



Trust issues: Evidence on the intergenerational trust transmission among children of immigrants[☆]



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ABSTRACT

This paper estimates the intergenerational transmission of trust by studying children of immigrants in 29 European countries with ancestry in 87 nations. There is significant transmission of trust on the mother's side, and the transmission is significantly stronger than on the father's side. The transmission is stronger in high trust countries. Building trust in high trust environments is a process lasting generations. Intriguingly, trust transmission is strong also in low trust birth countries if ancestral trust is very high. There is persistence of very high trust in low trusting environments through cultural transmission in the family.

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1. Introduction

Trust has been shown to correlate with favorable economic outcomes (Knack and Keefer, 1997) and with indicators of good government (La Porta et al., 1997, 1999) in cross country data. Recent papers examine the influence of trust on outcomes by instrumental variables within countries. The focus has been on historical political institutions that transmit trust, which in turn affect income (Tabellini, 2008, 2010) and social capital (Guiso et al., 2008). Algan and Cahuc (2010) use the trust measures of different waves of immigrants to the U.S. to obtain a measure of how trust has changed over time, which they regress on growth to estimate an effect of trust on growth across countries. The evidence points to an important role for trust in economic and social development, but the knowledge of how trust is formed at the micro level is limited.

Intergenerational transmission of trust in the family is examined by Dohmen et al. (2012) using a survey in Germany that samples both parents and their adult children. They find strong positive correlations between the parents' and their children's trust attitudes, which is consistent with a causal effect of parental trust on children's trust. To address potential

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concerns about reverse causality they apply an instrumental variables approach. However, as pointed out by the authors, the results should only be seen as suggestive of a causal effect due to a lack of good instruments.

The objective is to build on this work and provide an estimate of the intergenerational transmission of trust using a different method; a method with a stronger claim to estimating a causal effect. This paper studies how second generation immigrants' trust are affected by the average level of trust in the parent's birth country. This approach avoids the reverse causality issue. To measure parental trust the average level of trust in the parent's birth country is used. This parental trust measure is not influenced by the trust of the child, who is born in and resides in a different country.

Some evidence of intergenerational transmission of trust among immigrants is given by Guiso et al. (2006). They regress trust on ancestry country or region fixed effects for immigrants in the US. The fixed effects would not only directly capture the cultural influence of trust from the country of ancestry but also other aspects of cultural transmission. They find that the average level of trust in 14 immigrant groups is correlated with average trust in the corresponding countries. In a regression analysis of immigrants in the U.S. Algan and Cahuc (2010) find that trust is significantly related to trust in their ancestral country. They consider immigrants from 24, primarily European, countries.¹

The current literature has not considered the intergenerational transmission of trust in a broad range of countries, nor has it considered individuals from a wide set of backgrounds. This paper adds to the literature on intergenerational transmission of trust in several ways. First, the paper studies individuals who reside in 29 European countries, which display a rich variation in the institutional and cultural environment individuals' face. Such variation increases the validity of the results as immigrants to the U.S. could be particular and the results in that environment may not generalize. Second, I consider immigrants from 87 countries of ancestry which include not only Europe but also a wide range of countries in Africa, the Americas, and Asia. By decreasing the reliance on immigrants from one region, Europe, which could be different from individuals in other regions, my results can address if Algan and Cahuc's (2010) are general or specific to European immigrants in the U.S.

Third, heterogeneity of the intergenerational transmission of trust is examined. This paper studies if the transmission is stronger on the mother's compared to the father's side, and if it is stronger for individuals residing in high trust countries or for those with high trust ancestral roots. It is also examined if certain individual characteristics, such as being more integrated or having a highly educated mother, are associated with different influences of ancestral trust. The current literature has not addressed the heterogeneity of the intergenerational transmission. The heterogeneity estimates provide evidence on which channels are stronger and what the complementary influences are.

Fourth, this paper studies a determinant of trust in the ancestral country. The factor examined is language structure, in particular if pronoun drop is allowed and if there is second person pronoun differentiation (such as Tu-Vous in French). These linguistic features may indicate different levels of respect for the individual, which in turn may affect trust.² While the regressions of second generation immigrants provide a natural experiment in itself, they take the trust level of the ancestral country as given. The objective of using language structure is to understand some deep roots of what drives trust in the ancestral country.³ The second step is to use the part of the ancestral country trust that is shifted by the language structure and relate it to the individual trust of the children of immigrants. This approach combines two distinct methods in the literature in a novel way.

Trust expressed by children of immigrants is on average similar to the general population, although this similarity in means masks systematic differences across ancestries.⁴ The paper presents evidence of significant cultural transmission of trust, which is strongest on the mother's side. Individuals whose mothers have high trust ancestry express significantly higher trust than others. There is also evidence of intriguing heterogeneity, where the influence is significantly stronger on the mother's compared to the father's side. Moreover, the transmission seems much more persistent in certain contexts. The transmission is strong for individuals born and residing in high trusting countries such as Northern Europe and weaker in low trusting environments such as Southern Europe. The findings are consistent with individuals who adjust quickly to the lower trust levels in Southern and Eastern Europe, no matter their ancestry. Adapting to the higher trust in Northern Europe is a long process as captured by the intergenerational transmission estimates.⁵ The evidence fits with previous findings that social capital can depreciate quickly, but it takes a long time to build.⁶

Intriguingly, when high ancestral trust is restricted to include only countries with very high trust the transmission in this group is significant also in low trust birth countries. This indicates a strong persistence of trust at very high levels also in environments which may not reinforce high trusting beliefs per se. The result suggests a mechanism for the persistence of high trust societies and a non-linearity in the benefits of promoting trust to very high levels, as very high trust may be robust to perturbations in the environment because of strong transmission in the family.

The study of trust formation at the individual level in this paper is also important because directly related work finds that higher trust promotes economic success, information technology adoption, and health of individuals (Ljunge, 2012a, 2013a,

¹ Tabellini (2008) presents similar evidence on immigrants in the U.S. from 21, primarily European, countries. Also see Uslaner (2008) on immigrants in the U.S. from 9 regions. Moschion and Tabasso (2013) study the U.S. and Australia.

² These features have been used in the literature to address different questions in cross-country analysis, see Licht et al (2007) and Tabellini (2008).

³ Similar in spirit is Durante (2010) who uses weather patterns as shifters of risk sharing institutions.

⁴ Children of immigrants and second generation immigrants are terms used interchangeably in this paper.

⁵ As an example, the share of the population in Sweden who say that most people can be trusted is twice that of Italy.

⁶ See for example Nunn and Wantchekon (2011).

2014a). Butler et al. (2011) argues that very high trusting individuals get cheated and have lower income. However, Ljunge (2014a) do not reject that more trust is better for economic outcomes.

Is the transmission of trust optimal? Although more work needs to be done to understand the effects of trust, most of the literature argues that more trust is better. In this view the cultural transmission of trust could be seen as sub-optimal in two respects. First, individuals from low trust environments do not fully adapt to the trust in high trust environments. Second, individuals from high trust environments adapt too much to the trust in low trust environments.

The approach of regressing individual outcomes on ancestral country values, labeled the epidemiological approach in Fernandez (2010), has been used to examine a range of questions.⁷ Studies using variants of this strategy have found strong effects of cultural traits in explaining aspects of women's labor supply and fertility (see e.g., Guinnane et al., 2006; Alesina and Giuliano, 2010; Fernández and Fogli, 2006, 2009), and youth employment and mobility (Alesina and Giuliano, 2010). Most evidence has been based on immigrants to the U.S. A few recent papers use data from a broad range of European countries to study motivation behind political participation (Alesina and Giuliano, 2011) and preferences for redistribution (Luttmer and Singhal, 2011). The same data, the European Social Survey, is at the core of the analysis in this paper. Trust among first generation immigrants in Europe is examined by Dinesen (2013). He takes a different approach by using cross country variation to estimate effects of residence country institutions. This paper follows the approach in the economics literature and use within country variation.⁸

The remainder of the paper proceeds as follows. Section 2 discusses the empirical specification, followed by the description of the data in Section 3. The results are presented in Section 4, and Section 5 concludes.

2. Empirical specification

The analysis is based on a number of ordinary least squares (OLS) regressions of the following form:⁹

$$\text{Trust}_{icat} = \beta_0 + \beta_1 \text{Mean.Trust}_a + \beta_2 X_{icat} + \gamma_{ct} + \varepsilon_{icat} \quad (1)$$

Trust_{icat} captures the trust of individual i , born and residing in country c with a parent born in country a , and $a \neq c$, in period t . The average level of trust is common to all individuals with a parent born in country a . X_{icat} captures individual demographic and economic controls that may affect trust. The country of residence-by-year fixed effect γ_{ct} captures all the unobserved factors that may affect trust differentially across countries and time, and ε_{icat} is the error term. All standard errors allow for clustering by the parent's birth country.

The advantage of this empirical model, over the analysis in for example Dohmen et al. (2012), is that the parental trust measure is not endogenous to individual i 's trust. One concern when studying self-reported trust of both the child and the parent, as in the aforementioned paper, is for example that an adverse experience of the child reduces his trust. As the child and the parent are in contact the child's lower trust (and/or his adverse experience) could affect the parent to reduce his trust, which results in a positive correlation between the child's and the parent's trust. This potential reverse causality is avoided by measuring parental trust by ancestral country trust. A significant estimate of β_1 would hence indicate an impact of the trust in the country of ancestry on the individual's trust and not the other way around. Reverse causality is not a concern since the trust of a child born and residing in country c cannot affect the average value of trust in the parent's birth country a . Confounding factors are of course a concern so it is important to include an extensive list of individual controls in X_{icat} , which is done. The inclusion of the country fixed effect γ_{ct} means that the institutional structure and all other unobserved differences which apply to all residents in country c in period t are accounted for. It also means that the variation used is to compare the outcomes of second generation immigrants within each country of residence relative to the traits in their countries of ancestry.¹⁰ The country fixed effect is included for each year, which controls for non-linear trends that may differ across countries.

