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Citizenship and the Social Integration of Immigrants: Evidence from Germany's Immigration Reforms

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Abstract

We study whether the option to naturalize improves social and cultural integration of immigrants in the host country. The empirical analysis relies on two immigration reforms in Germany, a country with a traditionally weak record of immigrant integration both in terms of labor market performance but also social integration. For identification, we exploit changes in the reforms' eligibility rules which affected arrival and birth cohorts differentially. Our results suggest that access to citizenship has significant effects on intermarriage, fertility, and attitudes towards gender roles of immigrants. The option to naturalize reduces the risk of divorce for female immigrants and increases the likelihood of marrying a spouse outside one's own region of origin. Female immigrants also have lower fertility and are older when they first give birth. Finally, both male and female immigrants have less traditional opinions about the proper role of women in society when they become eligible for German citizenship.

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1 Introduction

Many developed countries have accumulated sizable immigrant populations over the past decades. In Europe, for example, the share of foreign-born in 2005 is over 10% in France, 12% in Sweden and has reached almost 24% in Switzerland. These numbers are comparable to the share of foreign-born in traditional immigrant countries such as Australia, Canada or the United States (OECD, 2006). At the same time, immigrants often seem to perform poorly in terms of economic assimilation with higher unemployment rates and lower earnings than natives (e.g. Algan et al., 2010; OECD, 2006). In Europe, they often seem to fall short along social, cultural and political integration as well (Algan et al., 2012).

This lack of social and economic integration poses substantial challenges for destination countries. On the one hand, social exclusion might threaten the social cohesion of host countries producing unrest and hostility among the native population. And lower earnings, unemployment and possibly transfer payments reduce the fiscal benefits of immigration to the host country. On the other hand, sustained immigration may be needed to stabilize population levels and sustain the current standard of living in many countries facing increasing old age-dependency ratios and demographic pressures on social services.

As such, the current situation raises a number of important questions how immigrants may be better integrated into host societies. Which public policies are effective in promoting immigrant assimilation? Or, does successful integration hinge on the right “selection” of immigrants instead? Answers to these questions are crucial for the economic and social well-being of immigrants and destination countries alike.

In this article, we investigate whether access to citizenship could be a policy instrument to advance immigrants’ position in the destination country. In particular, does a more liberal access to citizenship help the social integration of immigrants in the host country? And do all immigrants benefit from citizenship or only a subset of them?

Economic theory suggests a number of reasons why access to citizenship might affect fertility and family formation (Becker, 1960; see Hotz, Klerman and Willis, 1997 for a survey). One important channel is that citizenship improves the economic position of immigrants in the host country (see e.g. Bratsberg et al., 2002 for the US; Gathmann and Keller, 2014; and Steinhardt, 2010 for Germany). For Germany, Gathmann and Keller (2014) show that eligible immigrants have higher wages and more stable jobs than immigrants who are not yet eligible. Higher wages generate both an income and substitution effect on fertility. More income should increase the demand for children while higher female wages increase the opportunity cost of children. Since Gathmann and Keller (2014) also find that immigrant women in Germany benefit more than immigrant men from citizenship, citizenship is likely to reduce fertility among

immigrant women. Note that women may adjust not only the number of children, but also the quality dimension of fertility. While we will focus on the quantity effect, our prediction apply to the quality-constant demand for children; hence, the prediction regarding the number of children are ambiguous once the quality dimension is taken into account (see e.g. Hotz, Klerman and Willis, 1997).¹

Access to citizenship might also affect marriage outcomes (e.g. Becker, 1973; see Browning, Chiappori and Weiss, 2011 for a survey). Through a better labor market performance, access to citizenship also improves the position of an eligible immigrant in the marriage market. An eligible immigrant becomes a more desirable spouse, especially among recent immigrants who do not yet satisfy the residency requirement. At the same time, German citizenship might also intensify social contacts or reduce reservations against immigrants among natives and hence, increase the likelihood of marrying a native or of marrying someone outside one's ethnic group.² For married immigrants in contrast, access to citizenship should have little (or only a temporary) effect on the intra-family bargaining position. The reason is that any immigrant spouse would also get access to citizenship when the spouse applies. In sum, both behavioral responses of immigrants and the host society suggest that citizenship could speed up social integration and affect fertility choices.

Yet, a simple comparison of naturalized and non-naturalized immigrants is unlikely to identify the actual benefits of citizenship. Because naturalized migrants are not selected randomly from the immigrant population, it is challenging to separate the return to citizenship from the selection into naturalization. Migrants applying for citizenship might well be those with the highest motivation and the best prerequisites to integrate into the host society. Previous studies from Canada and the United States, for instance, suggest indeed that selection into citizenship is positive with respect to observable skills (see Chiswick and Miller, 2008; Mazzolari, 2009; and Yang, 1994 for the United States; and De Voretz and Pivnenko, 2006 for Canada). A second difficulty facing the researcher is that eligibility to citizenship is often closely tied to the number of years an immigrant has resided in the host country. Time in the host country in turn is often positively correlated with measures of integration like language skills or intermarriage, for example. As a result, it is difficult to disentangle the returns to citizenship from social assimilation in the host country more broadly.

¹The timing of birth might be affected as well. In economic models of fertility, couples time fertility to maximize lifetime income. Two factors then affect the timing of birth: whether skills depreciate during maternal leave and whether credit markets are perfect or imperfect. With perfect credit markets and no skill depreciation, women will time their fertility in periods when wages are low. If capital markets are imperfect and skills do not depreciate, couples will time their fertility when the husband's income is high. If skills deteriorate, it is not longer clear that these predictions hold because there is an additional cost from human capital loss. If skill depreciation is less important among low-skilled women, they will have more children when capital markets are imperfect and postpone children when they are not credit constrained.

²Evidence from the European Social Survey however suggests that naturalized immigrants indeed feel much less discriminated against in Germany than non-naturalized immigrants (OECD, 2011, Figure 8.1).

To overcome these empirical challenges, we exploit the unique setting in Germany. Today, almost 10 millions foreign-born, or about 13% of its population, live in Germany. Yet, Germany is an exemplary case for the assimilation and integration problems of immigrants. Even among the second-generation, immigrants have a substantial language gap and lower general trust than natives (e.g. Algan et al., 2012 for recent evidence). Most important for our purpose, Germany has substantially liberalized its access to citizenship over the past decades. Traditionally, Germany had a very restrictive citizenship law which was closely tied to ancestry and ethnic origin. Starting in the early 1990s, there have been important changes in Germany's immigration policy. In 1991, the government introduced for the first time explicit criteria how immigrants can obtain German citizenship. Since 2000, immigrants can naturalize after 8 years of residency in Germany, and children of foreign parents in Germany now obtain citizenship at birth.

To identify the effects of citizenship, we make use of two institutional peculiarities of Germany's reforms. The 1991 reform defined age-dependent residency requirements for naturalization. Specifically, adult immigrants (aged 23 and above) faced a 15-year residency requirement before they could apply for citizenship. Adolescent immigrants (ages 16-22) in turn could apply for German citizenship after only 8-year of residence. Hence, young immigrants (born between 1969 and 1975) who arrived in Germany in 1983, for example, became eligible for citizenship in 1991, right after the reform was passed. Adult immigrants (born before 1969) who came to Germany in the same year had to wait until 1997 in order to be eligible, or 7 years after the younger cohort.

The second immigration reform in 2000 reduced residency requirements for all immigrants to 8 years. As a consequence, all adult immigrants who arrived in Germany between 1985 and 1992 become eligible immediately in 2000 but had lived in Germany between 8 and 15 years. We can therefore compare labor market outcomes of immigrants who are somewhat younger or arrived in Germany somewhat earlier and, for this reason, are eligible for naturalization several years earlier than other immigrants. Our analysis thus identifies the returns to eligibility (option to naturalize) while being able to control for the effects of cohort quality, immigrant age and general assimilation.

Our results suggest that access to citizenship has significant effects on marriage and family formation as well as attitudes towards the proper role of women in society. Even though access to citizenship does not seem to have an effect on the propensity of being married, we observe effects with regard to marriage stability and composition. Eligibility of citizenship lowers the probability of female immigrants to be divorced. Furthermore, male immigrants are more likely to marry non-native spouses, which supports the theoretical argument that citizenship increases their value on the marriage market for other immigrants. On the other hand, the role of women seems to assimilate to a more modern family model, which is

characterized by decreased and delayed fertility. Our intention-to-treat effect shows that female immigrants give birth to less children and delay fertility. Furthermore, we find that male and female immigrants have less traditional opinions regarding the role of women. These results are consistent with the finding that access to citizenship improves the labor market position of female immigrants (Gathmann and Keller, 2014).

This article contributes to three strands of the literature. First, we contribute to the literature on citizenship. Here, the vast majority focuses on citizenship's impact in the labor market (e.g. Chiswick, 1978; and Bratsberg et al., 2002 for the US; De Voretz and Pivnenko, 2006 for Canada; Bevelander and Veenman, 2008 for the Netherlands; Bevelander and Pendakur, 2011 for Sweden; Fougère and Safi, 2009 for France; Gathmann and Keller, 2014 and Steinhardt, 2012 for Germany). However, citizenship does not only impact labor market performance but could speed up social and cultural integration into the host country as well.

A few recent studies have analyzed the link between naturalization and political involvement (Bevelander, 2011; Hainmüller et al., 2014; Just and Anderson, 2012), family formation (Engdahl, 2014), fertility behavior (Avitabile et al., 2013b) or how much immigrants interact with natives and the host country's culture more broadly (Avitabile et al., 2013a; Kesler and Demireva, 2011). We contribute to this literature by using exogenous variation in eligibility rules induced by national citizenship reforms to identify the effects of citizenship. The study closest to our analysis is by Avitabile et al. (2013a and 2013b) who also analyze the effect of citizenship on social integration in Germany. However, they focus on the integration of immigrant parents whose children obtained citizenship by birth after the 2000 reform. In contrast, we analyze how social and cultural integration change when the immigrant herself becomes eligible for citizenship. In addition, we analyze additional dimensions like family formation, housing choices and attitudes about gender roles.

Our study is also related to the large literature on immigrant assimilation. In the labor market, the native-immigrant wage gaps is substantial upon arrival, but typically declines with time in the host country as immigrants acquire language skills and social networks in the host country. The size and speed of immigrant assimilation observed in different countries is still hotly debated in the literature (see e.g. Abramitzky et al., 2012; Borjas, 1985, 1995, 2015; Card, 2005; Duleep and Dowhan, 2002; Hu, 2000; Lalonde and Topel, 1997; Lubotsky, 2007; see Dustmann and Glitz, 2011 for a survey).³ For Germany, most studies do not find much evidence for economic assimilation (e.g. Pischke, 1993; Licht and Steiner,

³Furthermore, Borjas and Hilton (1996) show that recent immigrants in the United States are more likely to participate in welfare programs than earlier immigrant cohorts.

