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Abstract

Using data from the European Social Survey (ESS) 2002-2011 covering immigrants in 26 European countries, this paper analyzes the impact of source- and host-country characteristics on female immigrant labor supply. We find that the labor supply of immigrant women in Europe is positively associated with the female-to-male labor force participation ratio in their source country, which serves as a proxy for the country's preferences and beliefs regarding women's roles. This suggests that the culture and norms of their source country play an important role for immigrant women's labor supply. We further find evidence for a strong positive correlation between the labor force participation ratio in the host country and female immigrant labor supply, suggesting that immigrant women assimilate to the work behavior of natives.

JEL Classifications: J16, J22, J61

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1 Introduction

The first decade of the 21st century has seen large waves of immigration to the EU Member States from both within and outside the EU.[1] As many European countries face considerable changes related to an aging population, which is expected to put downward-pressure on labor supply in the years to come, immigration is seen as a means to filling in current and future labor market needs, thereby ensuring economic sustainability and growth. As a result, the active recruitment of high-skilled immigrants on the one hand, and the integration of recent immigrants into the host-countries' labor markets on the other hand, have become important policy goals (European Commission, 2010b). However, although the labor market integration of immigrants is high on the political agenda of many European countries, immigrants still exhibit a significantly lower labor market attachment than the native population (European Commission, 2011). As a result, the costs and benefits of cultural diversity have become a matter of debate among policy-makers in Europe.[2]

The aspect of a low labor market attachment of immigrants is especially relevant for immigrant women. In 2008, the labor force participation rate of foreign-born women living within the EU-27 was nine percentage points lower than that of native-born women (69% as opposed to 78%). The lower overall participation rate of foreign-born women, however, is mainly due to the significantly lower activity rate of women originating from non-EU countries (67%), whereas the rate of women born in other EU countries (76%) hardly differs from that of native women (European Commission, 2011). The determinants of the variation in the labor force participation rates of immigrants across source countries remain an open question.

Previous studies for immigrants in the U.S. suggest that differences in labor market behavior across immigrant women's source countries can, at least partly, be explained by differences in female labor force participation (FLFP) rates between these countries (Antecol, 2000; Fernández and Fogli, 2009; Blau *et al.*, 2011; Blau and Kahn, 2011). The authors argue that disparities in FLFP rates across immigrants' source-country groups reflect variation in preferences and beliefs regarding women's roles in family and society between countries, and that these cultural differences in turn affect the labor market behavior of immigrant women in their host country. Their findings further suggest that cultural effects persist in the long run (Blau *et al.*, 2011) and influence the labor supply behavior of second- and higher-generation women (Antecol, 2000; Fernández and Fogli,

[1] For an overview of the history of immigration to Europe, see Bauer *et al.* (2000).

[2] Amongst others, German Chancellor Angela Merkel and British Prime Minister David Cameron recently questioned Europe's approach to multiculturalism, thereby triggering a public controversy over the cultural integration of immigrants. While Angela Merkel said that the attempts to build a multicultural society in Germany had "failed, utterly failed" (BBC, 2010), David Cameron stated that the "doctrine of state multiculturalism" had failed and would no longer be state policy (BBC, 2011).

2009).

This paper aims at studying the impact of culture on the labor supply of immigrant women in Europe. The role of culture is identified by using variation in female-to-male LFP ratios among immigrants' source and host countries, which serve as proxies for the preferences and beliefs regarding women's roles in family and society in these countries. Our empirical analysis is based on data from the European Social Survey (ESS) 2002-2011, which covers immigrants in 26 European countries. While previous literature has exclusively focused on the U.S., we contribute to the literature by providing first evidence on the role of source-country culture for first- and second-generation female immigrants in Europe. In addition, we take advantage of the use of cross-country as opposed to single-country data and explore the variation in female immigrant labor supply across the European countries. In doing so, we are the first to investigate the role of host-country characteristics in female immigrant labor supply, providing evidence on whether immigrant women assimilate to the labor supply behavior of natives.

We find that women who migrate from countries with relatively high levels of female labor supply have a higher probability of participating in the labor force in their respective host country. This effect remains when controlling for the human capital of a woman's partner, the past labor supply of her parents, and a variety of source-country characteristics that might be correlated with LFP rates. This result suggests that the culture and norms of their source country play an important role for immigrant women's labor supply decisions. In addition, we find evidence for a strong impact of host-country female-to-male LFP ratios on female immigrant labor supply. This effect is robust to using different types of variation (between-country, within-country, between-region, and within- region) in LFP ratios to identify the host-country effect and suggests that immigrant women assimilate to the work behavior of natives.

The remainder of the paper is organized as follows. The next section provides a brief overview of the literature on the role of culture in economic behavior and presents the results of former studies analyzing the labor supply of female immigrants. In Section 3, we explain the identification strategy of our empirical analysis and provide a description of the underlying data. In the following sections, we present and discuss our estimation results. Section 4 presents some basic results on the determinants of the labor supply of immigrant women in Europe, while Sections 5 and 6 focus on the role of source- and host-country characteristics, respectively. Section 7 concludes.

2 Background

The present study contributes to the evolving literature on the impact of culture on social and economic behavior. In this strand of literature, differences in culture are broadly

interpreted as systematic variations in preferences and beliefs across time, space, or social groups (Fernández, 2011). The main difficulty in identifying the role of culture in economic behavior is to isolate it from those of the economic and institutional environment in which economic decisions are being made. A possible solution to this problem is brought about by what Fernández (2011) refers to as the epidemiological approach. The main idea of this approach is to identify the effect of culture through the variation in economic outcomes of individuals who share the same economic and institutional environment, but whose social beliefs are potentially different. One way to apply this approach is to focus on the economic behavior of immigrants. When individuals emigrate, they take some aspects of their culture with them and transmit them intergenerationally, while they live in the economic and formal institutional environment of the host country. Studying the economic behavior of immigrants from different countries of origin in their host country is therefore a useful strategy to isolate culture from strictly economic and institutional effects.

In this paper, we study the effect of culture on the labor supply of first- and second-generation female immigrants in Europe. In doing so, our study builds on research that has examined the effect of home-country characteristics on U.S. immigrant women's labor supply.[3] An early attempt to identify the effect of culture on immigrant labor supply is the study by Reimers (1985), who uses ethnic dummy variables to examine whether cultural factors play a direct role in married women's LFP in the U.S.

While Reimers' dummy-variable approach does not allow for a quantification of these cultural effects, more recent studies address this issue by using quantitative variables as proxies for culture. In particular, they use past values of the FLFP rate in the immigrant's country of origin as a cultural proxy. As Fernández and Fogli (2009) point out, the main idea for using this aggregate variable is that it reflects the market work decisions of women in the source country, which (in addition to each woman's individual characteristics) depend on the economic and institutional environment as well as the preferences and beliefs within the country. While the economic and (formal) institutional conditions of the country of origin should no longer be relevant for emigrated women, the preferences and beliefs embodied in this variable may still matter. Hence, if this aggregate variable has explanatory power for the variation in the labor market behavior of immigrant women, even after controlling for their individual economic attributes, only the cultural component of this variable can be responsible for this correlation.

The first study to analyze the effect of source-country FLFP rates on the work outcomes of female immigrants is the study by Antecol (2000), who finds the source-country FLFP

[3]The role of source-country variables has been examined in several studies in various contexts. For example, Borjas (1987) studies the native/immigrant wage differential, Blau (1992) studies the fertility behavior among first-generation immigrant women, and Antecol (2001) studies the extent to which home-country variables explain variation in the gender wage gap across home-country groups within the U.S.

rate to be positively correlated with the LFP of first-generation immigrant women in the U.S. These findings, though weaker, even hold for second- and higher-generation immigrants. However, as Fernández and Fogli (2009) point out, these results might be driven by unobserved heterogeneity, as the analysis does not control for important individual characteristics such as years of education or parental background.

In their study on the work and fertility behavior of U.S.-born daughters of immigrants to the U.S., Fernández and Fogli (2009) use various measures of average parental education and average education of the immigrant group to control for human capital factors. They find that the labor supply and fertility behavior of second-generation female immigrants is positively associated with both FLFP rates and fertility rates in their parents' country of origin. The authors also show that the husband's culture, as proxied by the FLFP rate in the country of ancestry of his parents, has a large impact on his wife's labor supply.

The effect of immigrant women's own labor supply prior to migrating and FLFP in the immigrants' source country is investigated by Blau and Kahn (2011) to provide evidence on the role of human capital and culture in affecting immigrants' labor supply and wages in the U.S. In contrast to previous work, the authors use female-to-male LFP ratios instead of female LFP rates as a cultural proxy, in order to assure that the cultural proxy reflects source-country gender roles net of any unobserved factors that may similarly affect the labor supply of both men and women. Their results provide further evidence that women from source countries with relatively high levels of FLFP have higher working hours in the U.S. Moreover, they reveal that most of this effect remains after controlling for the immigrant's own pre-migration labor supply, which itself strongly affects immigrants' labor supply in the U.S. In a related study, Blau *et al.* (2011) show that the female-to-male LFP ratio is also positively associated with immigrant women's labor supply assimilation profiles, with those coming from high female labor supply countries eventually assimilating fully to native labor supply levels.

The results of these studies suggest an important role for source-country culture in affecting immigrant women's labor supply. However, the effect of culture on immigrants' behavior may weaken as immigrants assimilate to the culture of their host country. This argument is based on Fernández' notion that nothing in the conception of culture considers it as static or slow changing. In fact, culture might change over time and the speed of cultural change depends on how quickly social beliefs and preferences alter over time, which in turn depends on the individual's environment (Fernández, 2011).

A salient example of a cultural change is seen in the evolution of social attitudes and beliefs toward women's market work, which serves as one possible explanation for the dramatic change in FLFP over time. In order to explain the sharp increase in FLFP rates, Fogli and Veldkamp (2011) as well as Fernández (2013) develop a model of cultural change that is brought about by a process of endogenous intergenerational learning. In their

model, women are assumed to learn about the long-term payoffs of working by observing (noisy) private and public signals and then make a work decision. When very few women participate in the labor market, the noisiness of the public signal is high and learning is very slow. As information accumulates in some regions, the signal improves and beliefs about work become more positive. As a result, the proportion of women who work in that region increases.[4]

While it is not the aim of this paper to provide an empirical test of these theories, their main implications can be easily applied to female immigrant labor supply decisions. By observing other working women in the host country, female immigrants might change their attitudes and beliefs regarding women's role in the workplace and gradually adapt to the behavior of native women. The higher thereby, all else equal, the proportion of working women in the host country (and host region, respectively), the more positive the beliefs about work and the higher the probability that an immigrant women decides to participate in the labor market. Assessing the relationship between host-country FLFP and the labor supply of female immigrants might therefore provide some insights into whether immigrant women change their attitudes and beliefs and assimilate to the labor market behavior of natives.

While – since the seminal work of Chiswick (1978) – a sizable body of literature has evolved that examines immigrant-native assimilation patterns within a given destination country, studies that analyze immigrants in different resident countries to provide evidence on the role of host-country characteristics in immigrant behavior are scarce. The only study that aims at assessing the effect of host-country FLFP on female immigrant labor supply is Kok *et al.* (2011) for the Netherlands. As their study is based on immigrants within a single country, their identification of the host-country effect does not rely on differences in FLFP rates between immigrants' countries of residence, but on the difference in levels and speed of adjustment between different cohorts of immigrants. In particular, they use the increase in FLFP rate over successive birth cohorts of native women as a proxy for Dutch culture. The authors' results suggest that both differences in home-country female participation and the trend in native female participation, as a measure for host-country culture, have an impact on the participation of immigrant women. The authors conclude that host-country participation is at least as important as home-country participation in affecting immigrants' labor supply decisions.

Although a positive relationship between host-country FLFP and immigrant women's labor supply might be indicative of immigrant women adapting to the culture of their host

[4]The main difference between the two models lies in the assumption regarding the driving force behind female labor supply dynamics. While Fernández (2013) assumes that women start with biased, pessimistic beliefs about working women which become more positive as participation rises, Fogli and Veldkamp (2011) assume that women start with unbiased beliefs, but face uncertainty about the effects of maternal employment on their children, which falls as information accumulates.

country and therefore to the work behavior of natives, other explanations are also possible. As a given woman's decision to participate in the labor market does not only depend on her preferences and beliefs, but also on a whole series of economic and institutional factors that may differ across countries, FLFP at the aggregate level will not only reflect a country's cultural environment, but its economic and institutional conditions as well. However, although we are not able to identify the source of assimilation, the effect of the LFP rate of native women in a given country on the work behavior of immigrants is still indicative as to whether immigrants adapt to the labor market behavior of natives.