Moreover, the empirical approach produces a conservative estimate of β_1 . The underlying model would be that the parent's individual trust would affect the child's trust, but the average trust in the parent's birth country is used as a measure that is not influenced by the child's trust.¹¹ Since there is substantial variation of parents' individual trust levels in a population the average level of the trust in the parent's birth country, the variable Mean.Trust_a in the analysis, is not perfectly related to the parent's individual trust. This produces an attenuation bias in the method, biasing the estimate of β_1 toward zero. The estimate of β_1 is hence conservative, and finding a significant effect in spite of this bias would indicate strong evidence that the effect is present.

It is worth mentioning that the trust of first generation immigrants is strongly related to trust in their ancestral countries. Although trust of the second generation immigrants' parents is not available in the data, the first generation immigrants

⁷ Fernandez (2010) presents a detailed discussion of the approach as well as an extensive survey of papers applying the approach.

⁸ Dinesen (2013) uses a random effects model with very different interpretation from the fixed effect model used in this paper. Furthermore, this paper makes weaker assumptions on the error terms. I allow for arbitrary correlations among individuals with the same ancestry where the random effects model assumes independence.

⁹ The results are robust to using the ordered logit or the ordered probit estimator.

¹⁰ For example, I am comparing if individuals with high trusting Swedish ancestry born in Germany have higher trust than those born in Germany with lower trusting Italian ancestry.

¹¹ Parental trust is not observed in the used data.

may stand as the “synthetic” parents. It is reassuring that the relationship holds also in the first generation sample, which supports the premise that ancestral country trust is a measure of parental trust.

Trust is not only determined by the cultural environment but also by institutions, as discussed by Guiso et al. (2006). The approach in this paper singles out the cultural component of trust and its transmission in the family. The second generation immigrant is influenced by the cultural and institutional environment where he is born and resides. In addition, he may be influenced by the socialization through the immigrant parents. The parental influence is restricted to the cultural part since the child is separated from the institutions of the parent’s birth country. The parents influence the child through direct vertical socialization as modeled by Bisin and Verdier (2001). Since the child of an immigrant is not subjected to the institutional environment of the ancestral country he is not subject to the same horizontal cultural transmission as his parents. If there is a complementarity between direct and vertical transmission, the study of children of immigrants may fail to detect the cultural transmission although it is there. In this sense the estimate of the direct cultural transmission is biased toward zero, and hence conservative.

3. Data

The European Social Survey (ESS) is the main data set. The survey is administered biannually, starting in year 2002, in a wide range of European countries. The survey covers a broad range of questions on social, political, and economic conditions, as well as demographic variables.¹²

One essential feature of the data is that the survey asks about the country of birth of the respondent as well as the country of birth of both parents. Data from the second to fifth rounds of the ESS are used since the first round does not include information on parental birth country. The information allows me to identify children of immigrants and which countries their parents originate from. Looking at many countries of residence for second generation immigrants, 29 countries are studied, reduces the concern that the results are driven by conditions of one particular country. Individuals with ancestry from a wide range of countries are observed, up to 87 countries across the world, that reduce the concern that the results are particular to a small number of ancestral backgrounds.

Several samples are studied. The focus is on the immigrant mother sample. This sample is defined by the surveyed individual being born in the country of residence but that the mother is born in a different country. The father could be an immigrant or a native of the child’s birth country. In addition, the immigrant father sample is studied. It is defined correspondingly; the respondent is born in the country of residence and the father in another country (the mother could be an immigrant or a native).¹³ In the case an individual’s both parents are immigrants he is included in both samples.¹⁴

The summary statistics are presented in Table A1. The countries participating in the ESS in each round are presented in Table A2.

3.1. Individual trust

Individual trust is measured with the following question in the ESS: “Using this card, generally speaking, would you say that most people can be trusted, or that you can’t be too careful in dealing with people? Please tell me on a score of 0 to 10, where 0 means you can’t be too careful and 10 means that most people can be trusted.” I use the same coding of the answers as presented in the question. A higher value measures higher trust as it signals a stronger agreement with the statement that most people can be trusted. Note that the mean trust expressed in the immigrant mother, immigrant father, and native samples are very similar, see Table A1.

3.2. Control variables

The ESS includes a rich set of individual controls. Age, gender, marital status, education, employment status, income, and religious affiliation are observed. Marital status is captured by two dummies for married and never married, with widowed and divorced being the excluded category. Education is captured by one dummy for tertiary (university) degree and above, and one dummy for upper secondary as the highest attained degree. Lower education is the excluded category. One dummy captures individuals who are out of the labor force (students, not employed and not looking for work, and retired), and another dummy for unemployed who look for work. The employed is the omitted category. Income is measured by income decile, based on the country specific income distribution. I create one dummy for the bottom three deciles, Low Income, and one dummy for the middle four deciles, Middle Income. There are three dummies for the following religious denominations: Catholic, Protestant, and Orthodox. All other denominations are in the excluded category.

In addition to the mother’s and father’s country of birth a few parental characteristics are used. There is information on the parent’s highest level of education, which are captured by dummies for tertiary and upper secondary degrees as for the

¹² Extensive documentation of the data is found at <http://ess.nsd.uib.no/>.

¹³ Section 4.2.1 studies somewhat different samples where the parents are born in different countries as described in more detail in that section.

¹⁴ In this overlapping sample parental trust is taken from the mother’s birth country in the immigrant mother sample and from the father’s birth country in the immigrant father sample.

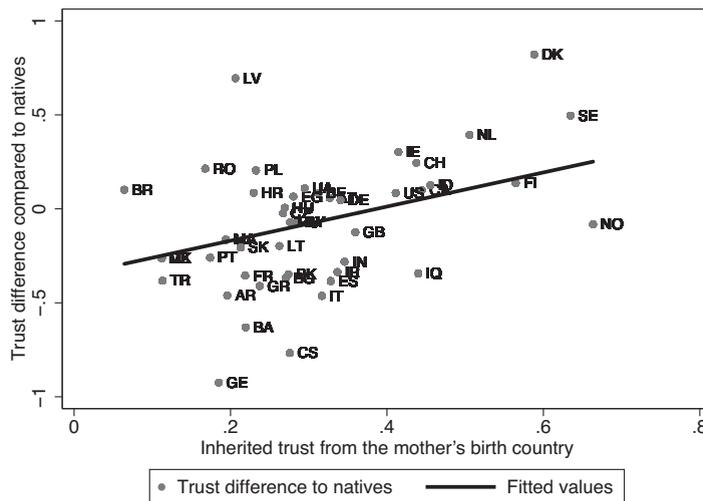


Fig. 1. Inherited trust and trust difference compared to natives. *Notes:* Inherited trust is measured from 0, you cannot be too careful in dealing with people, to 1, most people can be trusted. Trust difference is measured by deviations from the national average (across 29 nations). The sample is second generation immigrants with an immigrant mother. Country labels follow ISO-3166. Data are from the European Social Survey and the World Values Survey.

individual himself. There is also information on the mother's and father's employment status when the respondent was 14 years old, and a dummy captures if the mother and father was employed.

3.3. Trust in the parent's country of birth

Average trust in the parent's country of birth is computed across the waves in the integrated European Values Survey and the World Values Survey (EVS/WVS).¹⁵ This allows the analysis of second generation immigrants to be expanded beyond those with ancestry in the countries covered by the ESS. In the EVS/WVS trust is observed for 87 nations, which is three times the number of countries in the ESS. Moreover, the countries in the EVS/WVS are much more diverse and include countries from Africa, the Americas, and Asia.¹⁶ The trust questions are worded similarly in the ESS and the EVS/WVS.

The question regarding trust in the EVS/WVS is "Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?" The possible answers are "Most people can be trusted," which is coded as 1, and "Can't be too careful," which is coded as 0. The average of this variable is computed for each country across the waves in which the question is asked. The average is increasing in trust, that is, the higher the fraction who answers that most people can be trusted. The fraction with high trust and the number of second generation immigrants by mother's country of birth are presented in Table A3.

4. Results

Strong evidence of intergenerational transmission of trust is found. The individual trust of second generation immigrants is influenced by the level of trust in the parent's country of birth. The effect is particularly pronounced for individuals with an immigrant mother. The transmission is stronger for individuals who are born and reside in high trusting Northern Europe.

The findings are illustrated in Fig. 1. The horizontal axis measures the share in the mother's birth country who expresses that most people can be trusted. The vertical axis measures the trust of second generation immigrants with a particular ancestry relative to natives, averaged across the 29 countries of birth studied.¹⁷ The positive relationship indicates that those with higher trusting ancestry tend to express higher trust than those with lower trust ancestry. This is the variation explored in the analysis below while accounting of individual, parental, and ancestral country characteristics.

4.1. Ancestral country trust and its influence on the children of immigrants

I begin by analyzing the sample with an immigrant mother. Apart from including the mean trust in the mother's country of birth only the most exogenous individual characteristics age and its square, and gender are included as controls in the first specification in Table 1. All regressions also include a full set of country of residence-by-year fixed effects. The point

¹⁵ The country average is based on the five EVS/WVS waves collected between 1981 and 2008.

¹⁶ Extensive documentation of the data is available at www.worldvaluessurvey.org.

¹⁷ Fig. 1 includes ancestral countries with at least 20 second generation immigrants in the sample. The relationship is very similar in the full sample.

Table 1
Effects of trust in parent's birth country on children's trust.

Dependent variable: Trust	Immigrant mother (1)	Immigrant mother (2)	Immigrant father (3)	Immigrant father (4)
Trust, mother's birth country	1.073 (0.474)**	0.984 (0.414)**		
Trust, father's birth country			0.355 (0.556)	0.274 (0.486)
Age	0.003 (0.009)	−0.022 (0.011)*	−0.004 (0.007)	−0.024 (0.012)**
Age squared/100	−0.003 (0.011)	0.026 (0.011)**	0.004 (0.007)	0.026 (0.012)**
Female	−0.055 (0.044)	−0.009 (0.052)	−0.008 (0.055)	−0.026 (0.052)
Married		0.180 (0.074)**		0.035 (0.072)
Never married		0.221 (0.125)*		0.027 (0.119)
Upper secondary		0.357 (0.086)**		0.246 (0.092)**
College or university		0.903 (0.091)**		0.959 (0.100)**
Out of the labor force		−0.157 (0.079)**		−0.055 (0.061)
Unemployed		−0.419 (0.141)**		−0.350 (0.182)*
Low income		−0.194 (0.078)**		−0.148 (0.081)*
Middle income		0.013 (0.049)		−0.006 (0.056)
Catholic		−0.081 (0.079)		−0.039 (0.098)
Protestant		0.277 (0.084)**		0.142 (0.102)
Orthodox		0.123 (0.169)		0.130 (0.105)
Country-by-year fixed effects	Yes	Yes	Yes	Yes
R-squared	0.107	0.127	0.098	0.117
Observations	7510	7235	7843	7535

Notes: The dependent variable Trust is coded from 0, 'can't be too careful,' to 10, 'most people can be trusted.' All specifications study second generation immigrants; columns (1) and (2) study those with an immigrant mother and columns (3) and (4) those with an immigrant father. All regressions include a full set of country of residence-by-year fixed effects. Data is from the second to fifth waves of the European Social Survey. Standard errors in parenthesis, which allow for clustering on the parent's birth country.