1994; Schmidt, 1997; Bauer et al., 2005; results in Fertig and Schuster, 2007 are mixed).⁴

Yet, as noted by Algan et al. (2012), the speed and extent of assimilation seems to vary a lot depending on the outcome considered. Assimilation in the labor market, for instance, might be faster than integration along social and cultural dimensions; and some immigrant groups might integrate faster along some dimensions than others. A smaller literature studies the immigrant-native gap in family formation or fertility (Blau, 1992; Kahn, 1994; Parrado and Morgan, 2008; Dubuc, 2012; Fernández and Fogli, 2009; Stichnoth and Yeter, 2013; Mayer and Riphahn, 2010; Kalmijn et al., 2007; see Adsera and Ferrer, 2014 for a recent survey), national identity (e.g. Dustmann, 1996; Manning and Roy, 2010) or cultural values (Bisin et al., 2008; see Algan et al., 2012; Furtado et al., 2011, Alesina and Giuliano, 2007; Alesina and Giuliano, 2009; Fernández and Fogli 2009; Luttmer and Singhal; 2011; or Fernández, 2011 for a survey).

We also focus in this paper on social and cultural integration but between subsequent immigrant cohorts which share many characteristics and hence are more easily comparable than to the native population (see also Lalonde and Topel, 1997). Second, we analyze whether access to citizenship actually speeds up social and cultural assimilation. Our results thus have direct implications for policy-makers wishing to promote immigrant integration in their respective countries.

This article proceeds as follows. The next section discusses the recent immigration reforms in Germany. Section 3 introduces our data sources, while Section 4 explains our empirical strategy to identify the returns to citizenship. Section 5 discusses the empirical results on social integration. Section 6 concludes.

2 Institutional Background

2.1 Immigration Law Prior to 1991

More than 10 million - or about 13% of the population - in Germany is foreign-born. After World War II, most immigrants, especially from Turkey, Yugoslavia or Italy came to Germany as guest workers. From the late 1950s until the program was abolished in 1973, the guest worker program actively recruited foreign, mostly low-skilled labor, to meet the growing demand of Germany's booming manufacturing sector. Originally, the guest worker program was intended as a short- to medium-run measure. In practice, however, many guest workers stayed and settled down in Germany.⁵ Since the late 1980s and especially

⁴Basilio and Bauer (2010) argue that lower returns to human capital (education and experience) accumulated abroad can account for most of the native-immigrant wage gap in Germany.

⁵Their legal status was based on a residence and work permit which became permanent after 5 years and fully unrestricted after 8 years if a person had worked for at least 5 years in a job subject to social security contributions. Close family members could also obtain a residence permit in order to move to Germany. At the same time, the German government used financial incentives to encourage return migration, especially after the guest worker program ended in 1973.

after the fall of the Berlin Wall, new waves of immigrants arrived in Germany from Eastern Europe and the former Soviet Union. In the early 1990s, around one million foreigners (about 1% of its population) arrived in Germany each year.⁶ These immigration rates are comparable to those in the United States during the period of mass migration.

Despite substantial immigrant flows, Germany had no explicit naturalization policy at the time. Prior to 1991, German citizenship was closely tied to ancestry (*jus sanguinis*) as laid down in the law of 1913. Explicit criteria how a foreign-born immigrant without German ancestry would qualify for naturalization did not exist. The official doctrine was that foreigners were only temporary residents in Germany - even though many foreigners had lived in the country for decades.

2.2 Germany's Citizenship Reforms in 1991 and 2000

The passage of the Alien Act ("Ausländergesetz" (*AuslG*)) by the federal parliament on April 26, 1990 (and the upper house on May 5, 1990) marked a turning point in Germany's approach to immigration and citizenship. The reform which came into effect on January 1, 1991 defined, for the first time, explicit rules and criteria for naturalization.⁷ Most importantly for our purpose, the new law imposed an age-dependent residency requirement. Adolescent immigrants (aged 16-22 in 1991 or later) became eligible after 8 years; adults (aged 23 and older in or after 1991 who have not yet been eligible under the reduced residency requirement) became eligible for citizenship only after 15 years of residence in Germany.⁸ These residency requirements are still quite restrictive in comparison to other countries. Immigrants in Canada, for example, may naturalize after 3 years of permanent residence, while residency requirements in the United States and many European countries (like the UK, or Sweden) are 5 years - and hence substantially shorter than the rules imposed by the German reform.

⁶Many of these were ethnic Germans (i.e. immigrants with some German ancestry), mostly from Eastern Europe and the former Soviet Union, who had access to citizenship within three years of arrival in Germany. Since 1992, the inflow of ethnic Germans is restricted to 220,000 per year. Stricter application requirements (esp. German language requirements) and a reduction in financial assistance further reduced the number of applicants in the late 1990s. While the number of admitted ethnic Germans was 397,000 in 1990, it fell to 222,000 in 1994 and to 105,000 in 1999 (Bundesministerium des Innern, 2008). Below, we drop ethnic Germans from our sample as they are not affected by the immigration reforms we study.

⁷The reform was preceded by more than a decade of intense political discussion that oscillated between the desire to restrict immigration, to encourage return migration and the recognition for social integration of the foreign population already living in Germany. Several reform attempts were made during the 1980s, mostly from left-wing parties, but defeated by the political opposition or influential social groups. The reform in 1991 was pushed on the political agenda by a ruling of the Federal Constitutional Court whether immigrants should be entitled to vote in local elections for foreigners in 1989. The Court ruled those local voting rights unconstitutional but advocated a liberalization of Germany's naturalization policy (see Howard (2008) for a more detailed discussion).

⁸See § 85 AuslG (Alien Act) for adolescent immigrants and § 86 AuslG (Alien Act) for adult immigrants. If the applicant stayed abroad for no more than 6 months, the period of absence still counted toward the residency requirement. Temporary stays abroad (between 6 months and 1 year) may still count for the residency requirement. For permanent stays abroad (longer than 6 months), the applicant could count up to five years of residency in Germany toward the residency requirement.

Applicants for German citizenship had to fulfill several other criteria: first, they had to renounce their previous citizenship upon naturalization as the new law did explicitly not allow dual citizenship. Few exemptions to this rule existed at the time. The most important exception applied to EU citizens who could keep their citizenship if their country of origin allowed dual citizenship as well.⁹ A second requirement was that the applicant must not be convicted of a criminal offense.¹⁰ Adult immigrants (23 years or older) further had to demonstrate economic self-sufficiency, i.e. they should be able to support themselves and their dependents without welfare benefits or unemployment assistance. Adolescent immigrants (aged 16-22) had to have completed a minimum of six years of schooling in Germany, of which at least four years had to be general education. Finally, an applicant had to declare her loyalty to the democratic principles of the German constitution. Spouses and dependent children of the applicant could be included in the application for naturalization even if they did not fulfill the criteria individually.¹¹

The different residency requirements for adult and adolescent immigrants remained in place until the second important reform came into effect on January 1, 2000. The Citizenship Act (“Staatsangehörigkeitsgesetz” (StAG)) reduced the residency requirement to 8 years irrespective of the immigrant’s age.¹² The other requirements of the 1991 reform remained in place: applicants could not have a criminal record, had to demonstrate loyalty to democratic principles as well as economic self-sufficiency. In addition, the new law also required applicants to demonstrate adequate German language skills prior to naturalization. As before, the law of 2000 did not recognize dual citizenship in general though exemptions became more numerous in practice.¹³ The 2000 reform further introduced elements of citizenship by birthplace into

⁹Children of bi-national marriages, for example, did not have to give up their dual citizenship until they turned 18. Other exceptions were granted if the country of current citizenship did not allow the renunciation of citizenship or delayed the renunciation for reasons outside the power of the applicant; if the applicant was an acknowledged refugee or if the renunciation imposed special hardships on older applicants. In practice, few exceptions to the general rule were granted in the 1990s.

¹⁰Applicants with minor convictions, such as a suspended prison sentence up to 6 months (which would be abated at the end of the probation period), a fine not exceeding 180 days (calculated according to the net personal income of the individual), or corrective methods imposed by juvenile courts, were still eligible. Convictions exceeding these limits were considered on a case-by-case basis by the authorities.

¹¹Similar criteria are found in other countries. Overall, they seem to play a subordinate role for the naturalization process. A survey of eligible immigrants by the Federal Office of Migration and Refugees showed that the majority of migrants had good knowledge about the naturalization criteria. Of those, 72% reported that they fulfilled all requirements completely while 23% reported to meet most, though not all of the criteria (BAMF, 2012). As such, rejection of applications for citizenship based on criteria other than residency requirements should not be a major concern. If anything, this would bias our estimates downward as we would define an immigrant as eligible (based on the residency requirement) even though she is not (based on one of the other eligibility criteria).

¹²The law was adopted with a large majority in the lower house on May 7, 1999 and the upper house on May 21, 1999. The provisions are laid down in § 10 Abs. 1 StAG (Abs. 2 for spouses and dependent children of eligible immigrants), which form the basis for over 80% of all naturalizations in Germany (BAMF, 2008). Additional ways to naturalize are laid down in § 8 (naturalizations based on a discretionary decision of the authorities because of “public interest”) and § 9 (naturalization for spouses of German citizens who face a reduced residency requirement of 3 years).

¹³In addition to citizens of the EU member states, it became easier for older applicants and refugees to keep their previous citizenship. Applicants could also keep their nationality if it was legally impossible to renounce it or if it imposed a special hardship like excessive costs or serious economic disadvantages (e.g. problems with inheritances or property in their country

German law. A child born to foreign parents after January 1, 2000 was eligible for citizenship if one parent had been a legal resident in Germany for 8 years and had a permanent residence permit for at least three years. Since our analysis focuses on first-generation immigrants, our sample is not directly affected by the *jus soli* provisions of the 2000 reform.¹⁴

The liberalization of citizenship law after 1991 and again after 2000 is reflected in the number of naturalizations in Germany. Prior to the first reform, less than 20,000 persons became naturalized on average each year. After the immigration reform in 1991, naturalizations increase during the 1990s to 60-70,000 per year. After the second reform in 2000, the number of naturalizations jumps to over 180,000 and then gradually declines, but remains above 100,000 per year. Scaled by the immigrant population, the propensity to naturalize is still low in Germany: by 2007, about 35-40% of first-generation immigrant population with more than ten years of residency became German citizens; for comparison, the share is about 60% in the United Kingdom and over 80% in Canada (OECD, 2011).

3 Data Sources

3.1 Microcensus

Our first data source is the German Microcensus, a repeated cross-sectional survey of a 1% random sample of the German population. It covers detailed questions about individual socio-demographic characteristics, family composition, fertility and housing. The main advantages of the Microcensus are the large samples of foreigners (about 50,000 per year) as well as detailed and precise information on years spent in Germany and the acquisition of citizenship.

