is high more labor supply is expected, where if bargaining position is weak, fewer labor market hours are provided.

Comparing years of schooling, similarities in education, and other personal characteristics such as the so-called 'big five' personality traits indicates that immigrants in intermarriage differ from those in immigrant partnerships. Differences in self-reported bargaining power regarding financial decisions also become apparent.

The empirical analysis builds on panel data from the German Socio-Economic Panel (SOEP), which offer the possibility to incorporate unobserved, time-invariant factors and various individual's and couple's characteristics.[3] A two-limit random effects Tobit model is used to account for corner solutions in the couple's maximization problem. To allow for possible endogeneity between intermarriage and relative labor supply, the functional form assumptions of the Tobit model are successively relaxed, leading to an instrumental variable estimation. In that an ethnicity-gender ratio similar to those proposed in previous studies is used as identifying restriction. The analysis considers cohabiting couples and proposes a gender-neutral specialization index to measure to what extent one partner contributes to the mass of couple's working hours.[4]

Empirical findings indicate that intermarriage is, indeed, highly related to less specialization especially for immigrant men. For immigrant women this relation also holds but is somewhat weaker. In contrast, natives in intermarriage seem to specialize even more if intermarried than in partnerships with natives. This finding might indicate that natives' view on female labor force participation differs from that of immigrants, and intermarried natives adapt to their partners' views in order to mitigate conflict potential within the partnership. In addition, bargaining power of the native partner, especially the wife, might be better in intermarriage due to better and more similar education, better outside options and different threat points.[5]

According to self-reported bargaining strength, intermarried immigrant men are less

[3]For further information about this data source see for example Wagner, Frick and Schupp (2007).

[4]This approach is motivated by work by Stratton (2005) and Bonke et al. (2008) who use a similar design to detect differences in the degree of specialization in household tasks between married and cohabiting couples, and between couples in the United States and Denmark respectively.

[5]This relates to arguments given in models of collective labor supply where bargaining strength depends on partners' threat points and their outside options. For more information about collective labor supply models, its assumptions, tests, and implications see for instance: Klaveren et al. (2009); Blundell et al. (2007); Attanasio and Lechene (2002); Chiappori, Fortin, and Lacroix (2002) ; Lundberg and Pollak (1996); Chiappori (1988).

likely to be the sole decision maker in the household, whereas in immigrant households financial decisions are mostly made by the husband. For natives and immigrant women no such differences are found depending on the origin of the spouse.

In the next section various concepts related to intermarriage are discussed. In addition, a brief sketch of the theory behind intra-household division of labor is given. Section 4.3 then explains the construction of the specialization index, followed by a summary of definitions and the data description in Section 4.4. In Section 4.5 the empirical results are presented and discussed including a subsection that contains some robustness checks. The paper concludes with a summary of results and an outlook for further research.

4.2 Background

4.2.1 Determinants of Intermarriage and Its Economic Implications

Previous research regarding intermarriage primarily focused on patterns and determinants of intermarriage, that is factors that increase the likelihood to marry outside the own ethnic group and, in particular, for immigrants to marry native partners. This strand of literature predominately evolved in traditional immigration countries such as the United States and Australia, but is also increasingly prominent in Germany and other European countries like France, Sweden and the Netherlands.

More recently, studies of economic implications from intermarriage find mostly positive effects from native partners for immigrants. Even though Kantarevic (2004) finds no significant effect of intermarriage on immigrants' earnings in the United States once he controls for possible endogeneity, Meng and Gregory (2005) and Meng and Meurs (2009) do find positive influences on earnings for Australian and French immigrants. They account for selection into intermarriage by using an instrumental variable approach that serves as the model for the instrument used in this paper. Furtado and Theodoropoulos (2009a) and (2009b), as well as Georgarakos and Tatsiramos (2009) use different productivity measures, namely employment status and self-employment probabilities, also finding positive effects for U.S. immigrants. Until now, little is known about such relations for immigrants in Germany.

Among the most important factors driving marriage choice are structural constraints in the marriage market such as gender ratios and the availability of partners within the own ethnic community (Angrist (2002)). Additionally, interference of third parties (mainly parents), religious beliefs, socio-economic status, and cultural and linguistic proximity determine the decision of whom to marry. These factors, at least partly, explain why some immigrant groups show a greater tendency toward intermarriage than others. However, individual characteristics and personal preferences must not be neglected. In particular, immigrants are more likely to intermarry if they immigrated at young ages, spent considerable time in the hosting country, exhibit good language skills, and, most importantly, are highly educated (Furtado (2006); Furtado and Theodoropou-

los (2010); Chiswick and Houseworth (2008)).

Higher education is among the most prominent factors driving intermarriage choice as better educated immigrants are assumed to be less likely to live in ethnic enclaves and to better adapt to a foreign environment.[6] Furthermore, intermarried immigrants are more receptive to 'positive assortative mating by education' according to which people match predominately based on similarities in education.[7] According to Becker (1974), people generally match based on similar bundles of resources. However, partners do not need to be identical in each characteristic but can compensate for differences in one property by offering greater harmony in other areas. Hence, partners with heterogeneous ethnic backgrounds tend to be more similar with respect to education than couples with the same ethnic background (see Chiswick and Houseworth (2008); Furtado (2006); Furtado and Theodoropoulos (2010)). Moreover, educational institutions usually serve as social platform for meeting potential future spouses.

4.2.2 Couple's Specialization

The degree of specialization depends, among others, on expected gains and associated costs from the division of labor within the household. Based on Becker (1981) and discussed for instance by Bonke et al. (2008), specialization and the division of labor are "fundamental principles of economics and allow for production at lowest possible costs". This principle creates an advantage of multi person over single person households and results in household specialization to the extent that one partner focuses mainly on labor market work whereas the other specializes in home production.

Who specializes in which tasks thereby depends on different aspects such as resource endowment, time availability, ideology and egalitarian views. Accordingly, members with the most power will do less housework (Hersch and Stratton (1994)) - thereby 'power' can be related to comparative advantages and better outside options. Hence, those with higher expected earnings, and therefore higher opportunity costs, will contribute more time to labor market work. In addition, the least time constrained party will do the house work whereas the more time constraint partner specializes in labor work. Furthermore, ideology and the importance of individual beliefs regarding gender roles - keyword: doing gender - also play an important role in the division of labor (Bittman, England, and Folbre (2003)). Consequently, couples with more egalitarian views - mainly younger, more liberated people - divide tasks more equally (Fuwa (2004)).

Putting this in a more formal framework and following the arguments given in the context of collective labor supply models, couples' utility can be written as the weighted sum of spouses' individual utilities subject to their time and budget constraints and incorporating home production. Adopting the notation given by Klaveren et al. (2009)

[6] For a detailed discussion of these effects see Furtado (2006) and Furtado and Theodoropoulos (2010).

[7] Positive assortative mating, that is positive correlation between values of traits of husbands and wives, also applies to IQ, height, attractiveness, skin color, and ethnic origin. According to Becker (1985), there is no positive assortative mating by earnings. However, this finding is discussed controversially in the literature.

the couple's maximization problem then reads as follows:

$$\begin{aligned} max \quad & U_h = \pi U_m + (1-\pi)U_f \\ s.t.\ Y = & w_m(T - le_m - wh_m) + w_f(T - le_f - wh_f) + y \\ & H = wh_m + \gamma wh_f; \\ & 0 < le_m, le_f, wh_m, wh_f \leq 1. \end{aligned}$$

U_h thereby refers to the household's utility, U_m and U_f to husbands and wives individual utilities. For $i \in \{m, f\}$, le_i denotes leisure time, wh_i hours worked in the household, w_i denotes individual labor earnings, T refers to the total amount of time available, H to household production, and y is non-earned income. Allowing γ to diverge from one accounts for different productivities in household production between husbands and wives, and π captures differences in bargaining strength between spouses. Thereby π captures, for instance, relative resource endowment, time availability, outside options and egalitarian views. The higher π the stronger the bargaining position of the husband relative to his wife, and hence the lower the bargaining power of the wife.

It is assumed here that the observed labor supply of each spouse is the optimal solution of this maximization problem given his/her bargaining strength. According to Klaveren er al. (2009) π depends mainly on labor market earnings, the number of children living in the household, the age of the partners, and net weekly non-labor income. However, measuring actual bargaining power is difficult. Thus, Klaveren et al. (2009) rely mainly on functional form assumptions underlying the model. Alternative studies, such as those by Lührmann and Maurer (2009), as well as Beegle, Frankenberg, and Thomas (2001) use self-reported information on who has the final say in household's decisions. A similar variable is used in this study as robustness check to depict different decision patterns in intermarriage and immigrant and native marriages.

Independent of the 'sexual' division of labor within the couple - meaning whether the husband or the wife specializes in household labor -, greater gains from specialization are expected for couples with greater differences in skills and abilities (Becker (1981) and (1985)). In particular, smaller differences in education will lead to less specialization due to smaller expected gains. In addition, the degree of specialization may differ with household characteristics, especially with expected duration of the relationship as proposed by Stratton (2005). The longer the expected period of specialization, the lower the present value of costs from changing tasks when the relationship ends, and the greater the optimal degree of specialization. Consequently, partners should specialize more if they expect the relationship to last longer.

4.2.3 Working Hypothesis

Relating these arguments to intermarriage implies that intermarried couples may be less specialized than immigrant couples for the following reasons:

(1) Intermarried spouses tend to be more similar in education due to assortative mating. Accordingly, intermarried immigrants seem to compensate for differences in ethnicity with greater similarity in education (see Chiswick and Houseworth (2008) for an analysis of U.S. immigrants). This induces similar productivity levels of partners in intermarriage and hence a smaller comparative advantage of one partner over the other. This, in turn, reduces the incentive to specialize and results in less division of labor. In contrast, immigrant couples are, by definition, ethnically homogeneous and hence may place less emphasis on similar education. Hence, a higher comparative advantage of one partner is expected that, among other determinants, will lead to greater specialization within those partnerships.

(2) Bargaining power in intermarriage might be shifted to the native partner due to better labor market options. The native partner is more familiar with the host country's customs, norms, and peculiarities, has a better knowledge of the local labor market, faces less discrimination based on ethnicity, and exhibits better host country specific skills requested by native employers.

Adding to that, the native spouse might pressure the immigrant partner if the immigrant's permission of residence depends solely on the marital status and the immigrant is threatened with expulsion in case of divorce. Residential status of immigrants - referring to especially foreigners from non-EU member states - who come to Germany exclusively based on marriage with a German national, depends principally on the duration of that marital union. Intermarried bi-national couples need to spend a considerable time 'living their marriage' before the immigrant spouse receives an autonomous right of residence (*eigenständiges Aufenhaltsrecht*). Hence, particularly within the first years after immigration, divorce could lead to deportation of the immigrant partner. This, in turn, might affect the distribution of bargaining power within the marriage, spouses' threat points in event of divorce and, therefore, relative labor supply patterns. However, testing this hypothesis is beyond the scope of this paper and is left for future analyses. What can and will be tested with the available data are differences in the self-assessed power over financial decisions between intermarried and ethnically homogeneous couples.

(3) Furthermore, marriage among religious immigrants, in particular Muslims, are often arranged without giving a "de facto" possibility to divorce. Consequently, a higher degree of specialization is expected for immigrant and particularly Muslim couples.

(4) Finally, intermarried couples may be exposed to more conflict potential because of their different cultural background, as discussed by Stöcker-Zafari (2007). As shown by Bratter and Eschbach (2006) intermarriage is also associated with an increase in severe distress for some immigrants in the United States. Hence, intermarriages may be expected to end earlier than ethnically homogeneous marriages, which lowers the

incentive to specialize due to higher costs in case of separation.[8]

Native couples may represent either more traditional or more modern concepts of division of labor. On the one hand, because they are homogeneous with respect to ethnicity, spouses might differ more in educational attainment than intermarried couples and thus have similar specialization behavior as do immigrant couples. On the other hand, natives might have more egalitarian views with respect to female labor force participation and hence specialize less. Moreover, getting divorced and re-marry might be more common among natives than it is in the immigrant's country of origin which may affect the threat point within the partnership. The degree of specialization in intermarriages can thus differ from or resemble that of native couples.

4.3 Measure of the Degree of Specialization

The variable of interest is the degree of specialization in labor market work measured by the index S_{it}. This index captures whether one partner supplies the bulk of working hours in period t. It is normalized between zero and one, with $S_{it} = 0$ referring to equal provision of labor market hours, and $S_{it} = 1$ denoting complete specialization of one partner. Thereby h_t^i refers to individual i's average working hours per weekday in period t, and h_t^{-i} denotes working hours provided in t by i's partner. S_{it} is defined as:

$$S_{it} := \left(\frac{max\left\{h_t^i, h_t^{-i}\right\}}{h_t^i + h_t^{-i}} - \frac{1}{2}\right) \cdot 2.^{9} \tag{4.1}$$

The shortcoming of this index is that it does not allow for differentiation on who specializes - husband or wife - but an increase in S_{it} clearly indicates more specialization, whereas a decrease in S_{it} unambiguously indicates more similarity in terms of supplied labor hours.[10] However, in the majority of cases observed in the data, husbands provide at least as many hours to labor market work as does the wife. Results, therefore, do not change qualitatively when restricting the sample to those cases and can hence be interpreted in the sense that $S_{it} = 1$ refers to cases when the husband is the single breadwinner in the household.

The German Socio-Economic Panel (SOEP) gives information about hours spent on labor market work, household work, child care, repairs and other activitie including hobbies. The structure of how this information is gathered changes slightly over time. For instance, in the first wave interviewers ask about time allocation during the workweek, that is Monday to Saturday, and on Sundays. Later the distinction is made between Monday to Friday, Saturday, and Sunday - but only for alternating years. For the years in between, only weekly hours (Monday to Friday) are surveyed.[11] These changes result

[8] see also Kalmijn et al. (2005), who study the relationship between intermarriage and the risk of divorce in the Netherlands.

[10] In case both partners provide zero working hours the ratio is set to missing.