Significance stars

* $p < 0.1$.

** $p < 0.05$.

*** $p < 0.01$.

estimate on trust in the mother's country of birth is positive and strongly significant. It means that second generation immigrants with a mother from high trusting countries tend to have higher trust levels than other individuals who live in the same country. The compared children of immigrants are born and reside in the same country but those with mother's from higher trusting countries systematically express higher trust. It is possible that the individuals with different ancestry differ in other characteristics, which in turn affect trust. This is taken into account by including controls for a range of individual characteristics that the literature has shown to be important.¹⁸ The controls include marital status, education, employment status, income, and religion. The point estimate on trust in the mother's birth country remains strongly significant. Of the individual controls education is strongly related to higher trust as are Protestants. The influence of trust in the mother's country of birth is quantitatively significant. A one standard deviation increase in the trust of the mother's country corresponds to the individual reporting higher trust by 0.2 points, which correspond to .08 of a standard deviation of individual trust.¹⁹ The magnitude corresponds to the difference in trust among those in the bottom three deciles of the income distribution compared to the top three deciles. The effect also corresponds to half the effect of having an upper secondary degree (compared to less education). The magnitudes are comparable to those for the transmission of redistributive preferences among first generation immigrants in [Luttmer and Singhal \(2011\)](#).

The literature has considered some additional individual controls for explaining trust. Religiosity has been examined by [Berggren and Bjørnskov \(2011\)](#) in a cross-country analysis. [Uslaner \(2002\)](#) argues that optimism is an important determinant

¹⁸ See for example [Alesina and La Ferrara \(2002\)](#).

¹⁹ Individual trust is measured on a 10 point scale, while the trust in the parent's country of birth is measured on the unit interval.

of trust, as well as attitudes toward inequality. My results are robust to including these controls but the estimates are not reported in the baseline specification since their exogeneity is not clear.²⁰ Furthermore, some of the intergenerational transmission of trust could operate through these channels. Hence, including them as controls would shut down potentially important ways in which trust is transmitted across generations.

The analysis is repeated for the sample with an immigrant father in specifications 3 and 4 of Table 1.²¹ The point estimate on trust in the father's birth country is positive as in the immigrant mother sample, but the estimate is not significant. This does not mean that fathers have no influence on the child's trust, in particular since the method has a built in attenuation bias, but that the transmission is not strong enough.²² The differences in transmission on the mother's and father's side are examined in further detail in Section 4.2.1.

All the available data is used in the results presented. There may be a concern that including ancestral countries with few children of immigrants introduce noise into the estimation. I do not find this to be the case as results are similar if I require there to be at least 15 immigrants from an ancestral country, as practiced by Algan and Cahuc (2010).²³

It is possible that immigrants are overcompensating their attitudes to counteract stereotypes of the ancestral country. For example, individuals with ancestry from low trust countries could be very trusting as a response to the expectation that people with that ancestry have low trust. Such behavior would however attenuate the estimated coefficient on trust in the ancestral country, and it could not explain the significant relationships estimated.

Selection of immigrants is not necessarily a problem for the analysis. First, the second generation immigrants have not chosen to emigrate, and being born and raised in the country of residence they are integrated in society, which attenuates such concerns. The children of immigrants also look similar to the general population on observables and the estimates on the demographic variables are similar.²⁴ Even so, the estimates would not be affected by selection if it is uniform. For example, if only high trust individuals choose to emigrate it would not necessarily affect the estimate since only variation in differences, not levels, across ancestries is used to identify the estimates. Furthermore, if there is positive sorting so that high trust individuals move to high trust countries, and that the hypothesis of cultural transmission of trust is true, this would compress the variation in the left hand side variable and bias the estimate toward zero. Yet, one can never be certain that selection on unobservables do not influence the results.

4.1.1. Ancestral country characteristics

Table 1 addressed the concern that individual characteristics are correlated with trust in the parental birth country. Another concern may be that other characteristics of the parent's birth country are correlated with trust, which could confound the estimate. As countries with higher income tend to be more trusting I want to separate these effects. Table 2 includes the natural logarithm of the gross domestic product (gdp) per capita in the parent's birth country. The following regressions also include the extensive set of individual controls included in Table 1 (columns 2 and 4) as well as country-by-year fixed effects. The results for the sample with an immigrant mother are in specification 1 in Table 2. The estimate on trust in the mother's birth country remains strongly significant and similar in magnitude. The results cannot be explained by the level of income in the country of ancestry. Another concern may be that political institutions correlate with trust, as more democratic countries tend to display higher trust. Specification 2 adds the polity2 variable from the Polity IV project in the mother's birth country.²⁵ The influence of trust remains, and neither income nor political institutions are significant.

As mothers who do not work may spend more time with their children and potentially have a larger role in their trust formation it may be relevant to account for female labor force participation. One broad measure of such effects is the average female labor force participation (LFP) of women in the mother's birth country, which is added to the model in specification 3 of Table 2. The estimate on ancestral trust drops slightly but remains strongly significant. The estimate on ancestral country LFP is positive, contrasting with the conjecture of more time with the child being important, and significant. Education is a strong correlate with trust and mother's education has been found important for children. The fraction of women with a higher education in the ancestral country is accounted for in the fourth column of Table 2. The estimate on female education in the ancestral country is insignificant and the other estimates are unaffected by this additional control. The influence of trust is hence robust to accounting for these additional ancestral influences. The influence of the mother's labor supply and education will be accounted for directly, using measures of the second generation immigrant's mother, in the next section.

An exercise closely related to Table 2 provides a quantification of the importance of ancestral trust relative to other ancestral influences in determining the trust of second generation immigrants. The exercise involves four steps. First, individual trust (in the immigrant mother sample) is regressed on country of ancestry fixed effects (rather than ancestral country trust), as well as the individual controls and country-by-year fixed effects. Second, the estimated country of ancestry fixed effects, which capture average trust differences for all immigrant groups, are regressed on ancestral country trust. Ancestral trust can explain 23.6% of the average trust differences. Third, the estimated coefficients are regressed on ancestral trust as well

²⁰ I use the degree of religiosity, happiness to capture optimism, and preferences toward redistribution to capture attitudes toward inequality.

²¹ There is some overlap in the sample since some individuals have parents who both are immigrants.

²² See Ljunge (2014b) for evidence on how the father's ancestry builds trust.

²³ The results are also robust to cut-offs at 5, 10, 20, or 25 observations per ancestral country.

²⁴ For a comparison on estimates on the demographic variables see Table A4.

²⁵ A higher value of the variable captures more democratic institutions.

Table 2
Effects of trust accounting for ancestral country characteristics.

Sample:	Immigrant mother (1)	Immigrant mother (2)	Immigrant mother (3)	Immigrant mother (4)
Trust, mother's birth country	1.017 (0.400)**	1.030 (0.403)**	0.847 (0.351)**	0.862 (0.348)**
log(gdp), mother's birth country	0.108 (0.043)**	0.099 (0.056)	0.084 (0.057)	0.084 (0.057)
Polity2, mother's birth country		0.001 (0.007)	−0.003 (0.006)	−0.002 (0.007)
Women's LFP, mother's birth country			0.903 (0.237)***	0.988 (0.264)***
Women's education, mother's birth country				−0.192 (0.233)
Individual controls	Yes	Yes	Yes	Yes
Country-by-year fixed effects	Yes	Yes	Yes	Yes
R-squared	0.135	0.132	0.133	0.133
Observations	6829	6738	6738	6738

Notes: The dependent variable Trust is coded from 0, 'can't be too careful,' to 10, 'most people can be trusted.' All specifications study second generation immigrants with an immigrant mother. Polity2 is increasing the more democratic political institutions are, LFP measures labor force participations of women, and education is measured by the fraction with a tertiary degree. All regressions include a full set of country of residence-by-year fixed effects. Individual controls include age, age squared, gender, education, labor force attachment, income, and religious denomination. Data is from the second to fifth waves of the European Social Survey. Standard errors in parenthesis, which allow for clustering on the parent's birth country.

Significance stars

* $p < 0.1$.

** $p < 0.05$.

*** $p < 0.01$.

as ancestral country log(gdp), polity2, female LFP, and female education. This model can account for 36% of the average trust differences. Fourth, we can compute that ancestral trust can account for 65% of the explained trust variation indicating that ancestral trust is a quantitatively important factor for explaining trust differences across ancestries. The estimates are presented in [Table A5](#).

4.1.2. Parental characteristics

There may be concerns that the parents who emigrate from high trusting countries are particular compared to others. In particular, these parents may have higher education levels, which may translate into higher trust of the child.²⁶ I control for the parents' level of education (highest attained), as well as their employment when the individual was 14 years of age. The results are robust to adding these controls as seen in [Table 3](#). The estimates of trust in the mother's birth country, now slightly smaller in magnitude, remain strongly significant. Trust in the father's country of birth remains positive but insignificant. Another result from [Table 3](#) is that parental education has a positive impact on the child's trust conditional on all the other covariates. The result is the strongest and most robust with respect to tertiary education. The estimates are quite similar for mother's and father's education. Several specifications also indicate a positive effect of upper secondary education. Having a working father, at age 14, has a strong positive effect on the child's trust, while no such effect is estimated for mothers indicating that the mother's labor supply is not an important factor in trust transmission.