For each foreigner we know whether he or she was born in or outside of Germany. We restrict our sample to first-generation immigrants, i.e. immigrants born outside of Germany. We also need to drop ethnic Germans who had faster access to citizenship and therefore are not affected by the 1991 and 2000 immigration reforms. Ethnic Germans make up more than 30 percent of immigrants during the late 1980s and 1990s but are otherwise difficult to separate from other immigrants. In the end, we decide to restrict our analysis to the 2007-2010 Microcensus where immigrants are asked explicitly whether they naturalized as an ethnic German. To make our sample more homogeneous, we further restrict the analysis

of origin).

¹⁴See Avitabile et al. (2013a; 2013b) for an analysis of the *jus soli* provisions of the 2000 reform. There might be an indirect effect on first-generation immigrants, however. Before the 2000 reform, second- or third-generation immigrants could only become naturalized if their parents applied for citizenship. After the 2000 reform, young children had access to German citizenship independently of their parents' decision (subject to the residency requirements outlined above). Hence, the reform of 2000 might have actually decreased the inter-generational benefits of citizenship for foreign parents with young children.

to immigrants arriving in Germany between 1976 and 2000 who were 16-35 years-old when they first become eligible for citizenship.

The Microcensus also reports whether an immigrant has obtained German citizenship and the year in which naturalization took place. Based on this information, we define the number of years since an immigrant obtained German citizenship. To define eligibility for citizenship, we calculate the number of years since an immigrant is eligible using the immigrant’s year of arrival, year of birth and the relevant time period.¹⁵ The naturalization and eligibility variables are zero before an immigrant becomes eligible for German citizenship and equal to the number of years since an immigrant has naturalized or become eligible thereafter.

Our main outcome variables are measures of marriage status (currently married, being divorced), socio-demographic characteristics of the spouse (spouse is German, spouse comes from same region of origin) and family formation (at least one child, number of children, age at first birth and being a single mother). The main control variables are the number of years spent in Germany, age and education. We distinguish between low-skilled (no high school or vocational degree), medium-skilled (a higher school degree or a vocational degree) and high-skilled immigrants (with a college degree).

We also control for the immigrant’s region of origin distinguishing between immigrants from the traditional EU-15 member states (e.g. Italy or Portugal), immigrants from countries that recently joined the European Union (the so-called EU-12, e.g. Poland or the Czech Republic), immigrants from Turkey, ex-Yugoslavia (except Slovenia) and the Former Soviet Union (except the Baltic states). We lump together other immigrants into broad regions of origin (Asia, Africa, the Middle East and North or South America). Appendix Table A1 shows summary statistics of our sample of first-generation immigrants in the Microcensus. Further details on the definition of our sample and each variable is contained in the data appendix.

3.2 Low-Income Panel (PASS)

To study social integration among the low-income population, we use the panel data “Labor Market and Social Security” (PASS). The household survey covers about 18,000 individuals and has been conducted each year since 2006. Most importantly, the survey oversamples low-income households and recipients of

¹⁵We abstract from other eligibility criteria largely because we do not have any information (e.g. about the criminal record) or because it is unclear how the criteria is applied (e.g. economic self-sufficiency). As a consequence, we are likely to misclassify a few immigrants who satisfy the residency requirements but are not eligible according to some other criteria. This misclassification will result in a downward bias of eligibility on naturalization propensities (as some individuals, which we classify as eligible, cannot naturalize in practice). If immigrants with a criminal record and economic dependence have worse social and cultural integration outcomes than eligible immigrants, our estimates of the benefits of German citizenship are downward biased. Consequently, classification errors should produce conservative estimates in our analysis below.

welfare benefits. Specifically, the survey first draws a household sample in which at least one person in the household received welfare benefits (“Hartz IV”) in July 2006. A second subsample is drawn to match the observable characteristics of the first subsample.

As for the Microcensus, our sample consists of all first-generation immigrants, i.e. foreign-born respondents who live in private households in Germany. Furthermore, we restrict the sample to those first-generation immigrants who migrated to Germany between 1976 and 2000 and were between 16 and 35 years old in the post-reform period (1991-2012). The survey records whether a foreign-born individual has the German citizenship but not when naturalization took place. We will therefore focus on the reduced-form, i.e. how eligibility for citizenship affects social and cultural integration.¹⁶

Our key independent variable is again the number of years an immigrant has been eligible for German citizenship. To define eligibility, we combine the number of years an immigrant has lived in Germany with the immigrant’s age to determine in which year she became eligible.¹⁷ The main outcome variables are current marital status (currently married, being divorced) and family formation (the number of children). In addition, we study whether eligibility for German citizenship also changes opinions on the proper role of women in society. All control variables are defined as in the Microcensus.¹⁸ Table A2 in the appendix shows summary statistics for the low-income panel. Reflecting the sampling strategy, immigrants in the PASS sample has on average lower income and less formal education relative to the immigrant sample in the Microcensus.

4 Empirical Strategy

To study the effects of citizenship on social integration, we focus on the reduced-form relationship between eligibility for citizenship and measures of social assimilation controlling for other influencing factors. Knowing whether a more liberal access to citizenship affects immigrants’ integration is important in its own right. The intent-to-treat effect is the primary parameter of interest for policy makers who aim to improve the integration of immigrants in the host country. And for immigrants, it represents the option value of

¹⁶Information on the type and year of naturalization would be important to identify ethnic Germans, i.e. immigrants with some German ancestry who can get naturalized after three years of residency in Germany. Ethnic Germans are not affected by the 1991 and 2000 reforms and therefore induce some noise into our eligibility measure. We try to reduce the noise by restricting our sample to only those immigrants with no German-born parents and grandparents.

¹⁷An immigrant arriving in 1976 becomes eligible for citizenship in 1991 independent of her age. Adolescent immigrants (aged 16-22) who migrated between 1977 and 1982, become eligible in 1991 while those who migrated between 1983 and 2003 become eligible after 8 years of residency (between 1991 and 2012). Adult immigrants (aged 23 and older) who migrated between 1977 and 1985 become eligible after 15 years of residence (between 1991 and 2000). Those arriving between 1986 and 1991 all become eligible in 2000 when the reduced residency requirement comes into effect. All adult immigrants arriving between 1992 and 2003 become eligible after 8 years of residency (between 2000 and 2012).

¹⁸The same categories except Middle East.

naturalization.

The stepwise liberalization of residency requirements in the 1991 and 2000 reforms introduces variation in years eligible across immigrants and over time which we can exploit to analyze the returns to citizenship. The key insight here is that eligibility for citizenship is a nonlinear function of an immigrant’s years spent in Germany, her age and current year. The 1991 reform mainly generates variation in eligibility through the age-dependent residency requirement. Consider two immigrants who arrive in Germany in 1983 at age 14 and 15 respectively. After the 1991 reform, both immigrants have lived in Germany for 8 years. The younger immigrant is 22 years-old in 1991 and can therefore apply for citizenship immediately under the reduced 8 year residency requirement. The older immigrant is 23 years-old however, and can only apply for citizenship in 1998, after 15 years of residency in Germany. As a result, the younger immigrant is eligible 7 years earlier than the older immigrant - though both are of similar age and have spent the same time in Germany. The same logic applies to other arrival cohorts. For immigrants arriving between 1977 and 1983, for instance, adolescents can naturalize in 1991, while adult immigrants can only naturalize between 1992 and 1998, i.e. 1 to 7 years later.

Eligibility also varies because different arrival cohorts satisfy the residency requirement right in the reform year. Take, for example, two adolescent immigrants who came to Germany before 1983; they become eligible in the same year (1991) though they might have lived in Germany anywhere from 8 to 15 years. Similarly, all adult immigrants who arrived in Germany between 1985 and 1992 get eligible under the reduced 8 years requirement in 2000. The bunching of eligible immigrants in 1991 and 2000 allows a comparison of immigrants who become eligible in the same year but differ in age and years in Germany.¹⁹

To identify the returns to eligibility, we therefore estimate the following model:

$$Y_{iabt} = \beta YrsElig_{abt} + \gamma_1 YSM_{at} + \gamma_2 YSM_{at}^2 + \mu_1 Age_{bt} + \mu_2 Age_{bt}^2 + \sum_{k=1}^K \mu_k Coh_{ak} + \delta X_{it} + \vartheta_t + \lambda_{st} + \varepsilon_{iabt} \quad (1)$$

where Y_{iabt} is a social integration outcome of immigrant i from birth cohort b who arrived in Germany in year a and survey year t . The key independent variable is $YrsElig_{abt}$ which defines the number of years since an immigrant has been eligible for citizenship. The main parameter of interest is β which identifies whether legal access to citizenship improves integration among immigrants.

¹⁹In principle, we could use the variation to implement an RDD estimator where we use immigrants of similar age and years in Germany left and right of the eligibility threshold. However, no data source is suited for such this empirical approach. The IAB data based on social security records does not contain the year when a foreign citizen first moved to Germany. The Microcensus prior to 2005 does not contain reliable information on actual naturalization; furthermore, the sample sizes are too small to identify a truly local estimate of citizenship eligibility. Therefore, we implement below a reduced form estimator of the returns to citizenship eligibility within a homogeneous sample of immigrants.

Our specification controls for a polynomial in age (to capture life-cycle influences) and years in Germany (to control for general assimilation effects that occur independently of citizenship). In addition, we control for shifts in the quality of entering immigrant cohorts by including 3-year cohort of arrival dummies. We include an immigrant's education and region of origin fixed effects to capture differences across education groups and source countries. Finally, all specifications include year and state fixed effects as well as state-specific linear trends to capture aggregate or state-specific influences on social integration outcomes. All specifications are estimated for male and female immigrants separately.

The identifying assumption of equation (2) is that within the same 3-year arrival cohort, an immigrant who gets eligible as an adult (after 15 years of residency in Germany) is a valid counterfactual for the integration outcome of a young eligible immigrant (eligible under the 8 years residency requirement) conditional on our control variables. We get additional identification from the fact that within the same arrival cohort, some immigrants get eligible in the reform year (e.g. when the year of arrival is 1991 or 1992) while later arrivals (e.g. who arrived in 1993) get eligible in 2001.

Note that our analysis captures social integration outcomes several years after an immigrant has become eligible for citizenship. Estimation of equation (1) therefore identifies persistent differences of citizenship eligibility. Our data would not identify a level effect immediately with naturalization or eligibility. The reason is that the control group of immigrants who gets eligible under the 15-year residency requirements also qualifies eventually for citizenship during our sample period. The control group would have therefore experienced the same upward (or downward) shift in outcomes than the treated group. As such, our focus on the longer-run performance of immigrants is not a limitation of the current study. A potential advantage of focusing on long-run outcomes is that our estimates are less likely to be affected by any other transitory shocks around the reform years.