In the present paper, we make a number of contributions to the existing literature. First, we contribute to the literature on the role of source-country culture in female immigrant labor supply. While previous literature has exclusively focused on the U.S.[5], we analyze the labor market behavior of immigrants in 26 European countries, thereby providing first evidence on this topic for Europe. In doing so, we follow Blau *et al.* (2011) and Blau and Kahn (2011) and use female relative to male LFP ratios as our cultural proxy, in order to assure that this variable does not reflect any unobserved economic conditions of the country that affect the labor supply of men and women alike. Second, we take advantage of the use of cross-country data as compared to single-country data to analyze immigrant labor supply behavior. Observing immigrants in different destination countries enables us to provide evidence on the relationship between host-country FLFP rates and immigrants' LFP, thereby shedding light on assimilation patterns of immigrants to the work behavior of natives. Effectively, we are able to disentangle the effects of source- and host-country LFP ratios on immigrant women's labor supply. Lastly, in contrast to earlier work, our research design allows us to control for a variety of source- and host-country characteristics beyond LFP rates. While controlling for a large set of macroeconomic indicators ensures that we estimate the true effect of source- and host-country LFP ratios on immigrant women's labor supply, assessing the effect of these economic and institutional conditions on immigrant behavior is of considerable interest in itself.

3 Empirical Strategy and Data

3.1 Empirical Strategy

In our empirical analysis, we start with estimating the following model:

$$lfp_{ijkt} = \Phi(\boldsymbol{x_i'}\boldsymbol{\beta} + \sum_{j=2}^{J} \delta_j c_j^s + \sum_{k=2}^{K} \gamma_k c_k^h + \boldsymbol{p_{jkt}'}\boldsymbol{\lambda} + \boldsymbol{t_t'}\boldsymbol{\vartheta} + \epsilon_{ijkt}), \tag{1}$$

where lfp_{ijkt} is a binary indicator that takes on the value 1 if immigrant woman i from

[5]With exception of the paper by Kok *et al.* (2011) for the Netherlands.

source country j in host country k participates in the labor market at the time of observation t, and 0 otherwise. In $\boldsymbol{x_i}$, we include a set of individual and household characteristics as described below. $\sum c_j^s$ and $\sum c_k^h$ are full sets of dummy variables for the immigrant's source and host country, respectively. $\boldsymbol{p_{jkt}}$ is a vector of bilateral variables describing the economic and cultural relationship between an immigrant's source and host country at time t. $\boldsymbol{t_t}$ is a set of dummy variables for the year of observation and ϵ_{ijkt} is the model's error term.

We start our analysis of immigrant women's labor supply by using country dummies rather than the quantitative source- and host-country variables as cultural proxies. This has the benefit of not requiring the relationship between culture and lfp_{ijkt} to be linear in the cultural proxy. Furthermore, it allows to fully capture the effects of source- and host-country characteristics on immigrant women's labor supply. However, the main drawback of including the woman's country of ancestry and her residing country as proxy variables is that such an approach is not explicit as to why different groups of immigrants, as defined by their source and host country, differ in their labor market behavior.

The next logical step therefore is to replace the source-country dummies by a vector of source-country characteristics – $\boldsymbol{s_{jt}}$:

$$lfp_{ijkt} = \Phi(\boldsymbol{x_i'}\boldsymbol{\beta} + \boldsymbol{s_{jt}'}\boldsymbol{\theta} + \sum_{k=2}^{K} \gamma_k c_k^h + \boldsymbol{p_{jkt}'}\boldsymbol{\lambda} + \boldsymbol{t_t'}\boldsymbol{\vartheta} + \epsilon_{ijkt}). \tag{2}$$

Model 2 is similar to the so-called epidemiological approach used, amongst others, by Antecol (2000), Fernández *et al.* (2004) and Fernández (2007). This approach enables us to measure the effect of source-country female-to-male LFP ratios on immigrant women's labor supply in their host country, while holding the host-country characteristics fixed, i.e., by still including a set of host-country fixed effects. In doing so, we are able to test whether the positive correlation between source-country FLFP and immigrant women's labor supply in the U.S. holds for immigrants into Europe as well. The identification of this cultural effect on the labor supply decisions of female immigrants rests on the assumption that there are no unobserved factors that influence an immigrant woman's labor supply in her host country and are correlated with the female-to-male LFP ratio in her source country, once the other covariates are controlled for.

One of the main contributions of our paper is that we are not only able to assess the effect of source-country characteristics on female immigrant labor supply, but also to shed some light on the role of host-country characteristics in the labor market behavior of female immigrants in these countries. We do so by starting with the following model:

$$lfp_{ijkt} = \Phi(\boldsymbol{x_i'}\boldsymbol{\beta} + \sum_{j=2}^{J} \delta_j c_j^s + \boldsymbol{h_{kt}'}\boldsymbol{\pi} + \boldsymbol{p_{jkt}'}\boldsymbol{\lambda} + \boldsymbol{t_t'}\boldsymbol{\vartheta} + \epsilon_{ijkt}). \tag{3}$$

This model differs from Model 1 only by including a vector of host-country characteristics, $\boldsymbol{h_{kt}}$, instead of the host-country fixed effects. This approach enables us to measure the effect of host-country female-to-male LFP ratios on immigrant women's labor supply, while holding the source-country characteristics fixed. Model 3 therefore allows us to test whether immigrant women assimilate to the labor market behavior of native women in their host country. The identification of the host-country FLFP effect in Eq. (3), however, rests on the assumption that, given the other covariates, immigrant women's labor force participation decisions are not related to any unobserved factors that are correlated with the LFP ratio in the immigrants' host country.

The main problem associated with this assumption is the potential endogeneity of $\boldsymbol{h_{kt}}$, accruing either from immigrant selection into host countries or from an omitted variable bias associated with Eq. (3). While the direction of bias in $\hat{\boldsymbol{\pi}}$ is ambiguous in case of an omitted variable bias, immigrant selection into host countries is likely to result in an overestimate of the true effect of female-to-male LFP ratios on female immigrant labor supply. This is true if female immigrants with high preferences for women's market work, who intend to participate in the labor market in their host country, systematically migrate to countries characterized by high female-to-male LFP ratios.

In order to address the problems of immigrant selection and unobserved heterogeneity, respectively, we estimate different types of fixed-effects models. First, we include a full set of host-country dummies – $\sum \gamma_k h_k$ – such that the effect of host-country female-to-male LFP ratios is only identified through within-country variation in this variable over time. For immigrant selection still to impose a problem here, one would have to argue that immigrant women with high preferences for market work systematically select into countries with a high growth in female-to-male participation rates. We see no reason to believe that this is the case.

Nonetheless, we conduct further robustness checks in which we explore regional variation in female-to-male LFP ratios. While we have previously ignored that immigrants live in different regions r within their host country k, we now make use of this regional variation by estimating the following model:

$$lfp_{ijkrt} = \Phi(\boldsymbol{x_i'}\boldsymbol{\beta} + \sum_{j=2}^{J} \delta_j c_j^s + \sum_{k=2}^{K} \gamma_k c_k^h + \boldsymbol{p_{jkt}'}\boldsymbol{\lambda} + \boldsymbol{r_{rt}'}\boldsymbol{\kappa} + \boldsymbol{t_t'}\boldsymbol{\vartheta} + \epsilon_{ijkrt}), \tag{4}$$

where lfp_{ijkrt} is the labor supply decision of woman i from source country j in host country k and host region r observed in year t. r_{rt} refers to a vector of host-region characteristics at time t, including the regional female-to-male LFP ratio. In order to yield an unbiased estimate of $\hat{\boldsymbol{\kappa}}$, we have to assume that there is no systematic selection of immigrants into specific regions within host countries. Since this assumption is likely to be violated, we again augment the model with different types of fixed effects, i.e., host-country x time

fixed effects and host-region fixed effects, to check whether the effect of the host-region female-to-male LFP ratio is robust to using different sorts of variation within this variable.

In order to consistently estimate the parameters of Eq. (1) to (4), we specify the probability of individual participation in the labor market by the use of a binary probit model, implying the assumption that ϵ_{ijkt} follows a normal distribution.[6] We estimate marginal effects in all models. To address the problem of intra-class correlation in standard errors of immigrants within source- and host-country groups, we cluster standard errors at the source-country level (Eq. (2)), the host-country level (Eq. (3)), and the host-region level (Eq. (4)), respectively. We further use host-country population weights in all regressions to ensure that each country is represented in proportion to its actual population size.

3.2 The European Social Survey

Our basic data source at the individual level is the European Social Survey (ESS), a multi-country biennial cross-sectional survey.[7] The central aim of the ESS is to gather data regarding people's social values, cultural norms and behavioral patterns within Europe. The first round of the ESS was fielded in 2002/2003. Up to now, five waves are available, covering a total of 33 nations.

The ESS contains information on the country of birth of both the respondent and the parents, which allows us to precisely identify the source country of both first- and second-generation immigrants. We define first-generation immigrants as individuals born outside their resident country. Respondents are classified as second-generation immigrants if one or both parents are born outside the host country.

We use the cumulative ESS data, which pools the common information from the first to the fifth ESS round, including a total of 31 countries and roughly 243,000 individuals. We exclude host countries not belonging to the European Union (except for Switzerland and Norway)[8] as well as those for which the number of surveyed female immigrants is particularly small (lower than 15 individuals). The latter restriction is also applied to the source countries, i.e., we eliminate source countries with fewer than 15 observations.[9] We consider women aged 26 to 59 years only, in order to avoid variation in FLFP due to differences in education leaving ages and statutory retirement ages across countries.

[6] Logit and linear probability models yielded similar results.

[7] The ESS uses a methodologically rigorous multinational design that guarantees representativeness. Extensive documentation of the data is available at http://ess.nsd.uib.no/.

[8] In particular, we exclude Croatia, Israel, Russia, Turkey, and the Ukraine. In doing so, we assure that the countries in our sample exhibit similar institutions and regulations, and thus comprise a more homogeneous sample.

[9] Increasing the threshold to 20 or 25 individuals per host and source country, respectively, yielded similar results.

Our final sample consists of 8,279 immigrants in 26 countries[10], 63% of which are first-generation and 37% are second-generation immigrants.[11] These immigrants come from 59 different source countries, while the number of distinct source countries is much higher for first-generation than for second-generation immigrants (58 as opposed to 30).[12]

Our outcome of interest is an individual's labor market status at the time of the interview (lfp_{ijk}). In particular, lfp_{ijk} is a binary indicator that takes on the value 1 if immigrant woman i from source country j in host country k stated that her main activity within the past 7 days was either being employed or being unemployed while actively looking for a job, and 0 otherwise.

The ESS data contain detailed information on a respondent's socio-demographic characteristics as well as the household composition. Based on this information, we generate the following variables, which serve as controls in all our regressions: age (7 categories), highest level of education (primary, secondary, or tertiary education), partner living within the household, number of children, youngest child is 0-2 years and 3-5 years, respectively, and population density (thinly, medium, or densely populated).

For both first- and second-generation immigrants, we further include some immigration-specific variables. For first-generation immigrants, we include indicators for the immigrant's years since migration (5 categories) and for whether she immigrated after age 18.[13] The inclusion of the latter variable allows us to control for whether a woman obtained her (primary and secondary) education in her host or in her source country, with the former presumably being less affected by home-country characteristics and more similar to natives when they reach adulthood than those migrating as adults. Moreover, we include a dummy variable indicating whether an immigrant woman speaks the host country's language. This information is obtained from a question included in the ESS that asks respondents to name up to two languages they speak most often at home. The variable takes on the value 1 if one of these two languages is also one of the official languages of the immigrant's country

[10]The host countries included in our sample are Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Great Britain, Germany, Greece, Hungary, Ireland, Italy, Lithuania, Luxembourg, the Netherlands, Norway, Portugal, Poland, Slovenia, Slovakia, Spain, Sweden, and Switzerland. We do not observe a sufficient number of first-generation immigrants in Bulgaria and Poland, and of second-generation immigrants in Cyprus, Italy, and Portugal, which reduces the generation-specific samples to 24 and 23 countries, respectively. A robustness analysis including only the intersection of both country samples yields similar results.

[11]Since information on the parents' country of birth is only included from round 2 of the ESS onwards, the share of second-generation immigrants is comparatively low.