4.1.3. Ancestral vs. birth country influence

To assess the quantitative importance of ancestral compared to birth country trust in forming individual trust a model without country of birth fixed effects is estimated. Trust of second generation immigrants with an immigrant mother are regressed on ancestral and birth country trust, individual controls, and survey round fixed effects. Birth and ancestral country trust are measured as averages across the waves of the integrated EVS/WVS.²⁷

The first specification in [Table 4](#) includes only the most exogenous individual controls and the second specification adds the baseline set of individual controls. Both ancestral and birth country trust are positive and highly significant. The magnitude of the ancestral trust estimate is about half that of birth country trust. To account for other birth country characteristics the log of GDP and polity2 in the birth country are added to the model in specifications three and four of [Table 4](#). Economic development is significant in the third specification, but when the political institutions are added they are strongly significant while economic development is no longer significant.

²⁶ However, I control for the individual's education level, which may capture the main effect of transmission of trust through education. Moreover, parental selection would not be a concern as long as it is common across ancestral backgrounds since only within country of residence variation is used.

²⁷ Measuring birth country trust and individual trust in the same context introduces a potential endogeneity issue, as mentioned above. Appropriate caution in interpreting the coefficients is hence called for.

Table 3
Effects of trust in parent's birth country conditional on parental education.

Dependent variable: Trust					
Sample:	Immigrant mother (1)	Immigrant mother (2)	Immigrant mother (3)	Immigrant mother (4)	Immigrant father (5)
Trust, mother's birth country	0.864 (0.397)**	0.857 (0.398)**	0.834 (0.388)**	0.829 (0.386)**	
Trust, father's birth country					0.146 (0.437)
Upper secondary education, mother	0.196 (0.069)***	0.188 (0.070)***	0.092 (0.089)	0.086 (0.090)	0.274 (0.072)***
Tertiary education, mother	0.434 (0.094)***	0.421 (0.094)***	0.316 (0.124)**	0.309 (0.124)**	0.335 (0.115)***
Mother working (when individual age 14)		0.057 (0.045)		0.053 (0.045)	0.029 (0.051)
Upper secondary education, father			0.224 (0.088)**	0.199 (0.087)**	−0.017 (0.050)
Tertiary education, father			0.230 (0.114)**	0.200 (0.114)*	0.220 (0.114)*
Father working (when individual age 14)				0.251 (0.082)***	0.313 (0.064)***
Individual controls	Yes	Yes	Yes	Yes	Yes
Country-by-year fixed effects	Yes	Yes	Yes	Yes	Yes
R-squared	0.129	0.129	0.130	0.131	0.122
Observations	7235	7235	7235	7235	7535

Notes: The dependent variable Trust is coded from 0, 'can't be too careful,' to 10, 'most people can be trusted.' All specifications study second generation immigrants; columns (1)–(4) study those with an immigrant mother and column (5) those with an immigrant father. All regressions include a full set of country of residence-by-year fixed effects. Individual controls include age, age squared, gender, education, labor force attachment, income, and religious denomination. Data is from the second to fifth waves of the European Social Survey. Standard errors in parenthesis, which allow for clustering on the parent's birth country.

Significance stars

- * $p < 0.1$.
- ** $p < 0.05$.
- *** $p < 0.01$.

Table 4
Ancestral vs. birth country influences on trust.

Dependent variable: Trust					
Sample: Immigrant mother					
	(1)	(2)	(3)	(4)	(5)
Trust, mother's birth country	1.736 (0.459)***	1.463 (0.330)***	1.547 (0.356)***	1.601 (0.413)***	1.825 (0.491)***
Trust, birth country	4.126 (0.502)***	3.945 (0.375)***	3.414 (0.387)***	3.747 (0.360)***	3.697 (0.390)***
log(gdp), birth country			0.356 (0.067)**	−0.133 (0.160)	−0.186 (0.164)
Polity2, birth country				0.278 (0.062)***	0.299 (0.067)***
log(gdp), mother's birth country					0.022 (0.062)
Polity2, mother's birth country					−0.013 (0.008)
Individual controls	Age, gender	Yes	Yes	Yes	Yes
R-squared	0.068	0.097	0.100	0.108	0.111
Observations	7510	7235	7235	7024	6529

Notes: The dependent variable Trust is coded from 0, 'can't be too careful,' to 10, 'most people can be trusted.' All specifications study second generation immigrants with an immigrant mother. Individual controls in columns (2)–(5) include age, age squared, gender, education, labor force attachment, income, and religious denomination. Data is from the second to fifth waves of the European Social Survey. Standard errors in parenthesis, which allow for clustering on the parent's birth country.

Significance stars

- * $p < 0.1$.
- ** $p < 0.05$.
- *** $p < 0.01$.

Ancestral country log of GDP and polity2 are added to the model, to account for alternative trust influences, in the fifth column of [Table 4](#). The estimate on ancestral country trust is almost exactly half the magnitude of the estimate on birth country trust when accounting for economic development and political institutions in both the ancestral and birth country. The estimates indicate that one third of the trust influences could be attributed to the ancestral country and two thirds to the birth country. It indicates a quantitatively important role for trust influences across generations in combination with trust influences in the birth country.

4.2. Heterogeneity

Several dimensions of heterogeneity are considered. First is the issue if the transmission is different on the mother's and father's side. Second, I examine if the transmission is influenced by the trust levels in the birth as well as the ancestral country. Third, I examine if individual factors, like being more integrated or having a highly educated mother, affect the transmission of trust. Estimates for the second and third dimensions are only presented for individuals with an immigrant mother in order to conserve space. Estimates with the immigrant father sample show the same pattern as for mothers but estimates are less precise.

4.2.1. Mother's vs. father's influence

To further explore the different estimates for mothers, which are strongly significant, and, fathers, which are insignificant, in [Table 1](#) the parental trust measures are expanded to also include native parents. The benefit of the approach is the ability to study the influences of trust on the mother's and father's side in the same model for a sample including those with one native parent. To focus on the potentially differential trust transmission across mothers and fathers this section only includes individuals whose parents are born in different countries.²⁸ Just as for immigrant parents, the parental trust for the native parent (if any) is the average fraction trusting in the birth country computed across the waves in the EVS/WVS.

The focus is on comparing the influences of trust from the immigrant mother's and father's ancestral countries, trust measures which plausibly are not endogenous to the child's trust. The influence of trust in the immigrant parent's country is examined through different sample cuts and augmented country fixed effects.²⁹ Adding the trust of native parents to the model has potentially subtle but important implications for the interpretation of estimates, which are examined and discussed below.

The independent variables of main interest are trust in the mother's and father's birth country, respectively. The first sample includes those with an immigrant mother and a native born father, that is, a father born in the same country as the child. In this sample the trust in the father's birth country is collinear with the country fixed effect as everyone in the sample has a native father who is assigned the birth country's trust level.³⁰ The positive and strongly significant estimate on trust in the mother's birth country is presented in the first column of [Table 5](#). The estimate indicates that there is strong trust transmission among immigrant women who couple with a native father.³¹ This could be understood as [Bisin and Verdier's \(2001\)](#) cultural transmission model, where minorities may expend a lot of effort to transmit their cultural traits, applied to the family. Mothers who marry a native have to work hard to transmit her cultural values to the child since both the father and society has the same cultural background, and the estimates indicate these mothers work hard on cultural transmission.

The second column of [Table 5](#) studies those with an immigrant father and native born mother. The native born mothers' trust is collinear with the country fixed effects, similarly to the previous specification. The estimate on the father's trust is close to zero and insignificant. The findings mirror the pattern in [Table 1](#).³²

The next two specifications study a sample where the mother is an immigrant and the father is native or of different immigrant ancestry compared to the mother. Specification 3 in [Table 5](#) includes country fixed effects, which no longer are collinear with trust in the father's birth country. Hence, the regression produces an estimate on trust in both the mother's and father's birth country. The estimate on the mother's side is strongly significant and similar in magnitude to the first column. The estimate on the father's side is of similar magnitude but not significant.

Consider what variation is used to identify the estimate on the father's side in column 3 of [Table 5](#). It may be tempting to think that it is driven solely by the expanded sample of immigrant fathers with different ancestry than the mothers. A somewhat more subtle point in this specification is that the country fixed effects are no longer collinear with trust among the native fathers. Not everyone in the sample has a native father and the country fixed effect captures average trust among all children of immigrants (who are included in the sample) in that country. Hence, both trust in the native countries and trust in immigrant fathers' ancestral countries are used to identify the estimate on father's trust. Using native country trust

²⁸ The mother's birth country trust is collinear with the father's if both are born in the same country.

²⁹ The analysis in this section is based on a sample where there are at least 20 observations with ancestry from the mother's and father's birth country. The results are similar in samples with smaller ancestral groups included albeit slightly less precisely estimated.

³⁰ In this table country and year fixed effects are used to conserve on the number of fixed effects when augmented country fixed effects are used in later specifications. Results with country and year fixed effects are very similar to when country-by-year effects are used.

³¹ Restricting the sample to second generation immigrants where both parents are immigrants yield qualitatively similar results as in [Table 5](#) but much less precisely estimated. This also indicates that mothers marrying a native are important to include in the sample to yield the strong transmission of trust.

³² The somewhat higher point estimate on the father's side in [Table 1](#) compared to [Table 5](#) is explained by fathers with the same ancestry as mothers being included in the sample in [Table 1](#) but not in [Table 5](#).

Table 5
 Mother's vs. father's influences. Samples with different parental ancestries.