There are other potential threats to our identification strategy: the first one arises from selective outmigration of immigrants. If return migrants are negatively from the pool of immigrants in the host country, return migration overestimates general assimilation effects, for instance. It would however, not affect our eligibility variable as long as selection into return migration is similar for adolescent and adult immigrants or across arrival cohorts.

A second threat to identification is that age of arrival might bias our estimates. Immigrants who arrived at younger ages invest more in host country-specific human capital like language skills and therefore might integrate better along other dimensions as well (see Bleakley and Chin, 2004; 2010). Since younger immigrants become eligible earlier under the 1991 reform, an omitted age-of-arrival effect would bias our estimates upward. A third concern of our empirical strategy might be that we impose specific functional

relationship how eligibility, assimilation and age affect social and cultural integration outcomes.

5 Empirical Results

5.1 Marital Status and Spousal Characteristics

We begin with an analysis of current marriage outcomes in the general immigrant population. As we observe marriage outcomes on average several years after an immigrant becomes first eligible for citizenship, we will only identify persistent differences between those eligible earlier rather than later. For both men and women, access to citizenship does not change the likelihood to be married (see Table 1, columns (1)-(4)). We do observe a negative relationship between years in Germany and being currently married which suggests that assimilation plays a role independently of legal status.

Eligibility for citizenship seems to have a slight impact on the stability of marriage however. Female immigrants with access to citizenship are somewhat less likely to be divorced though the effect is not very strong (see the right-hand side of Table 1). One possible explanation for more stable marriages could be an income effect that works through an improved position in the labor market (Kalmijn et al., 2007 report positive income effects).

Though there are few effects on current marital status, we would expect that citizenship affects whom an eligible immigrant will marry. Both male and female immigrants are actually less likely to marry a German native (born in Germany). Yet, there are striking differences across education groups: while low-skilled immigrants are less likely, intermarriage with a German is actually higher among the highly educated immigrants. At the same time, we find that eligible immigrants are more likely to marry an immigrant outside of her own region of origin. Again, we find heterogeneous effects across education groups: while low-educated immigrants are less likely, university educated immigrants are more likely to marry outside their own ethnic group. Hence, eligibility seems to favor intermarriages for university educated immigrants - both in terms of having a German spouse and marrying an immigrant from another region of origin. For low-skilled immigrants, we observe the opposite pattern: the likelihood of intermarriages with Germans or other immigrant groups is actually reduced after eligibility is obtained.

5.2 Family Formation

We now turn to the question whether eligibility of citizenship influences family formation. Table 3 shows various measures of fertility behavior for female immigrants. Women who have access to citizenship are slightly less likely to have at least one child (see column (2)) and have fewer children overall (see column

(4)). These results suggest that the negative substitution effect dominates the positive income effect. We also find that the timing of birth is affected as women seem to postpone their first birth when they have access to citizenship in the host country (see column (6)). Finally, the likelihood to be a single mother increases with access to citizenship. One explanation for this finding is that citizenship - through an improved position in the labor market - increases women's economic independence which in turn might make single motherhood economically sustainable.

We find similar effects for marriage and fertility behavior in our sample of low-income immigrants (shown in Table A3 in the appendix). We find again no effect on the likelihood of being currently married; yet, we find a decline in the probability of being divorced for men (not for women as in the overall population). As in the overall sample, we find that fertility declines when women get eligible for German citizenship. We next turn to the question whether access to citizenship affects immigrant's perceptions about the role of women in the host society.

5.3 Attitudes about the Proper Role of Women

Immigrants, especially those from developing countries, tend to have more traditional views on the role of women than natives. Through naturalization, immigrants might adapt their attitudes to the mainstream in Germany. To investigate this, we use three questions from the low-income panel study (PASS). The first one asks whether respondents think that women mostly care about having a home and children. In the second question, respondents are asked whether they agree with the following statement: "Working mothers can have the same loving relationship with their children than non-working mothers". The third question elicits whether respondents think that men should be the main breadwinner in the family. Each variable is coded from 0 (do not agree at all) to 4 (fully agree).

Table 4 shows that women with access to citizenship are less likely to agree with traditional gender roles where women are mostly concerned with the household and children while men earn money in the market. In addition, men also seem to become less traditional with respect to the second question: they are more likely to agree that working mothers can have a similarly loving relationship with their children than non-working mothers.²⁰

The other control variables have largely the expected sign: more educated respondents are much less likely to support traditional gender roles. Older women and to some extent also older men are more likely to have traditional views on gender roles. Time spent in Germany has only a weak effect on perceptions

²⁰Given that the dependent variables are count variables, a negative binomial might be more appropriate. Estimates based on a negative binomial are very similar to the results reported in Table A3.

about gender roles - which is consistent with the weak evidence on assimilation in the German labor market.

6 Conclusion

Germany has accumulated a sizeable immigrant population. Over the past years, Germany has ranked second as destination country for immigrants: just behind the United States but before other traditional immigration countries like Australia and Canada. The large stock and rising inflow of immigrants raises important questions on how to integrate the new members into the host society - both economically, but also socially and politically; here, Germany has traditionally had a weak record. In recent years however, substantial progress has been made in facilitating naturalization. Beginning in the early 1990s, Germany has moved from a country where citizenship was closely tied to ancestry to a more liberal understanding of citizenship and naturalization.

To identify the effects of citizenship acquisition on social integration, we exploit age-dependent residency requirements in Germany's reforms and the fact that many immigrants get eligible when the reforms are implemented. Our intention-to-treat effect shows that access to citizenship does have an impact on the marriage and fertility patterns of immigrants. The propensity of eligible female immigrants to have a lower and delayed fertility, in combination with the result that both, male and female immigrants, have less traditional opinions regarding the role of women, suggest that access to citizenship leads to assimilation to a more modern family model.

Overall, naturalization appears to be one channel to improve the social integration of immigrants even in countries where access to citizenship has traditionally been very restrictive. The benefits of a more liberal immigration policy seem to materialize especially if immigrants have the human capital necessary to succeed in the host country's labor market - a condition more recent immigrants to Germany seem to satisfy. As such, the substantial inflow of immigration over the past decade is likely to provide large fiscal and labor market benefits for Germany. Yet, our results also caution that a more liberal access to citizenship does not work automatically for everybody and for all integration outcomes.

References

- [1] Abramitzky, R., L. P. Boustan and K. Eriksson (2012), "Europe's tired, poor, huddled masses: Self-selection and economic outcomes in the age of mass migration," *American Economic Review*, 102, 1832-56.

- [2] Adsera, A. and A. Ferrer (2014), “Immigrants and demography: marriage, divorce, and fertility,” in: *Handbook of the Economics of International Migration*, edited by B. Chiswick and P. Miller, North-Holland: Elsevier, Volume 1A, Chapter 7.
- [3] Alesina, A. F. and P. Giuliano (2010), “The power of the family,” *Journal of Economic Growth*, 15, 93-125.
- [4] Alesina, A. F. and P. Giuliano (2011), “Family ties and political participation,” *Journal of the European Economic Association*, 9, 817-839.
- [5] Algan, Y., A. Bisin, A. Manning and T. Verdier (2012) *Cultural Integration of Immigrants in Europe, Studies of Policy Reform*. Oxford, UK: Oxford University Press.
- [6] Algan, Y., C. Dustmann, A. Glitz and A. Manning (2010), “The economic situation of first- and second-generation immigrants in France, Germany, and the UK,” *Economic Journal*, 120, F4-F30.
- [7] Avitabile, C., I. Clots-Figueras and P. Masella (2013a), “The effect of birthright citizenship on parental integration outcomes,” *Journal of Law and Economics*, 56, 777-810.
- [8] Avitabile, C., I. Clots-Figueras and P. Masella (2013b), “Citizenship, fertility and parental investments,” *American Economic Journal: Applied Economics*, forthcoming.
- [9] Bauer, T., B. Dietz, K. F. Zimmermann and E. Zwiintz (2005), “German migration: Development, assimilation, and labor market effects,” in: *European Migration. What do we know?*, edited by K.F. Zimmermann, pp. 197-261. Oxford: Oxford University Press.
- [10] Becker, G. (1960), “An Economic Analysis of Fertility.” In: *Demographic and Economic Change in Developed Countries*, NBER conference series 11, Princeton, NJ, pp. 209-231.
- [11] Becker, G. (1973), “A theory of marriage: Part I”, *Journal of Political Economy*, 81: 813-46.
- [12] Bevelander, P (2011), “Naturalisation and social inclusion,” in: *Naturalisation: A passport for the better integration of immigrants?* Edited by the OECD, Chapter 9.
- [13] Bevelander, P. and R. Pendakur (2011), “Citizenship, co-ethnic populations, and employment probabilities of immigrants in Sweden,” *Journal of International Migration and Integration*, 13, 203-222.
- [14] Bevelander, P. and J. Veenman (2008). “Naturalisation and socioeconomic integration: The case of the Netherlands.” In: *The economics of citizenship*, edited by P. Bevelander and D.J. DeVoretz. Malmö: Holmbergs.
- [15] Bisin, A., E. Patacchini, T. Verdier and Y. Zenou (2008), “Are Muslims immigrants different in terms of cultural integration?,” *Journal of the European Economic Association*, 6, 445-456.
- [16] Blau, F. D. (1992), “The fertility of immigrant women: Evidence from high-fertility source countries”, in: *Immigration and the Work Force: Economic Consequences for the United States and Source Areas*, edited by G.J. Borjas and R.B. Freeman. Chicago, IL: University of Chicago Press.
- [17] Bleakley, H. and A. Chin (2004), “Language skills and earnings: Evidence from childhood immigrants, “ *Review of Economics and Statistics*, 86, 481-96.
- [18] Bleakley, H. and A. Chin (2010), “Age at arrival, English proficiency, and social assimilation among US immigrants,” *American Economic Journal: Applied Economics*, 2, 165- 192.
- [19] Borjas, G. (1985), “Assimilation, changes in cohort quality, and the earnings of immigrants,” *Journal of Labor Economics*, 3, 463-89.
- [20] Borjas, G. (1995), “Assimilation and changes in cohort quality revisited: what happened to immigration earnings in the 1980s?” *Journal of Labor Economics*, 13, 201-245.
- [21] Borjas, G. and L. Hilton (1996), “Immigration and the welfare state: Immigrant participation in means- tested entitlement programs,” *Quarterly Journal of Economics*, 111, 575-604.
- [22] Bratsberg, B., Ragan, J. F. and Z. M. Nasir (2002). “The effect of naturalization on wage growth: A panel study of young male immigrants.” *Journal of Labor Economics*, 20, 568–97.