[12]For a list of the source countries included in our sample, see Table A2 in the Appendix. Note that we had to aggregate some source countries in case political transformations led to a separation or unification of these countries over time. These aggregate countries are Czechoslovakia, the USSR, and Yugoslavia. The macroeconomic indicators for these countries are calculated as a population-weighted average of the single-country values.

[13]As controlling for age, years since migration, and age at migration in a linear form is not possible due to perfect correlation of these variables, we decided to include both age and years since migration in categories, which allows us to further add a dummy variable indicating the age at migration.

of residence, and 0 otherwise. For second-generation immigrants, we further include a variable indicating whether both parents or only one of them were born outside the resident country.

Although the ESS is not designed as a household survey, it contains some information on the respondent's partner and both his/her parents. With respect to a woman's partner, we make use of information on the husband's highest level of education and his working hours, in order to capture the impact of both assortative mating and joint labor supply decision making within the household. With respect to the immigrants' parents, we have information on mother's and father's highest level of education and their labor market status at the time the respondent was 14 years old. As the empirical literature on intergenerational mobility has consistently documented a high persistence between parents' and children's economic outcomes[14], we use these indicators as a proxy for the immigrant's own labor supply prior to migration. As both partner and parental characteristics contain some missing values and are potentially endogenous to a women's LFP decision, we do not include them in our basic regressions but conduct sensitivity analyses in which we additionally control for these variables.

Table 1 shows the descriptive statistics of the individual and household characteristics outlined above separately for the sample of first- and second-generation female immigrants (columns 1 and 2). For comparison, column 3 further shows the respective values for native women. With respect to our dependent variable, women's probability of participating in the labor market, distinct differences between the three samples appear. At the time of the interview, 69% of the native women, as compared to 65% of the first-generation and 71% of the second-generation immigrant women indicate to actively participate in the labor market. Hence, while the LFP of first-generation immigrant women is indeed considerably lower than that of native women, the LFP of second-generation immigrant women even exceeds the LFP of natives.[15] This result might be explained by the fact that recent waves of immigrants into Europe increasingly come from countries that are characterized by low FLFP rates, and therefore show a lower labor market attachment than former immigrant women. However, it is also necessary to take into account the changing reasons for migration. During the 1950s and 1960s, many European countries, such as Germany, Great Britain, and France, encouraged labor immigration in order to fill gaps in the national labor market, while in the later decades migration for family reunion and the seeking of political asylum became more important (European Commission, 2011).

Table 1 further shows that first-generation immigrant women are slightly younger (41 years on average) than second-generation and native women (43 years on average) and have a higher number of children (0.73 as opposed to 0.63 for second-generation immigrants

[14]For a recent overview of studies on intergenerational mobility, see Black and Devereux (2011).

[15]Note that the mean values for the three groups are not statistically different from each other.

and 0.59 for native women). Regarding the educational attainment of the three groups, no clear pattern emerges. While the share of women with a tertiary degree is highest among first-generation immigrants, they also have the highest share of women with a primary degree. This might again reflect that the reasons for migration are quite diverse. With respect to the immigrant-specific variables, the results show that more than 40% of the first-generation immigrant women live in their destination country for more than 20 years, and the majority of these women migrated after the age of 18 (83%). We further see that 30% of the second-generation women have both a mother and a father who were born outside the residence country, while the rest are daughters of interethnic marriages.

Whereas the personal characteristics of the partners and fathers do not differ substantially across the three groups of women, we observe large differences regarding the employment status and the educational attainment of the mothers of these women. In particular, mothers of first-generation immigrant women are much less likely to have been employed when their daughter was 14 years old than mothers of second-generation and native women (48% as opposed to 58% and 55%), though being better educated than the latter. This observation highlights the importance of testing the robustness of our results to controlling for parental characteristics. If the latter are not controlled for, a positive correlation between source-country FLFP and the labor supply of immigrant women might purely arise from the fact that the mothers of immigrants from high-LFP countries are more likely to have been employed than those from low-FLFP countries. In this case, it is rather the actual behavior of the mother than the preferences and beliefs held within the source country that ultimately determine the labor supply of immigrant women in Europe.

3.3 Aggregated Data

For the analysis of source- and host-country effects, we augment our individual data with an extensive time-series, cross-country database of aggregated source- and host-country characteristics.[16] While for first-generation immigrants source-country characteristics refer to the immigrant's country of birth, the source-country characteristics for second-generation immigrants refer to the country of birth of the father or the mother of the immigrant, depending on who of the two was born in a foreign country. In case both parents were born outside the host country and emigrated from different countries, we use the mother's birthplace to assign the country-of-ancestry indicators to second-generation women, as we assume the intergenerational transmission of beliefs and values regarding women's role in society to be stronger between mothers and daughters than between fathers and daughters (cf. Casey and Dustmann, 2010).[17]

[16] See Table A3 in the Appendix for a detailed description of the macroeconomic data.

[17] In our sample, 5.4% of the second-generation female immigrants have parents who are born in different source countries. As a robustness check, we have also run our regressions using the country

The host-country indicators were assigned to immigrants based on their country of destination and the year of observation (2002 to 2011). With respect to the source-country characteristics, however, the optimal point in time to take these indicators from is not obvious. One possibility is to measure the source-country variables for first- and second-generation immigrants at the time the immigrants (and immigrants' parents, respectively) left the country. These values reflect the norms and values the immigrants (immigrants' parents) grew up with and carry to their host country. A second possibility is to use the current values of the source-country indicators, which reflect the norms and values currently held by the immigrants' counterparts, i.e., the individuals living in the immigrants' country of ancestry at time of observation.

We decided to assign both first- and second-generation immigrants the source-country characteristics based on the year of observation (2002 to 2011).[18] Following this approach has several advantages. First, we can make sure that the macroeconomic indicators are available for the majority of the source countries in our sample. Second, using current values of the macroeconomic indicators for both first- and second-generation immigrants has the advantage of treating first- and second-generation immigrants similarly, which makes a comparison of the behavior of the two groups more meaningful. Lastly, the use of current values of the source-country characteristics takes into account that, if not emigrated, immigrant women would have gradually changed their preferences and beliefs in the same way as those still living in the source country, and does therefore not assume culture to be constant over time. However, in order to assure that our results are not driven by the choice of observation time, we further perform a sensitivity analysis in which we assign first-generation immigrants the source-country indicators based on their year of migration (see Section 5.2).

The variables of main interest are $FLFPR/MLFPR_j$ and $FLFPR/MLFPR_k$, the ratio of the female to the male labor force participation rate of the immigrant's source and host country, respectively. Hence, we follow Blau and Kahn (2011) and Blau *et al.* (2011) and use relative instead of absolute FLFP rates as our cultural proxy. This relative measure is appropriate in that it captures the gender division of labor explicitly and is less prone to the problem of unobserved heterogeneity. If there exist any unobserved macroeconomic conditions correlated with a country's FLFP rate, these factors must differently affect the LFP rates of men and women in order to still bias our estimates. A further advantage of using the ratio of the female to the male LFP rate is that it implicitly adjusts for problems in measuring the labor force, particularly at different levels of economic development, at least to the extent that such problems affect men's and women's measured participation

characteristics of the father's birthplace for these women. The results of our regressions remain unaffected.

[18] In doing so, we follow Antecol (2000), Fernández and Fogli (2009), and Kok *et al.* (2011), while Blau and Kahn (2011) and Blau *et al.* (2011) use past values of the source-country characteristics for their analysis of the labor market behavior of first-generation immigrants.

rates similarly (Blau *et al.*, 2011).

$FLFPR$ and $MLFPR$ cover the rate of the economically active population for women and men in a given age group, which are available in 5-year-intervals ranging from "25 to 29" to "55 to 59". We use age-specific participation rates instead of a single measure over all age groups in order to avoid the LFP rates to vary with the age structure among the population, thereby blurring differences in women's economic activity between the countries. The differentiation by age group is especially important for the host-country LFP rates, as the demographic composition of immigrants differs largely across the European countries.

On both the source- and the host-country level, we control for a variety of additional economic and institutional indicators that might have an impact on individual labor supply decisions. On both levels, we include the country's total fertility rate and its GDP per capita, the latter being an important push and pull factor of immigration, respectively. On the source-country level, we further include a variable denoting the average years of schooling of the source-country population in the immigrant's age group.[19] As shown by Borjas (1992, 1995), the level of ethnic human capital (as measured by average wages or education of the immigrant group) may help to explain individual outcomes such as education or earnings due to ethnic externalities in the human capital process. As Fernández and Fogli (2009) state, one way to think about these human capital externalities is that the human capital embodied in an individual's ethnic network matters. Including the years of schooling in the source country in our analysis can therefore serve as a proxy for average (parental) human capital and for the human capital embodied in the woman's ethnic network. On the host-country level, we further control for the country's unemployment rate to address the fact that women with high preferences for market work, whose migration decision is economically motivated, might selectively migrate to countries with good employment opportunities and low unemployment rates, respectively.

Lastly, we include dummy variables for the immigrants' source-country (host-country) group whenever the source-country (host-country) fixed effects are replaced by a vector of source-country (host-country) characteristics. At the source-country level, we adopt the geographical categorization used by the Worldbank and distinguish between 8 different world regions.[20] At the host-country level, we distinguish between six different country groups, chosen based on both countries' geographic proximity and their homogeneity with respect to their institutional and economic conditions.[21]

[19] As for the LFP rates, the age groups range from "25 to 29" to "55 to 59" in 5-year-intervals.

[20] The respective groups are: East Asia & Pacific, Eastern Europe & Central Asia, Northern & Western Europe, Latin America & Caribbean, Middle East & North Africa, North America, South Asia, and Sub-Saharan Africa. Note that the original Worldbank classification groups Europe and Central Asia together, while we split this group into Northern & Western Europe and Eastern Europe & Central Asia due to the large heterogeneity in the FLFP rates of its member countries.

[21] The respective host-country groups are: Scandinavia, Continental Europe, the Anglo-Saxon countries,

We further include some additional control variables on the country-pair level. A major concern when examining the labor market behavior of immigrants across host countries is the selection of immigrants into these countries. Although cross-country migration decisions are clearly non-random, our primary concern here is whether selective migration could spuriously generate an effect of the host-country LFP ratio on immigrant women's labor supply in their host country. In order to address this problem, we attempt to control for the immigrant's migration decision as well as possible.

First, we capture the selection of immigrants into host countries by controlling for the total share of migrants as well as the share of migrants from the women's source country among the host country's population. While the former variable captures the host country's cultural diversity in general, the latter variable controls for the fact that immigrants from countries with less traditional gender roles may choose to move to less traditional countries, and similarly, those from countries with more traditional gender roles may choose to move to more traditional countries.

In addition, we add some variables capturing the relationship between the immigrant's country of birth and her country of residence. First, we control for whether the two countries share or have ever shared a colonial relationship. This is to acknowledge the fact that countries that had the same colonial history often established similar institutional settings, which not only facilitates migration flows, but also reduces the barriers of immigrants to enter the host country's labor market. Moreover, we include indicators for the geographical, linguistic, and genetic distance between the immigrant's source country and her host country, which serve as proxies for the individual costs of migration.

The geographical distance is defined as the geodesic distance between the capitals of the source and the host country in 1,000 kilometers. The linguistic distance measures the phonetic similarity between all of the world's languages. The basic idea is to compare pairs of words having the same meaning in two different languages according to their pronunciation. The average similarity across a specific set of words is then taken as a measure for the linguistic distance between the languages (Bakker *et al.*, 2009).[22] Lastly, genetic distance is measured as the difference in allele frequencies. The genetic distance measure as defined by Cavalli-Sforza *et al.* (1994) is related to the inverse probability that groups of alleles are the same for two populations. Hence, the lower the common frequency of alleles in two populations, the longer these populations have been separated.[23] Genetic

Southern Europe, the Baltic countries, and the Eastern European countries.

[22]This measure was first applied to economics by Isphording and Otten (2014), who analyze the effect of linguistic distance on the language fluency of immigrants in the U.S. and Germany.

[23]Changes in genes, hence the emergence of new alleles, happen randomly at an almost constant time. As evolutionary pressure might direct this random change into certain directions, the genetic distance measure focuses on neutral genes, which are not prone to evolutionary pressure. By focusing on neutral changes, the genetic distance measure therefore does not explain differences in labor supply due to superior skills or ability.

distance therefore serves as a proxy for the cultural distance between two countries, which might have an impact on the immigrants' migration decision.