[11] Furthermore, in 1984, the first year of the panel, zero working hours are not reported.

in slightly different answer schemes and do not allow for direct comparison of working hours in one year with working hours in the subsequent year. To circumvent this problem the index is created such that it does not rely on the absolute but the relative amount of working hours. It is assumed that both partners make the same multiplicative adjustment ϵ to the different question schemes. Thus, in every alternating year the reported value is $h_t^i(1+\epsilon)$ instead of h_t^i. Using the ratio embedded in equation (4.1) eliminates such an error because:

$$\frac{h_t^i(1+\epsilon)}{h_t^i(1+\epsilon)+h_t^{-i}(1+\epsilon)} = \frac{h_t^i}{h_t^i+h_t^{-i}}. \tag{4.2}$$

However, for even better robustness, estimations are run only for alternating years for which the framing of the questions is identical.

4.4 Data

4.4.1 Definitions

Similar to Becker (1974) and various following studies, "marriage" is defined as sharing the same household. Hence, the underlying sample is restricted to people who report a partner living in the same household. In the final sample about 86 percent of those partnerships refer to formal marriage ("married, living together"). Marriage is put on the level of partnership or cohabitation, and partners are addressed as spouses, husbands and wives even though they might not be formally married.

A partnership between an immigrant and a native is called "intermarriage" even though this definition does not generally include marriage between people with different ethnic origins.[12] Marital constellations between two immigrants are called "immigrant marriage". Note that spouses in immigrant marriages need not come from the same country of origin but both exhibit a migration background. Having a migration background refers to being born outside of Germany, having non-German citizenship, being born to parents who do not hold German citizenship or to parents who were not born in Germany. Marriage between two natives is called "native marriage".

First generation immigrants are defined as people not born in Germany. Those who are born in Germany but (a) do not hold German citizenship, or (b) have at least one parent who is not German-born or of non-German nationality are called second generation immigrants. Both first and second generation immigrants are considered assuming that members of the second generation are not fully assimilated - in the sense of being indistinguishable from natives - and still differ in their behavior, at least partly, from natives. Marriage between first and second generation immigrants is thus treated as immigrant marriage, whereas marriage between natives and second generation immigrants is considered intermarriage.

[12] The term is used more in the sense of "marriage into the native society"

People are considered only when a current partner is observed and when they report non-missing working hours. One person can be observed with different partners. It is thereby assumed that former marriages do not influence future marriages.

4.4.2 Sample Construction

The focus of this study lies on the working age population, hence people aged 20 to 65. Apart from the age restriction, people are included independent of their working status, that is the analysis includes full and part time employed, as well as occasionally employed people, unemployed and those who are still enrolled in school.[13]

Due to different questioning schemes in alternating years, only every second year is considered. Furthermore, language information and information about the nationality of the best friend, used in the descriptive section to highlight different behavior of those who are intermarried, is available exclusively for 1997, 1999, 2001, 2003 and 2005. Hence, these are the years considered in this study. 2005 data additionally have the advantage of containing information about the so-called "big five" personality traits that give insight to one's self-perception with respect to openness, agreeableness, conscientiousness, neuroticism/emotional stability, and extraversion. These traits model the basic structure of all expressions of personality and capture personality differences between individuals as expressed through different modes of behavior and experience. They are used in the fields of psychology and sociology to analyze personality structures. The five factors are constructed out of information about individual communicative ability, agreeableness, originality, imaginativeness, work attitudes, attitudes toward worry and stress, self-restraint, cordiality, as well as the value placed on artistic and aesthetic experiences measured on a self-report basis. A factor analysis of these responses is conducted and the data are then grouped into an aggregate value for each of the five traits.[14] Moreover, for 2005 information on how income is distributed between spouses and who has the final say in financial decisions is available. This information is used in robustness testing to support the argument that bargaining power is differently distributed in intermarriage than in other marital unions.

4.4.3 Statistics

Tables 4.1 and 4.2 show selected characteristics of men and women who live in either intermarriage, immigrant or native partnerships. The numbers refer to two-year observations available between 1997 and 2005. Accordingly, roughly 18 percent of the observations refer to immigrants. Most of the immigrant men originate from Turkey,

[13]For the unemployed reported hours of work are expected to equal zero. Observations of people who give inconsistent answers are set to missing. Consequently, people who report zero weekly working hours while being full-time, part-time or occasionally employed are not considered, as are people who report positive hours of work while being unemployed. People may work while being enrolled in school and are still included in the sample.

[14]For more information about the big five and its construction in the SOEP see Gerlitz and Schupp (2005), or Dehne and Schupp (2007).

Italy, Poland, Greece, and states of former Yugoslavia. Immigrant women mainly came from Turkey, Italy, Poland, Russia, and Greece. Immigrants living in Germany predominately immigrated during the 'guest worker' recruitment period of the 1950s to 1970s, the family reunification after the recruitment stop in 1973, as asylum seekers, or as ethnic Germans after the fall of the Iron Curtain.[15]

The share of intermarriage out of the total observed partnerships is relatively low, especially among natives. Only 5.0 percent of native women and 4.7 percent of native men report an immigrant partner. Within the immigrant population this share is considerably higher: 21.9 percent of immigrant women and 22.7 percent of immigrant men report living with a native. This pattern is surly induced not only by preferences but also by group size differences: The bigger the own ethnic group and the more potential partners are available within the own ethnic community, the less likely it becomes to marry somebody from outside that group. Members of the majority population as well as members of big minority groups are thus more likely to marry a partner with the same ethnic background than members of small ethnic groups.

Intermarried native men most often live with women from Poland, Italy, Austria, states formerly belonging to Yugoslavia, Russia, France, the Philippines and Romania. Intermarried native women on the other hand are most likely to be married to men with Italian, Turkish, Spanish, Greek, Yugoslavian or Polish background.[16] Hence, these men come mainly from countries with more paternalistic family structures compared to Germans which might explain some of the later results.

The majority of immigrant men (63.2 percent of those in intermarriage and 73.2 percent of those in immigrant partnerships) work on average 8 to 10 hours per weekday. 8.9 percent in immigrant marriages and even 17.4 percent in intermarriages work slightly more, namely 11 to 12 hours. Among native men, the share of those working 8 to 10 hours is slightly smaller (61.3 percent in intermarriage and 61.7 percent in native marriages). However, a greater share (18.9 percent in intermarriage and 19.8 percent in native partnerships) works 11 to 12 hours. Among native women 27.3 percent in native marriages and 29.3 percent in intermarriage report zero working hours. For immigrant women this share is noticeably bigger, particularly among those who live with another immigrant: 44.7 percent of immigrant women in immigrant marriages do not provide any labor hours. Among the intermarried the share of women reporting zero hours of work is only 34.3 percent which is noticeably closer to the shares of natives. About one fourth (25.3 percent) of women in immigrant marriage and up to one third (28.6 percent of immigrant women in intermarriage, 32.5 percent of women in native marriages and 34.5 percent of intermarried native women) work 8 to 10 hours. Thus, women in intermarriages tend to work more than those in ethnically homogeneous partnerships.

On average, native men in intermarriage do not differ much regarding the presented

[15]For further information about the historic evolution of immigration to Germany see for instance Kalter and Granato (2007).

[16]For a detailed discussion of different marital patterns among non-German nationals see for instance Gònzalez-Ferrer (2006), Haug (2006) or Schroedter (2006).

Table 4.1: Selected characteristics of men

	Immigrant		**Native**	
Selected Characteristics	Intermarriage	Immigrant Marriage	Intermarriage	Native Marriage
Number of Obs.[1]	3,831 (18.1 %)		17,283 (81.9 %)	
Working hours per Weekday:				
0	11.4%	11.4%	10.3%	9.3%
8-10	63.2%	73.2%	61.3%	61.7%
11-12	17.4%	8.9%	18.9%	19.8%
Marriage Pattern	869 (22.7%)	2,962 (77.3%)	819 (4.7%)	16,464 (95.3%)
Labor Hours	8.5	8.1	8.7	8.8
Partner's Labor Hours	5.4	3.9	4.7	5.4
Household Hours	1.4	1.3	1.4	1.4
Partner's Household Hours	3.9	4.8	3.9	4.0
Years of Education	12.1	10.5	12.6	12.7
Difference in Education	0.0	0.3	0.3	0.3
Age at Marriage	29.2	25.4	30.9	28.4
Duration of Marriage	13.2	17.6	13.7	17.3
Years since Immigration	26.2	19.7	/	/
Age at Immigration	16.7	23.1	/	/
Language[2] (German):				
Speaking	1.4	2.3	/	/
Writing	2.0	2.8	/	/
Identity[3]:				
with Germany	2.8	3.1	/	/
with Home Country	2.5	2.5	/	/
Big Five[4]:				
Openness	positive***			
Emotional stability				
Extraversion	positive***			
Agreeableness	negative***			
Conscientiousness				
Risk proclivity[5]:	5.0	4.3	5.2	5.1
Origin of best friend:				
East or West Germany	73.0%	32.4%	90.7%	99.1%
Other country	27.0%	67.6%	9.3%	0.9%
Distribution of income:				
Each manages money separately	19.7%	3.9%	17.6%	16.1%
I manage, partner receives portion	4.8%	10.9%	8.4%	3.8%
Partner manages, I receive portion	6.1%	9.4%	4.6%	6.7%
All money shared	59.7%	72.9%	61.2%	63.9%
Part shared, part kept separate	9.6%	2.9%	8.2%	9.6%
Final say in financial decisions:				
Myself	9.0%	16.6%	10.8%	7.1%
Partner	11.3%	6.2%	5.9%	6.1%
Both	79.7%	77.2%	83.3%	86.8%

Source: German Socio-Economic Panel (SOEP), unbalanced panel, years 1997, 1999, 2001, 2003, 2005

[1] Those numbers refer to observations not to individuals, unweighted sample, years 1995 to 2005.

[2] Self-reported value measured on a scale from 1 (="very good") to 5 (="very poor")

[3] Self-reported value measured on a scale from 1 (="strong") to 5 (="poor")

[4] Values are conducted from a factor analysis;
positive/negative***: significant differences between those intermarried and those who are not

[5] Self-reported value measured on a scale from 1 (="highly risk averse") to 10 (="highly risk loving")

Table 4.2: Selected characteristics of women

	Immigrant		**Native**	
Selected Characteristics	Intermarriage	Immigrant Marriage	Intermarriage	Native Marriage
Number of Obs.[1]	3,976 (18.2 %)		17,833 (81.8 %)	
Working hours per Weekday:				
0	34.3%	44.7%	29.8%	27.3%
8-10	28.6%	25.3%	34.5%	32.5%
11-12	4.1%	1.7%	4.8%	5.3%
Marriage Pattern	870 (21.9%)	3,106 (78.1%)	893 (5.0%)	16,490 (95.0%)
Labor Hours	4.5	3.7	5.2	5.2
Partner's Labor Hours	8.7	8.1	8.6	8.9
Household Hours	4.0	4.9	4.0	4.0
Partner's Household Hours	1.4	1.2	1.4	1.4
Years of Education	12.3	10.2	12.2	12.3
Difference in Education	-0.4	-0.3	-0.0	-0.4
Age at Marriage	27.9	22.4	27.8	25.9
Duration of Marriage	13.6	18.0	13.3	17.4
Years since Immigration	21.9	17.9	/	/
Age at Immigration	20.2	22.4	/	/
Language[2] (German):				
Speaking	1.5	2.3	/	/
Writing	1.9	2.8	/	/
Identity[3]:				
with Germany	2.7	3.1	/	/
with Home Country	2.5	2.5	/	/
Big Five[4]:				
Openness	positive***			
Emotional stability				
Extraversion	positive***			
Agreeableness	negative***			
Conscientiousness				
Risk proclivity[5]:	4.1	3.0	4.1	4.2
Origin of best friend:				
East or West Germany	70.1%	32.4%	91.3%	98.9%
Other country	29.9%	67.6%	8.7%	1.1%
Distribution of income:				
Each manages money separately	17.6%	4.1%	20.5%	16.0%
I manage, partner receives portion	3.9%	9.2%	6.8%	6.1%
Partner manages, I receive portion	7.9%	11.7%	5.5%	4.1%
All money shared	62.5%	72.0%	59.2%	64.2%
Part shared, part kept separate	8.2%	3.0%	8.1%	9.6%
Final say in financial decisions:				
Myself	6.0%	6.7%	9.3%	5.5%
Partner	11.5%	16.7%	9.3%	6.9%
Both	82.5%	76.6%	81.3%	87.7%

Source: German Socio-Economic Panel (SOEP), unbalanced panel, years 1997, 1999, 2001, 2003, 2005

[1] Those numbers refer to observations not to individuals, unweighted sample, years 1995 to 2005.

[2] Self-reported value measured on a scale from 1 (="very good") to 5 (="very poor")

[3] Self-reported value measured on a scale from 1 (="strong") to 5 (="poor")

[4] Values are conducted from a factor analysis;
positive/negative***: significant differences between those intermarried and those who are not

[5] Self-reported value measured on a scale from 1 (="highly risk averse") to 10 (="highly risk loving")

characteristics from men in native marriages.[17] Accordingly, natives show no significant differences by type of marriage with respect to their average labor hours, partner's labor hours, and hours spend on household tasks - neither by themselves nor by their partners. There is no difference in education as measured by years of schooling. And also the gap in education between spouses is the same in native partnerships and intermarriages. There are no statistically significant differences in natives' answers to the big five and risk proclivity questions. But intermarriages do not last as long as marriages between natives. With respect to social interaction, the likelihood of being friends with a non-German person is noticeably higher for men in intermarriage than for those in native marriages. Furthermore, native men in intermarriage are more likely to report having the final say on financial decisions than men in native relationships. This suggests more paternalistic gender roles in marriages between native men and immigrant women than within native couples, which goes in favor of a better bargaining position of the native wives compared to the immigrant wives.