- [23] Bundesministerium des Inneren (2008), *Migrationsbericht des Bundesamtes für Migration und Flüchtlinge im Namen der Bundesregierung*, Berlin: Federal Ministry of the Interior.
- [24] Bundesamt für Migration und Flüchtlinge (BAMF) (2008), “Die Einbürgerung von Ausländern in Deutschland”, Federal Office for Migration and Refugees, Working Paper No. 17.
- [25] Bundesamt für Migration und Flüchtlinge (BAMF) (2012), “Einbürgerungsverhalten von Ausländerinnen und Ausländern in Deutschland sowie Erkenntnisse zu Optionspflichtigen”, Federal Office for Migration and Refugees, Research Paper No. 15.
- [26] Card, D. (2005), “Is the new immigration really so bad?” *Economic Journal*, 115, F300-F323.
- [27] Chiswick, B. R. (1978), “The effect of Americanization on the earnings of foreign-born men.” *Journal of Political Economy*, 86, 897–921.
- [28] Chiswick, B. R. and P. W. Miller (1995), “The endogeneity between language and earnings: International analyses.” *Journal of Labor Economics*, 13 (2), 246-88.
- [29] Chiswick, B. R. and P. W. Miller (2008), “Citizenship in the US: The roles of immigrant characteristics and country of origin,” *Research in Labor Economics*, 29, 91-130.
- [30] Constant, A. F. and D. Massey (2002), “Return migration by German guestworkers: Neoclassical versus new economic theories,” *International Migration*, 40, 5-38.
- [31] De Voretz, D. and S. Pivnenko (2006), “The economic causes and consequences of Canadian citizenship,” *Journal of Immigration and Integration*, 6, 435-68.
- [32] Dubuc, S. (2012), “Immigration to the UK from high-fertility countries: Intergenerational adaptation and fertility convergence,” *Population and Development Review*, 38, 353-368.
- [33] Duleep, H. O. and D. J. Dowhan (2002), “Insights from longitudinal data on the earnings growth of U.S. foreign-born men,” *Demography*, 39, 485-506.
- [34] Dustmann, C. (1996). “The social assimilation of immigrants.” *Journal of Population Economics*. 9, 37-54.
- [35] Dustmann, C. and A. Glitz (2011), “Migration and education,” *Handbook of Economics of Education*, edited by E. Hanushek, North Holland: Elsevier, vol. 4, pp. 327-439.
- [36] Engdahl, M. (2014), “Naturalizations and the economic and social integration of immigrants,” University of Uppsala, IFAU Working Paper No. 2014:11.
- [37] Fernández, R. (2011), “Does culture matter?” In: *Handbook of Social Economics*, Volume 1A, edited by J. Benhabib, M. O. Jackson, and A. Bisin. San Diego; Amsterdam: North- Holland.
- [38] Fernández, R. and A. Fogli (2009). “Culture: An empirical investigation of beliefs, work, and fertility.” *American Economic Journal: Macroeconomics*, 1, 146-77.
- [39] Fertig, M. and S. Schurer (2007), “Earnings assimilation of immigrants in Germany: The importance of heterogeneity and attrition bias,” *DIW Discussion Paper* No. 30.
- [40] Fougère, D. and M. Safi (2009). “The effects of naturalization on immigrants employment probability (France, 1968-1999),” *International Journal of Manpower*, 30, 83-96.
- [41] Furtado, D., M. Marcén, and A. Sevilla-Sanz (2011), “Does culture affect divorce decisions? Evidence from European immigrants in the US,” *IZA Discussion Paper* No. 5960.
- [42] Hailbronner, K. and G. Renner (1992), *Staatsangehörigkeitsrecht, Texte*, Munich: C. H. Beck.
- [43] Hainmüller, J., D. Hangartner, and G. Pietrantuono (2014), “Naturalization fosters the long-term political integration of immigrants,” Working Paper, Stanford University.
- [44] Hotz, Joseph V., Jacob A. Klerman, and Robert J. Willis, “The Economics of Fertility in Developed Countries,” in *Handbook of Population and Family Economics*, Mark R. Rosenzweig and Oded Stark, eds. (Amsterdam: North- Holland, 1997), pp. 275–348.

- [45] Howard, M. M. (2008), “The causes and consequences of Germany’s new citizenship law,” *German Politics*, 17, 41-62.
- [46] Hu, W.-Y. (2000), “Immigrant earnings assimilation: Estimates from longitudinal data,” *American Economic Review P&P*, 90, 368-72.
- [47] Just, A. and C. J. Anderson (2012). “Immigrants, citizenship and political action in Europe.” *British Journal of Political Science*, 42(3): 481-509.
- [48] Kahn, J. R. (1994), “Immigrant and native fertility during the 1980s: Adaptation and expectations for the future,” *International Migration Review*, 28, 501-519.
- [49] Kalmijn, M., A. Loeve, and D. Manting (2007), “Income dynamics in couples and the dissolution of marriage and cohabitation,” *Demography*, 44, 159-179.
- [50] Kesler, C. and N. Demireva (2011), “Social cohesion and host country nationality among immigrants in Western Europe,” in: *Naturalisation: A passport for the better integration of immigrants?* Edited by the OECD, Chapter 8.
- [51] Lalonde, R. and R. Topel (1997), “Economic impact of international migration and the economic performance of migrants.” In: *Handbook of Population and Family Economics*, vol. 1B, edited by Mark R. Rosenzweig and Oded Stark. Amsterdam: Elsevier Science.
- [52] Licht, G. and V. Steiner (1994), “Assimilation, labour market experience, and earning profiles of temporary and permanent immigrant workers in Germany,” *International Review of Applied Economics*, 8, 130-56.
- [53] Lubotsky, D. (2007), “Chutes or ladders? A longitudinal analysis of immigrant earnings,” *Journal of Political Economy*, 115, 820-67.
- [54] Luttmmer, E. F. and M. Singhal (2011), “Culture, context, and the taste for redistribution,” *American Economic Journal: Economic Policy* 3, 157-179.
- [55] Manning, A. and S. Roy (2010), “Culture clash or culture club? National identity in Britain,” *Economic Journal*, 120, F72–F100.
- [56] Mayda, A. (2006), “Who is against immigration? A cross-country investigation of individual attitudes toward immigrants,” *Review of Economics and Statistics*, 88, 510-530.
- [57] Mayer, J. and R. Riphahn (2000), “Fertility assimilation of immigrants: Evidence from count data models,” *Journal of Population Economics*, 13, 241-261.
- [58] Mazzolari, F. (2009), “Determinants and effects of naturalization: the role of dual citizenship laws”, *Demography*, 46, 169-91.
- [59] Organisation for Economic Cooperation and Development (2006), *International migration outlook: SOPEMI-2006 Edition*, Paris: OECD
- [60] Organisation for Economic Cooperation and Development (2011), *Naturalisation: A passport for the better integration of immigrants?* Paris: OECD.
- [61] Parrado, E. A. and S. P. Morgan (2008), “Intergenerational fertility among Hispanic women: New evidence of immigrant assimilation,” *Demography*, 45, 651-671.
- [62] Pischke, J.-S. (1993), “Assimilation and the earnings of guestworkers in Germany,” unpublished manuscript, MIT.
- [63] Schmidt, C. M. (1997), “Immigrant performance in Germany: Labor earnings of ethnic German migrants and foreign guest workers,” *Quarterly Review of Economics and Finance*, 37, 379-97.
- [64] Steinhardt, M. F. (2012), “Does citizenship matter? The economic impact of naturalizations in Germany”, *Labour Economics*, 19, 813-23.
- [65] Stichnoth, H. and M. Yeter (2013), “Cultural influences on the fertility behaviour of first- and second-generation immigrants in Germany,” *ZEW Working Paper* 13-023.
- [66] Yang, P. Q. (1994), “Explaining immigrant naturalization,” *International Migration Review*, 28, 3: 449-77.

A German Microcensus (2007-2009)

Data and Sample: The Microcensus interviews about 830,000 individuals each year. Participation is required by law (though answering some questions is voluntary) as the data form the basis for the calculation of nationally representative labor market statistics. The scientific use file is a 70% subsample of the official dataset. We restrict the sample to first-generation immigrants, i.e. foreign-born individuals who live in private households in Germany. For each person, we know the year the person arrived in Germany and the country of origin. Individuals born abroad to German parents are also contained in the foreign-born sample but can be identified as their country of origin is missing. We further restrict our sample to immigrants who arrived in Germany between 1976 and 2000 and are between 16 and 35 years of age in the post-reform period (1991-2009).

Since 2005, the survey records whether and how an immigrant has obtained German citizenship and the year in which naturalization took place. To define our sample of interest, we first calculate the number of years an immigrant has lived in Germany. Together with the age of an individual in the post-reform period, we then define the year an immigrant is first eligible for citizenship based on the residency requirement. An immigrant arriving in 1976 becomes eligible for citizenship in 1991 independent of her age. Adolescent immigrants (aged 16-22) arriving between 1977 and 1982 become eligible in 1991 while those arriving between 1983 and 2000 become eligible after 8 years (between 1991 and 2009). Adult immigrants (aged 23 and older) arriving between 1977 and 1985 become eligible after 15 years of residence (between 1991 and 2000). Adult immigrants arriving between 1986 and 1991 all become eligible in 2000 when the reduced residency requirement comes into effect. All adult immigrants arriving between 1992 and 2000 become eligible after 8 years of residency (between 2000 and 2009). In the final step, we then calculate the number of years an immigrant in 2007-2009 has been eligible for German citizenship.

We also need to distinguish regular immigrants from ethnic Germans (“Aussiedler”) who are not affected by the 1991 and 2000 reforms. Ethnic Germans have some German ancestry and therefore have access to German citizenship within three years of arrival. Aggregate statistics suggest that migration flows of ethnic Germans started in 1985 with less than 50,000 per year, peaked between 1988 and 1991 at around 300,000 per year, remained at about 200,000 per year between 1992 and 1996 and then subsided to 100,000 and below after 1998 (Bundesministerium des Inneren, 2009). We first define ethnic Germans as individuals born outside Germany with a German passport who naturalized within three years of arrival in Germany (which is legally impossible for regular immigrants) and whose previous nationality was Czech, Hungarian, Kazakh, Polish, Romanian, Russian, Slovakian or Ukrainian as ethnic Germans (see Birkner, 2007; Algan et al., 2010 follow the same approach). Based on this definition, we identify and exclude about 58,000 ethnic Germans in our data over the period from 2005 to 2009. After applying this restriction however, our data still contain many immigrants from Eastern Europe or the Former Soviet Union who naturalize before the required 8 or 15 years. Overall, ethnic Germans make up about 32% of our immigrant sample during the 2007-2009 period. We therefore restrict our sample to the 2007-2009 survey years where we can identify and drop immigrants naturalized as an ethnic German.