A second important issue that has to be considered when analyzing the labor supply of immigrants across different host countries is that immigrants might face restrictions in their access to the host country's labor market. Specifically, immigrants from non-EU countries might not be allowed to work in their host country in the first years after arrival. In order to address this issue, we include a dummy variable that indicates whether immigrants underlie the "right of free movement of workers" at the time of observation. The right of free movement of workers is a fundamental principle enshrined in Article 45 of the Treaty on the Functioning of the European Union, which generally permits workers to search for employment, to be employed, and to reside in any Member State of the European Union (European Commission, 2010a).

While the aforementioned variable mainly captures the different rights of EU and non-EU immigrants, the labor market access of the latter might still vary across the European countries. Not only may third-country immigrants be prohibited to work in the country of residence in the first years after arrival, they may further have limited access to the full labor market, education system or employment services of the host country. In order to address this issue, we make use of the Migrant Integration Policy Index (MIPEX), which measures policies integrating migrants in 25 EU Member States as and 3 non-EU countries (i.e., Canada, Norway, and Switzerland). It considers over 140 policy indicators grouped into 6 broad policy areas, one of which is the "labor market mobility" of immigrants. "Labor market mobility" measures if migrant workers are eligible for the same opportunities as EU nationals to work in most sectors. In particular, it takes into account whether migrant workers can expect help from labor market integration measures to adjust to the language and professional demands of the labor market. Moreover, it measures how secure migrant workers are in their employment, whether they can renew most types of work permits and remain living in the country and look for work if they lose their job. The index varies between 0 and 100, with higher values meaning that migrants have more rights in the corresponding policy area.

Table 2 shows the descriptive statistics of the aggregated source- and host-country variables as well as the bilateral variables separately for the sample of first- and second-generation immigrants. In order to best represent the country characteristics relevant for the immigrants included in our sample, the values have been calculated as host-country population weighted averages over all observations within each sample. The country characteristics in the top of Table 2 are measured at the time of observation, while the bottom of Table 2 shows the source-country variables for first-generation immigrants measured at the time these immigrants left the country.[24]

[24]We calculate the year the immigrant left the home country by using information on the year of

With respect to our variable of main interest, $FLFPR$, Table 2 indicates that as compared to the European average, first-generation immigrants come from a source country that has on average a 13 percentage points lower FLFP rate and second-generation immigrants come from a source country that has on average a 14 percentage points lower FLFP rate at the time of the interview. At the same time, hardly any difference in the average LFP rates of males between the immigrants' source and host countries appear. These results support our hypothesis that the low labor market activity of (first-generation) immigrant women in Europe might be explained by the more traditional views about gender roles held in their source countries. However, the fact that second-generation immigrant women are even more likely to participate in the labor market than native women, although their parents come from high-traditional source countries as well, also lends support to our argument that immigrant women might change their preferences and beliefs and assimilate to the labor market behavior of natives.

Regarding the other country characteristics, the results reveal that first-generation immigrant women come from source countries with a higher total fertility rate at the time of observation, while there is no difference in average source- and host-country fertility rates for second-generation immigrants. As expected, GDP per capita is much higher among the immigrants' host countries than among the immigrants' source countries, while the difference between source- and host-country GDP is higher for first- than for second-generation immigrants. Further differences between first- and second-generation immigrants appear with respect to the relationship between the immigrants' source and host country. Both the geographic, the genetic, and the linguistic distance between the source and the host country have increased considerably over migration cohorts, while the role of colonial ties in the immigrants' choice of destination country has decreased.

Lastly, a comparison of the source-country characteristics for the sample of first-generation immigrants calculated at different points of time, i.e., the year of observation (2002 to 2011) and the year the immigrant left her country (1982 to 2011), reveals a large variation in the macroeconomic indicators over time. While FLFP rates and years of schooling have increased over time (by 6 percentage points and 1.5 years, respectively), fertility rates have decreased over the observation period (by 0.5 children per women). These findings highlight the importance of conducting a sensitivity analysis in which we assign first-generation immigrants the source-country characteristics based on the year of migration.

observation and the immigrant's years since arrival in the host country. Since the latter is not a continuous variable but is subdivided in predefined categories, we set years since migration equal to the mid-point of each interval and to the lower bound of the top interval (i.e., 20 years).

4 Basic Results

The estimation results of Model 1, containing both source- and host-country fixed effects, are shown in Table 3.[25] The results for the individual and household controls are in line with previous evidence on female (immigrant) labor supply. For both first- and second-generation immigrants, LFP is significantly lower among older women (55 to 59) as compared to to the youngest women in our sample (26 to 29 years). A further strong predictor of the labor supply of immigrant women is their level of education, with those having completed tertiary education being significantly more likely and those with only a primary school degree being significantly less likely to participate in the labor market than those with a secondary school degree. While first-generation female immigrants living together with a partner show a lower LFP probability than single women, cohabitation is uncorrelated with the labor supply of second-generation immigrants. Although we do not know whether the partner is also an immigrant and the two migrated together, the strong negative correlation for first-generation immigrants might reflect that those women who migrated together with their partner are less likely to have migrated for their own economic interests and are therefore less likely to participate in the labor market than single women. Both the number of children living in the household and the presence of small children (aged 0 to 2) is negatively correlated with female immigrant labor supply. The degree of urbanization of the immigrants' place of residence is not correlated with their labor supply decision.

For first-generation female immigrants, labor supply is significantly lower for those who just arrived in their host country (less than 6 years ago) than for those who live in the country for more than 20 years. Those who migrated as adults (age 18 and over), however, do not differ from those who migrated as children. Moreover, speaking the host country's language at home is positively correlated with the likelihood of participating in the labor market. Lastly, second-generation immigrants whose father and mother were both born outside the residence country do not differ from those with a single migrant parent with respect to their labor market behavior.

The bottom of Table 3 shows the results of the variables that describe the relationship between the immigrants' country of origin and their host country. While including full sets of source and host-country fixed effects, hardly any of these variables show explanatory power in female immigrant labor supply.

For first- and second-generation immigrants, both the source-country and the host-country fixed effects are jointly highly significant, reflecting a considerable variation in immigrants' LFP, both between immigrant women from different countries of origin and between immigrant women across the European countries. In order to assess the relative

[25] Note that the results are robust to including bilateral instead of source- and host-country fixed effects. The respective estimation results can be found in Table SA1.

importance of an immigrant's cultural background, as measured by the source-country fixed effects, and her cultural, institutional, and economic environment, as measured by the host-country fixed effects, we re-estimate our model by OLS and calculate the semipartial R^2 of the source- and host-country dummies, respectively. The semipartial R^2 represents the proportion of variance of lfp_{ijkt} accounted for by the source- and host-country dummies, respectively, after all other covariates are controlled for. The respective results are shown in Table A1 in the Appendix. For first-generation immigrants, the results show that 17,4% of the overall variance of lfp_{ijkt} can be explained by our covariates, including the source- and host-country fixed effects. Of this explained variance, 21.2% are accounted for by the source-country dummies and 7.0% are accounted for by the host-country dummies. Hence, the LFP decisions of first-generation female immigrants seem to be more strongly determined by their cultural background than by the cultural, institutional, and economic conditions in their host country. For second-generation immigrants, the difference in the explanatory power of the source- and host-country fixed effects is less pronounced. While all covariates account for 11,7% of the overall variation in lfp_{ijkt}, 11.8% of this explained variance can be attributed to the source-country and 10.3% to the host-country dummies. This result supports our expectation that second-generation immigrants are less affected by source-country conditions and more affected by host-country conditions as compared to first-generation immigrants. However, it also reveals that although second-generation immigrant women grew up in the environment of their host country, their labor market behavior is still strongly affected by their country of origin.

Panel A of Table 4 shows the results of our basic model controlling for the characteristics of an immigrant's partner, i.e., his working hours and his highest level of education.[26] Controlling for partner characteristics in women's labor supply decisions is meaningful for two reasons. First, for those living with a partner some kind of joint decision-making process with respect to labor supply and household production has to be assumed.[27] Independent of which kind of model is assumed to underlie a couple's decision-making process, women are predicted to be less likely to participate the higher their partner's earnings potential. Second, there is evidence of assortative mating in the marriage market, i.e., more educated (and hence higher income) men tend to be married to more educated women (see, e.g., Pencavel, 1998), and the husband's higher income will decrease the incentives for his wife to engage in market work.

For both first- and second-generation immigrant women, however, we do not find any impact of partner characteristics on their labor supply decision. While this result

[26]The partner characteristics are set equal to 0 for single women. Thus, they are in effect interactions between the dummy variable for having a partner and the partner characteristics.

[27]The economic theory of joint labor supply decisions within the household was initiated by Becker (1965) and developed, amongst others, by Gronau (1977), Manser and Brown (1980) and McElroy and Horney (1981).

is surprising at first sight, it might be due to the opposing effects of assortative mating and joint labor supply decision-making within the household. The higher the husband's education (and income), the lower his wife's incentives to work, but the higher the probability that his wife is well educated as well and will participate in the labor market. The result of the other covariates are robust to controlling for the working hours and education of the immigrants' partner and have therefore been omitted from Table 4.[28]

The empirical literature on intergenerational mobility has consistently documented a high persistence between parents' and children's economic outcomes. In order to address this issue, we re-estimate our model by adding parental controls to our specification. The estimation results of Models 1 including controls for the parents' highest level of education and their labor market status when their daughter was 14 years are displayed in Panel B of Table 4. We find that women whose mothers were employed when they were young are more likely to participate in the host-country's labor market than those whose mothers were not employed at this time, though this effect is only statistically significant for first-generation immigrants. This result shows that the mothers' past employment behavior is predictive of their daughter's labor supply even if the daughter's cultural background is controlled for. With respect to the parents' education, we find women whose fathers have a tertiary degree to be more likely to participate in the labor market than those whose fathers have a secondary degree, while this relationship is not found for mothers and their daughters. Apart from that, the results show no clear relationship between the labor supply of immigrant women and their parents' education.[29]

5 Source-Country Characteristics

5.1 Main Results

In order to gain insights into the driving forces behind the differences in labor supply between women from different countries of origin, we re-estimate the above specification by now replacing the source-country dummies with the respective source-country characteristics (Model 2). The estimation results for this model are shown in Table 5.[30]

[28]Full estimation result are available from the authors upon request.

[29]The result of the other covariates are robust to controlling for the characteristics of the immigrants' parents and have therefore been omitted from Table 4. We also re-estimated the model including only the father's characteristics and only the mother's characteristics, respectively, in order to account for the fact that the parents' educational degrees might be highly correlated. The results of these models are similar to those displayed in Table 4. Both estiamtion results are avialble from the authors upon request.

[30]The results for the effects of the individual and household controls on female immigrant labor supply are robust to the substitution of the source-country dummies by the respective source-country characteristics and have therefore been omitted from Table 5. This indicates that our estimates do not suffer from unobserved source-country characteristics that are correlated with the individual determinants of labor supply. The results are further robust to including host-country x time fixed effects instead of single host-country and time fixed effects. The respective estimation results are shown in Table SA2.

For first-generation immigrants, the estimated marginal effect of our variable of main interest, $FLFPR/MLFPR$, shows a strong positive correlation between the male-to-female LFP ratio in the immigrants' country of origin and their probability of participating in the host country's labor market. On average, a 1-percentage-point increase in the source country's female-to-male LFP ratio is associated with a 0.16 percentage-points increase in the LFP probability of first-generation female immigrants. In order to illustrate the magnitude of this effect, we can compare the LFP probability of women from a country with a relatively high female-to-male LFP ratio, at the 75th percentile of our sample, with women from a country with a relatively low LFP ratio, at the 25th percentile. The 25th percentile of the female-to-male LFP ratio in our sample is 64.9, which roughly equals the LFP ratio of Costa Rica in 2011, and the 75th percentile is 69.8 (~Czech Republic, 2011).[31] The results suggest that an increase in the source-country's female-to-male LFP ratio from the 25th to the 75th percentile increases the LFP of first-generation female immigrants by approximately 0.78 percentage points. The illustration of the magnitude of the effect of source-country FLFP rate on female immigrant labor supply reveals that this effect is by far not negligible.