There are no statistically relevant differences between intermarriage and native marriage for native women with regards to average working hours, the amount of time that their partners devote to labor market and household work or women's hours spend on household tasks. However, while average years of schooling in intermarriages and native marriages are almost identical, the difference in education is not. More precisely, while native women who live with a native men have about half a year less of education than the native partner, in intermarriage the educational gap between spouses is completely negligible. Again, intermarriages tend to end earlier than native partnerships. And as for native men, answers to the personality traits and risk attitudes do not differ, while the share of those reporting a best friend who does not come from West or East Germany is considerably higher among intermarried women than among those married to a native man. In addition, a higher percentage reports that each spouse manages his/her income separately in intermarriage than in partnerships between natives. Moreover, women are more likely to have the final say on financial decisions if they are intermarried.

For immigrants, differences by marriage type are considerably stronger. Accordingly, immigrant men in intermarriage work more hours per weekday than other immigrants. They devote about the same amount of hours to household tasks in intermarriage as in immigrant marriage, whereas the native wives spend more time working in the labor market and less time with household work than the immigrant wives. Furthermore, intermarried immigrant men have significantly more education than those in immigrant partnerships, and the difference in education between spouses is noticeably smaller and even insignificant in intermarriage. Moreover, those who live with natives have spent more years in the hosting country, immigrated at younger ages, report better linguistic abilities - both with respect to speaking and writing skills - and feel more attached to Germany and are more risk loving than immigrant men in marriages with other

[17] This corresponds to findings by Glowsky (2007) who studies marriage patterns of German men also using SOEP data.

immigrants. In addition, intermarried immigrant men are more likely to report a best German friend, and they are, according to their self-assessment, more open and have higher values of extraversion than men in immigrant marriages - even though men in immigrant marriages view themselves as more agreeable. A noticeably higher percentage of immigrant men reports that each spouse manages his/her own money separately when they are intermarried. And, most strikingly, only 9.0 percent of immigrant men in intermarriage report to have the last word in financial decisions, in contrast to 16.6 percent of men in immigrant marriages.

Similar patterns evolve for immigrant women. Those intermarried provide more hours of labor market work than women in immigrant marriages. And also the native partners work more than the immigrant spouses. At the same time they spend less time on household tasks than women in immigrant partnerships. Immigrant wives with native husbands have considerably more years of education, although differences in education between partners are as big in intermarriages as in immigrant partnerships. As for men, intermarried immigrant women have spent more time in Germany, immigrated at younger ages, report better linguistic proficiency and a greater identification with Germany and less risk averse than women in immigrant marriages. Furthermore, they are more often friends with Germans and view themselves as more open and outgoing. 17.6 percent of immigrant women in intermarriage report that each spouse manages his/her own money separately, which contrasts to only 4.1 percent among women in immigrant marriages. Adding to that, 16.7 percent of women in immigrant partnerships report that the partner makes the final decisions on financial aspects, but only 11.5 percent of intermarried immigrant women make the same claim.

The descriptive findings imply that positive assortative matching by education is most severe in marriages between immigrant men and native women, and that bargaining strength of women - as proxied by self-reported power over financial decisions - is stronger in intermarriages than in immigrant marriages.

4.5 Estimation Results

4.5.1 Two-limit Random Effects Tobit

For the relevant years, 1,130 immigrant men in either intermarriage or immigrant partnerships are observed. For them the probability to live in a household where both partners work increases noticeably with intermarriage. The corresponding marginal effect on the probability that the index is smaller than one - recall that an index value of one refers to complete specialization of one spouse (mostly the husband) - is 0.13 and highly statistically significant (Table 4.3, Column 1). Even though own years of schooling appear insignificant for determining the division of labor, the probability to specialize rises with each additional year of schooling that the immigrant man achieved more than his wife. In addition, the probability to specialize increases with immigrant's age but not with the age gap between spouses. Interestingly, the probability to live in a

partnership with two working partners increases in the duration of marriage. However, the magnitude is rather small and there is no change in the degree of specialization as an intermarriage persists because the two effects offset each other. Among the most prominent factors determining the division of labor in the household are children, as indicated by a highly significant increase in the probability to specialize if children under the age of 16 are present in the household. The same holds for Muslim immigrants. The chance to live in a fully specialized household rises noticeably if the immigrant reports to exhibit Islamic beliefs or to be Muslim. Estimates of language abilities which are measured on a scale from "very good skills" (=1) to "very poor abilities" (=5) indicate that those who report to have better German speaking proficiency (which corresponds to a smaller value of that variable) are more likely to live in dual working households. Speaking the home country language seems not significant for determining the division of labor for immigrant men.[18]

One of the short-comings of the specialization index is that it does not allow the unambiguous determination of who specializes in labor market work - the husband or the wife. To address this issue, the same regressions are run for immigrant men who contribute at least as many labor work hours as their wives. As a consequence, an increase in the index can unambiguously be interpreted as following more traditional gender roles in the sense that the husband is the single breadwinner and the wife concentrates on household tasks. Since the vast majority of cases (about 80 percent) refer to this category it is not surprising to find that this restriction does not change estimation results qualitatively - in contrast, the negative relationship between intermarriage and specialization becomes even more pronounced.[19]

The SOEP contains information for 1,188 immigrant women living in partnerships during the relevant years. For these women the likelihood to live in a fully specialized partnership also decreases in case of intermarriage (Table 4.4, Column 1). Hence, those who live with a native husband are more likely to live in a household where both spouses work. However, the relationship is smaller than for immigrant men and only significant at the 10 percent level. While educational attainment is insignificant, older immigrant women tend to live in more specialized relationships than younger ones supporting the assumption that younger generations adopt more egalitarian views with regard to female labor force participation.[20] As for immigrant men, there seems to be no effect from additional years being intermarried, whereas marriage per se slightly increases the likelihood that both spouses work. Again, children living in the household as well as being Muslim or Islamic increases the probability of fully specialization drastically. Speaking the German language properly decreases this likelihood.

Between 1997 and 2005 a total of 5,874 native men are observed. Among them, intermarried native men are, in contrast to immigrants, more likely to live in fully spe-

[18] Writing abilities are not included in the regression despite their availability in the SOEP because answers to speaking and writing skills are highly correlated and would induce multicollinearity.

[19] Estimation results are available upon request.

[20] This corresponds to arguments given by Fuwa (2004) for example.

Table 4.3: Impact of Intermarriage on Specialization - for Immigrant Men

Dep. Var.:	**RE Tobit**[1]	**Tobit**[1]	**Logit**[1, 2]	**LPM**[3]	**IV**[4]
Specialization Index	(1)	(2)	(3)	(4)	(5)
Intermarriage	*0.129****	*0.130****	*0.144****	*0.144****	*1.745****
Education	0.006	0.011**	0.027***	0.044***	0.026**
More educ[5] × Difference in educ	-0.023***	-0.026***	-0.039***	-0.050***	-0.031**
Age	-0.009***	-0.009***	-0.004*	0.002	-0.009
Older × Difference in age	0.007*	0.008**	0.006	0.002	0.022**
Duration of marriage	0.005**	0.006***	0.004	-0.000	0.024**
Duration of intermarriage	-0.005*	-0.006**	-0.007*	-0.007**	-0.081***
Children younger than 16	-0.128***	-0.146***	-0.090***	-0.049**	0.018
Being Muslim/Islamic	-0.123***	-0.213***	-0.202***	-0.172***	-0.166***
Good German language skills	-0.030***	-0.026**	-0.029**	-0.013	0.045
Good skills in language of home country	-0.012	-0.028**	-0.014	0.007	-0.027
Estimation coefficient of the IV on intermarriage variable in first stage:					-0.742***

Source: German Socio-Economic Panel (SOEP), unbalanced panel, years 1997, 1999, 2001, 2003, 2005

Male immigrants aged 20 to 65; Comparison of those in intermarriage with those in immigrant marriages.

Clustered standard errors; * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

[1]Entries refer to marginal effects on the probability that both spouses work.

[2]Modified Dep. Var.: = 1 if both spouses work, = 0 if only one partner works.

[3]Entries refer to estimation coefficients using the same modified dep. Var. as in the logit regression

[4] $IV = \frac{number\ of\ opposite\ sex\ in\ the\ same\ ethnic\ group\ and\ the\ federal\ state}{total\ number\ of\ opposite\ sex\ in\ the\ federal\ state}$

[5] Implying that this person has more years of schooling than his/her partner.

Table 4.4: Impact of Intermarriage on Specialization - For Immigrant Women

Dep. Var.:	**RE Tobit**[1]	**Tobit**[1]	**Logit**[1, 2]	**LPM**[3]	**IV**[4]
Specialization Index	(1)	(2)	(3)	(4)	(5)
Intermarriage	*0.084**	*0.059*	*0.088**	*0.094**	*0.662**
Education	0.005	0.008*	0.020***	0.037***	0.034***
More educ[5] × Difference in educ	0.007	0.004	-0.007	-0.018*	-0.016
Age	-0.007***	-0.005**	-0.000	0.006**	-0.001
Older × Difference in age	0.005	0.008	0.003	-0.003	0.002
Duration of marriage	0.004**	0.005**	0.002	-0.001	0.008
Duration of intermarriage	-0.007**	-0.008***	-0.009**	-0.010***	-0.034**
Children younger than 16	-0.150***	-0.151***	-0.103***	-0.063**	-0.042
Being Muslim/Islamic	-0.079***	-0.150***	-0.141***	-0.109***	-0.076**
Good German language skills	-0.066***	-0.079***	-0.065**	0.048***	0.043***
Good skills in language of home country	-0.008	-0.026**	-0.010	0.012	0.007
Estimation coefficient of the IV on intermarriage variable in first stage:					-0.997***

Source: German Socio-Economic Panel (SOEP), unbalanced panel, years 1997, 1999, 2001, 2003, 2005

Female immigrants aged 20 to 65; Comparison of those in intermarriage with those in immigrant marriages.

Clustered standard errors; * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

[1]Entries refer to marginal effects on the probability that both spouses work.

[2]Modified Dep. Var.: = 1 if both spouses work, = 0 if only one partner works.

[3]Entries refer to estimation coefficients using the same modified dep. Var. as in the logit regression

[4] $IV = \frac{number\ of\ opposite\ sex\ in\ the\ same\ ethnic\ group\ and\ the\ federal\ state}{total\ number\ of\ opposite\ sex\ in\ the\ federal\ state}$

[5] Implying that this person has more years of schooling than his/her partner.

cialized household when they are married to an immigrant wife (Table 4.5, Column 1). Accordingly, intermarriage increases the probability to completely specialize for native men. While more years of education lead to less specialization, an increase in the educational gap between partners increases the incentive to divide tasks and thus increases the probability to specialize - as does an increase in men's age. As for immigrants, duration of marriage has no noticeable effect, whereas children seem to be crucial for a huge part of couple's division of labor.

Finally, the underlying data include observations for 6,047 married native women. Like for native men, intermarriage increases the probability to specialize compared to being married to a native man (Table 4.5, Column 2). In line with findings for the other subgroups, the probability to completely specialize is lower for better-educated women, although exhibiting more education than the spouse does not alter the division of labor. Similar to immigrant women, older native women tend to live in more specialized partnerships, whereas being older than the husband increases the probability that both partners work. This effect could be explained by arguing that in traditional families the husband is usually older than the wife. If the wife is older than the husband, this already expresses more modern perspectives which are reflected also in more modern views on female labor market participation and a more equal share of labor. Again, duration of marriage seems to play only a minor role for relative labor supply, whereas children determine most of the couple's distribution of labor supply.

Table 4.5: Impact of Intermarriage on Specialization - Natives

Dep. Var.:	**RE Tobit**[1]	
Specialization Index	Men	Women
	(1)	(2)
Intermarriage	*-0.085***	*-0.075***
Education	0.018***	0.019***
More educ[5] × Difference in educ	-0.022***	-0.004
Age	-0.010***	-0.012***
Older × Difference in age	0.006	0.007**
Duration of marriage	0.001	0.001*
Duration of intermarriage	-0.001	0.002
Children younger than 16	-0.152***	-0.152***

Source: German Socio-Economic Panel (SOEP)
Natives aged 20 to 65; Unbalanced panel, years 1997, 1999, 2001, 2003, 2005
Comparison of those in intermarriage with those in native marriages.
Clustered standard errors; * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$
[1]Entries refer to marginal effects on the probability that both spouses work.
[5] Implying that this person has more years of schooling than his/her partner.

Summing up results from the two-limit random effects Tobit regressions, immigrant men are particularly more prone to more equal labor supply when intermarried than in marriages with immigrant women. This might be due to (a) greater assortative mating by education and hence less comparative advantages in the marriage, and (b) a better bargaining position of native wives compared to immigrant wives. Specialization also seems less frequent in marriages between immigrant women and native men than in partnerships between immigrant women and immigrant men. However, assortative

mating is not so pronounced and the bargaining strength of the immigrant wives might also not be much different in the two types of partnerships.

In contrast, natives specialize more when intermarried than if in native marriages. Although this might contradict expectations at first sight, it might be explained by the fact that (a) native women are often married to immigrant men who come from mainly paternalistic countries such as Turkey and Italy. Hence, to mitigate conflict potential in the partnership those women might be willing to compromise on classical gender roles and thus accept a more traditional allocation of labor in the partnership; and (b) native men might specialize more when intermarried because of a weaker bargaining position of immigrant wives compared to native wives.

4.5.2 Alteration of Estimation Method

One of the main flaws of the random effects models is that it does not allow the unobserved individual factors to correlate with the explanatory variables. Regarding the question addressed in this study, this is somewhat dissatisfying as intermarriage choice and the division of labor within the household may both be affected by unobserved factors such as ambitions, openness to new cultures and egalitarian views. As discussed in the data section, immigrants especially differ in their replies to, for example, the big five questions, depending on whether they are intermarried or live in immigrant partnerships. Hence, it can be expected that they exhibit different characteristics that might determine both partner choice and relative labor supply. Omitting such factors will then bias estimation results.

To address this endogeneity issue by using an instrumental variable approach, it is necessary to show that altering the functional form of the estimation model does not affect the empirical results. Tables 4.3 and 4.4 show that these transformations finally lead to the IV estimation. At first, instead of the panel Tobit model a simple cross-sectional Tobit is estimated using clustered standard errors to correct for dependences within individuals. As shown in Column 2 in each table this does not change results dramatically.