Dependent variables: Our main outcome variables are measures of marriage status (currently married, and being divorced), spousal characteristics (German-born, and being from the same origin-group), and fertility (having children, number of children, age at first birth, and being a single mother).

Control variables: Educational attainment is defined as low-skilled if the individual has no vocational degree and at most a lower secondary school degree. A migrant is medium-skilled if she has a vocational degree or high school degree; and she is high-skilled if she has a college degree. The occupation variable distinguishes between self-employed, civil servant, employee, workers, trainees and soldiers while the sector variable distinguishes between 8 broad sectors.

To explore the heterogeneity in the returns to citizenship, we study immigrants from different countries of origin. In particular, we define ten categories of countries of origin based on the current citizenship (for those who do not naturalize) or the citizenship prior to naturalization (for those naturalized). The first group (EU15: Austria, Belgium, Denmark, Finland, France, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden and United Kingdom) includes all countries from the European Union before the enlargement of 2004 as well as Switzerland and Norway. This group had already free access to the German labor market in the 1990s. The second group consists of immigrants from Eastern European countries which joined the EU in 2004 but did not have full access to the labor market prior to 2011 (EU12: Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia as well as Malta and Cyprus). The other important source countries are former Yugoslavia except Slovenia (Bosnia and Herzegovina, Croatia, Kosovo, Macedonia, Montenegro, Serbia) and Turkey. We lump together other immigrants into broad regions: the Middle East (for example Afghanistan, Iran

and Iraq), Africa (for example Morocco), Asia (for example China and Vietnam), North and South America as well as Russia and other former Soviet republics which are not member of the European Union. The last category contains immigrants who either have no exact region of origin (“other European country” or “rest of the world”) or report not having any citizenship at all.

B PASS Data of Low-Income Households (2006-2012)

Data and Sample: The survey “Labour Market and Social Security” (PASS) is a longitudinal study of the low-income population and contains two subsamples. The first subsample (initial sample size: 6,804 households) is a random sample of benefit units (“Bedarfsgemeinschaften”), in which at least one person was receiving welfare benefits (“Hartz IV”) in July 2006. The second subsample (initial sample size: 5,590 households) is a sample of private households in Germany (general population sample). The sample was stratified such that households with a low social status and thus a greater risk of entry into benefit receipt had a higher probability of inclusion. As PASS is a household survey, the entire household in which a benefit unit has been living was targeted for the survey. To improve participation rates among immigrants, the survey is conducted in either in German, English, Turkish or Russian.

In subsequent waves, a refreshment sample of welfare beneficiaries was drawn to compensate for exits from welfare receipt. In addition, refreshment samples for both subsamples have been drawn in wave 5. The survey also follows households that had split off from the households interviewed in one of the preceding waves. They were each assigned to the subsample from which their original household had been drawn.

We restrict our sample to first-generation immigrants living in private households who have arrived in Germany between 1976 and 2000 and are between ages 16 and 35 in the 1991-2012 period. Based on the residency requirement, the eligibility indicator is equal to one if (1) an individual has been in Germany for at least 8 years and is between 16 and 22 years old in the post-1990 period; (2) if an immigrant has been in Germany for at least 15 years and is 23 years old or above during the survey years 1991-1999; and (3) if an immigrant has been in Germany for at least 8 years and is 23 years-old or above in the survey years 2000-2012. The indicator is zero if a first-generation immigrant is not (yet) eligible for naturalization in the current year.

The survey records whether a foreign-born individual has the German citizenship but not when naturalization took place. We will therefore focus on the reduced-form, i.e. how eligibility for citizenship affects social integration outcomes. Information on the year and of naturalization would be helpful to identify ethnic Germans, i.e. immigrants with some German ancestry who can get naturalized after three years of residency in Germany. Ethnic Germans are not affected by the 1991 and 2000 reforms and therefore induce noise into our eligibility measure. We try to reduce the noise by restricting our sample to only those immigrants with no German-born parents and grandparents. To the extent that ethnic Germans are distributed symmetrically in the treatment and control group, we would have classical measurement error which would bias our estimates to zero.

Our treatment variable is the number of years since a respondent has been eligible for German citizenship. To calculate the variable, we first calculate the number of years an immigrant has lived in Germany. Together with the age of an individual in the post-reform period, we then define the year an immigrant is first eligible for citizenship based on the residency requirement and subtract it from the survey year to obtain the number of years since a person has been eligible for citizenship.

Hence, an immigrant arriving in 1976 becomes eligible for citizenship in 1991 independent of her age. Adolescent immigrants (aged 16-22) who migrated between 1977 and 1982, become eligible in 1991 while those who migrated between 1983 and 2003 become eligible after 8 years of residency (between 1991 and 2012). Adult immigrants (aged 23 and older) who migrated between 1977 and 1985 become eligible after 15 years of residence (between 1991 and 2000). Those arriving between 1986 and 1991 all become eligible in 2000 when the reduced residency requirement comes into effect. All adult immigrants arriving between 1992 and 2003 become eligible after 8 years of residency (between 2000 and 2012).

Dependent variables: Our dependent variables comprise the fields of family formation, and attitudes about gender roles.

In order to analyze family formation and fertility patterns, we use the two binary variables indicating if a respondent is married and divorced, and a count variable about her total number of children as dependent variables. The first two variables are coded from a categorical variable about the marital status in the PASS, with the categories “I am single”, “I am divorced”, “I am married/live in a registered partnership, living together with my partner”, “I am

married/live in a registered partnership, and I live separated from my partner”, and “I am widowed”. A respondent is defined as married, if she is in the third or fourth, and 0 otherwise. A respondent is defined as divorced if she is in the second of these categories, and 0 if she is married. The total number of children is generated from information about the number of children a respondent reports to have living in the household and outside the household.

For the analysis of the effect of citizenship on the housing conditions of immigrants, we use the same variables as in the German Microcensus.

Our last group of dependent variables comprise three questions regarding attitudes about gender roles. The first one asks whether respondents think that women mostly care about having a home and children. In the second question, respondents are asked whether they agree with the following statement: “Working mothers can have the same loving relationship with their children than non-working mothers”. The third question elicits whether respondents think that men should be the main breadwinner in the family. Each variable is coded from 0 (do not agree at all) to 4 (fully agree).

Control variables: We define the same control variables as in the Microcensus with the exception that the source countries are grouped in nine instead of ten regions: EU15, EU12, Yugoslavia except Slovenia, Turkey, Africa, Asia, America, Russia and other former Soviet republics which are not member of the European Union, and “other European country” or “rest of the world”.

Table 1: Reduced-form Estimates of Citizenship Eligibility and Marriage Outcomes

	Currently Married				Divorced			
	Male Immigrants		Female Immigrants		Male Immigrants		Female Immigrants	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Years since Eligible		-0.003 [0.002]		0.002 [0.002]		-0.000 [0.001]		-0.004* [0.002]
Years in Germany	-0.020*** [0.007]	-0.018** [0.007]	-0.035*** [0.007]	-0.037*** [0.007]	-0.004 [0.004]	-0.004 [0.004]	0.000 [0.005]	0.003 [0.005]
Years in Germany Squared	0.000 [0.000]	0.000 [0.000]	0.001*** [0.000]	0.001*** [0.000]	0.000 [0.000]	0.000 [0.000]	-0.000 [0.000]	-0.000 [0.000]
Age	0.107*** [0.003]	0.110*** [0.004]	0.130*** [0.003]	0.128*** [0.004]	-0.000 [0.003]	-0.000 [0.003]	0.015*** [0.003]	0.017*** [0.003]
Age Squared	-0.001*** [0.000]	-0.001*** [0.000]	-0.002*** [0.000]	-0.002*** [0.000]	0.000 [0.000]	0.000 [0.000]	-0.000*** [0.000]	-0.000*** [0.000]
Medium Education	-0.013** [0.006]	-0.013** [0.006]	-0.073*** [0.006]	-0.073*** [0.006]	-0.005 [0.005]	-0.005 [0.005]	0.013** [0.006]	0.013** [0.006]
High Education	-0.063*** [0.011]	-0.063*** [0.011]	-0.138*** [0.011]	-0.137*** [0.011]	-0.017* [0.009]	-0.017* [0.009]	-0.016* [0.009]	-0.016* [0.009]
Cohort of Arrival Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region of Origin Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State-specific Linear Trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	21,111	21,111	22,240	22,240	14,153	14,153	17,007	17,007
R-Squared	0.377	0.377	0.299	0.299	0.026	0.026	0.029	0.029
Mean of Dependent Variable	0.617	0.617	0.677	0.677	0.079	0.079	0.115	0.115

Notes: The table reports reduced-form estimates of the effect of citizenship on family status for male and female immigrants in Germany. The dependent variables Currently Married and Divorced are binary variables. The sample includes all immigrants who arrived in Germany between 1976 and 2000 and who were between the ages of 16 and 35 in some year in the 1991-2009 period. We exclude immigrants with German ancestors, who had faster access to German citizenship than regular immigrants. Years since eligible denotes the number of years since an immigrant became eligible for naturalization after the 1991 or 2000 immigration reforms respectively. The baseline specification includes the individual characteristics age and education, a linear and squared term of years spent in Germany, year and state of current residence fixed effects as well as state-specific linear trends. We also include cohort of arrival dummies (in 3-year bands) and 10 region of origin fixed effects (traditional EU countries, new EU entrants (EU-12), ex-Yugoslavia and Turkey, Middle East, Africa, Asia, America, Russia and other former Soviet Union republics, other). The second specification adds the years since eligible variable. Standard errors in brackets are clustered at the age x arrival cohort level. Statistical significance: *** p<0.01, ** p<0.05, * p<0.1.
Source: Microcensus (2007-2010)

Table 2: Reduced-form Estimates of Citizenship Eligibility and Characteristics of Spouses