For second-generation immigrants, in contrast, we do not find a significant effect of source-country FLFP on immigrants' labor supply. Though the estimated marginal effect of the source-country LFP ratio is positive, it is close to zero (0.0003), with a standard error of 0.0013. Hence, our results contradict previous evidence for immigrant women in the U.S. (Fernández and Fogli, 2009) suggesting that the values and norms regarding women's role in society in the parents' source-country are transmitted from the parents to their children and eventually affect the labor supply behavior of the second generation in the host country. Our result is in line with the argument of Blau (1992) though, who points out that cultural factors should be more apparent among first-generation immigrants, because second-generation immigrants have had time to adapt to the prevailing tastes and economic conditions of the host country. However, it should be kept in mind that our analysis does not take into account any cohort effects. If more recent cohorts of immigrants have a stronger source-country identity than early cohorts of immigrants, then the children of former immigrant cohorts might be less affected by source-country culture than recent immigrants into the country. It does not rule out though that the labor market behavior of children of recent cohorts of immigrants to Europe will also be affected by source-country culture.

In order to gain insights into whether the influence of source-country culture changes as time spent in the host country increases, we re-estimate Model 2 for first-generation immigrants by now additionally including an interaction term between the source-country

[31] Note that we use age-group-specific instead of total LFP rates in our analysis. The above-mentioned country-year combinations chosen to illustrate the magnitude of the source-country female-to-male LFP ratio refer to the LFP rate of the population aged 30 to 34.

LFP ratio and the dummy variables for the immigrant's years since migration. The marginal effect of $FLFPR/MLFPR$ at each category of the years-since-migration variable is displayed in Figure 1. The results show that within the first five years after migration, the source-country LFP ratio is uncorrelated with women's probability of participating in the labor market.[32] The positive correlation between the source-country female-to-male LFP ratio and immigrant labor supply becomes only significant from year six onwards, and then slightly decreases with time spent in the host-country. However, the category-specific effects are not significantly different from each other. This finding is in line with Blau *et al.* (2011), who find the effect of the source-country LFP ratio to be roughly stable across years-since-migration categories, and does not support the assumption that the effect of source-country culture decreases with time since migration.

The results further show a strong negative correlation between source-country GDP per capita and the labor supply of first-generation immigrants. This result seems counter-intuitive at first sight, as one would expect that the higher the GDP in the country of origin, the greater the resemblance between that country's economic structure and that of the European countries, and therefore the higher the preparedness of immigrants for the European labor market.[33] However, this line of argumentation does not take into account the aspect of immigrant selection. In their study of immigrant selection into the OECD countries, Belot and Hatton (2012) show that immigrants from poor countries are strongly positively selected from among the source country's population. This is true because, though having high incentives to move, immigrants from poorer countries are less likely to move as they face high (relative) migration costs, which results in the fact that only the most able will succeed. Hence, all else equal, immigrants from low-GDP countries are expected to be a more positively selected sample of the source-country population than immigrants from high-GDP countries, and thus outperform the latter in the host-country's labor market.

For first-generation immigrants, we further find a positive and significant correlation between the average years of schooling of the source country's population and immigrant women's probability of participating in the host country's labor market. This suggests that although controlling for the immigrant's own education, the level of human capital in her source country matters for her labor market behavior. The fact that this correlation does only hold for first-generation immigrants suggests that source-country education rather captures some unobservable human capital of the immigrant herself, such as the quality of education obtained or her labor market experience before migrating, than reflecting ethnic

[32] As only 1.4% of the women in our sample indicate that they have migrated within the last year, the insignificance of the effect of the FLFP rate for this subgroup is likely to be due to the small sample size.

[33] This argument is put forward by Blau *et al.* (2011) for immigrants to the U.S. labor market. However, the authors also find a strong negative correlation between source-country GDP and the labor supply assimilation profiles of first-generation immigrant women.

externalities in the human capital process.

Neither for first- nor for second-generation immigrants do we find significant differences in labor supply across (parents') source-country groups, suggesting that it is rather the culture and economic conditions of the source country than broad differences in institutional, political, and economic conditions between the country groups that matter for the labor supply of female immigrants in Europe.

The results for the variables describing the relationship between the immigrants' source and host country show that women who migrate from countries whose citizens underlie the right of free movement of workers in the host country have a significantly higher LFP probability than those who do not. For second-generation immigrants, we further find a strong negative correlation between the genetic distance between the immigrants' source- and host-country and their probability of participating in the host-country's labor market. While both the geographic, the linguistic and the genetic distance are meant to capture the selection of the immigrants' parents, the latter might further have a direct impact on the labor market outcomes of the second generation. One can imagine that the higher the genetic distance between the host country's and the source-country's population, i.e., the higher the dissimilarities between the two populations with respect to their physical appearance, their behavior, and their cultural habits, the higher the barriers for immigrants to integrate into the host country's society, an effect that might even continue through the second generation. The other bilateral variables, however, show hardly any explanatory power in immigrant women's labor supply decisions.

5.2 Sensitivity Analyses

In order to check the robustness of our effect of source-country culture for first-generation immigrants, we conduct a series of sensitivity analyses. The respective results are shown in Table 6.[34] Column 1 shows the results of Model 2 when controlling for the working hours and education of a woman's partner. It turns out that the positive effect of source-country culture is robust to controlling for partner characteristics. This is not surprising, given that our analysis of Model 1 (see Table 4) has shown that the partner's human captial has no explanatory power for immigrant women's labor supply, and this does not change when the source-country dummies are replaced by a vector of source-country characteristics.

While this shows that our results are robust to controlling for the human capital of a woman's partner, the partner's cultural background is also likely to play a role in her LFP decision. Fernández and Fogli (2009) show that a husband's culture, as measured by the LFP rate in his father's country of birth, is an important determinant of his wife's employment decision. More generally, Fernández *et al.* (2004) as well as Johnston *et al.*

[34]For the ease of representation, Table 6 does only show the results of main interest. Full estimation results are available from the authors upon request.

(2014) find evidence that an important factor explaining whether a man's wife works is whether his own mother worked when he was growing up. The authors argue that a mother's decision to work or not is influenced by her beliefs about women's roles, which then have been transmitted to her son and influenced any household decision affecting his wife's work outcome. Unfortunately, our data do neither contain information on a partner's cultural background (i.e., his immigration status and his country of origin), nor do they include information on his parent's employment outcomes, making it impossible to control for any kind of assortative mating with respect to perceptions about gender roles. In particular, a woman who would like to work is presumably more likely to marry a man who would be in agreement with these choices. Given that the female-to-male LFP ratio in the source country serves as proxy for an individual's beliefs regarding women's role in society, we would assume that women from high LFP ratio countries will be more likely to marry men from high LFP ratio countries. Hence, we have to keep in mind that part of the effect of our cultural proxy might not capture a direct impact on an immigrant women's decision to participate in the labor market. Rather, it might reflect an indirect effect of a woman's mating decision, which is influenced by her beliefs regarding gender roles and ultimately effects her decision about market work.

In columns 2, we show the results of our basic model controlling for parents' characteristics. As outlined above, evidence suggests that individual beliefs, preferences, and attitudes are transmitted from parents to children, and that this intergenerational transmission shapes the child's economic outcomes (see, e.g., Guiso *et al.*, 2006; Fernández *et al.*, 2004; Fernández and Fogli, 2009). In particular, Johnston *et al.* (2014) find a strong correlation between mothers' and children's gender role attitudes and that a mother's attitudes are strongly predictive of her daughter's labor supply. However, the authors also show that even when controlling for the mother's attitudes toward gender roles, her full-time employment status when her daughter was 5 years old has additional explanatory power in her daughter's labor supply, suggesting that both parental attitudes and the parents' actual behavior predict their children's future labor supply decisions. In this respect, it is of interest to test whether the positive effect of source-country culture on immigrant labor supply still holds after controlling for the labor supply of the immigrant's parents.

Controlling for parental economic outcomes has the further advantage of disentangling the effect of source-country culture from that of the immigrants' own labor supply before migrating. For first-generation immigrants, work experience prior to their arrival in the host country might be positively correlated with the source country's FLFP rate. If this is true, the estimated effect of the latter does not only reflect the role of source-country culture, but partly contains the effect of the level of job-related human capital accumulated before migration. Having information on the human capital and labor supply of the

immigrant's parents can help to solve this problem, as parental economic behavior in the source country may serve as a proxy for the daughter's labor supply before migrating.

Our results show that the estimated effects of the source-country characteristics are robust to the inclusion of the controls for parental education and employment. In particular, the effects of the source-country FLFP ratio remains positive and significant. This suggests that source-country culture plays an important role in the labor supply decisions of first-generation immigrants even if the intergenerational transmission of human capital is controlled for.

While in the above analysis of the role of source-country characteristics in immigrant women's labor supply the aggregated source-country variables refer to the year of observation, we know check the robustness of our results by assigning first-generation immigrants source-country values based on the year the immigrants left their source country, as was done by Bisin *et al.* (2011), Blau and Kahn (2011), and Blau *et al.* (2011). That way, these values reflect the norms and values the immigrants grew up with and carry to their host country.

Again, we find a positive correlation between the source-country FLFP ratio and immigrant women's probability of participating in the labor market (see column 3 of Table 6). The magnitude of this effect is somewhat smaller when using past values of female-to-male LFP ratios and only significant at 10-percent level, but we can still conclude that using past instead of current values of our cultural proxy does not alter the results substantially. This result is consistent with the finding of Fernández and Fogli (2009), who show that both fertility rates and FLFP rates are strongly correlated over time, such that the choice over which point of time to take these values from is of minor relevance.

In order to compare the magnitude of our effect with those found for immigrant women in the U.S., we further conduct our analysis by using women's working hours (including zero hours) instead of their participation decisions as our outcome variable, as done by Fernández and Fogli (2009), Blau and Kahn (2011), and Blau *et al.* (2011). The respective results are shown in column 4 of Table 6. The results reveal that the positive correlation between the source-country FLFP ratio and female immigrant labor supply remains when using working hours as outcome measure. An increase in the source-country LFP ratio by 1 percentage point increases women's weekly working hours by approximately 0.06 hours. In terms of working hours, this effect is very small, and much smaller than previous results for immigrant women in the U.S.[35] Note, however, that our outcome measure contains a mixture of labor supply decisions at the extensive and the intensive margin. The small effect on women's working hours suggests that for immigrant women in Europe, source-country culture rather affects the individual decision to participate in the labor

[35]In their basic model, Blau and Kahn (2011) find an increase in annual working hours of 982 hours due to a 1-percentage point increase in the source-country LFP ratio. Blau *et al.* (2011) find a somewhat smaller effect (465 to 615 hours) for married women.

market than the amount of hours worked, given participation.

Lastly, we conduct our analysis for male immigrants. If source-country female-to-male LFP ratios reflect the preferences and beliefs regarding women's role in society and not any economic or institutional conditions of the source country that affect the labor supply of men and women alike, this cultural proxy should have no explanatory power for the labor supply decisions of men. The results of Model 2, using men's participation decision and men's working hours as outcome variables, are shown in columns 5 and 6 of Table 6. For men's working hours, the estimated effect of the source-country LFP ratio is positive, though close to zero and not statistically significant. For men's participation decisions, the effect is even negative, but again not statistically significant. This confirms our argumentation that source-country LFP ratios capture the values and norms regarding women's roles in the source country rather than any economic and institutional conditions having an impact on immigrants' labor supply in general.

6 Host-Country Characteristics

6.1 Main Results

In order to gain insights into whether immigrant women's labor supply is affected by the LFP ratio in their host country, we re-estimate Model 1 by now replacing the host-country dummies with the respective host-country characteristics (Model 3). In doing so, we restrict our analysis to first-generation immigrants, since second-generation immigrants grew up in the same cultural and institutional environment as natives, such that a resemblance between the labor supply behavior of second-generation immigrants and natives can hardly be interpreted as an assimilation effect. The respective estimation results are shown in Table 7.[36]

The estimated effect of the female-to-male LFP ratio is significantly positive, indicating a positive relationship between the relative LFP of women in the immigrant's host country and her probability of participating in the labor market. On average, a 1-percentage-point increase in the host country's LFP ratio increases the likelihood of participating in the labor market by 0.48 percentage points. As the FLFP rate and the MLFP rate, respectively, represent the aggregated LFP decisions of women and men living in the immigrants' host country, which depend on a variety of individual and country-related characteristics, the ratio of the two variables can be thought of as representing only those factors that are relevant to the LFP decisions of women, but not of men. A positive correlation between this aggregate variable and immigrant women's labor supply therefore provides evidence that

[36]Note that the results are robust to including source-country x time fixed effects instead of single source-country and time fixed effects. The respective estimation results can be found in Table SA3.

the LFP decisions of immigrant women are affected by similar country-specific conditions as those of native women, and that thus immigrant women assimilate to the labor market behavior of natives.