In a next step, a new binary variable is generated which equals one in case that both partners work, and zero in case of full specialization. Columns 3 show estimated marginal effects from Logit regressions using this modified specialization index as dependent variable. The entries report marginal effects on the probability to live in a dual worker partnership. Again, results are fairly stable and close to the Tobit results.

As argued by Angrist and Pischke (2008), functional form assumptions underlying the Logit regression can sometimes be ignored and a simple Linear Probability Model (LPM) will lead to the same results. This argument is supported by findings presented in Columns 4 showing that the Logit marginal effects are almost identical to the OLS estimates.

In a final step an IV estimation is proposed to account for the endogeneity problem. Thereby an instrument similar to that introduced by Meng and Gregory (2005) is used

which takes into account that the probability to intermarry depends to a great amount on the availability of potential partners and hence the opportunity structure of the marriage market. The instrument used here is the ratio between the number of members of the opposite sex within the own ethnic groups in a certain region (in this case the federal state[21]) and the total number of members of the opposite sex in that area. Hence, the smaller that ratio the less likely it is to meet a potential partner from the same ethnic group and the more likely it is to marry someone from outside the own ethnic community, in particular from the native population. As a consequence, a negative effect of that ratio on the probability to intermarry is expected.

As shown in the last row of Column 5, this negative relationship is indeed detected, as the corresponding estimation coefficients of the first stage regressions of the 2SLS estimations are negative and highly significant. Furthermore, the coefficients of the intermarriage indicators in the second stage are still significant at the same level as in the previous regressions and increased noticeably in size. Assuming that the ratio that serves as instrument is exogenous and not prone to endogeneity, this finding indicates that intermarriage indeed fosters more equal labor supply. The downward bias of the OLS estimate might thereby result from omitting important factors that affect both intermarriage choice and the degree of specialization. If, for instance, ambitions increase the probability to find a native partner but also increase the likelihood to be the main breadwinner in the family, the OLS will underestimate the effect of intermarriage on the probability to specialize if no adequate measure for ambitions is available.

Unfortunately this instrument does not work for natives, as few theories exist that explain the driving factors for intermarriage. Trying to answer this question is beyond the scope of this paper but seems crucial for fully understanding the processes that determine intermarriage choice as a two-sided decision. But for now, since natives hardly respond differently depending on the origin of their partner, for example regarding their big five personality traits, omitted variable biases might not be as important for them as it is for immigrants.

4.5.3 Robustness Checks

One of the arguments made earlier about why intermarried couples might behave differently than ethnically homogeneous couples is that bargaining power is distributed differently - presumably more in favor of the native partner. A first indicator for that assumption was given in the descriptive section when two variables were discussed that measure who has the decision power over income and who has the final say in financial decisions. Such information can be used to proxy bargaining strength.[22] Accordingly, intermarried immigrants are more likely to live in partnerships where financial decisions

[21] Ideally a closer regional frame would be preferred but this is not possible with the data used in this study. Further regional subdivision would reduce the sample size dramatically which would affect the explanatory power of the results.

[22] Variables similar to these are used by Lührmann and Maurer (2009), and Beegle et al. (2001) in order to measure bargaining power in the household.

are made by both spouses.

To make this correlation more apparent, simple multinomial Logit regressions are run using those self-reported decision information as dependent variables and age and education as regressors (Table 4.6). This is a very simple specification which does not account for various problems related to, for instance, endogeneity or measurement errors. But for now the purpose is merely to visualize some correlations leaving aside causal relations.

Table 4.6: Correlation between Intermarriage and Decision Power

Dep. Var.:	**Multinomial Logit**			
Agreement on Income	Immigrant		Native	
(=1 if "me", =2 if "partner", =3 if "shared")	Men	Women	Men	Women
Marginal effect on Prob(outcome="mainly me")				
Intermarriage	*-0.085***	*-0.034*	*0.029***	*0.002*
Education	-0.008**	-0.015***	-0.005***	-0.013***
Age	-0.001	0.001	-0.001***	0.000
Marginal effect on Prob(outcome="mainly partner")				
Intermarriage	*-0.009*	*-0.002*	*-0.001*	*0.003*
Education	-0.017***	-0.015***	-0.015***	-0.008***
Age	0.001	-0.000	0.001**	-0.000
Marginal effect on Prob(outcome="shared")				
Intermarriage	*0.094***	*0.036*	*-0.028*	*-0.006*
Education	0.026***	0.030***	0.020***	0.022***
Age	0.000	-0.000	0.000	-0.000
Dep. Var.:	**Multinomial Logit**			
Final say on financial decision	Immigrant		Native	
(=1 if "me", =2 if "partner", =3 if "both")	Men	Women	Men	Women
Marginal effect on Prob(outcome="me")				
Intermarriage	*-0.100***	*0.002*	*0.025*	*0.021*
Education	-0.002	-0.007**	-0.007***	-0.007***
Age	-0.003**	-0.002**	-0.002***	-0.001***
Marginal effect on Prob(outcome="partner")				
Intermarriage	*0.058***	*-0.024*	*-0.003*	*0.019*
Education	-0.012***	-0.013***	-0.011***	-0.011***
Age	-0.001	-0.001	0.000	-0.001
Marginal effect on Prob(outcome="both")				
Intermarriage	*0.041*	*0.022*	*-0.022*	*-0.040**
Education	0.014**	0.019***	0.018***	0.018***
Age	0.004**	0.003**	0.002***	0.002***

Source: German Socio-Economic Panel (SOEP)
People aged 20 to 65; year 2005 (financial decision), years 2004 and 2005 (agreement on income)
Entries refer to marginal effects on the probability that the variable takes on the particular outcome.
Clustered standard errors; * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

Estimation results refer to marginal effects on the probability that a particular outcome is achieved. They indicate that for immigrant men intermarriage is highly correlated with more equal decision making within the couple. Interestingly, there seems to be no differences for natives and immigrant women. As already foreshadowed in the descriptive section, natives' behavior seems to be extensively independent of the origin of the spouse.

4.6 Conclusion

Social interactions are most obviously reflected in intermarriage patterns. Therefore, marriages between members of different groups are among the crucial factors fostering social and economic harmonization. By that, intermarriages serve as indicator of social proximity and are given credit for individual economic success of immigrants. However, little is known about the dynamics evolving within the couple, in particular regarding the division of labor between spouses. This paper therefore aims at filling part of that gap by analyzing relative labor supply of intermarried couples in comparison to immigrant and native couples.

The leading arguments that might explain differences in labor supply behavior, especially less specialization in intermarriage, are based on two issues: First, positive assortative matching by education, that is greater educational similarity of partners, is more pronounced in intermarriages than in other marital constellations leading to less comparative advantages and therefore less incentives to specialize. Second, bargaining positions of spouses might vary in intermarriages from that in immigrant or native marriages due to different outside options, different threat points and other factors determining bargaining strength.

As already hinted at in the descriptive statistics, the perceived bargaining position of native women in intermarriage is noticeably stronger than of women in immigrant partnerships. This impression is confirmed by results from a multinomial Logit regression. Accordingly, intermarried immigrant men are considerably more likely to decide in cooperation with their native wives when it comes to financial aspects and the distribution of income than immigrant men who live with immigrant women. However, no such difference depending on the origin of the partner is found in the data for natives and immigrant women. Furthermore, assortative mating is most pronounced in partnerships between native women and immigrant men, which lowers the incentives to specialize for those couples.

Results of a two-limit random effects Tobit model are also in line with the hypothesis stated above and regression estimates used to detect differences in relative labor supply indicate that intermarried immigrants live in less specialized partnerships than those in immigrant marriages. This result also holds when accounting for possible endogeneity of intermarriage in an instrumental variable approach. In contrast, natives in intermarriage are more specialized than those in native marriages possibly indicating less bargaining power of the immigrant wives and adaption in behavior of native women in intermarriages.

This analysis is only a first step on the way to a better understanding of what makes intermarried couples special and what drives their decisions. For further research it is of particular interest to detect what determines the decision to intermarry for natives if, for instance, immigrants are economically disadvantaged and intermarriages prone to more conflicts than ethnically homogeneous marriages. Moreover, differences in bargaining

strength of spouses in different types of marriage should also be considered in greater detail.

With increasing globalization and higher mobility of people, it is crucial for multi-national and multi-cultural societies to better understand processes that encourage social proximity and acceptance of different cultural backgrounds. Intermarriages are in that context essential as they are the interface at which social interaction happens and people with different background actually intermingle.

Chapter 5

Conclusion

Main Findings

The topic of this dissertation is cultural integration in general, and, in particular, intermarriage as one indicator of social proximity. In the first chapter several aspects of cultural integration of immigrants in Germany are considered, with cultural proximity measured as the distance between immigrants and natives with respect to those indicators. The analysis not only describes the status quo of the degree of integration of different immigrant groups, but also accounts for developments over time by differentiating between first and second generation immigrants. Considering different measures is crucial when making statements about the integration success of immigrants as social proximity has various facets. In that context, differences in ethnic origin must be accounted for, and positive developments over time should be honored and encouraged.

In the second and third chapters intermarriage and its impact on economic outcome and economic behavior is considered. Intermarriage, as one specific aspect of social integration, seems not to be causally related to economic success immediately. However, immigrants who live with a native partner at some point in time seem better able to transfer labor market experience into economic success, as measured by earnings.

Furthermore, intermarried couples are more equal with respect to their labor supply. Ethnically homogeneous couples specialize more and are more likely to follow traditional gender roles according to which the husband works more hours in the labor market than the wife. In contrast, intermarried couples, especially those where the husband is an immigrant and the wife is a native, are more equal in terms of working hours and less specialized.

Potential Shortcomings and Problems of the Analysis

Naturally, empirical findings need to be treated carefully since several issues may bias results. Possible issues in the first chapter include measurement errors due to self-reported information, and endogeneity. Both aspects are disregarded since the main aim of this chapter is to reflect the status quo of integration rather than identify causal links.

However, endogeneity issues are addressed more carefully in subsequent chapters.

The fixed effects model used in the second chapter controls for time-constant unobserved factors. Unfortunately, this does not capture time-varying heterogeneity. To account for time-variation, at least partly, an intermarriage dummy is interacted with time varying work experience. Even though this is not fully satisfying, it is one possibility to account for endogeneity, which is new to the literature dealing with intermarriage and its economic implications.

The solution mostly proposed in alternative literature is instrumental variables. The underlying assumption in that strand of research is that a gender-ethnicity ratio reflects the opportunity structure of the marriage market, which, in turn, influences the probability to intermarry. Simultaneously, the ratio is assumed to be exogenous to labor market outcomes. However, there are at least two critical aspects of that instrument: First, even though it would be optimal to observe that ratio at the point of marriage, that information is all too often not available; Second, the number of co-ethnics in one area might affect not only intermarriage probability but also economic outcomes. And since the ethnic composition of the peer group might be determined by self-selection based on unobserved factors, using that instrument is also not the ultimate solution to the endogeneity problem.

In chapter three, statements primarily address correlations, not causal relationships. While the random effects tobit model incorporates unobserved heterogeneity, it does not allow for correlations between those individual characteristics and the observable explanatory variables. However, a fixed effects specification of the model, which would allow for such a correlation, is not implementable. One possible solution, an instrumental variable approach, is proposed based on instruments used in other studies. Even though the instrument used might be weak for reasons discussed above, the analysis still sheds light on a completely new aspect of intermarriage. It, therefore, opens a novel perspective and adds an interesting facet to the field of studies on intermarriage and economic outcomes.

Policy Advise and Outlook for Future Research

Deriving policy implications is difficult as marital behavior is difficult, if not impossible, to directly influence. However, since intermarriage reflects a high degree of social interaction and is crucial in the process of integration, the basis for such relationships should be provided. Access to higher education is thereby essential as educational institutions provide a platform to interact and meet potential future spouses.

One of the aspects that needs further investigation, and is hardly explored so far, is what drives the decision to intermarry for natives. Until now, little is known about the traits in that intermarried natives differ from other natives. While intermarried immigrants are on average better educated, have spent more years in the hosting country, immigrated at younger ages, perceive themselves as more open, more risk loving and

stronger politically interested than those in ethnically homogeneous marriages, intermarried natives do not differ in any of those categories from other natives.

Furthermore, bargaining strength of spouses in intermarriage seems to differ from that in ethnically homogeneous partnerships. Explanations for why this is the case given in this thesis need further empirical support and require further investigation.

Summing up, intermarriages are one crucial indicator of social and cultural integration. Its economic implications for both immigrants and natives are still only superficially explored. This leaves a multitude of interesting and highly relevant questions to answer in future research projects.

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Chapter 6

Appendix

Interpretation of Figures

The figures presented on the following pages refer to the regression results of the first chapter that include a constant and control for years of schooling and birth cohort. Regressions are based on unweighted SOEP data from 2005 to 2007, or from the last year for which the required information is available.