	Native Spouse						Spouse from Same Region of Origin					
	Male Immigrants			Female Immigrants			Male Immigrants			Female Immigrants		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Years since Eligible		-0.005**	-0.008***		-0.002	-0.005**		0.003	0.005**		-0.000	0.002
		[0.002]	[0.002]		[0.002]	[0.002]		[0.002]	[0.002]		[0.002]	[0.002]
Years since Eligible*Medium Education			0.002			0.003**			-0.001			-0.003**
			[0.001]			[0.001]			[0.002]			[0.001]
Years since Eligible* High Education			0.017***			0.007***			-0.015***			-0.006*
			[0.003]			[0.003]			[0.003]			[0.003]
Years in Germany	-0.002	0.002	0.001	-0.003	-0.001	-0.002	0.008	0.005	0.006	-0.003	-0.003	-0.003
	[0.007]	[0.008]	[0.008]	[0.007]	[0.007]	[0.007]	[0.007]	[0.008]	[0.008]	[0.007]	[0.008]	[0.008]
Years in Germany Squared	0.000	0.000	0.000	0.000	0.000	0.000	-0.000**	-0.000**	-0.000**	-0.000	-0.000	-0.000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Age	-0.050***	-0.047***	-0.044***	-0.006	-0.005	-0.004	0.054***	0.052***	0.049***	0.015***	0.015***	0.015***
	[0.006]	[0.006]	[0.007]	[0.004]	[0.005]	[0.005]	[0.006]	[0.006]	[0.006]	[0.005]	[0.005]	[0.005]
Age Squared	0.001***	0.001***	0.001***	0.000	0.000	0.000	-0.001***	-0.001***	-0.001***	-0.000**	-0.000**	-0.000**
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Medium Education	0.069***	0.069***	0.050***	0.128***	0.128***	0.100***	-0.074***	-0.074***	-0.070***	-0.131***	-0.131***	-0.105***
	[0.007]	[0.007]	[0.017]	[0.008]	[0.008]	[0.014]	[0.008]	[0.008]	[0.019]	[0.008]	[0.008]	[0.014]
High Education	0.156***	0.157***	0.013	0.312***	0.312***	0.262***	-0.165***	-0.165***	-0.043	-0.319***	-0.319***	-0.279***
	[0.015]	[0.015]	[0.029]	[0.014]	[0.014]	[0.022]	[0.014]	[0.014]	[0.026]	[0.014]	[0.014]	[0.025]
Cohort of Arrival Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region of Origin Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State-specific Linear Trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	12,872	12,872	12,872	14,497	14,497	14,497	12,872	12,872	12,872	14,497	14,497	14,497
R-Squared	0.169	0.170	0.173	0.277	0.277	0.278	0.207	0.207	0.209	0.302	0.302	0.302
Mean of Dependent Variable	0.213	0.213	0.213	0.240	0.240	0.240	0.717	0.717	0.717	0.701	0.701	0.701

Notes : The table reports reduced-form estimates of the effect of citizenship on family status for male and female immigrants in Germany. The dependent variables Native Spouse and Spouse with same region of origin are binary variables. The sample includes all immigrants who arrived in Germany between 1976 and 2000 and who were between the ages of 16 and 35 in some year in the 1991-2009 period. We exclude immigrants with German ancestors, who had faster access to German citizenship than regular immigrants. Years since eligible denotes the number of years since an immigrants became eligible for naturalization after the 1991 or 2000 immigration reforms respectively. The baseline specification includes the individual characteristics age and education, a linear and squared term of years spent in Germany, year and state of current residence fixed effects as well as state-specific linear trends. We also include cohort of arrival dummies (in 3-year bands) and 10 region of origin fixed effects (traditional EU countries, new EU entrants (EU-12), ex-Yugoslavia and Turkey, Middle East, Africa, Asia, America, Russia and other former Soviet Union republics, other). The second specification adds the years since eligible variable, the third interaction terms between years since eligible and education. Standard errors in brackets are clustered at the age x arrival cohort level. Statistical significance: *** p<0.01, ** p<0.05, * p<0.1.

Source : Microcensus (2007-2010)

Table 3: Reduced-form Estimates of Citizenship Eligibility and Family Formation

	Having Children		Number of Children		Age at Birth of First Child		Single Mum	
	<u>Female Immigrants</u>		<u>Female Immigrants</u>		<u>Female Immigrants</u>		<u>Female Immigrants</u>	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Years since Eligible		-0.005** [0.002]		-0.025*** [0.008]		0.117*** [0.030]		0.004** [0.001]
Years in Germany	0.018** [0.008]	0.022*** [0.008]	0.002 [0.017]	0.022 [0.018]	-0.109 [0.088]	-0.206** [0.092]	0.006 [0.005]	0.004 [0.005]
Years in Germany Squared	-0.001*** [0.000]	-0.001*** [0.000]	0.000 [0.000]	-0.000 [0.000]	0.002 [0.002]	0.002 [0.002]	-0.000* [0.000]	-0.000* [0.000]
Age	0.011** [0.004]	0.015*** [0.005]	0.118*** [0.026]	0.136*** [0.027]	0.040 [0.057]	-0.033 [0.061]	-0.006** [0.002]	-0.008*** [0.003]
Age Squared	-0.000 [0.000]	-0.000* [0.000]	-0.003*** [0.001]	-0.003*** [0.001]	0.002* [0.001]	0.003*** [0.001]	0.000** [0.000]	0.000*** [0.000]
Medium Education	-0.106*** [0.007]	-0.106*** [0.007]	-0.571*** [0.021]	-0.569*** [0.021]	2.615*** [0.090]	2.613*** [0.090]	-0.014** [0.006]	-0.014*** [0.006]
High Education	-0.240*** [0.013]	-0.241*** [0.013]	-0.871*** [0.031]	-0.874*** [0.031]	5.911*** [0.156]	5.907*** [0.156]	-0.061*** [0.008]	-0.061*** [0.008]
Cohort of Arrival Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region of Origin Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State-specific Linear Trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	22,243	22,243	22,220	22,220	16,168	16,168	22,220	22,220
R-Squared	0.095	0.095	0.178	0.179	0.274	0.275	0.016	0.016
Mean of Dependent Variable	0.810	0.810	1.810	1.810	24.63	24.63	0.123	0.123

Notes : The table reports reduced-form estimates of the effect of citizenship on family outcomes for male and female immigrants in Germany. The dependent variables Having Children and Single Mum are binary variables. Number of children and Age at Birth of first child are count variables. The sample includes all immigrants who arrived in Germany between 1976 and 2000 and who were between the ages of 16 and 35 in some year in the 1991-2009 period. We exclude immigrants with German ancestors, who had faster access to German citizenship than regular immigrants. Years since eligible denotes the number of years since an immigrants became eligible for naturalization after the 1991 or 2000 immigration reforms respectively. The baseline specification includes the individual characteristics age and education, a linear and squared term of years spent in Germany, year and state of current residence fixed effects as well as state-specific linear trends. We also include cohort of arrival dummies (in 3-year bands) and 10 region of origin fixed effects (traditional EU countries, new EU entrants (EU-12), ex-Yugoslavia and Turkey, Middle East, Africa, Asia, America, Russia and other former Soviet Union republics, other). The second specification adds the years since eligible variable. Standard errors in brackets are clustered at the age x arrival cohort level. Statistical significance: *** p<0.01, ** p<0.05, * p<0.1.

Source : Microcensus (2007-2010)

Table 4: Reduced-form Estimates of Citizenship Eligibility and Opinions on the Proper Role of Women in Society

	Women Mostly Care for a Home and Children				Working Mother and Children				Men Should Be the Main Breadwinner			
	Male Immigrants		Female Immigrants		Male Immigrants		Female Immigrants		Male Immigrants		Female Immigrants	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Years since Eligible		-0.033 [0.021]		-0.077*** [0.019]		0.047** [0.023]		-0.004 [0.017]		-0.021 [0.024]		-0.068*** [0.020]
Years in Germany	-0.086 [0.056]	-0.071 [0.056]	0.047 [0.056]	0.103* [0.056]	0.072 [0.060]	0.05 [0.060]	-0.082 [0.053]	-0.079 [0.054]	-0.065 [0.078]	-0.055 [0.076]	-0.077 [0.064]	-0.028 [0.065]
Years in Germany Squared	-0.001 [0.001]	-0.001 [0.001]	-0.001 [0.001]	-0.001 [0.001]	-0.001 [0.001]	-0.001 [0.001]	0.001 [0.001]	0.001 [0.001]	-0.001 [0.002]	0.000 [0.002]	0.000 [0.002]	0.000 [0.002]
Age	0.034 [0.030]	0.059* [0.032]	0.036 [0.034]	0.090** [0.035]	-0.060** [0.029]	-0.097*** [0.033]	-0.002 [0.027]	0.001 [0.030]	0.007 [0.034]	0.023 [0.039]	0.044 [0.031]	0.091*** [0.034]
Age Squared	0.000 [0.000]	0.000 [0.000]	0.000 [0.001]	-0.001* [0.001]	0.001** [0.000]	0.002*** [0.001]	0.000 [0.000]	0.000 [0.000]	0.000 [0.001]	0.000 [0.001]	0.000 [0.000]	-0.001* [0.001]
Medium Education	-0.286*** [0.073]	-0.292*** [0.073]	-0.320*** [0.063]	-0.318*** [0.062]	0.057 [0.068]	0.066 [0.068]	-0.117** [0.057]	-0.117** [0.057]	-0.315*** [0.089]	-0.319*** [0.090]	-0.318*** [0.072]	-0.317*** [0.070]
High Education	-0.613*** [0.136]	-0.630*** [0.137]	-0.537*** [0.103]	-0.547*** [0.102]	-0.061 [0.142]	-0.037 [0.143]	-0.018 [0.109]	-0.019 [0.109]	-0.700*** [0.150]	-0.711*** [0.152]	-0.406*** [0.130]	-0.418*** [0.132]
Cohort of Arrival Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region of Origin Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State-specific Linear Trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	819	819	1,068	1,068	856	856	1,069	1,069	860	860	1,067	1,067
R-Squared	0.127	0.1296	0.100	0.113	0.095	0.100	0.116	0.116	0.091	0.092	0.101	0.109
Mean of Dependent Variable	2.761	2.761	2.616	2.616	1.985	1.985	1.732	1.732	2.673	2.673	2.395	2.395

Notes: The table reports reduced-form estimates of the effect of citizenship on opinions on the role of women for male and female immigrants in Germany. The dependent variables take values between 0 (=don't agree at all) and 4 (fully agree). The sample includes all immigrants who arrived in Germany between 1976 and 2000 and who were between the ages of 16 and 35 in some year in the 1991-2009 period. We exclude immigrants with German ancestors, who had faster access to German citizenship than regular immigrants. Years since eligible denotes the number of years since an immigrants became eligible for naturalization after the 1991 or 2000 immigration reforms respectively. The first specification includes the individual characteristics age and education, a linear and squared term of years spent in Germany, current wave and state of current residence fixed effects as well as state-specific linear trends. We also include cohort of arrival dummies (in 3-year bands) and 9 region of origin fixed effects (traditional EU countries, new EU entrants (EU-12), ex-Yugoslavia, Turkey, Asia, Africa, America, Russia and other former Soviet Union republics, other). The second specification adds the years since eligible variable. Standard errors in brackets are clustered at the age x arrival cohort level. Statistical significance: *** p<0.01, ** p<0.05, * p<0.1.
Source: PASS (2006-2012).