The relative magnitude of the host-country LFP ratio effect can again be best illustrated by the use of interquartile ranges. The 25th percentile of the host-country female-to-male LFP ratio in our sample is 65.4 (~Cyprus, 2010), while the 75th percentile is 69.6 (~Belgium, 2010). The results suggest that an increase in the host country's LFP ratio from the 25th to the 75th percentile increases the LFP of first-generation female immigrants by approximately 2 percentage points.[37] The illustration of the magnitude of the LFP ratio effects reveals that the relative size of the effect of the host-country LFP ratio on female immigrant labor supply is higher than the size of the corresponding effect of the source-country FLFP rate (Model 2). This suggests that the labor supply of female immigrants in Europe is more strongly affected by the cultural and institutional environment of their host country than by the culture of their source country.

The source of this host-country effect, however, is ambiguous. One possible explanation for the positive correlation between the host-country LFP ratio and the labor supply of female immigrants is brought about by the model of cultural change developed by Fogli and Veldkamp (2011) and Fernández (2013). By observing other working women in their environment, immigrant women might change their preferences and beliefs regarding women's roles and gradually adapt to the labor market behavior of native women. If this is indeed the case, we would expect the effect of the host-country LFP ratio to increase with the length of duration in the host country. In order to test this, we interact the host-country LFP ratio with the immigrant's years since migration. As Figure 2 shows, our results do not support the hypothesis that the effect of the host-country LFP ratio increases with immigrant women's years since migration.

A second possible explanation for the effect of host-country LFP ratios is the influence of institutional circumstances on immigrant women's labor supply decisions. A positive correlation between the host-country's LFP ratio and immigrant women's labor supply might indicate that the LFP decisions of immigrant women are subject to the same institutional conditions as those of native women. Regulations affecting the work incentives for women, such as the tax treatment of single persons and second earners, respectively, as well as measures to facilitate the reconciliation of work and family, such as the provision of paid parental leave and the supply of public daycare, are possible candidates to affect the labor supply decisions of native and immigrant women as well.

Moreover, the correlation between the host-country FLFP rate and female immigrant labor supply might be due to differences in economic conditions across the European countries. For instance, differences in employment prospects or wage levels might lead

[37] The country-year examples refer to the LFP rate of the population aged 55 to 59.

to different incentives for women to participate in the labor market. However, as we use relative instead of absolute FLFP rates as our cultural proxy, such economic conditions have to differently affect the labor supply of men and women in the host country in order to be able to contribute to the positive relationship between host-country LFP ratios and immigrant women's labor supply.

Lastly, it cannot be ruled out that selective migration spuriously generates an effect of host-country LFP ratios on immigrant women's labor supply in their host country. If less traditional women select themselves into high LFP ratio countries, as these countries offer the best opportunities for women's market work, a positive correlation between immigrant women's probability of participating in the labor market and the LFP ratio in their host country may simply reflect this selection process. In order to address this problem, we conduct a series of robustness checks in which we use time and/or regional instead of cross-country variation in LFP rates to identify the host-country effect (see Section 6.2).

Regarding the other host-country characteristics, we find that none of the macroeconomic indicators shows additional explanatory power for the variation in the LFP of first-generation immigrant women. This is some first indication that selective migration is not a major problem in our analysis. We do though find significant differences in the labor force participation of female immigrants across the different country groups within Europe, with immigrant women in the Scandinavian countries and the Southern European countries being more likely to participate in the host-country's labor market than those in the Continental European countries.

Lastly, our results show that once the host country's total migrant stock is controlled for, the LFP of first-generation women increases with the share of immigrants from the same source country. This result might be explained by network effects, indicating that individuals who migrate to a country with a high proportion of people from the same ancestry will find it easier to gain information about the host country's labor market and therefore be more likely to find a job shortly after arrival.

6.2 Sensitivity Analyses

Again, we conduct a series of sensitivity analyses to check the robustness of our results. The respective estimation results are shown in Table 8. Similar to our analysis of the role of source-country LFP ratios in immigrant labor supply, we first check whether our results are robust to including partner controls (column 1), to including parental controls (column 2), and to using working hours instead of participation decisions as an outcome measure (column 3). In all cases, the estimated marginal effect of the host-country female-to-male LFP ratio remains positive and highly significant.

Our main problem in analyzing the effect of host-country LFP ratios on female immigrant labor market behavior is the potential endogeneity of $FLEPR/MLFPR$,

accruing either from immigrant selection into host countries or from an omitted variable bias. In order to address the problems of immigrant selection and unobserved heterogeneity, respectively, we estimate different types of fixed-effects models.

First, we re-estimate Model 3 by adding host-country fixed effects to the model. In doing so, the effect of the host-country female-to-male LFP ratio is only identified through within-country variation in this variable over time. As can be seen in column 4 of Table 8, the estimated marginal effect of the host-country female-to-male LFP ratio is still significantly positive and only somewhat smaller in magnitude than the effect in the model excluding host-country fixed effects (see Table 7). This result makes us confident that selective migration is not the main driver of our results. For immigrant selection still to impose a problem here, one would have to argue that immigrant women with high preferences for market work systematically select into countries with a high growth in female-to-male participation rates. Although we see no reason to believe that this is the case, we further check the robustness of our results by exploring regional variation in female-to-male LFP ratios.

In particular, we make use of the fact that the ESS data contain information on the individual's region of residence within each host country. Since countries are subdivided according to the NUTS-standard, the official division of the EU for regional statistics, we are able to assign the respective NUTS-level to each of the regions reported. By means of these NUTS-levels, we then merge information on the regional female-to-male LFP ratio to our data.[38]

Using regional instead of cross-country variation in LFP rates has several advantages. First, it enables us to relax the assumption that there is no selective migration of female immigrants into host countries with high LFP ratios (or a high growth in LFP ratios, respectively). Though we can also not rule out that immigrants select into certain regions within their host countries, we can still check whether the effect of the LFP ratio is robust to considering the regional instead of the country level as a reference point. Second, exploring regional variation in LFP rates is interesting in itself, as it helps us to gain insights into the driving forces behind the resemblance between immigrant women's LFP and the LFP ratio in their area of residence. If the fact that immigrant and native women underlie the same institutional circumstances in their host country is the main reason for the positive correlation between immigrants' LFP and the LFP ratio in their host country, then we would expect this correlation to be significantly smaller when regional instead of cross-country variation in LFP ratios is considered. This is true because most institutional settings affecting individual labor supply decisions do not vary across regions, such as

[38]Note that the level of subdivision (NUTS-1, NUTS-2, or NUTS-3) varies between the countries. In order to assure a sufficient number of observations in each region, we use the most aggregate NUTS-level for each country. In addition to LFP rates, we merge information on the regional unemployment rate and regional GDP per capita to our data. The respective data are provided by Eurostat.

tax regulations, retirement ages, and parental leave regulations, but are constant within host countries.[39] If, on the other hand, a cultural assimilation of female immigrants is the main driver of this correlation, we would expect the effect of host-country LFP ratios to increase once regional variation in this cultural proxy is considered. If women indeed learn about the pay-offs of working by observing nearby employed women, as hypothesized by Fernández' model of intergenerational learning, then the reference point of observation should rather be the regional level than the country level, and thus the effect of regional FLFP rates should be stronger than that of country-level FLFP rates.

Column 5 of Table 8 shows the estimated marginal effect of the regional LFP ratio on immigrant women's labor supply of a model that includes host-country fixed effects. The estimated effect is positive, highly significant, and approximately 20% larger than the respective effect of Model 3 (see Table 7). In the next step, we replace the single host-country and time fixed effects by an interaction of the two, such that the effect of host-region LFP ratios is solely identified through within and across regional variation in this variable (column 6). Again, the estimated marginal effect of the LFP ratio is significantly positive and further increasing in magnitude (by around 40% as compared to Model 3). As selective migration might still impose a problem here, if women with a high labor market attachment selectively migrate into regions with high female-to-male LFP ratios, we lastly estimate the model including regional fixed effects. As such, the effect of the LFP ratio is solely identified through within-region variation in this variable over time. As can be seen from column 7, the estimated marginal effect of the LFP ratio is still significantly positive and about 30% larger than the respective effect of the model including host-country LFP ratios and fixed effects (column 4).

The robustness check using regional variation in LFP ratios reveals two things. First, our result of a positive correlation between the LFP ratio in the immigrants' host country and their decision to participate in the labor market is robust to using regional instead of cross-country variation in our cultural proxy. This makes us confident that selective migration and unobserved country-specific conditions affecting women's labor supply are not the main drivers of this result. Second, the fact that the estimated marginal effect of the LFP ratio increases once regional instead of cross-country variation in this variable is used suggests that it is rather a cultural assimilation of immigrant women to the labor supply behavior of natives in their local environment than a pure effect of institutional circumstances that is responsible for this result.

[39] However, there are also some institutional circumstances that are not constant within host countries, such as regional variation in the supply of public daycare.

7 Conclusion

In the present paper, we focus on an important aspect of migration and integration policy: the labor supply of first- and second-generation female immigrants. In particular, we investigate the extent to which home- and host-country characteristics affect immigrant women's labor supply in Europe. Our contributions to the literature are manifold. While previous literature on the role of source-country culture in female immigrant labor market behavior has exclusively focused on the U.S., we complement the existing literature by providing first evidence on this relationship for Europe. The use of cross-country data further allows us to investigate the role of host-country characteristics in immigrant women's labor supply decisions, a topic that has so far been neglected by previous research. Lastly, we control for a variety of source- and host-country characteristics beyond LFP rates, which does not only ensure that we estimate the true effect of source- and host-country female-to-male LFP ratios on immigrant women's labor supply, but is also of considerable interest in itself.

Based on data from the European Social Survey 2002-2011 covering immigrants in 26 European countries, we find that the labor supply of first-generation immigrants is positively associated with the female-to-male LFP ratio in their source country. This result supports previous evidence for immigrants in the U.S. and suggests that immigrant women's labor supply is affected by preferences and beliefs regarding women's roles in society in their source country. The effect of this cultural proxy on the labor supply of immigrant women is robust to controlling for spousal characteristics, parental characteristics, and a variety of source-country characteristics. We do, however, not find a similar effect for second-generation immigrants, which does not lend support to the hypothesis that the culture and norms of their source country are intergenerationally transmitted from parents to their children and eventually affect the labor market behavior of the second generation. This result contradicts previous evidence for female immigrants in the U.S., showing that the effect of source-country culture persists, though weaker, through higher generations (Antecol, 2000; Fernández and Fogli, 2009).

It is, however, in line with our finding of a strong positive correlation between the female-to-male LFP ratio in the host country and the decision of first-generation immigrant women to participate in the labor market. This effect is robust to using different types of variation (between-country, within-country, between-region, and within- region) in LFP ratios to identify the host-country effect and suggests that immigrant women adapt to the culture, institutions, and economic conditions in their host country and that way assimilate to the work behavior of natives.

Our results have important policy implications. As the native-born working-age population declines in many European countries, issues on the financing and the fiscal

sustainability of the welfare state capture increasing attention. As a result, the active recruitment of high-skilled immigrants as well as the integration of recent immigrants into the host countries' labor markets have become important policy goals within Europe. The latter aspect is especially relevant for immigrant women, whose formal labor market participation is still on a considerably low level. For the effective design of such policies, however, knowledge about whether and to what extent immigrant women's labor supply is shaped by their cultural background on the one hand, and the cultural, economic, and institutional conditions in the host country on the other hand, is of great interest.

Our finding that the labor supply of immigrant women is strongly related to the female-to-male LFP ratio in their host country reveals that host-country conditions indeed matter for immigrant women's decision to participate in the labor market. This suggests that integration and labor market policies that aim at increasing the labor market attachment of immigrants can indeed be a successful tool in stimulating the labor supply of immigrant women in Europe. However, our results also suggest that the success of such policies is likely to vary depending on the immigrants' cultural background. In addition to the conditions of their host country, the preferences and beliefs held in their source country strongly determine the LFP of first-generation female immigrants. This suggests that integration policies alone might be of limited effectiveness in achieving the envisaged goal. Rather, the balance between tailored integration policies on the one hand, and selective immigration policies on the other hand, might be a successful tool in increasing the labor market attachment of immigrants in Europe.