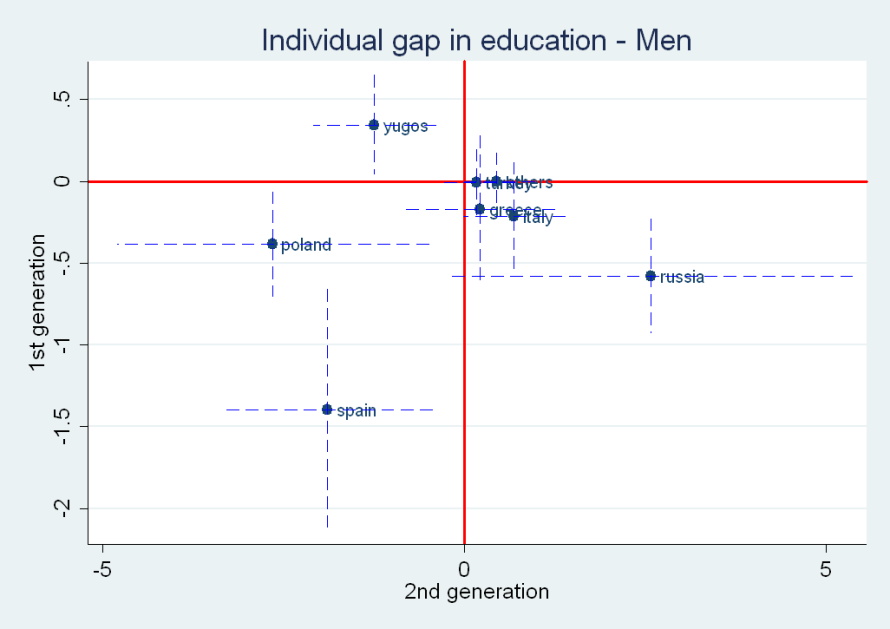
Natives are the reference group and represented by the two solid lines. On the vertical axis, differences between natives and first generation immigrants are plotted. On the horizontal axis, differences between natives and second generation immigrants are plotted. Single immigrant groups are represented by the intersection points of the two dashed lines, and are labeled with the name of the corresponding ethnic origin of that group. The dashed lines refer to the 95% confidence intervals. If the dashed lines of one immigrant group do not intersect with the solid lines that represent natives, differences between members of that immigrant group and natives are statistically significant with a p-value less than 0.05. If the dashed lines do intersect with the solid lines, differences are not statistically significant.

For example, consider Figure 6.1, which reproduces regression results from Table 2.7 on page 24. Accordingly, the difference in the educational gap between spouses between native men and first generation immigrant men from Russia equals -0.58 and is statistically significant at the 1% level. The difference between native men and second generation immigrant men from Russia is +2.58, but statistically insignificant. Russian immigrants are, hence, located at the point (-0.58; +2.58). The negative sign of the coefficient for first generation Russian immigrants shows in the fact that the point is below the horizontal solid line. The fact that the coefficient for second generation Russian men is positive is reflected by the fact that the point is on the right hand side of the vertical solid line. The horizontal dashed line intersects with the vertical solid line. This indicates that the difference between natives and second generation Russians is not statistically significant. In contrast, the vertical dashed line does not intersect with the horizontal solid line implying that natives and first generation Russians do differ statistically from each other. This difference is statistically significant at the 1% level,

as reported in Table 2.7. Analogously, both first and second generation immigrants from Poland differ statistically from natives at least at the 5% level, while first and second generation immigrants from Turkey, Italy and Greece are not statistically different from natives. The interpretation of the subsequent graphs is analogous to that.

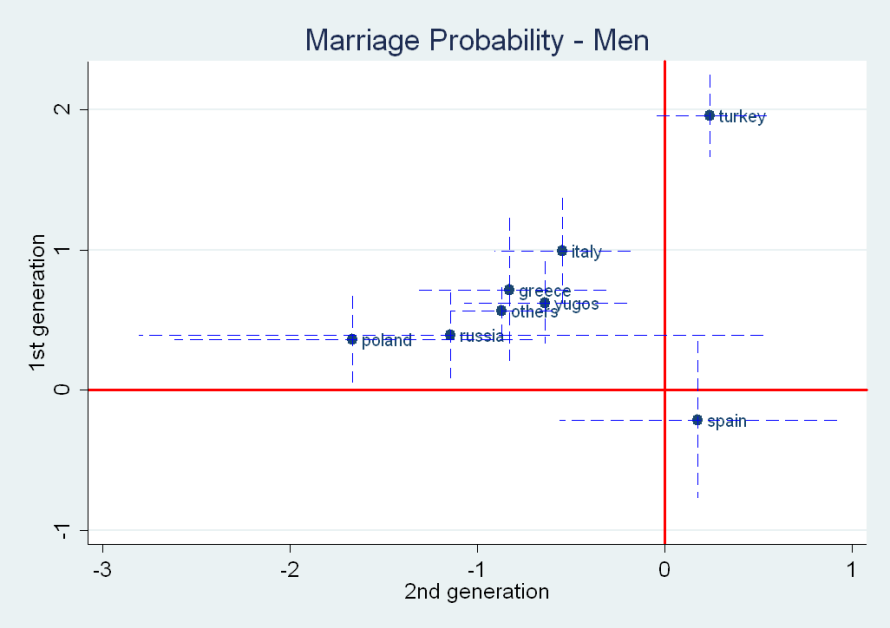
Men

Figure 6.1: Individual Gap in Education between Spouses - Men



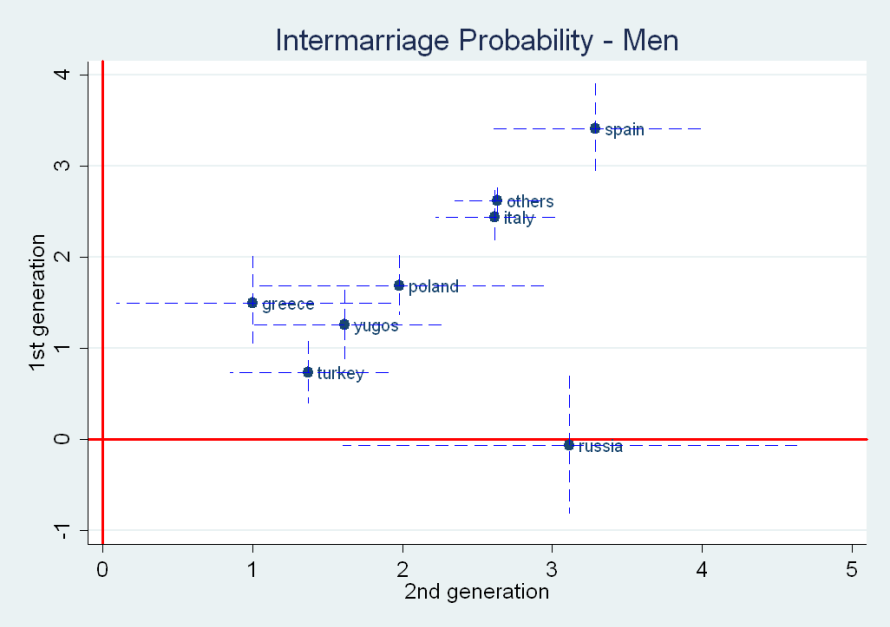
OLS Regression, based on SOEP data for the years 2005-2007

Figure 6.2: Marriage Probability - Men



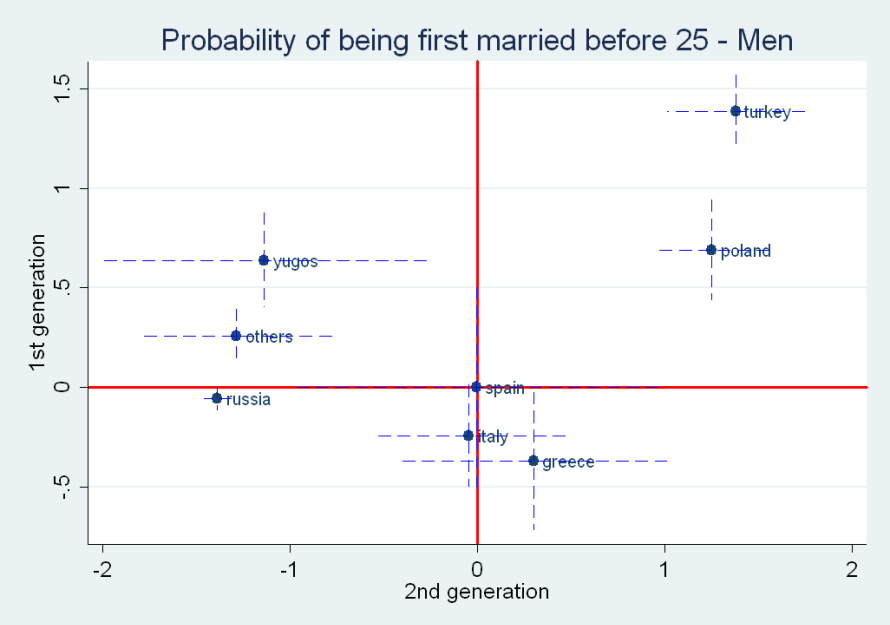
Logit Regression, based on SOEP data for the years 2005-2007

Figure 6.3: Intermarriage Probability - Men



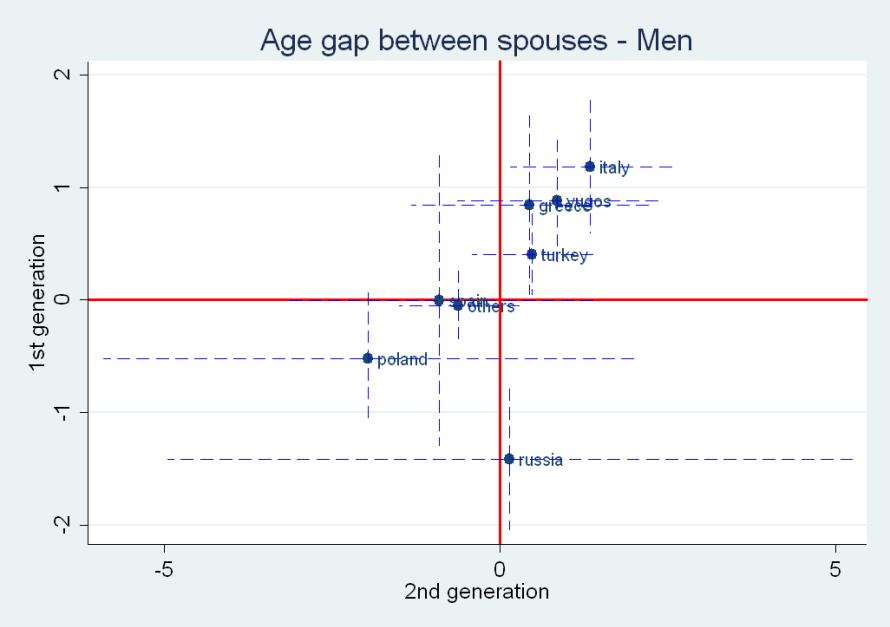
Logit Regression, based on SOEP data for the years 2005-2007

Figure 6.4: Probability of being first married before 25 - Men



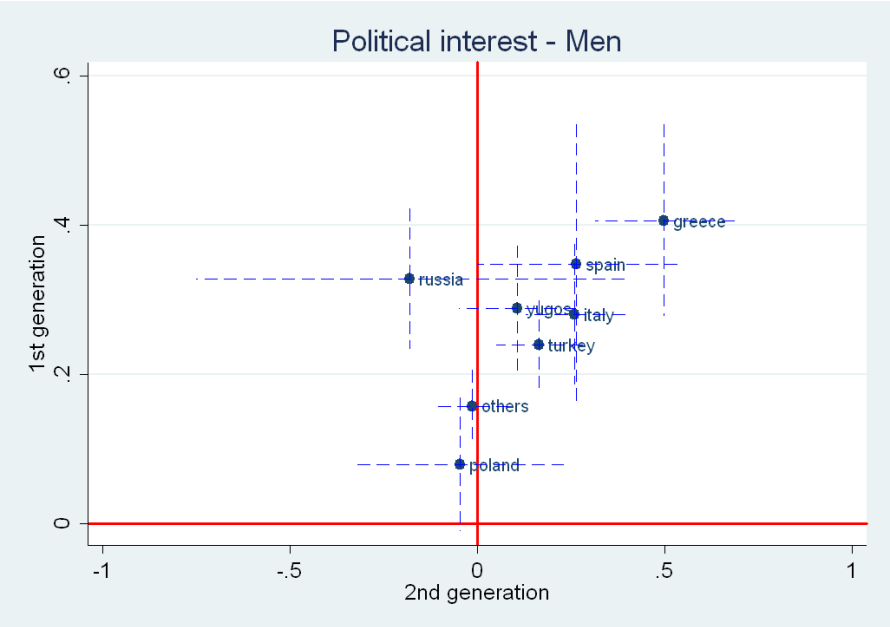
Logit Regression, based on SOEP data for the years 2005-2007, only persons older 25

Figure 6.5: Age Gap between Spouses - Men



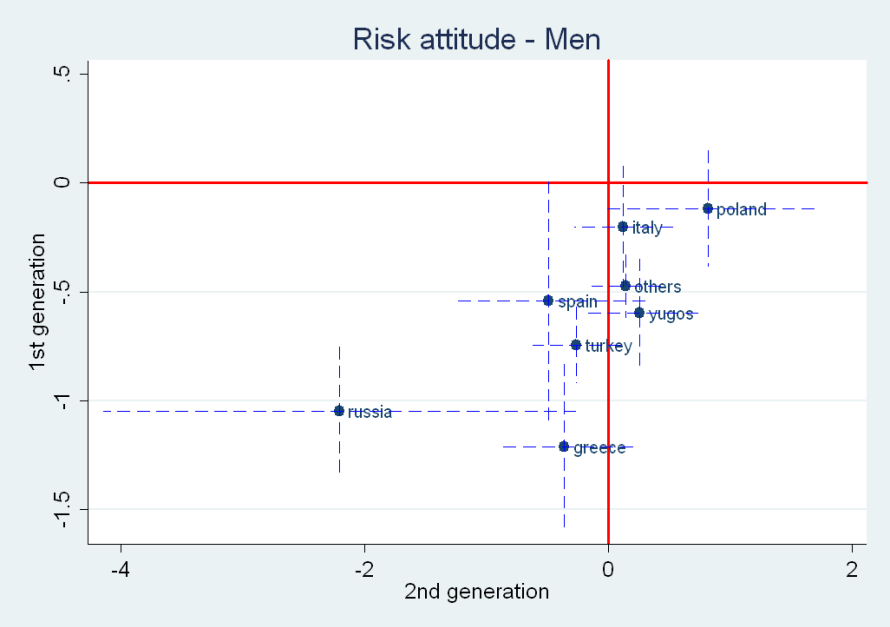
OLS Regression, based on SOEP data for the years 2005-2007, only persons reporting a partner