Dependent variable: Trust								
Sample:	Mother immigrant Father native (1)	Father immigrant Mother native (2)	Mother immigrant Father native or different immigrant than mother (3)	Mother immigrant Father native or different immigrant than mother (4)	Father immigrant Mother native or different immigrant than father (5)	Father immigrant Mother native or different immigrant than father (6)	Mother native or different immigrant Father native or different immigrant (7)	Mother native or different immigrant Father native or different immigrant (8)
Trust, mother's birth country	1.130 (0.478)**		1.157 (0.461)**	1.116 (0.453)**	1.797 (0.928)*	1.492 (1.323)	0.782 (0.370)**	1.176 (0.459)**
Trust, father's birth country		−0.070 (0.426)	0.987 (0.853)	−0.376 (1.204)	−0.089 (0.405)	−0.079 (0.403)	0.576 (0.345)*	−0.072 (0.403)
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects (FE)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country by father native FE				Yes				Yes
Country by mother native FE						Yes		Yes
Test of								
Trust, mother's birth country=								
Trust, father's birth country(p-value to reject)			0.861	0.245	0.069	0.255	0.604	0.044
R-squared	0.156	0.136	0.134	0.138	0.120	0.122	0.136	0.138
Observations	3323	3655	3932	3930	4265	4263	7585	7583

Notes: The dependent variable Trust is coded from 0, 'can't be too careful,' to 10, 'most people can be trusted.' All specifications study second generation immigrants with at least one immigrant parent. This table studies samples where the parents are born in different countries. The first (second) specification studies samples where the mother (father) is an immigrant while the father (mother) is native, that is, born in the same country as the child. The third and fourth (fifth and sixth) specifications adds immigrant fathers (mothers) born in different countries than the immigrant mother (father) to the sample. Specifications 7 and 8 includes all individuals with an immigrant mother and/or father as well as one native parent (if one parent not immigrant) as long as the parents are born in different countries. The test of equality refers to the first two estimates reported in each specification. All regressions include a full set of country of residence and year fixed effects. Specifications 4, 6, and 8 also include country of residence fixed effects interacted with if the mother and/or father is native born. Individual controls include age, age squared, gender, education, labor force attachment, income, and religious denomination. Data is from the second to fifth waves of the European Social Survey. The sample includes immigrant groups with at least 20 observations. Standard errors in parenthesis, which allow for clustering on the parents' birth countries.

Significance stars

* $p < 0.1$.

** $p < 0.05$.

*** $p < 0.01$.

variation may introduce a kind of simultaneity bias in the father's trust estimate toward finding a positive estimate since trust of an individual and average trust in his birth country tend to be positively correlated.

To avoid using native country trust in identifying the influence of father's trust one may introduce a new set of country fixed effects. An indicator for if the father is a native is interacted with the country fixed effects. These fixed effects are added to the model in column 4 of Table 5. These added fixed effects are collinear with birth country trust among native fathers. The point estimate on father's trust goes from being close to one (and similar in magnitude to mothers trust) to being negative and highly insignificant. The point estimate on fathers trust is identified solely from immigrant fathers (with different ancestry than the mothers). The estimate on the mother's side changes little between columns 3 and 4 in Table 5, and remains similar to the first column of the same table.

The mirror sample, where the father is an immigrant and the mother either native or of different immigrant ancestry than father, is studied in columns 5 and 6 of Table 5.³³ The estimates on the father's trust are, as one may expect, close to zero and insignificant, as in column 2 of Table 5. The estimates on the mother's side are larger in magnitude compared to previous columns. In column 5, where both native and foreign trust variation is used, the point estimate is the highest and significant with a p -value of 0.054. In column 6 of Table 5, where only variation in foreign born mothers are used, the point estimate on mother's trust falls slightly and becomes less precisely estimated.

Although it is hard to make strong statements about estimates with larger error bands there is a pattern in columns 3–6 in Table 5. Including variation in native country trust seems to have a systematic increasing effect on the corresponding estimates. The father's trust estimate is high in column 3 and low in column 4. Hence, in column 3 the influence of mother's and father's trust seem more similar compared to column 4. This is also captured by the test of equality where the p -value drops. Correspondingly, a higher estimate is produced in column 5 (where native trust variation is used) compared to column 6. In this case the use of native country trust accentuates the difference between mothers and fathers, which again is captured by the low p -value in column 5 compared to column 6.

The final two columns of Table 5 include native born individuals whose parents are born in different countries (either both immigrants from different countries or one immigrant and one native parent). Country fixed effects are used in column 7 of Table 5. Both the estimates on the mother's and father's side are identified from variation in both immigrant and native parents' birth country trust. Both the estimates on the mother's and father's side are positive and significant at conventional levels. The estimates are of similar magnitude and far from being rejected as different although the standard errors are the smallest in the table.

To avoid using native birth country trust variation in identifying the estimates two sets of fixed effects are added to the model. Country fixed effects are interacted with if the father or the mother is a native, respectively. These two additional sets of fixed effects are collinear with native country trust if the mother or father is a native. The parental trust estimates are solely identified from variation in birth country trust from immigrant parents. The estimates reveal a strong positive and significant estimate on the mother's side and an insignificant estimate close to zero on the father's side in column 8 of Table 5.³⁴ Moreover, the estimates are significantly different on the mother's and father's side. This indicates that mothers have a more important role than fathers in transmitting ancestral trust to their children. The significant differences across parents using parental trust measures that are not endogenous to the child's trust and accounting for individual controls complements Dohmen et al. (2012) who report a significant difference between individually reported parental trust measures when no individual controls are included.

The analysis in Table 5 points to the importance of not using variation in trust from the native parent when estimating cultural transmission models, as such variation may introduce a simultaneity bias. Such bias may lead to drastically different conclusions regarding trust transmission compared to estimates avoiding such biases. In column 7 of Table 5 the trust transmission looks similar for mother's and father's side, yet this appears driven by the variation in trust among native born parents. In column 8 of Table 5, which only uses variation in trust from foreign born parents (trust that plausibly is not endogenous to the individuals trust), there is a significant difference between mothers and fathers and a virtual zero estimate on the father's side. The specification in column 8 is clearly preferred over column 7 as the simultaneity bias is avoided.

4.2.2. Birth and ancestral country trust levels

Previous studies of the intergenerational transmission of trust, such as Algan and Cahuc (2010) and Dohmen et al. (2012), have only studied one country (the U.S. or Germany). Luttmer and Singhal (2011) study the transmission of redistributive preferences in a range of countries but they do not examine if there is a differential effect across countries of residence or ancestry. The combination of many residence as well as ancestral countries allows the study of trust transmission in different

³³ The specifications in columns 3 and 5 include a dummy variable for if both parents are immigrants to account for trust differences across groups. The dummy is insignificant in both specifications, indicating that there are not systematic trust differences across individuals with two immigrant parents compared to those with one native and one immigrant parent. This dummy is not included in columns 4 and 6 since it is collinear with the augmented set of country fixed effects. The country fixed effects interacted with the dummy for one parent being a native is a flexible way to account for unobserved differences between parental couple types within each country.

³⁴ The specification in column 7 includes two dummy variables for if the mother or father is an immigrant, respectively. These dummies are not included in column 8 since they are collinear with the augmented set of country fixed effects.

Table 6
High vs. low ancestral and birth country trust.

Dependent variable: Trust			
Cut-off for high ancestral country trust (fraction expressing most people can be trusted)	(1)	0.30 (2)	0.40 (3)
Trust, mother's birth country	1.063		
if ancestral country trust \geq birth country trust	(0.410)**		
Trust, mother's birth country	1.389		
if ancestral country trust < birth country trust	(0.572)**		
Trust, mother's birth country		1.217	1.083
if high birth country trust and high ancestral country trust		(0.515)**	(0.438)**
Trust, mother's birth country		1.658	1.359
if high birth country trust and low ancestral country trust		(0.898)*	(0.672)**
Trust, mother's birth country		0.797	1.656
if low birth country trust and high ancestral country trust		(0.728)	(0.560)***
Trust, mother's birth country		0.198	0.404
if low birth country trust and low ancestral country trust		(1.066)	(0.776)
Individual controls	Yes	Yes	Yes
Country-by-year fixed effects	Yes	Yes	Yes
R-squared	0.127	0.127	0.127
Observations	7235	7235	7235

Notes: The dependent variable Trust is coded from 0, 'can't be too careful,' to 10, 'most people can be trusted.' All specifications study second generation immigrants with an immigrant mother. Individual controls include age, age squared, gender, education, labor force attachment, income, and religious denomination. Data is from the second to fifth waves of the European Social Survey. Standard errors in parenthesis, which allow for clustering on the parent's birth country.

Significance stars

* $p < 0.1$.

** $p < 0.05$.

*** $p < 0.01$.

combinations of average trust in the residence and ancestral country. This analysis could shed light on the hypothesis in for example [Butler et al. \(2011\)](#) that adjustment to low trust environments is much faster than adaptation to high trust.

The analysis begins by distinguishing countries by if the ancestral country trust is at least as large as the birth country trust, or if ancestral trust is less than birth country trust. This allows the estimation of an asymmetry in the trust transmission with different coefficients for if the adjustment is to higher or lower trust levels.

The estimates on mother's birth country trust are positive and significant for both groups as seen in column 1 of [Table 6](#). The estimated coefficient is larger for the group who adjusts to higher trust levels. It indicates that low trust could be more persistent than high trust. Perhaps this could be explained by low trusting individuals engaging in fewer encounters where they may learn about the higher trust in the residence country.

In the next two models ancestral and birth countries are divided into high and low trusting, respectively.³⁵ The resulting four groups are interacted with trust in the mother's birth country to estimate the trust transmission in each group. First, ancestral country trust is considered high if at least 30% express that most people can be trusted.³⁶

Significant trust transmission is found for both low and high ancestral trust individuals who are born in high trusting countries as seen in column 2 of [Table 6](#). The estimated coefficient on those with lower trust ancestry is higher in magnitude than for those with higher trust ancestry (who live in high trust countries). This ordering indicates that trust is more persistent when adjusting to higher levels, as discussed above. Estimates on ancestral trust for those in low trust birth countries are insignificant.³⁷

The evidence points to significant differences in the intergenerational transmission of trust. The transmission is stronger in high trusting (Northern European) countries than low trusting (Southern European) nations. The children of immigrants in high trusting countries have not adapted to the trust levels in those countries. In low trusting Europe there is no significant relationship between individual and ancestral trust, consistent with an adaptation to the local equilibrium by the children of immigrants born in this environment.