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Figures

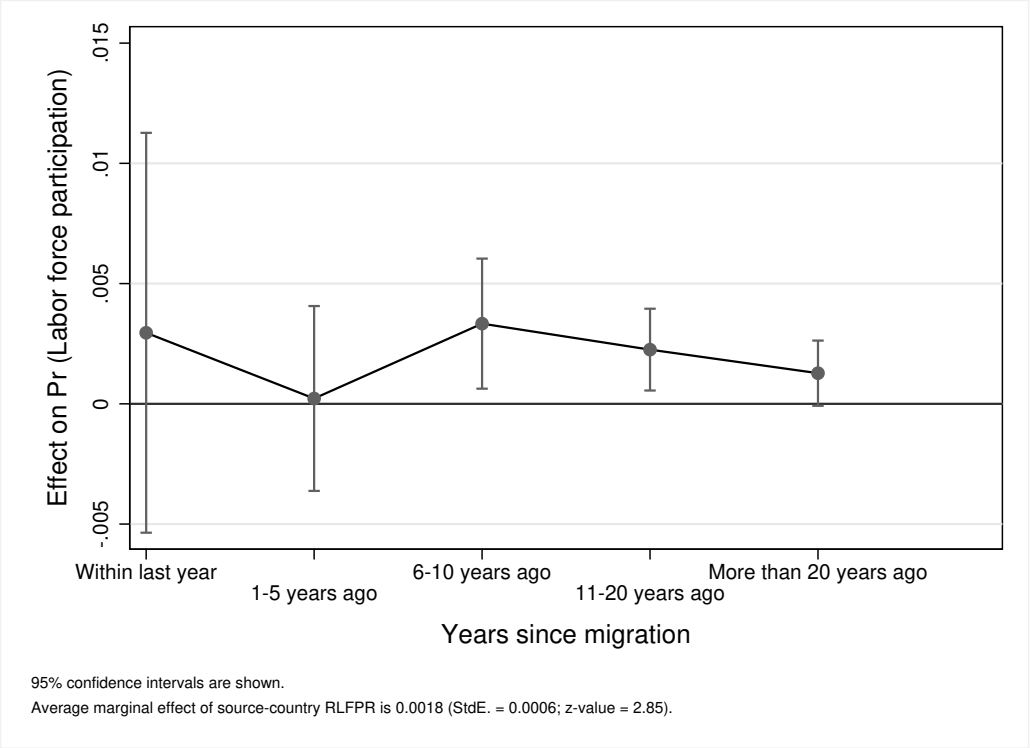

Figure 1: Effect of Source-Country LFP Ratio by Years since Migration

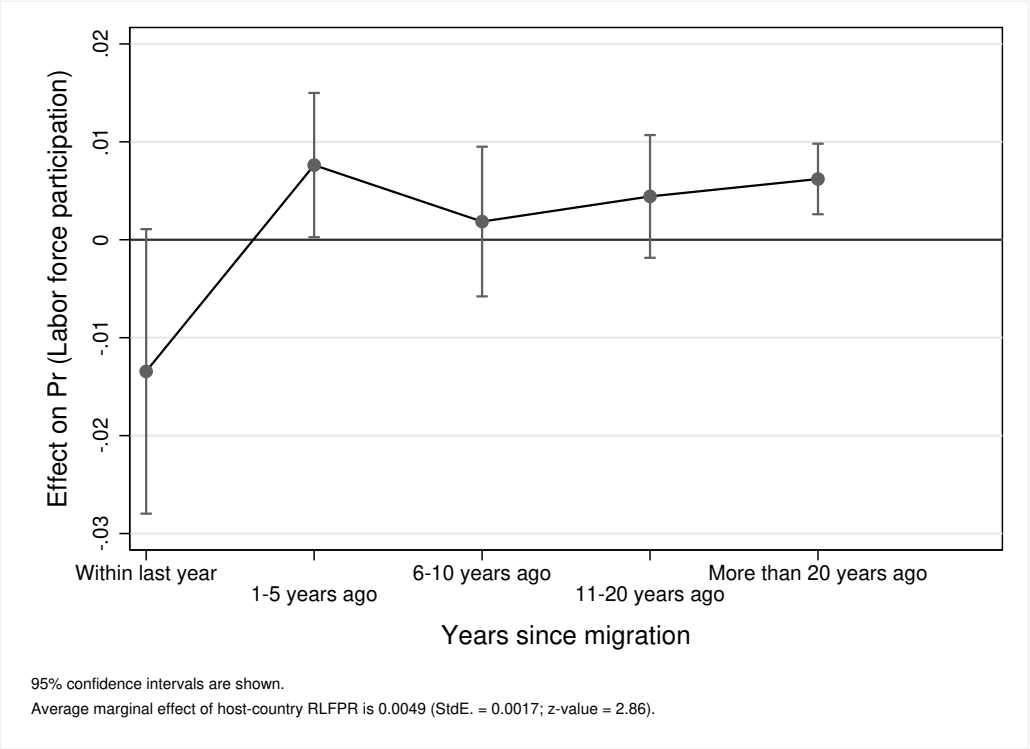

Figure 2: Effect of Host-Country LFP Ratio by Years since Migration

Tables

Table 1: Descriptive Statistics – Individual Variables

	1^{st}-Generation Immigrants		2^{nd}-Generation Immigrants		Native Women	
	Mean	StdD	Mean	StdD	Mean	StdD
Participates in the labor market	0.647	0.478	0.705	0.456	0.688	0.463
Age	40.748	9.343	42.783	9.380	42.924	9.498
Highest level of education						
Primary education	0.349	0.476	0.287	0.452	0.339	0.473
Secondary education	0.287	0.452	0.387	0.487	0.359	0.479
Tertiary education	0.361	0.480	0.326	0.468	0.302	0.459
Partner in household	0.746	0.435	0.698	0.459	0.735	0.441
No. of children in household	0.732	0.977	0.626	0.940	0.586	0.899
Youngest child 0-2	0.115	0.319	0.093	0.290	0.086	0.280
Youngest child 3-5	0.115	0.319	0.091	0.288	0.085	0.279
Population density						
Densely populated	0.410	0.492	0.358	0.479	0.292	0.455
Medium populated	0.356	0.479	0.346	0.476	0.351	0.477
Thinly populated	0.234	0.424	0.296	0.457	0.357	0.479
Years since migration						
Less than 1 year	0.022	0.146	–	–	–	–
1 to 5 years	0.157	0.364	–	–	–	–
6 to 10 years	0.176	0.381	–	–	–	–
11 to 20 years	0.237	0.425	–	–	–	–
More than 20 years	0.408	0.491	–	–	–	–
Migrated after age 18	0.828	0.377	–	–	–	–
Speaks host-country language	0.841	0.366	–	–	–	–
Both parents migrants	–	–	0.299	0.458	–	–
Partner characteristics[a]						
Working hours	34.980	19.077	34.920	19.031	35.663	19.353
Education						
Primary education	0.312	0.463	0.268	0.443	0.331	0.471
Secondary education	0.325	0.469	0.371	0.483	0.365	0.482
Tertiary education	0.344	0.475	0.348	0.476	0.290	0.454
Other education	0.019	0.136	0.014	0.116	0.014	0.116
Parents characteristics[a]						
Father employed at age 14	0.912	0.283	0.922	0.268	0.935	0.247
Father's Education						
Primary education	0.559	0.497	0.544	0.498	0.594	0.491
Secondary education	0.204	0.403	0.259	0.438	0.255	0.436
Tertiary education	0.221	0.415	0.186	0.389	0.140	0.347
Other education	0.015	0.123	0.011	0.104	0.010	0.102
Mother employed at age 14	0.481	0.500	0.577	0.494	0.547	0.498
Mother's Education						
Primary education	0.661	0.474	0.671	0.470	0.697	0.460
Secondary education	0.177	0.381	0.211	0.408	0.217	0.412
Tertiary education	0.147	0.354	0.110	0.313	0.076	0.265
Other education	0.015	0.123	0.009	0.093	0.010	0.099
Observations	5,167		3,112		53,090	

Notes: – [a] Partner and parents characteristics are calculated for a reduced sample size. Partner characteristics are shown for households with partner only. – Host-country population weights are applied.

Table 2: Descriptive Statistics – Aggregated Variables

	1^{st}-Generation Immigrants		2^{nd}-Generation Immigrants	
	Source Country Mean/StdD	Host Country Mean/StdD	Source Country Mean/StdD	Host Country Mean/StdD
	Measured at time of observation			
Source-/host-country characteristics				
FLFP rate (in %)	63.716	76.783	64.154	77.628
	(21.822)	(9.577)	(21.537)	(10.353)
MLFP rate (in %)	90.038	91.300	88.706	90.126
	(8.153)	(6.853)	(9.267)	(8.776)
FLFPR/MLFPR	70.622	83.957	72.103	85.929
	(23.090)	(7.861)	(22.284)	(6.975)
Total fertility rate	1.940	1.607	1.689	1.686
	(0.740)	(0.263)	(0.403)	(0.280)
GDP per capita (in USD 1,000)	14.302	35.002	20.362	34.191
	(15.205)	(8.906)	(15.878)	(10.196)
Average years of schooling	9.538	–	10.393	–
	(2.721)		(2.277)	
Unemployment rate (in %)	–	8.214	–	7.886
		(3.570)		(2.909)
Total migrant stock (% of population)	–	11.601	–	10.895
		(3.742)		(3.928)
MIPEX: Labor market mobility	–	66.219	–	–
		(15.883)		
Relationship between source and host country				
Source-country migrant stock (% of population)	1.049		1.225	
	(1.784)		(2.111)	
Colonial ties	0.287		0.366	
	(0.452)		(0.482)	
Geographic distance (in 1,000 km)	3.026		1.412	
	(3.320)		(1.941)	
Genetic distance	0.327		0.186	
	(0.512)		(0.341)	
Linguistic distance	79.923		77.129	
	(30.692)		(30.365)	
Right of free movement of workers	0.325		–	
	(0.469)			
	Measured at time of migration			
Source-country characteristics				
FLFP rate (in %)	58.289	–	–	–
	(23.215)			
Total fertility rate	2.439	–	–	–
	(1.271)			
GDP per capita (in USD 1,000)	10.829	–	–	–
	(11.898)			
Average years of schooling	7.960	–	–	–
	(3.208)			
Relationship between source and host country				
Source-country migrant stock (% of population)	1.030		–	
	(2.077)			
Observations	5,167	5,167	3,112	3,112

Notes: – Time of observation refers to the years 2002 to 2011, while time of migration spans the years 1982 to 2011. – The variables describing the relationship between the source and the host country are time invariant, except for the share of migrants from the same source country in the immigrant's host country. Technically, the "right of free movement"-variable is time variant as well, as the countries underlying this fundamental principle change over time. However, as this variable serves as a proxy for the immigrants' restrictions in their access to the host country's labor market, a calculation of past values for this variable is of little meaning. – Host-country population weights are applied.