Figure 6.6: Political Interest - Men



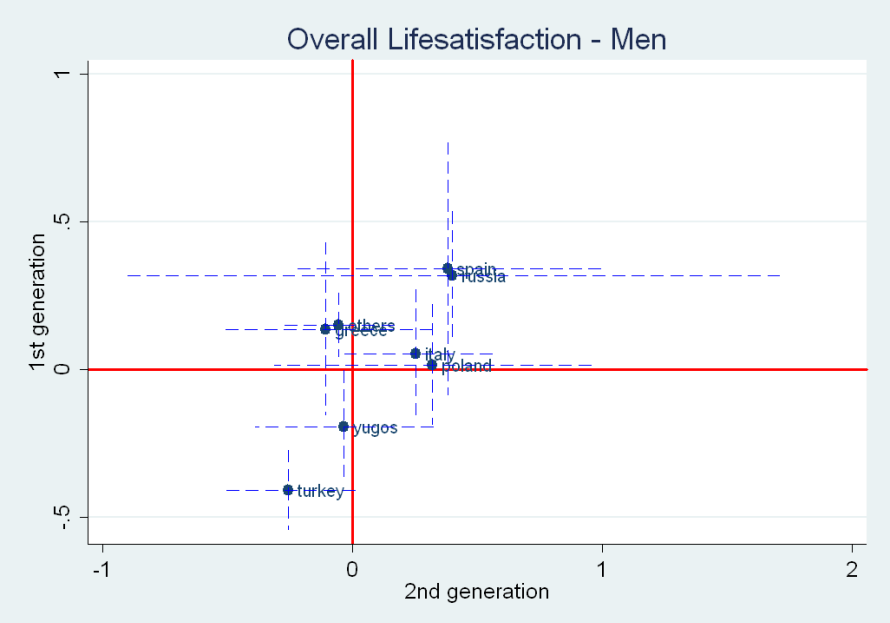
OLS Regression, based on SOEP data for the year 2005
Scale from 1 ("very interested") to 4 ("not at all interested")

Figure 6.7: Risk Attitude - Men



OLS Regression, based on SOEP data for the year 2005
Scale from 0 ("completely risk averse") to 10 ("completely risk loving")

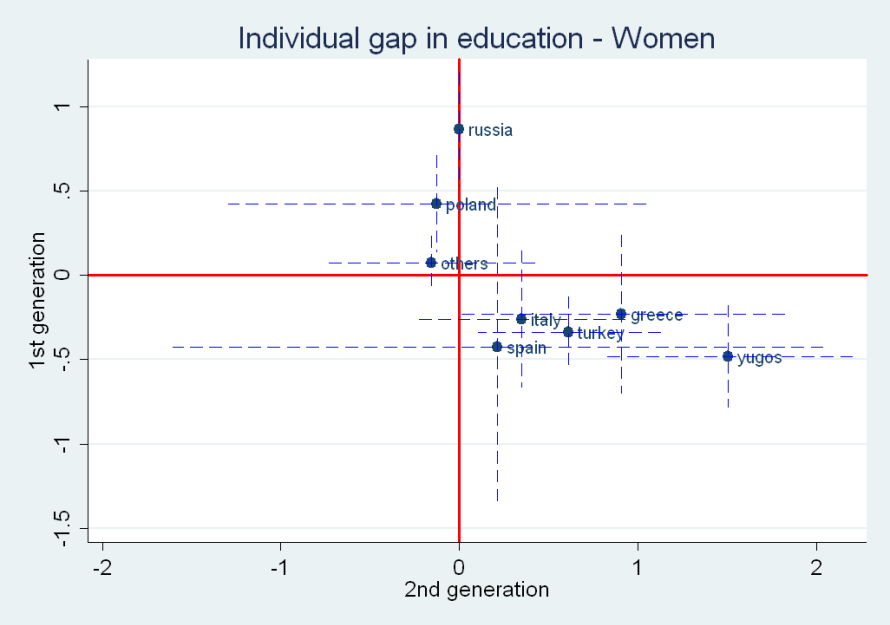
Figure 6.8: Overall Life Satisfaction - Men



OLS Regression, based on SOEP data for the years 2005-2007
Scale from 0 ("completely dissatisfied") to 10 ("completely satisfied")

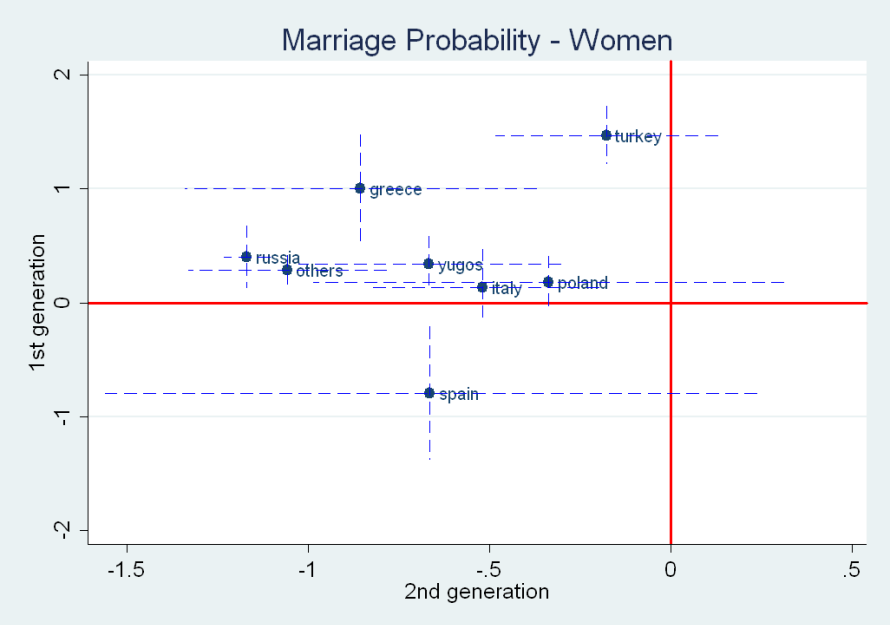
Women

Figure 6.9: Individual Gap in Education between Spouses - Women



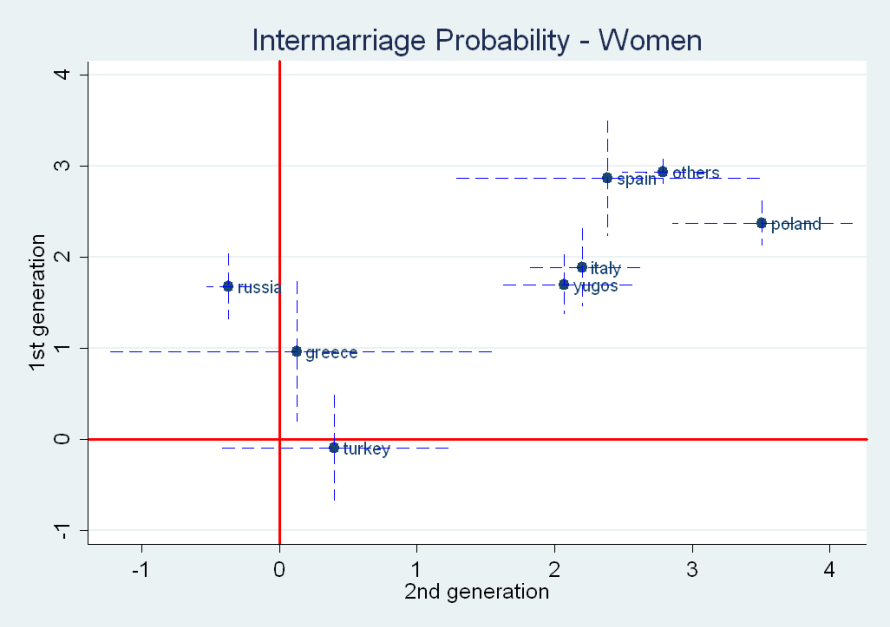
OLS Regression, based on SOEP data for the years 2005-2007

Figure 6.10: Marriage Probability - Women



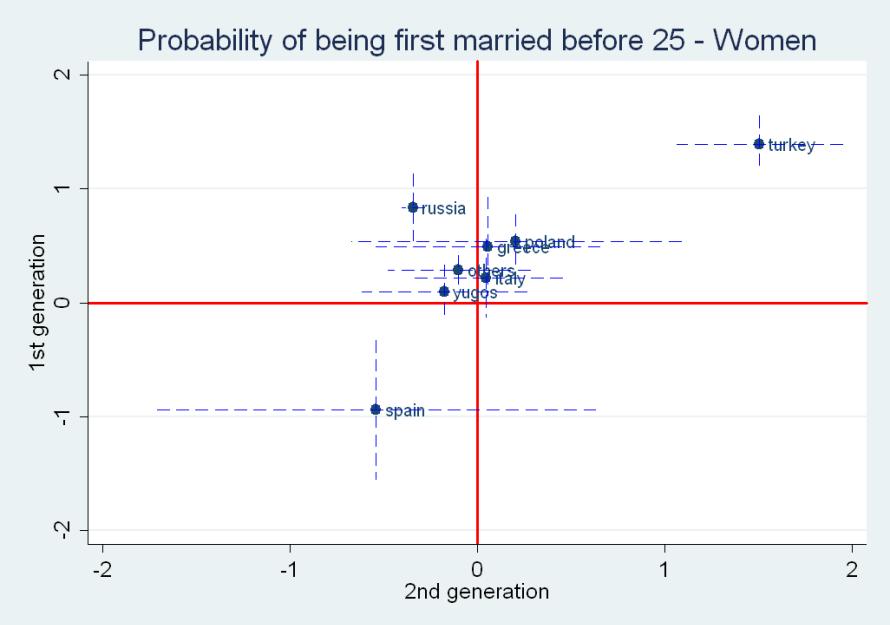
Logit Regression, based on SOEP data for the years 2005-2007

Figure 6.11: Intermarriage Probability - Women



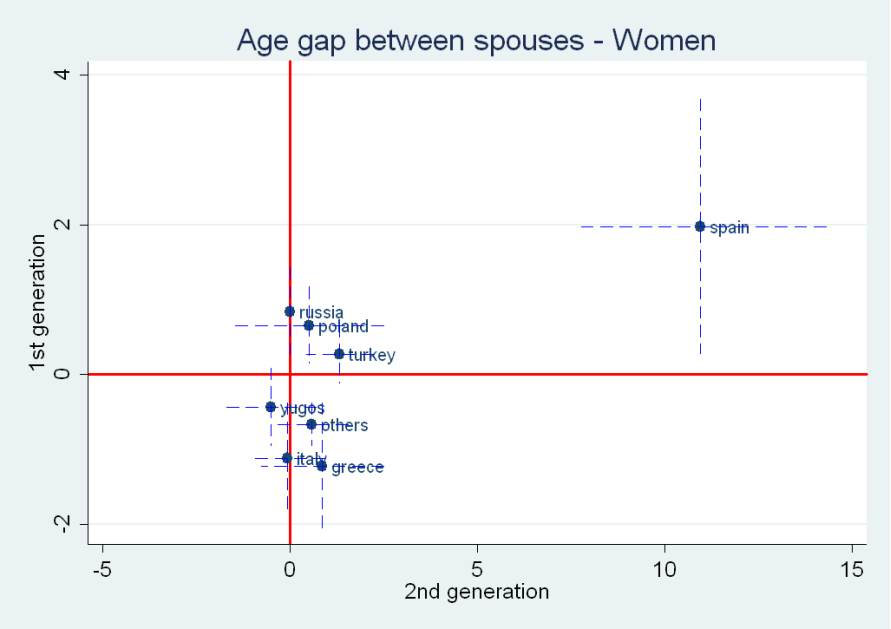
Logit Regression, based on SOEP data for the years 2005-2007

Figure 6.12: Probability of being first married before 25 - Women



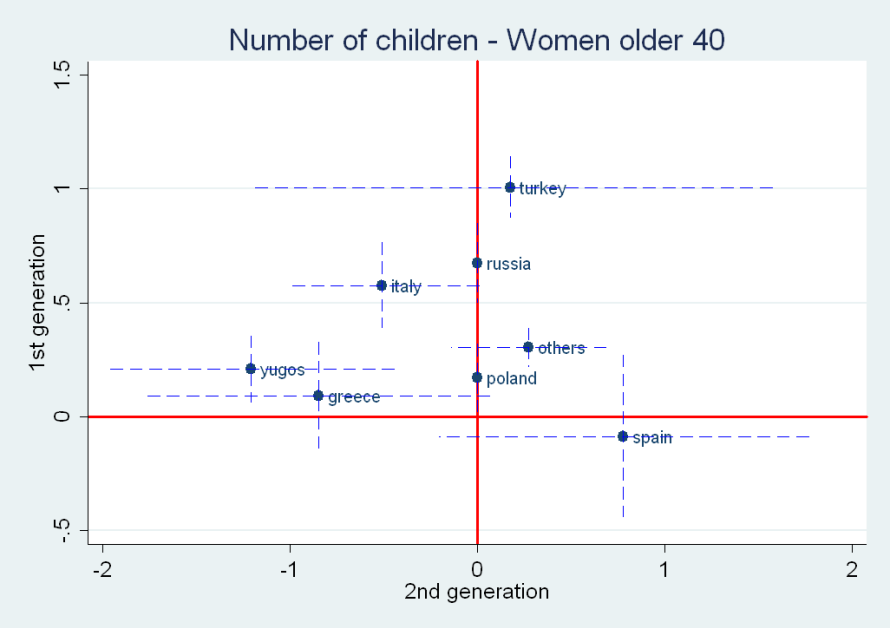
Logit Regression, based on SOEP data for the years 2005-2007, only persons older 25