Table A1: Summary Statistics of the Microcensus

	<u>Male</u>		<u>Female</u>	
	Mean	Std. Dev.	Mean	Std. Dev.
Married	0.617	0.486	0.676	0.468
Divorced	0.079	0.270	0.115	0.319
Native Spouse	0.213	0.409	0.240	0.427
Spouse from Same Region of Origin	0.717	0.451	0.700	0.458
Having Children	0.734	0.442	0.810	0.392
Total Number of Children	1.623	1.343	1.810	1.309
Age at Birth of First Child	27.71	5.684	24.63	5.218
Single mother	0.041	0.198	0.123	0.328
Years since Eligible	8.255	4.995	7.660	4.860
Years in Germany	18.87	6.921	18.03	6.809
Year of Arrival	1990	6.822	1990	6.721
Age	33.80	8.314	33.65	7.862
Low Education	0.462	0.499	0.504	0.500
Medium Education	0.453	0.498	0.395	0.489
High Education	0.086	0.280	0.101	0.301
<u>Region of Origin</u>				
Traditional EU member States (EU-15)	0.136	0.343	0.115	0.318
New EU Member States (EU-12)	0.091	0.287	0.149	0.356
Ex-Yugoslavia	0.135	0.342	0.123	0.328
Turkey	0.313	0.464	0.292	0.454
Middle East	0.088	0.284	0.065	0.246
Africa	0.054	0.227	0.040	0.197
Asia	0.048	0.213	0.064	0.244
America	0.018	0.134	0.028	0.163
Former Soviet Union (without EU-12)	0.101	0.301	0.114	0.317
Other or No Citizenship	0.016	0.127	0.013	0.111
Observations	21,111		22,240	

Notes : The table reports summary statistics for first-generation immigrants who arrived in Germany between 1976 and 2000 and who are 16-35 years old in the post-reform period (1991-2009). A person is eligible if an individual is (a) aged 16-22, has lived in Germany for at least 8 years and the year is 1991 or later; (b) aged 23-35, has lived in Germany for at least 15 years in the period 1991-1999; or (c) aged 23-35, has lived in Germany for at least 8 years and the year is 2000 or later. Low-skilled individuals are those without a highschool degree or vocational degree; medium-skilled are those with highschool degree or vocational degree; high-skilled are those with college degree. Individuals are in school if they still attend school over the past four weeks.

Source : Microcensus 2007-2010

Table A2: Summary Statistics of the PASS

	<u>Male Immigrants</u>		<u>Female Immigrants</u>	
	Mean	Std. Dev.	Mean	Std. Dev.
Married	0.555	0.497	0.536	0.499
Divorced	0.109	0.311	0.265	0.441
Total Number of Children	2.370	1.452	2.329	1.251
Women care for a home and children	2.761	0.958	2.616	0.968
Working mum loving relationship	1.985	1.000	1.732	0.931
Classic Family Roles	2.673	1.098	2.395	1.078
Years since Eligible	8.426	5.048	8.010	4.733
Years in Germany	18.57	6.799	17.90	6.499
Years in Germany Squared	391.0	284.0	362.8	268.6
Year of Arrival	1991	6.545	1992	6.326
Age	33.21	8.581	32.92	7.761
Age Squared	1176	576.8	1144	519.8
Low Education	0.330	0.470	0.462	0.499
Medium Education	0.487	0.500	0.441	0.497
High Education	0.076	0.264	0.108	0.310
<u>Region of Origin</u>				
Traditional EU member States (EU-15)	0.051	0.221	0.0515	0.221
New EU Member States (EU-12)	0.085	0.278	0.156	0.363
Ex-Yugoslavia	0.086	0.281	0.0750	0.264
Turkey	0.252	0.434	0.216	0.412
Africa	0.061	0.239	0.0335	0.180
Asia	0.147	0.354	0.0950	0.293
America	0.010	0.098	0.0115	0.107
Former Soviet Union (without EU-12)	0.293	0.455	0.342	0.474
Other	0.016	0.126	0.0200	0.140
Observations	1,562		1,999	

Notes: The table reports summary statistics for first-generation immigrants who arrived in Germany between 1976 and 2000 and who are 16-35 years old in the post-reform period (1991-2009). A person is eligible if an individual is (a) aged 16-22, has lived in Germany for at least 8 years and the year is 1991 or later; (b) aged 23-35, has lived in Germany for at least 15 years in the period 1991-1999; or (c) aged 23-35, has lived in Germany for at least 8 years and the year is 2000 or later. Low-skilled individuals are those without a highschool degree or vocational degree; medium-skilled are those with highschool degree or vocational degree; high-skilled are those with college degree. Individuals are in school if they still attend school over the past four weeks. For the summary statistics of total number of kids, only a subsample of respondents who are 35 years and older is considered.

Source: PASS (2006-2012)

Table A3: OLS Estimates of Actual Naturalization, Marriage and Family Formation

	Currently Married		Divorced		Native Spouse		Spouse from Same Region of Origin		Having Children	Number of Children	Age at Birth of First Child	Single Mum
	Male Immigrants	Female Immigrants	Male Immigrants	Female Immigrants	Male Immigrants	Female Immigrants	Male Immigrants	Female Immigrants	Female Immigrants	Female Immigrants	Female Immigrants	Female Immigrants
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Years since Naturalized	0.000 [0.001]	0.001** [0.001]	-0.001*** [0.000]	-0.002*** [0.001]	0.005*** [0.001]	0.003*** [0.001]	-0.005*** [0.001]	-0.002*** [0.001]	-0.001*** [0.001]	-0.004*** [0.001]	0.030*** [0.007]	-0.003*** [0.000]
Observations	21,111	22,240	14,153	17,007	12,872	14,497	12,872	14,497	22,243	22,220	16,168	22,220
R Squared	0.377	0.299	0.027	0.030	0.173	0.278	0.211	0.302	0.095	0.179	0.275	0.018
Cohort of Arrival Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State-specific Linear Trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region of Origin Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The table reports OLS (top panel) and reduced-form estimates (bottom panel) of the returns to citizenship for male and female immigrants in Germany. The dependent variables are whether a person is employed in the public sector (columns (1) and (7)); whether a person is employed in a white collar job (columns (2) and (8)); whether a person is self-employed (columns (3) and (9)); whether a person has a temporary employment contract (columns (4) and (10)); the number years in the current job (columns (5) and (11)); and the number of hours worked (columns (6) and (12)). The sample includes all immigrants who arrived in Germany between 1976 and 2000 and who were between 16 and 35 years-old in some year in the 1991-2009. We exclude all ethnic Germans, i.e. immigrants with German ancestry who had faster access to German citizenship than regular immigrants. Years since naturalized denote the number of years since an immigrant reports naturalization. Years since eligible denotes the number of years since an immigrants became eligible for naturalization after the 1991 or 2000 immigration reforms respectively. All specifications include the same individual characteristics as earlier tables (age, education, years in Germany and its squared term), current year and state of current residence fixed effects as well as state-specific linear trends. We also include cohort of arrival dummies (in 3-year bands) and 10 region of origin fixed effects (traditional EU countries, new EU entrants (EU-12), ex-Yugoslavia, Turkey, Middle East, Asia, Africa, North and South America, Russia and other former Soviet Union republics, other or no citizenship). Standard errors in brackets are clustered at the age x arrival cohort level. Statistical significance: *** p<0.01, ** p<0.05, * p<0.1.

Source: Microcensus (2007-2010).

Table A4: Reduced-form Estimates of Citizenship Eligibility, Marriage and Family Formation

	Currently Married				Divorced				Total Number of Children	
	Male Immigrants		Female Immigrants		Male Immigrants		Female Immigrants		Female Immigrants	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Years since Eligible		0.007 [0.007]		0.000 [0.007]		-0.015** [0.007]		0.008 [0.009]		-0.089** [0.044]
Years in Germany	-0.045** [0.021]	-0.049** [0.020]	0.069*** [0.019]	0.069*** [0.020]	0.012 [0.017]	0.02 [0.018]	-0.066*** [0.019]	-0.073*** [0.020]	0.100 [0.088]	0.164* [0.095]
Years in Germany Squared	0.000 [0.000]	0.000 [0.000]	-0.001* [0.000]	-0.001* [0.000]	0.000 [0.000]	0.000 [0.000]	0.001* [0.000]	0.001* [0.000]	-0.002 [0.002]	-0.002 [0.001]
Age	0.111*** [0.008]	0.106*** [0.010]	0.129*** [0.010]	0.129*** [0.012]	-0.001 [0.015]	0.008 [0.015]	0.023 [0.014]	0.018 [0.015]	0.237 [0.195]	0.222 [0.190]
Age Squared	-0.001*** [0.000]	-0.001*** [0.000]	-0.002*** [0.000]	-0.002*** [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	0.000 [0.000]	-0.003 [0.002]	-0.003 [0.002]
Medium Education	0.002 [0.025]	0.004 [0.025]	-0.091*** [0.029]	-0.091*** [0.029]	-0.019 [0.022]	-0.02 [0.022]	0.080*** [0.028]	0.082*** [0.028]	-0.345*** [0.095]	-0.361*** [0.094]
High Education	0.064* [0.038]	0.067* [0.038]	-0.044 [0.041]	-0.044 [0.041]	-0.111*** [0.027]	-0.115*** [0.027]	-0.007 [0.039]	-0.005 [0.039]	-0.634*** [0.135]	-0.633*** [0.134]
Cohort of Arrival Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region of Origin Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State-specific Linear Trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1509	1509	1959	1959	939	939	1429	1429	750	750
R-Squared	0.431	0.431	0.194	0.194	0.211	0.214	0.149	0.149	0.211	0.215
Mean of Dependent Variable	0.555	0.555	0.536	0.536	0.109	0.109	0.265	0.265	2.329	2.329

Notes : The table reports reduced-form estimates of the effect of citizenship on family status and the total number of children for male and female immigrants in Germany. The dependent variables Married and Divorced are dummy variables. The total number of children is a count variable. The sample includes all immigrants who arrived in Germany between 1976 and 2000 and who were between the ages of 16 and 35 in some year in the 1991-2009 period. We exclude immigrants with German ancestors, who had faster access to German citizenship than regular immigrants. For the analysis of the number of children, we further exclude all respondents who are under 35 at the time of the survey in order to account incomplete fertility before. Years since eligible denotes the number of years since an immigrants became eligible for naturalization after the 1991 or 2000 immigration reforms respectively. The baseline specification (Model 1) includes the individual characteristics age and education, a linear and squared term of years spent in Germany, current wave and state of current residence fixed effects as well as state-specific linear trends. We also include cohort of arrival dummies (in 3-year bands) and 9 region of origin fixed effects (traditional EU countries, new EU entrants (EU-12), ex-Yugoslavia, Turkey, Asia, Africa, America, Russia and other former Soviet Union republics, other). The second specification adds the years since eligible variable. Standard errors in brackets are clustered at the age x arrival cohort level. Statistical significance: *** p<0.01, ** p<0.05, * p<0.1.
Source : PASS (2006-2012).