The differences in the strength of the transmission of trust across high and low trusting Europe can be understood through a model like [Butler et al. \(2011\)](#). In the model high trusting individuals choose to interact with others in society more than low trusting individuals, since high trusting individuals have a higher expected payoff given his subjective probabilities on the other party being trustworthy. When a high trusting individual interacts in a low trusting context he will soon be cheated and might update his trust. Low trusting individuals rarely interact even in a high trust context. He hence has few

³⁵ High trust birth countries are Denmark, Norway, Finland, Sweden, Holland, Switzerland, Ireland, Estonia, UK, Luxemburg, Austria, Israel, Spain, Belgium, and Germany based on trust across the ESS rounds.

³⁶ This cut-off is slightly above the 29.1% average ancestral trust in the immigrant mother sample.

³⁷ Similar results are found when the sample is split by geographical lines. Northern Europe represents high trusting countries exhibit strong transmission while Southern Europe has lower trust and less transmission. See [Ljunge \(2012c\)](#) for details.

opportunities to update his trust to the higher level that would be beneficial in the high trust environment. The increase in trust is hence slow. The evidence presented here suggests that this process has yet to converge by the second generation.

The third specification of Table 6 classifies ancestral countries as high trust if at least 40% express that most people can be trusted.³⁸ The transmission of trust in high trust birth countries is significant both for those with high and low trust ancestries. The estimated coefficient is larger for those with low trust ancestry compared to those with high trust ancestry, as in the previous specification.

Very different from the previous model is the large positive and highly significant estimate on ancestral trust among children of immigrants in low trust birth countries who have high trust ancestry.³⁹ This indicates a non-linearity in the transmission of trust where there is strong persistence at very high levels, which I believe has not been found in the literature. This complements the previously discussed finding that trust may be highly persistent at low levels.

The finding of high trust persistence in low trust environments is not easy to reconcile with Butler et al.'s (2011) model and suggests there are other processes at work. The result seems to fit more with Bisin and Verdier's (2001) model of cultural transmission persistent over the life cycle. The finding also provides a counter point to findings that dramatic changes in the trust environment, such as Nunn and Wantchekon (2011), could erode trust. Their study is set in Africa where trust on average is low, much lower than in Europe, also in areas not affected by slave trade. The finding here suggests that high trust may persist also in, by European standards, low trust environments if individuals have a sufficiently high trust background.

Note that the result should not be interpreted as a positive effect from welfare state institutions on trust for all immigrants.⁴⁰ The effects of such institutions are captured by the country fixed effect. Since within country variation is used the estimate tells us that immigrants from low trust countries remain systematically below the average trust level (and similarly for immigrants from high trust countries), and the distance is proportional to the trust in the ancestral country.

4.2.3. Individual characteristics

In this section the trust level in the mother's country of birth is interacted with several individual characteristics that we may suspect have differential implications for trust transmission. The purpose is to examine if transmission of trust differs across these dimension. The first specification considers a measure of how integrated the second generation immigrants are. An indicator for a second language spoken at home is fully interacted with trust in the mother's country. 38% of the sample speaks a second language at home, which yields a fairly even split of the sample between the interaction terms. The point estimate on the transmission is higher for those who do not speak a second language at home as seen in model A in Table 7.⁴¹ The test of equality of the coefficients does not reject at conventional levels. This indicates that the transmission of trust is not different for those who are less assimilated, measured by second language.

The following two specifications split the sample by strength of the direct vertical transmission. Model B splits the interaction by age, with those above 40 years of age being less exposed to parental influences and more exposed to horizontal influences in the current society. The point estimate in model B in Table 7 for those less than 40 years old, and more closely connected to parental influences, is higher than for the older group. The results are consistent with the hypothesis but the difference is not statistically significant. The same finding holds when Internet use is considered. Internet provides another channel of horizontal influence which may weaken the direct influence by parents. The point estimates support this story as the intergenerational influence is lower for those who use the Internet at least once a week, as seen in model C in Table 7. The coefficients are, however, not significantly different. The results indicate that we cannot reject that intergenerationally transmitted trust persists over the life cycle or that it is diluted by Internet use. The results are consistent with Bisin and Verdier's (2001) model of cultural transmission over the life cycle.

The last three specifications examine if maternal characteristics influence the transmission of trust. The effect of having a working mother at age 14 is examined in model D in Table 7. The point estimate for having a working mother is similar to the transmission for those who do not.⁴² Model E in Table 7 examines if the transmission of trust differs by the mother's education. The transmission coefficient is much higher for those who have a mother with upper secondary or tertiary education compared to those with a less educated mother. The difference is close to being significant with a p -value of 13.6%. In model F separate coefficients are estimated for highly educated mothers who worked and those who did not work, as well as mothers with lower education. The estimated transmission is strong for both the highly educated mothers who worked and those who did not. The magnitudes are similar. This is evidence against the hypothesis that weaker transmission is found with mothers who spend time away from the home, either through work or education. Rather, for transmission of trust high education of the mothers seems important while their labor supply seems to have no influence. The results indicate that higher education facilitates norm transmission. Highly educated mothers might choose to spend more time socializing their children to their norms or they might be more efficient in doing so (or both).

³⁸ This moves the following ancestral countries from the high to low ancestral trust category: Austria, Belgium, Germany, India, Ireland, Italy, South Korea, Spain, and UK.

³⁹ The test of equality of coefficients rejects at the 6% level.

⁴⁰ The relationship between welfare state institutions have been analyzed by Bergh and Bjørnskov (2011) and Kumlin and Rothstein (2005), among others.

⁴¹ An interaction of ancestral trust with being a citizen of the country of birth yields similar point estimates for the two groups. 94% of the children of immigrants are citizens of their birth country. See Ljunge (2012c) for details.

⁴² Similarly, there are no significant differences between those whose father worked at age 14 and those whose father did not work.

Table 7
Heterogeneity based on individual characteristics.

Model	Interaction	Dependent variable: Trust	Coefficient (s.e.)	Test of equality (p-value)	Observations
A	Second language spoken at home	Trust, mother's birth country	1.348	0.116	7235
		*No second language at home	(0.345)***		
		Trust, mother's birth country	0.514		
		*Second language at home	(0.604)		
B	Age	Trust, mother's birth country	1.096	0.739	7235
		*Less than 40 years old	(0.478)**		
		Trust, mother's birth country	0.889		
		*40 years or older	(0.556)		
C	Internet use	Trust, mother's birth country	0.797	0.485	7235
		Use Internet frequently	(0.465)		
		Trust, mother's birth country	1.154		
		*Do not use internet frequently	(0.484)**		
D	Mother working at age 14	Trust, mother's birth country	0.935	0.892	7235
		*Mother working	(0.429)**		
		Trust, mother's birth country	1.008		
		Mother not working or not present	(0.561)		
E	Mother's education	Trust, mother's birth country	1.456	0.136	7235
		*Mother with higher education	(0.431)***		
		Trust, mother's birth country	0.674		
		*Mother with lower education	(0.469)		
F	Mother's education and work	Trust, mother's birth country	1.519	0.260	7235
		*Working mother with higher education	(0.463)***		
		Trust, mother's birth country	1.310		
		*Not working mother with higher education	(0.443)***		
		Trust, mother's birth country	0.665		
		*Mother with lower education	(0.469)		

Notes: The dependent variable Trust is coded from 0, 'can't be too careful,' to 10, 'most people can be trusted.' All specifications study second generation immigrants with an immigrant mother. Estimated coefficients on trust in the mother's country of birth interacted with an indicator a characteristic of the second generation immigrant or the mother is reported. The p-value refers to a F-test of equality of the reported coefficients, by model. All regressions include a full set of country of residence-by-year fixed effects. Individual controls include age, age squared, gender, education, labor force attachment, income, and religious denomination. Data is from the second to fifth waves of the European Social Survey. Standard errors in parenthesis, which allow for clustering on the parent's birth country.

Significance stars

* $p < 0.1$.

** $p < 0.05$.

*** $p < 0.01$.

4.3. Language structure as determinant of ancestral country trust

So far the trust in the parent's country of birth has been taken as exogenous. This section studies one factor that may shape the ancestral trust level, and this factor is language. The idea is to examine if linguistic features have an influence on trust levels, and to estimate how the ancestral trust shifted by these "deep" features relates to the trust of second generation immigrants. I combine the approach of relating language structure to trust with the epidemiological approach and apply it to the cultural transmission of trust, which is new to the literature.

The analysis relates to the literature on the deep roots of development reviewed by Spolaore and Wacziarg (2013). As trust has been shown to promote economic development, the deep roots of trust are relevant for understanding development. The study of language structure complements other historical determinants of trust such as Nunn and Wantchekon (2011). They studied how negative shocks to trust, slave trade, affects current trust in Africa. Guiso et al. (2008) study how historical factors affect trust across Italian regions. Different language structures have arguably positive or negative influences on trust, and the sample spans across the world.

Language structure is used as a determinant of trust. Languages have features that put more or less emphasis on how to relate to other people. The structure of languages are stable and slow moving, arguably more so than cultural beliefs like trust.

One feature that differs across languages is the use of first and second pronouns in conversations. In Italian, for example, it is permissible to drop the pronoun while in English it is mandatory to use the pronoun. Languages that forbid dropping the first-person pronoun are typical of cultural traditions that gave more emphasis to the individual relative to his social context and thus were more respectful of the individual and his rights as argued by Kashima and Kashima (1998, 2005). Licht et al. (2007) used this grammatical rule to examine how individualism affects the rule of law. Tabellini (2008) uses the rule to examine how trust affects institutions across countries. I follow Tabellini (2008) and define the variable "No

Table 8
Ancestral trust on language structure.

Dependent variable: Trust in the mother's or father's country of birth						
Sample:	Immigrant mother (1)	Immigrant mother (2)	Immigrant mother (3)	Immigrant father (4)	Immigrant father (5)	Immigrant father (6)
Language structure, mother's birth country	0.073 (0.017)***	0.074 (0.016)***	0.072 (0.015)***			
Language structure, father's birth country				0.068 (0.017)***	0.068 (0.016)***	0.066 (0.016)***
Language structure: 1st language spoken at home		Yes	Yes		Yes	Yes
2nd language spoken at home			Yes			Yes
No second language at home			Yes			Yes
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes
Country-by-year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	5957	5470	5470	6083	5544	5544

Notes: The dependent variable is average trust in the parent's birth country. All specifications study second generation immigrants; columns (1)–(3) study those with an immigrant mother and columns (4)–(6) those with an immigrant father. All regressions include a full set of country of residence-by-year fixed effects. Individual controls include age, age squared, gender, education, labor force attachment, income, and religious denomination. Data is from the second to fifth waves of the European Social Survey. Standard errors in parenthesis, which allow for clustering on the parent's birth country.