Figure 6.13: Age Gap between Spouses - Women



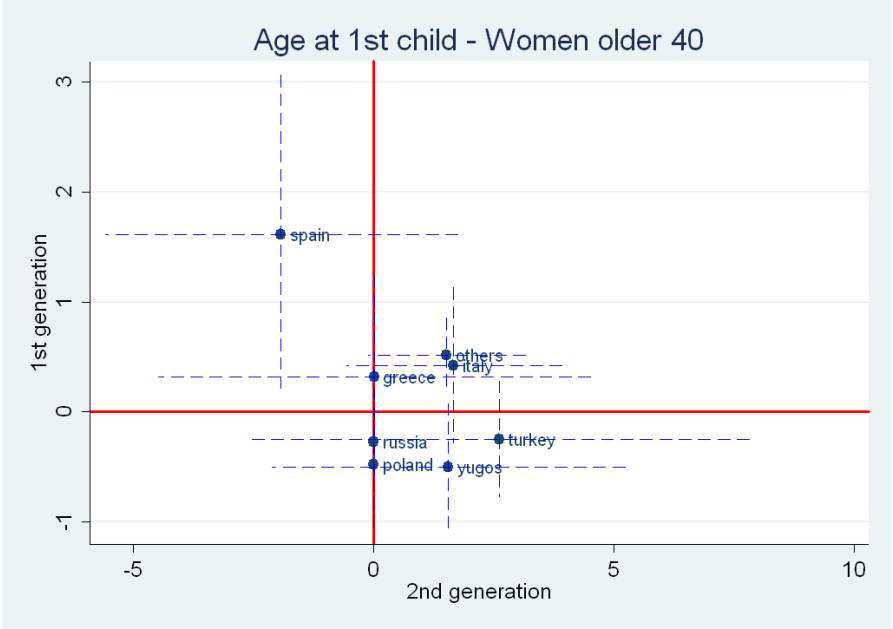
OLS Regression, based on SOEP data for the years 2005-2007, only persons reporting a partner

Figure 6.14: Number of children



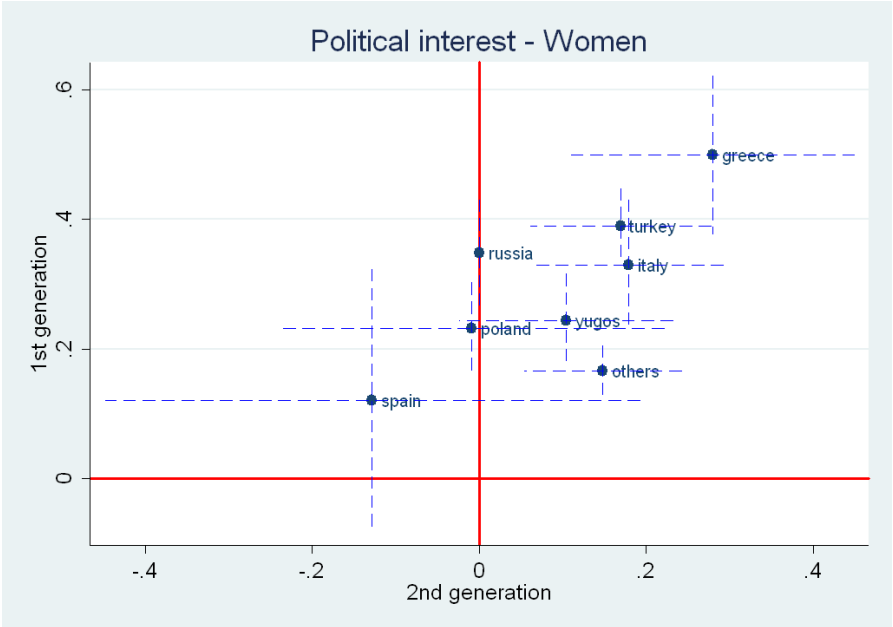
OLS Regression, based on SOEP data for the years 2005-2007, only women older 40

Figure 6.15: Age at First Child Birth



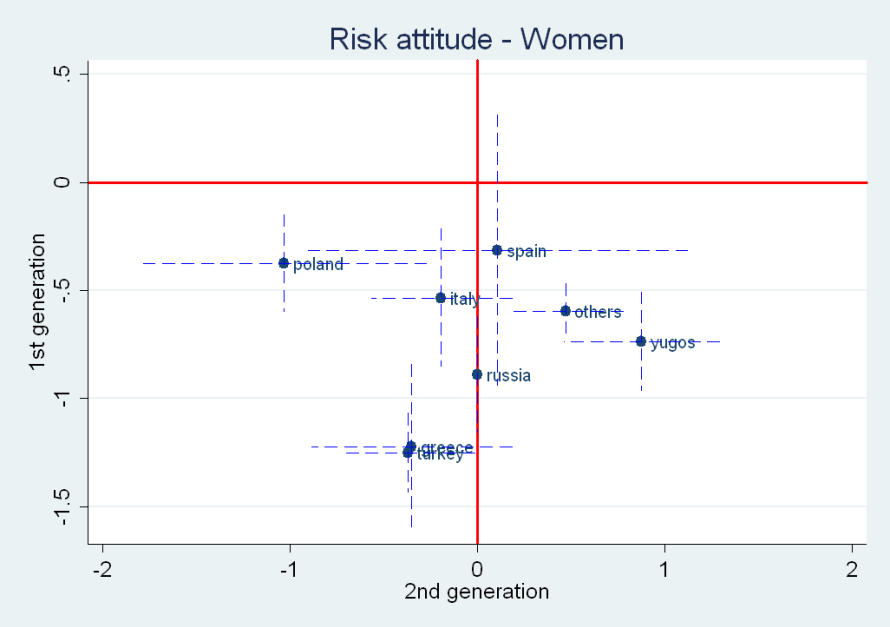
OLS Regression, based on SOEP data for the years 2005-2007, only women older 40

Figure 6.16: Political Interest - Women



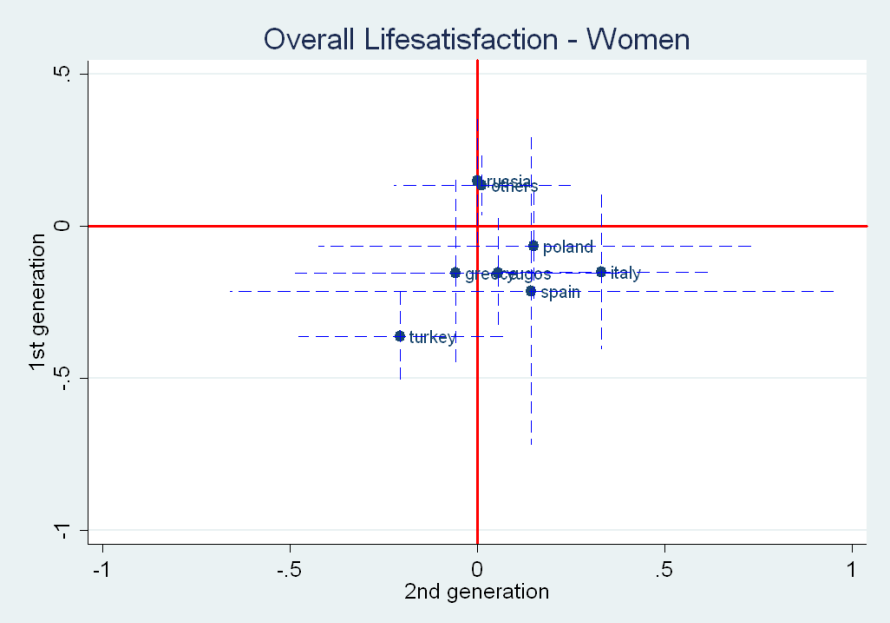
OLS Regression, based on SOEP data for the year 2005
Scale from 1 ("very interested") to 4 ("not at all interested")

Figure 6.17: Risk Attitude - Women



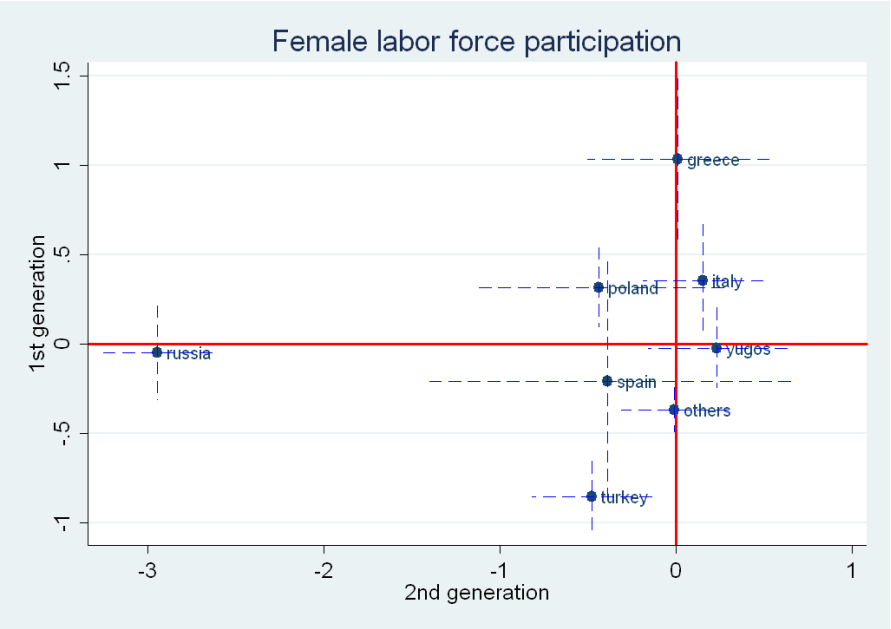
OLS Regression, based on SOEP data for the year 2005
Scale from 0 ("completely risk averse") to 10 ("completely risk loving")

Figure 6.18: Overall Life Satisfaction - Women



OLS Regression, based on SOEP data for the years 2005-2007
Scale from 0 ("completely dissatisfied") to 10 ("completely satisfied")

Figure 6.19: Female labor force participation



Logit Regression, based on SOEP data for the years 2005-2007, women aged 20 to 65

Chapter 7

Abstracts

Chapter 1

This chapter investigates the integration processes of immigrants in Germany by comparing certain immigrant groups to natives differentiating by gender and immigrant generation. Indicators which are supposed to capture cultural integration of immigrants are differences in marital behavior as well as language abilities, ethnic identification and religious distribution. A special feature of the available data is information about overall life satisfaction, risk aversion and political interest. These indicators are also presented. All of these indicators are depicted in comparison between natives and immigrants differentiated by ethnic origin, gender and generation. This allows visualization of differences by ethnic groups and development over time. Statements about the cultural integration processes of immigrants are thus possible. Furthermore, economic integration in terms of female labor force participation is presented as an additional feature. Empirical findings suggest that differences among immigrants and between immigrants and Germans do exist and differ significantly by ethnic origin, gender and generation. But differences seem to diminish when we consider the second generations. This indicates greater adaption to German norms and habits, and thus better cultural, socio-economic and political integration of second generation immigrants in Germany.

Chapter 2

Taking advantage of the panel structure of the data, the impact of intermarriage on labor market productivity as measured by earnings is examined. Contrary to previous studies which rely on instrumental variable techniques, selection issues are addressed within a fixed effects framework. The model accounts for short and long term effects as well as general differences between those who intermarry and those who do not. Once unobserved heterogeneity is incorporated, advantageous effects from intermarriage vanish and do not differ from premiums from marriage between immigrants. However, immigrants who eventually intermarry receive greater returns to experience indicating better labor market integration.

Chapter 3

In this chapter the hypothesis that partnerships between immigrants and natives are less specialized - in the sense that spouses provide similar working hours per weekday - than those between immigrants is tested. The empirical analysis relies on panel data using a two-limit random effects tobit framework to identify determinants of a gender-neutral specialization index. Results indicate that for immigrants intermarriage is indeed related to less specialization as is better education and smaller diversion in education between spouses. In contrast, children living in the household, as well as being Muslim or Islamic, lead to greater specialization. Intermarried immigrants specialize less presumably due to smaller comparative advantages resulting from positive assortative mating by education and different bargaining positions within the household. Natives, on the other hand, show different patterns: for them the likelihood to specialize increases with intermarriage. This might also results from differences in bargaining strength or be due to adaption to immigrants' expected behavior.

JEL-Classification: J1, J12
Keywords: migration, integration, intermarriage, specialization, division of labor

Chapter 8

German Summary

Die aktuelle politische Debatte über eine erfolgreiche Integration von Migranten in Deutschland wurde neu angestoßen durch die Diskussion um das Burka-Verbot und die Ausweisung von Roma aus Frankreich, sowie durch die von Thilo Sarazzin aufgestellte These einer schlechten Integration insbesondere von Türken und Arabern in Deutschland. In diversen Diskussionsbeiträgen, Gegendarstellungen und Stellungnahmen wird immer wieder deutlich, wie wichtig es bei dieser Debatte ist, vielfältige Aspekte der strukturellen, sozialen und kulturellen Integration zu beleuchten und vor allem die Entwicklung über die Zeit, d.h. Unterschiede zwischen den Generationen, nicht außer Acht zu lassen. Bei der Frage danach, welche Kriterien für die Messung einer erfolgreichen Integration herangezogen werden sollen, reichen Bildungserfolg und Teilnahme am Arbeitsmarkt als Indikatoren für gelungene Integration alleine nicht aus. Vielmehr sollten auch "weichere" Faktoren wie die Identifikation mit Deutschland und dem Herkunftsland mitberücksichtigt werden.

Zu dieser Debatte liefert diese Dissertation einen Beitrag, indem zunächst auf verschiedene Aspekte der kulturellen Integration eingegangen wird, und im Anschluss ein einzelnes Kriterium zur Messung sozialer Integration, nämlich Ehen zwischen Einheimischen und Migranten ("interethnische Ehen"), gezielt herausgegriffen und dessen Zusammenhang mit wirtschaftlichem Erfolg und ökonomischem Verhalten näher untersucht wird.

Grundlage sämtlicher Untersuchungen bilden die Daten des Sozio-ökonomischen Panels (SOEP), jeweils für unterschiedliche Zeiträume. Die zeitliche Auswahl im zweiten und dritten Kapitel richtet sich einzig nach der Verfügbarkeit der notwendigen Informationen. Das erste Kapitel ist Teil eines Gemeinschaftsprojekts. Die Datenauswahl orientiert sich demnach an den Vorgaben der Initiatoren. So werden im ersten Kapitel Informationen aus den Jahren 2005 bis 2007, bzw. aus dem letzten Jahr der Erhebung der entsprechenden Variablen, genutzt. Im zweiten Kapitel werden Informationen aus allen im SOEP verfügbaren Jahren, angefangen mit der ersten Erhebungswelle 1984, verwendet. Die Datenanalyse im dritten Kapitel beruht auf Informationen aus den Jahren 1997 bis 2005.

Erstes Kapitel

Im ersten Kapitel wird die Integration von Migranten in Deutschland anhand diverser Messgrößen untersucht. Bislang liegt der Fokus hauptsächlich auf ökonomischen Indikatoren wie Einkommen, Erwerbsbeteiligung und Selbstständigkeit. Jüngere Untersuchungen befassen sich zunehmend mit sozialen Indikatoren wie dem Zugehörigkeitsgefühl zur einheimischen Bevölkerung. In diesem Kontext ist insbesondere der "Ethnosizer" als Maß der Integration zu nennen. Dieses Konzept dient der Messung von "Integration" in Abgrenzung zu "Assimilation", "Segregation" und "Marginalisierung". Informationen, die der Zuordnung zu einer dieser Kategorien dienen, werden neben vielen anderen Faktoren im ersten Kapitel genutzt, um kulturelle Integration sichtbar zu machen.

Das Neue der Analyse zeigt sich in drei Punkten: Zum ersten werden vielfältige Aspekte der Persönlichkeit und des individuellen Verhaltens aufgezeigt. Dazu gehören neben Bildung, Sprachfähigkeit und Religionzugehörigkeit, insbesondere Heiratsverhalten, Partnerwahl und Fertilitätsentscheidungen, aber auch persönliches Interesse am politischen Geschehen in Deutschland, individuelle Risikoeinstellung, Lebenszufriedenheit und Identität mit Deutschland und dem Herkunftsland. Zweitens werden Migranten verschiedener Herkunft hinsichtlich dieser Faktoren mit der einheimischen Bevölkerung verglichen, um so Aussagen über die kulturelle Nähe der jeweiligen ethnischen Gruppe zur einheimischen Bevölkerung treffen zu können. Drittens wird zwischen erster und späteren Zuwanderergenerationen unterschieden, um so Veränderungen über die Zeit zu berücksichtigen und Integrationserfolge über die Generationen hinweg aufzuzeigen.

In deskriptiven Statistiken und einfachen Regressionen werden, getrennt nach Geschlecht, jeweils die erste und zweite Einwanderergeneration mit der einheimischen Bevölkerung verglichen. Dabei werden Kohorteneffekte, Unterschiede im Herkunftsland und im Bildungsniveau berücksichtigt, es besteht jedoch kein Anspruch auf Aufdeckung kausaler Zusammenhänge. Ziel ist vielmehr ein Gesamtbild zu zeichnen und den Status Quo der Integration darzustellen. Das Kapitel ist Teil eines internationalen Vergleichs verschiedener europäischer Länder, das in Form eines Gemeinschaftsprojekts vom Centre for Economic Policy Research (CEPR) geleitet wird. Endogenitätsprobleme sowie Verzerrungen, die möglicherweise durch Messfehler entstehen, werden daher in dieser Untersuchung vernachlässigt.

Die Ergebnisse des ersten Kapitels lassen darauf schließen, dass in einigen Punkten nach wie vor erhebliche Unterschiede zwischen Migranten und Einheimischen bestehen. Dies gilt insbesondere für das Heiratsverhalten, die Familienstruktur und die Erwerbsbeteilung der Frauen. In anderen Bereichen gibt es dagegen kaum noch Unterschiede, wie beispielsweise der Vergleich der Lebenszufriedenheit zeigt. Berücksichtigt man zudem die Anpassung über die Zeit, so zeigt sich, dass sich spätere Einwanderergenerationen weniger von Einheimischen unterscheiden als noch die erste Generation. Das gilt auch für ethnische Gruppen, die allgemein als schlecht integriert gelten.

In Hinblick auf politische Implikationen lässt sich festhalten, dass in der allgemeinen

Integrationsdebatte Aussagen über die Integrationsfähigkeit bestimmter Gruppen mit Vorsicht getroffen werden müssen. Der Integrationserfolg hängt maßgeblich von der zugrunde gelegten Messgröße, dem Herkunftsland und der Generationenzugehörigkeit des Migranten ab. Schwierigkeiten bei der ökonomischen, sozialen und kulturellen Integration dürfen zwar nicht heruntergespielt werden, gleichzeitig sollten aber positive Entwicklungen nicht durch einseitige, negative Darstellungen ge- oder gar verhindert werden.

Zweites Kapitel

Im zweiten Kapitel der Arbeit wird ein Teilaspekt der sozialen Integration aus der ersten Analyse, nämlich interethnische Partnerschaften, herausgegriffen und näher beleuchtet. Partnerschaften zwischen Einheimischen und Migranten gelten allgemein als Ausdruck sozialer Integration und Nähe, und spiegeln das Niveau des sozialen Austauschs zwischen Migranten und Einheimischen wider. Das individuelle Heiratsverhalten ist dabei abhängig von vielen Faktoren wie etwa der Größe der eigenen ethnischen Gruppe im Gastland, dem rechtlichem Status des Migranten, der Zugehörigkeit des Herkunftslandes zur Europäischen Union, dem Einfluss Dritter, beispielsweise der Eltern, der Religionszugehörigkeit und, in besonderem Maße, der persönlichen Bildung.

Bislang konzentrieren sich wissenschaftliche Untersuchungen vorrangig auf Heiratsmuster und Faktoren, die das Zustandekommen interethnischer Partnerschaften begünstigen. Im Vordergrund stehen dabei die allgemeine ethnische Zusammensetzung der Paare, das Heiratsverhalten einzelner Migrantengruppen und diverse Charakteristika, insbesondere das Bildungsniveau, der Migranten in diesen Ehen. In zunehmendem Maße rückt auch der Zusammenhang zwischen interethnischen Ehen und ökonomischen Faktoren wie Einkommen, Beschäftigung und Selbstständigkeit in den Fokus der Wirtschaftswissenschaft. Diese Untersuchungen beschränkten sich zunächst vornehmlich auf traditionelle Einwanderungsländer wie die USA und Australien. Erst seit Kurzem werden ähnliche Untersuchungen auch für Migranten in europäischen Staaten wie Frankreich, Schweden und den Niederlanden angestellt. Für Deutschland gibt es bislang keine Untersuchungen, die den Zusammenhang zwischen interethnischen Ehen und ökonomischem Erfolg beleuchten.

Das zweite Kapitels schließt diese Lücke zumindest teilweise und behandelt die Frage, ob sich interethnische Partnerschaften positiv auf die wirtschaftliche Stellung von Migranten in Deutschland auswirken. Sind höhere Löhne dem deutschen Partner geschuldet oder maßgeblich von Selbstselektion beeinflusst? Ist ein einheimischer Partner treibende Kraft hinter wirtschaftlichem Erfolg oder vielmehr Ausdruck bereits gelungener sozialer und ökonomischer Integration?

Zwei Thesen sind in diesem Kontext von Bedeutung: (a) die Produktivitätshypothese und (b) die Selektionshypothese. Gemäßder Produktivitätshypothese ist der einheimische Partner maßgeblich für den ökonomischen Erfolg des Migranten mitverantwortlich.

Im Vergleich zu einem Migrantenpartner besitzt der einheimische Partner oft ein detaillierteres Wissen über den einheimischen Arbeitsmarkt, hat Zugang zu besseren Netzwerken und kann den Migranten beim Erlernen der einheimischen Sprache besser unterstützen. All dies wirkt sich positiv auf die wirtschaftliche Entwicklung des Migranten aus. Die Selektionshypothese geht im Gegensatz dazu davon aus, dass wirtschaftlicher Erfolg und interethnische Beziehungen nur in einem scheinbar kausalem Verhältnis stehen. Vielmehr beeinflussen unbeobachtbaren Faktoren sowohl die wirtschaftliche Stellung als auch die Partnerwahl. Ein kausaler Zusammenhang läßt sich somit nicht eindeutig identifizieren.

Um herauszufinden, welche der beiden Hypothesen für Migranten in Deutschland zutrifft, werden die Löhne von Migranten in einem Fixed Effect Model geschätzt. Dabei werden neben einem möglichen unmittelbaren Einfluss der Eheschließung auch Entwicklungen im Laufe der Ehe berücksichtigt. Außerdem wird zugelassen, dass Personen, die irgendwann einen einheimischen Partner finden, gegebenenfalls grundsätzlich besser wirtschaftlich integriert sind. In diesem Fall signalisiert die interethnische Ehe ein stärkeres Zugehörigkeitsgefühl zu Deutschland, das bereits im Vorfeld der Ehe und über das Ende der Ehe hinaus größeren ökonomischen Erfolg bestimmt. Die Längsschnittstruktur der Daten erlaubt zudem, unbeobachtbare, zeitkonstante Faktoren zu berücksichtigen, die sowohl das Zustandekommen interethnischer Ehen als auch das Einkommen beeinflussen. Auf diese Weise kann Selbstselektion berücksichtigt werden, die auf Grundlage zeitkonstanter Faktoren erfolgt.

Die empirische Analyse liefert wenig Nachweis für einen kausalen Zusammenhang zwischen interethnischen Ehen und höheren Löhnen für Migranten sobald für unbeobachtbare Heterogenität kontrolliert wird. Allerdings sind interethnische Ehen durchaus Ausdruck besserer sozialer und ökonomischer Integration im Allgemeinen und Migranten, die im Laufe der Zeit einen einheimischen Partner finden, können berufliche Erfahrungen grundsätzlich besser nutzen.

Drittes Kapitel

Das dritte Kapitel befasst sich mit der Frage, in welcher Weise sich interethnische Paare von ethnisch homogenen Paaren mit Blick auf die Rollenverteilung im Haushalt unterscheiden. In einem DIW Wochenbericht (Nottmeyer (2010)) werden hierzu diverse persönliche Merkmale von Migranten und Einheimischen, die entweder mit einem Migranten oder einem einheimischen Partner zusammenleben, gegenübergestellt und verglichen. Antworten beispielsweise bezüglich der fünf Hauptcharakteristika der menschlichen Persönlichkeit, der so genannten “Big Five”, liefern Hinweise darauf, dass sich insbesondere interethnisch verheiratete Migranten von denen unterscheiden, die mit anderen Migranten zusammenleben.

Eine Dimension, in der sich diese Unterschiede zwischen interethnischen Paaren und ethnisch homogenen Paaren möglicherweise äußern, ist das relative Arbeitsangebot. Im

dritten Kapitel wird daher angenommen, dass interethnische Paare weniger stark spezialisiert sind als andere Paare. Die Partner arbeiten demzufolge ähnliche Stunden pro Woche im Arbeitsmarkt, wohingegen in ethnisch homogenen Partnerschaften eher das traditionelle Rollenverständnis vorherrscht, nach dem der Mann mehr arbeitet als die Frau. Mögliche Erklärungen für das unterschiedliche Verhalten sind (a) ein ähnliches Bildungsniveau der Partner ("positive assortative mating by education"), welches ähnliche Produktivität der Partner impliziert und so zu einem ähnlichen Arbeitsangebot führt. Da kein Partner einen klaren Ressourcenvorteil gegenüber dem anderen hat ("comparative advantages"), sinkt folglich der Anreiz zur Spezialisierung; (b) ist davon auszugehen, dass der einheimische Partner eine stärkere Stellung ("Heimvorteil") gegenüber dem Migranten hat als ein Partner aus der gleichen ethnischen Gruppe. Dies spiegelt sich in einer höheren Arbeitsbeteiligung, einer höhere Anzahl geleisteter Arbeitsstunden und einem höheren Einkommen des einheimischen Partners wider.

Die Messung des relativen Arbeitsstundenangebots eines Paares erfolgt anhand eines geschlechts-neutralen Indexes, der zwischen Null und Eins normiert ist. Es wird unterstellt, dass die gearbeitet Stundenzahl, und somit der Grad der Spezialisierung, das Ergebnis eines Maximierungsprozesses ist, der beispielsweise durch ein gemeinsames Arbeitsangebotsmodell des Paares ("collective labor supply model") abgebildet werden kann. Um dieser Struktur Rechnung zu tragen, wird ein Two-limit Random Effect Tobit Modell geschätzt. Zusätzlich dazu werden Robustness-Tests durchgeführt, die auf Informationen zu finanziellen Entscheidungsprozessen im Haushalt aus dem Jahr 2005 beruhen. Um für mögliche Endogenität zu kontrollieren, wird eine Instrumenten-Schätzung durchgeführt. Als Instrument dient dabei eine Variable die berücksichtigt, dass das Heiratsverhalten stark von der Gelegenheitsstruktur des Heiratsmarktes beeinflusst wird.

Die empirischen Ergebnisse zeigen, dass insbesondere Partnerschaften zwischen Migranten und weiblichen Einheimischen ausgeglichener in Bezug auf das Arbeitsangebot der beiden Partner sind. Unterschiede im Grad der Spezialisierung für Migranten bleiben auch nach Kontrolle für mögliche Endogenität erhalten.

Politische Implikationen aus den Ergebnissen des zweiten und dritten Kapitels abzuleiten ist schwierig, da sich das Heiratsverhalten in den seltensten Fällen durch offizielle Regelungen beeinflussen lässt. Interethnische Partnerschaften mögen zwar keinen direkten ökonomischen Erfolg in Form höherer Löhne garantieren, signalisieren aber durchaus ein hohes Maß an Zugehörigkeitsgefühl zu Deutschland und stehen im Zusammenhang mit ökonomisch relevantem Verhalten. Sie tragen damit entscheidend zu einer stärkeren sozialen und wirtschaftlichen Integration und einem friedlichen Miteinander bei. Vor allem Partnerschaften zwischen Migranten und einheimischen Frauen verkörpern eine moderne Form des Zusammenlebens und sind daher integraler Bestandteil einer auf gegenseitiger Toleranz und Akzeptanz aufbauenden Gesellschaft und somit maßgeblich für eine erfolgreiche soziale Integration mitverantwortlich.

List of Tables

List of Figures