Significance stars

* $p < 0.1$.

** $p < 0.05$.

*** $p < 0.01$.

pronoun drop” as 1 if the language forbids the drop of pronouns and 0 otherwise, and I expect it to be positively related to trust.

The second grammatical rule considered, in keeping with [Tabellini \(2008\)](#), is the distinction between singular and plural personal pronouns. French, for example, differentiates between the singular and plural You, the Tu and Vous (T-V for short), depending on the social distance between the subjects. Many languages had the T-V distinction historically but later dropped it. Languages who kept the T-V distinction are indicative of cultures that put stronger emphasis on hierarchy and social distance, which may have a negative influence on generalized trust. The variable “2nd person differentiation” is defined as 1 if the number of second person pronouns that might be used in spoken language varies according to the social proximity between speakers and 0 otherwise.⁴³ The variable is expected to have a negative relationship with trust.

Based on these two variables capturing grammatical rules I define “Language” as No pronoun drop minus 2nd person differentiation. Language is expected to be positively related to trust. The variable is defined by country. For some countries with different language groups the variable is a weighted average of the respective language groups, where possible.⁴⁴ The exact definitions follow [Tabellini \(2008\)](#), with one adjustment.^{45,46} The relationship between language structure and ancestral country trust is presented in [Table 8](#). The estimated coefficient is positive and strongly significant.⁴⁷ The positive sign is as expected; trust is higher in countries where the language puts more emphasis on the individual's rights, and less emphasis on hierarchy.

The language structure, as captured by the variable Language, in the parent's country of birth is used as an instrument of trust in the parent's country of birth.⁴⁸ The baseline result for second generation immigrants with an immigrant mother is presented in specification 1 in [Table 9](#). The point estimate on trust in the mother's birth country is about double the magnitude compared to [Table 1](#) and remains strongly significant in spite of the larger standard error. As the epidemiological approach has an attenuation bias built in using Language as an exogenous shifter may address the mismeasurement, which would lead to a higher estimate of the transmission of trust.

The second stage estimates in [Table 9](#) may be preferred to the baseline results if they address the measurement problem. This interpretation rests on the assumption that the ancestral country language structure has no direct effect on individual trust of the second generation immigrant. Since the child is born and reside in a different country where the vast majority

⁴³ The variable distinguishes between languages that allow for second person differentiation compared to those that do not. The variable does not address if the differentiation is common in practice, where allowed, which may affect the accuracy of the variable. However, such mismeasurement would not invalidate the use of the variable, but rather only attenuate the relationship between language structure and trust.

⁴⁴ The weighting applies to Canada, Singapore, South Africa, and Switzerland.

⁴⁵ The data is generously made available at <http://didattica.unibocconi.it/mypage/index.php?ldUte=48805&idr=5112>.

⁴⁶ I adjust the coding of Danish to allow for second person differentiation.

⁴⁷ The F -statistic for the exclusion of the Language variable is 19.

⁴⁸ Similar results are obtained if the Language variable is split in its two components, but the first stage is not quite as strong so the Language specification is preferred.

Table 9
Language structure as exogenous shifter of ancestral trust.

Dependent variable: Trust						
Sample:	Immigrant mother (1)	Immigrant mother (2)	Immigrant mother (3)	Immigrant father (4)	Immigrant father (5)	Immigrant father (6)
Trust, mother's birth country	3.051 (1.119)***	2.982 (1.129)***	2.687 (1.125)**			
Trust, father's birth country				1.508 (0.978)	1.052 (0.981)	0.458 (0.906)
Language structure, 1st language spoken at home		−0.023 (0.087)	0.003 (0.09)		0.073 (0.085)	0.127 (0.074) [†]
Language structure, 2nd language spoken at home			0.135 (0.121)			0.295 (0.096)***
No second language spoken at home			0.034 (0.100)			−0.038 (0.103)
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes
Country-by-year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	5957	5470	5470	6083	5544	5544

Notes: The dependent variable Trust is coded from 0, 'can't be too careful,' to 10, 'most people can be trusted.' All specifications study second generation immigrants; columns (1)–(3) study those with an immigrant mother and columns (4)–(6) those with an immigrant father. Estimates on trust in the parent's birth country are second stage estimates of a two stage least squares model where language structure in the parental birth country is used as an instrument for trust in the parental birth country. First stage estimates are presented in Table 8. All regressions include a full set of country of residence-by-year fixed effects. Individual controls include age, age squared, gender, education, labor force attachment, income, and religious denomination. Data is from the second to fifth waves of the European Social Survey. Standard errors in parenthesis, which allow for clustering on the parent's birth country

Significance stars

^{*} $p < 0.1$.

^{**} $p < 0.05$.

^{***} $p < 0.01$.

speaks the language of their country of residence, there is no obvious link between the child's trust and the language structure of the ancestral country. Remaining concerns can, at least partially, be addressed.

It is observed if the individual speaks a second language at home and what language that is, which indicates a link to another language. The first language spoken is also observed. The second specification of Table 9 includes a control for the language structure of the first language spoken, and the estimate on ancestral trust is unchanged. The third specification also adds the language structure of the second language spoken as well as an indicator of a second language being spoken at home. The transmission of trust is robust also to this specification. The results rule out a direct effect of the languages the individual speak on his trust, while the influence of ancestral trust remains.

Since Licht et al. (2007) related no pronoun drop to individualism there is a potential concern that the language structure may affect the individualism of the second generation immigrant. The data includes a question that captures individualism by asking how important it is to be free and make your own decision.⁴⁹ Controlling for this variable has no effect on the estimates. I conclude that there does not seem to be an effect on trust of language structure through individualism.

The estimates on the sample with an immigrant father are presented in specifications 4–6 of Table 9. The point estimates are double the magnitude of the baseline in Table 1, mirroring the results for the immigrant mother's sample. The positive point estimates are consistent with transmission of trust in the immigrant father sample. The standard errors are also larger and the estimates remain insignificant at conventional levels, which leave us with weaker evidence on the father's side.

As in all empirical analysis, the interpretation of the results depends on the assumptions imposed. The interpretation of the results in Table 9 as unbiased estimates that address the built in attenuation bias is conditional on the assumption that ancestral language structure has no direct effect on individual trust. There is of course no way to be certain the assumption is true but the robustness of the results when including the controls for the languages spoken by the individual provide some plausibility to the assumption.

5. Conclusion

Children of immigrants are exogenously exposed to similar institutional environments in their countries of birth, yet they are influenced by different ancestral backgrounds based on where their parents were born. This is used to estimate the intergenerational transmission of trust through the influence of ancestral trust on individual trust. The broad set of

⁴⁹ The question asks if the respondent is like or not like the person in the statement "It is important to her/him to make her/his own decisions about what she/he does. She/he likes to be free and not depend on others."

countries the individuals live in and the diverse ancestral backgrounds allow a more comprehensive analysis of the cultural transmission of trust than present in the literature.

Trust is affected by current individual and institutional influences, as indicated by the significant individual controls and country fixed effects. However, part of trust is influenced by the cultural ancestry as captured by the effect of trust in the parent's country of birth. The influence from the parent's country is quantitatively significant and it is of similar magnitude to individual influences such as increasing income from the bottom to the top three deciles of the income distribution.

The results provide insights about how immigrants are integrated into society. It matters where their ancestral roots are and where they reside. Trust may be more persistent among immigrants from higher trusting nations. In the high trusting Northern European context trust is persistent no matter the ancestry, while many individuals may adapt to the lower trust levels in Southern Europe by the second generation.⁵⁰ Moreover, very high trust ancestry persists also in low trust environments. It provides a mechanism for the persistence of very high trust societies; they are robust to perturbations in the environment because of high trust transmission in the family. It is a contribution in addition to the persistence of low trust found in this paper and other studies where a low trust environment may be sufficient to reinforce low trust.

Trust transmission is significant on the mother's side, and significantly stronger than transmission on the father's side, where transmission is insignificant. Is there no role for fathers? Studies using individually reported trust such as [Dohmen et al. \(2012\)](#) find positive correlations between trust of the father and child.⁵¹ This paper uses a different method with known biases toward zero; hence the insignificant estimates might be due to these biases and need not imply that the true effect is zero. Moreover, the father's transmission of trust may work through other channels. Fathers born in countries with more democratic political institutions are found to foster trust among second generation immigrants in [Ljunge \(2014b\)](#). Different ancestral facets are hence important to transmit trust to the child from the mother's and father's side.⁵² On the mother's side ancestral trust is important while on the father's side it is cultural attitudes formed by political institutions.

Although the main reason for studying children of immigrants is that it allows separating the cultural influence from institutions, there are also policy implications from this focus. Learning about the transmission of trust matters because trust has been associated with desirable outcomes. [Algan and Cahuc \(2010\)](#), [Tabellini \(2008, 2010\)](#), and others, find that trust promote economic development and the functioning of institutions at the national and regional level, hence the composition of immigrants may have long run effects on growth. It may also be a consideration when immigration policies are shaped. Net present value computations of immigration such as [Storesletten \(2000\)](#) could be augmented to account for the transmission of trust. Such adjustments would, as the heterogeneity results suggest, depend on the specific context in which the immigrants enter.

From the perspective that more trust is better, as most of the literature argues, there are two main suboptimal aspects with the correlations of trust between parents and children. First, low trust individuals do not fully adapt the trust in high trust environments. Second, high trust individuals adapt too much to the low trust in less trusting environments.

The policy implication in high trust environments is to promote trust in particular among those from low trust environments to speed up the assimilation to high trust. In low trust environments the policy implication is also to promote trust, but it is harder to point to a particular target group as the general population could also benefit from trust building interventions. The literature has suggested several ways to increase trust, which focus on more horizontal interactions among individuals. Studies suggest more community involvement ([Algesheimer et al., 2012](#)), horizontal teaching practices ([Algan et al., 2013](#)), more economic freedom ([Knack and Zak, 2003](#); [Aghion et al., 2010](#); [Berggren and Jordahl, 2006](#)), and more political freedom ([Ljunge, 2014b](#)). In particular increased community involvement and more horizontal teaching practices may be relevant for policy actions targeted at groups with a low trust background.

Appendix A.

[Table A1.](#)

[Table A2.](#)

[Table A3.](#)

[Table A4.](#)

[Table A5.](#)

⁵⁰ Trust levels of children of immigrants are on average similar to trust levels of natives, see Table A1.

⁵¹ [Ljunge \(2012b\)](#) finds that the intergenerational transmission of civicness, attitudes related to trustworthiness, is similar on the mother's and father's side.

⁵² There are indications in [Ljunge \(2014c\)](#) that the influence of family ties in promoting civic attitudes differ between the mother and father.

Table A1
Summary statistics.

Sample variable	Immigrant mother		Immigrant father		Native population	
	Mean	Std. dev.	Mean	Std. dev.	Mean	Std. dev.
Trust	4.91	2.49	4.86	2.48	4.92	2.51
Trust, parent's birth country	0.291	0.111	0.284	0.105		
Age	43.2	17.9	42.9	17.8	47.6	18.6
Woman	0.537	0.499	0.537	0.499	0.536	0.499
Married	0.488	0.500	0.490	0.500	0.535	0.499
Never married	0.334	0.472	0.337	0.473	0.275	0.446
Upper Secondary education	0.345	0.475	0.341	0.474	0.328	0.469
University education	0.226	0.419	0.223	0.416	0.194	0.395
Out of labor force	0.443	0.497	0.441	0.497	0.478	0.500
Unemployed	0.044	0.206	0.046	0.208	0.034	0.182
Low income	0.225	0.417	0.226	0.418	0.256	0.436
Middle income	0.297	0.457	0.293	0.455	0.296	0.456
Catholic	0.192	0.394	0.176	0.381	0.302	0.459
Protestant	0.068	0.252	0.063	0.243	0.142	0.349
Orthodox	0.093	0.290	0.099	0.299	0.083	0.276
Upper Secondary, mother	0.195	0.396	0.197	0.397	0.189	0.392
University education, mother	0.104	0.306	0.101	0.301	0.070	0.255
Working mother at age 14	0.560	0.496	0.580	0.494	0.531	0.499
Upper Secondary, father	0.224	0.417	0.209	0.407	0.222	0.416
University education, father	0.135	0.342	0.134	0.340	0.098	0.298
Working father at age 14	0.854	0.353	0.841	0.366	0.874	0.332

Notes: The immigrant mother sample refers to individuals born in the country of residence and whose mother were born in a different country. The immigrant father sample refers to individuals born in the country of residence and whose father were born in a different country. The native sample refers to individuals born in the country of residence whose mother and father were born in the same country.

Table A2
Countries participating in the ESS by round.

Country	Survey round				
	1	2	3	4	5
Austria	X	X	X		
Belgium	X	X	X	X	X
Bulgaria			X	X	X
Cyprus			X	X	
Czech Republic	X	X		X	X
Denmark	X	X	X	X	X
Estonia		X	X	X	X
Finland	X	X	X	X	X
France	X	X	X	X	X
Germany	X	X	X	X	X
Greece	X	X		X	
Hungary	X	X	X	X	X
Ireland	X	X	X	X	
Israel	X			X	X
Italy	X	X			
Luxembourg	X	X			
Netherlands	X	X	X	X	X
Norway	X	X	X	X	X
Poland	X	X	X	X	X
Portugal	X	X	X	X	X
Russian Federation			X	X	X
Slovakia		X	X	X	
Slovenia	X	X	X	X	X
Spain	X	X	X	X	X
Sweden	X	X	X	X	X
Switzerland	X	X	X	X	X
Turkey		X		X	
Ukraine		X	X	X	
United Kingdom	X	X	X	X	X

Note: Edition 1.0 of ESS round 5 is used. Rounds 2 through 5 are used in the analysis.

Table A3

Countries of ancestry on the mother's side and summary statistics.

Country code	Trust, mother's country of birth	Count of 2nd generation immigrants	Country code	Trust, mother's country of birth	Count of 2nd generation immigrants	Country code	Trust, mother's country of birth	Count of 2nd generation immigrants
AD	0.207	1	FI	0.565	204	MX	0.241	3
AL	0.256	9	FR	0.219	251	MY	0.088	7
AM	0.247	10	GB	0.359	158	NG	0.219	9
AR	0.196	25	GE	0.185	29	NL	0.506	104
AT	0.327	179	GH	0.085	7	NO	0.664	66
AU	0.446	11	GR	0.237	75	NZ	0.500	4
AZ	0.205	17	GT	0.157	1	PE	0.075	5
BA	0.219	67	HK	0.411	6	PH	0.071	17
BD	0.222	7	HR	0.229	97	PK	0.274	54
BE	0.313	79	HU	0.269	145	PL	0.233	437
BG	0.270	52	ID	0.456	82	PR	0.124	1
BR	0.064	35	IE	0.415	113	PT	0.174	121
BY	0.286	121	IL	0.235	2	RO	0.168	192
CA	0.445	24	IN	0.346	86	RU	0.276	1039
CH	0.438	32	IQ	0.440	147	SE	0.635	63
CL	0.203	14	IR	0.336	70	SG	0.147	2
CN	0.542	12	IS	0.413	8	SI	0.182	7
CO	0.120	4	IT	0.317	472	SK	0.213	180
CS	0.276	47	JO	0.295	4	TH	0.415	10
CSS	0.153	1	JP	0.416	5	TR	0.113	376
CY	0.128	11	KG	0.167	5	TW	0.296	1
CZ	0.267	160	KR	0.317	2	TZ	0.081	2
DE	0.341	666	LT	0.262	34	UA	0.295	255
DK	0.588	51	LU	0.248	14	UG	0.078	1
DO	0.264	2	LV	0.206	31	US	0.411	137
DZ	0.112	115	MA	0.194	365	UY	0.248	8
EE	0.242	17	MD	0.182	19	VE	0.148	5
EG	0.280	56	MK	0.111	28	VN	0.478	13
ES	0.328	142	ML	0.175	3	ZA	0.198	10
ET	0.244	18	MT	0.188	4	ZW	0.112	2

Note: Country codes according to ISO-3166. Trust is measured between 0 and 1, where 1 corresponds to 'most people can be trusted.' Country averages of trust are computed across the waves in the integrated European Values Survey and World Values Survey. The average across countries is 0.27, and the standard deviation is 0.135 (both unweighted). The count of 2nd generation immigrants refers to the number of individuals with an immigrant mother in the European Social Survey.

Table A4

Demographic estimates in the full and immigrant samples.

Dependent variable: Trust	Full sample (1)	Immigrant mother (2)	Immigrant father (3)
Age	-0.015 (0.001)***	-0.019 (0.012)	-0.023 (0.012)*
Age squared/100	0.016 (0.001)***	0.024 (0.011)**	0.025 (0.012)**
Female	-0.028 (0.004)***	-0.012 (0.051)	-0.025 (0.052)
Married	0.128 (0.007)***	0.182 (0.074)**	0.035 (0.072)
Never married	0.231 (0.011)***	0.231 (0.126)*	0.029 (0.120)
Upper secondary	0.205 (0.009)***	0.359 (0.087)***	0.247 (0.093)***
College or university	0.710 (0.009)***	0.902 (0.091)***	0.958 (0.100)***
Out of the labor force	-0.079 (0.014)**	-0.162 (0.078)**	-0.055 (0.061)
Unemployed	-0.368 (0.014)***	-0.440 (0.147)**	-0.356 (0.186)*
Low income	-0.269 (0.006)***	-0.201 (0.077)**	-0.148 (0.081)*
Middle income	0.006 (0.005)	0.008 (0.048)	-0.007 (0.056)

Table A4 (Continued)

Dependent variable: Trust	Full sample (1)	Immigrant mother (2)	Immigrant father (3)
Catholic	0.037 (0.011)***	−0.065 (0.080)	−0.034 (0.100)
Protestant	0.228 (0.019)***	0.289 (0.088)***	0.148 (0.103)
Orthodox	0.097 (0.031)***	0.115 (0.168)	0.127 (0.107)
Constant	4.918 (0.046)***	4.888 (0.339)***	5.108 (0.328)***
Country-by-year fixed effects	Yes	Yes	Yes
R-squared	0.172	0.126	0.117
Observations	174,857	7235	7535

Notes: The dependent variable Trust is coded from 0, 'can't be too careful,' to 10, 'most people can be trusted.' Column (1) includes all observations. Columns (2) and (3) includes only second generation immigrants; column (2) study those with an immigrant mother and column (3) those with an immigrant father. All regressions include a full set of country of residence-by-year fixed effects. Data is from the second to fifth waves of the European Social Survey. Standard errors in parenthesis, which allow for clustering on the parent's birth country.

Significance stars

* $p < 0.1$.

** $p < 0.05$.

*** $p < 0.01$.

Table A5

Quantifying the influence of trust.

Dependent variable: Average net trust difference to natives, by mother's birth country	(1)	(2)
Trust, mother's birth country	1.447 (0.392)***	1.040 (0.327)**
log(gdp), mother's birth country		0.057 (0.053)
Polity2, mother's birth country		−0.002 (0.006)
Women's LFP, mother's birth country		−0.179 (0.185)
Women's education, mother's birth country		1.008 (0.283)***
Constant	−0.358 (0.114)***	−0.949 (0.473)**
R-squared	0.236	0.361
Number of countries	76	76

Notes: The dependent variable average net trust differences to natives are the country fixed effects from a regression of trust on individual characteristics and country fixed effects among second generation immigrants with an immigrant mother. Individual controls include age, age squared, gender, education, labor force attachment, income, and religious denomination. Polity2 is increasing the more democratic political institutions are, LFP measures labor force participations of women, and education is measured by the fraction with a tertiary degree. Regressions are weighted by number of second generation immigrants from each ancestral country. Standard errors in parenthesis, which allow for clustering on the mother's birth country.

Significance stars

* $p < 0.1$.

** $p < 0.05$.

*** $p < 0.01$.

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