Table 3: Model 1 – Source- and Host-Country Fixed Effects

	1^{st}-Generation Immigrants		2^{nd}-Generation Immigrants	
	ME	StdE	ME	StdE
Age group (Ref.: Age 26-29)				
Age 30-34	0.0014	(0.0339)	0.0318	(0.0495)
Age 35-39	0.0343	(0.0352)	0.0695	(0.0484)
Age 40-44	0.0037	(0.0418)	0.0083	(0.0494)
Age 45-49	−0.0428	(0.0451)	−0.0220	(0.0497)
Age 50-54	−0.0439	(0.0476)	0.0107	(0.0528)
Age 55-59	−0.2127†	(0.0480)	−0.2293†	(0.0504)
Highest level of education (Ref.: Secd. education)				
Primary education	−0.0873†	(0.0251)	−0.0679**	(0.0315)
Tertiary education	0.0582**	(0.0249)	0.0922***	(0.0295)
Partner in household	−0.1216†	(0.0238)	0.0368	(0.0275)
No. of children in household	−0.0774†	(0.0128)	−0.0906†	(0.0164)
Youngest child 0-2	−0.1546†	(0.0353)	−0.1320***	(0.0476)
Youngest child 3-5	−0.0093	(0.0338)	−0.0588	(0.0456)
Population density (Ref.: Medium populated)				
Densely populated	0.0165	(0.0222)	0.0519*	(0.0284)
Thinly populated	0.0167	(0.0253)	−0.0032	(0.0289)
Years since migration (Ref.: > 20 years)				
Less than 1 year	−0.1514**	(0.0768)	–	–
1 to 5 years	−0.1070***	(0.0385)	–	–
6 to 10 years	−0.0423	(0.0350)	–	–
11 to 20 years	0.0289	(0.0277)	–	–
Migrated after age 18	0.0074	(0.0359)	–	–
Speaks host-country language	0.0956†	(0.0290)	–	–
Both parents migrants	–	–	0.0083	(0.0283)
Relationship between source and host country				
Source-country migrant stock (% of population)	0.0125	(0.0091)	−0.0089	(0.0103)
Colonial ties	0.0018	(0.0411)	0.0420	(0.0526)
Geographic distance (in 1,000km)	0.0259	(0.0225)	0.0306	(0.0469)
Genetic distance	0.1004	(0.1246)	−0.4476*	(0.2596)
Linguistic distance	0.0003	(0.0007)	0.0010	(0.0008)
Right of free movement of workers	0.0890*	(0.0522)	–	–
Host-country FE	yes		yes	
Source-country FE	yes		yes	
Time FE	yes		yes	
Log likelihood	-2,244.5		-1,399.1	
Pseudo R^2	0.151		0.123	
Observations	5,167		3,112	

Notes: – † $p < 0.001$; *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$. – *Robust standard errors in parentheses.* – *Host-country population weights are applied.*

Table 4: Model 1 – Controlling for Partner and Parent Characteristics

	1^{st}-Generation Immigrants		2^{nd}-Generation Immigrants	
	ME	StdE	ME	StdE
A. Partner characteristics				
Partner's working hours	0.0003	(0.0006)	0.0011	(0.0008)
Partner's education (Ref.: Secd. education)				
Primary education	0.0154	(0.0308)	0.0267	(0.0398)
Tertiary education	−0.0134	(0.0293)	−0.0191	(0.0360)
Other education	−0.0475	(0.0634)	0.0583	(0.0989)
Relationship between source and host country				
Source-country migrant stock (% of population)	0.0123	(0.0094)	−0.0050	(0.0106)
Colonial ties	0.0121	(0.0423)	0.0313	(0.0580)
Geographic distance (in 1,000km)	0.0310	(0.0235)	0.0541	(0.0511)
Genetic distance	0.1176	(0.1265)	−0.5074*	(0.2659)
Linguistic distance	−0.0001	(0.0007)	0.0015*	(0.0008)
Right of free movement of workers	0.0725	(0.0541)	–	–
Individual controls	yes		yes	
Host-country FE	yes		yes	
Source-country FE	yes		yes	
Time FE	yes		yes	
Log likelihood	-2,102.8		-1,300.8	
Pseudo R^2	0.151		0.137	
Observations	4,788		2,865	
	ME	StdE	ME	StdE
B. Parents' characteristics				
Father employed at age 14	0.0496	(0.0352)	0.0594	(0.0443)
Father's education (Ref.: Secd. education)				
Primary education	0.0028	(0.0310)	0.0547	(0.0343)
Tertiary education	0.0585*	(0.0337)	0.1061***	(0.0389)
Other education	−0.0649	(0.1717)	−0.0064	(0.1660)
Mother employed at age 14	0.0323	(0.0218)	0.0534**	(0.0260)
Mother's education (Ref.: Secd. education)				
Primary education	0.0515	(0.0313)	−0.0412	(0.0345)
Tertiary education	−0.0318	(0.0380)	−0.0771	(0.0474)
Other education	0.1178	(0.1822)	−0.0910	(0.1863)
Relationship between source and host country				
Source-country migrant stock (% of population)	0.0207**	(0.0095)	−0.0143	(0.0112)
Colonial ties	−0.0247	(0.0453)	−0.0172	(0.0567)
Geographic distance (in 1,000km)	0.0339	(0.0237)	0.0276	(0.0504)
Genetic distance	0.0644	(0.1318)	−0.3259	(0.2773)
Linguistic distance	0.0002	(0.0007)	0.0011	(0.0008)
Right of free movement of workers	0.0551	(0.0551)	–	–
Individual controls	yes		yes	
Host-country FE	yes		yes	
Source-country FE	yes		yes	
Time FE	yes		yes	
Log likelihood	-1,909.7		-1,106.7	
Pseudo R^2	0.153		0.151	
Observations	4,531		2,678	

Notes: – † $p < 0.001$; *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$. – *Robust standard errors in parentheses.* – *Host-country population weights are applied.*

Table 5: Model 2 – Source-Country Characteristics

	1^{st}-Generation Immigrants		2^{nd}-Generation Immigrants	
	ME	StdE	ME	StdE
Source-country characteristics				
FLFPR/MLFPR	0.0016***	(0.0005)	0.0003	(0.0013)
Total fertility rate	−0.0007	(0.0232)	0.0302	(0.0363)
GDP per capita (in USD 1,000)	−0.0049***	(0.0018)	0.0008	(0.0024)
Average years of schooling	0.0235***	(0.0072)	0.0040	(0.0092)
Source-country group (Ref.: Northern & Western Europe)				
East Asia & Pacific	−0.1815	(0.1322)	0.2478	(0.2824)
Eastern Europe & Central Asia	−0.1059*	(0.0588)	0.0395	(0.0643)
Latin America & Caribbean	−0.0351	(0.1204)	–	–
Middle East & North Africa	−0.0120	(0.0898)	0.0473	(0.0834)
North America	−0.0183	(0.0707)	−0.2248	(0.1755)
South Asia	0.0314	(0.1458)	0.2141	(0.1352)
Sub-Saharan Africa	−0.0473	(0.1211)	–	–
Relationship between source and host country				
Source-country migrant stock (% of population)	0.0136*	(0.0078)	−0.0109*	(0.0062)
Colonial ties	0.0242	(0.0281)	0.0346	(0.0254)
Geographic distance (in 1,000km)	0.0094	(0.0094)	0.0056	(0.0284)
Genetic distance	0.0464	(0.0355)	−0.1648†	(0.0356)
Linguistic distance	0.0005	(0.0005)	0.0004	(0.0005)
Right of free movement of workers	0.1033†	(0.0312)	–	–
Individual controls	yes		yes	
Host-country FE	yes		yes	
Source-country FE	no		no	
Time FE	yes		yes	
Log likelihood	-2,290.0		-1,409.2	
Pseudo R^2	0.134		0.116	
Observations	5,167		3,112	

Notes: – † $p < 0.001$; *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$. – *Standard errors are clustered at the source-country level.* – *Host-country population weights are applied.*

Table 6: Model 2 – 1^{st} Generation Immigrants, Robustness Checks

	Partner controls	**Parent controls**	**Time of migration**	**Working hours**	**Male LFP**	**Male WH**
	ME/StdE	ME/StdE	ME/StdE	Coef/StdE	ME/StdE	Coef/StdE
Source-country characteristics						
FLFPR/MLFPR	0.0014**	0.0016**	0.0010*	0.0598**	−0.0001	0.0069
	(0.0005)	(0.0006)	(0.0005)	(0.0283)	(0.0005)	(0.0353)
Total fertility rate	0.0038	−0.0045	0.0038	−0.7955	0.0061	−0.4344
	(0.0239)	(0.0221)	(0.0174)	(0.9066)	(0.0130)	(0.7524)
GDP per capita (in USD 1,000)	−0.0057***	−0.0049**	−0.0052***	−0.2692†	−0.0016*	0.0468
	(0.0020)	(0.0020)	(0.0019)	(0.0772)	(0.0008)	(0.0786)
Average years of schooling	0.0241***	0.0235***	0.0230***	0.7608***	0.0105**	0.1895
	(0.0074)	(0.0078)	(0.0073)	(0.2724)	(0.0049)	(0.2992)
Individual controls	yes	yes	yes	yes	yes	yes
Host-country FE	yes	yes	yes	yes	yes	yes
Source-country FE	no	no	no	no	no	no
Source-country group FE	yes	yes	yes	yes	yes	yes
Bilateral controls	yes	yes	yes	yes	yes	yes
Time FE	yes	yes	yes	yes	yes	yes
Log likelihood	-2,148.9	-1,859.9	-2,298.5	-21,714.7	-1,134.9	-18,266.5
Adj./Pseudo R^2	0.132	0.132	0.131	0.151	0.140	0.094
Observations	4,788	4,231	5,167	4,999	4,271	4,158

Notes: – † $p < 0.001$; *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$. – *Standard errors are clustered at the source-country level.* – *Host-country population weights are applied.*

Table 7: Model 3 – Host-Country Characteristics

	1st-Generation Immigrants	
	ME	StdE
Host-country characteristics		
FLFPR/MLFPR	0.0048***	(0.0017)
Total fertility rate	0.0519	(0.0566)
GDP per capita (in USD 1,000)	−0.0007	(0.0022)
Unemployment rate (in %)	−0.0050	(0.0035)
Total migrant stock (% of population)	0.0009	(0.0023)
MIPEX: Labor market mobility	−0.0006	(0.0010)
Host-country group (Ref.: Continental Europe)		
Scandinavia	0.1109**	(0.0557)
Anglo-Saxon countries	−0.0146	(0.0222)
Southern Europe	0.1839†	(0.0360)
Baltic countries	−0.1061	(0.0900)
Eastern Europe	−0.0181	(0.0731)
Relationship between source and host country		
Source-country migrant stock (% of population)	0.0113**	(0.0047)
Colonial ties	0.0089	(0.0218)
Geographic distance (in 1,000km)	0.0307	(0.0221)
Genetic distance	0.0838	(0.0691)
Linguistic distance	−0.0001	(0.0004)
Right of free movement of workers	0.0757**	(0.0385)
Individual controls	yes	
Host-country FE	no	
Source-country FE	yes	
Time FE	yes	
Log likelihood	-2,248.1	
Pseudo R^2	0.150	
Observations	5,167	

Notes: – † $p < 0.001$; *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$. – *Standard errors are clustered at the host-country level.* – *Host-country population weights are applied.*

Table 8: Model 3 – Robustness Checks

	Partner controls	**Parent controls**	**Working hours**	**Host-country FE**	**Regional variation**		
					HC FE	HC x T FE	HR FE
	ME/StdE	ME/StdE	Coef/StdE	ME/StdE	ME/StdE	ME/StdE	ME/StdE
Host-country/region characteristics							
FLFPR/MLFPR	0.0049***	0.0052†	0.2218***	0.0040**	0.0057†	0.0068†	0.0052**
	(0.0015)	(0.0014)	(0.0750)	(0.0016)	(0.0016)	(0.0017)	(0.0023)
Total fertility rate	0.0413	0.0330	1.8528	0.1055	–	–	–
	(0.0542)	(0.0618)	(2.5843)	(0.2182)			
GDP per capita	−0.0006	−0.0001	−0.1754*	0.0027	−0.0031*	−0.0031*	−0.0114
	(0.0024)	(0.0023)	(0.0953)	(0.0128)	(0.0016)	(0.0017)	(0.0080)
Unemployment rate (in %)	−0.0045	−0.0060	−0.7083***	−0.0040	−0.0102***	−0.0093**	−0.0146***
	(0.0036)	(0.0037)	(0.2099)	(0.0068)	(0.0036)	(0.0045)	(0.0057)
Total migrant stock (% of population)	0.0006	−0.0015	0.3583**	−0.0230*	–	–	–
	(0.0026)	(0.0025)	(0.1724)	(0.0138)			
MIPEX: Labor market mobility	−0.0008	−0.0005	−0.0517	–	–	–	–
	(0.0009)	(0.0010)	(0.0424)				
Individual controls	yes	yes	yes	yes	yes	yes	yes
Host-country group FE	yes	yes	yes	no	no	no	no
Host-country FE	no	no	no	yes	yes	no	no
Host-region FE	no	no	no	no	no	no	yes
Source-country FE	yes	yes	yes	yes	yes	yes	yes
Bilateral controls	yes	yes	yes	yes	yes	yes	yes
Time FE	yes	yes	yes	yes	yes	no	yes
Host-country x time FE	no	no	no	no	no	yes	no
Log likelihood	-2,103.6	-1,813.6	-21,632.6	-2,237.2	-2,012.7	-1,962.6	-1,964.8
Adj./Pseudo R^2	0.151	0.154	0.173	0.154	0.167	0.188	0.187
Observations	4,788	4,231	4,999	5,167	3,509	3,509	3,509

Notes: – † $p < 0.001$; *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$. – *Standard errors are clustered at the host-country (columns 1 to 4) and host-region (columns 5 to 7) level, respectively.* – *Host-country population weights are applied.*

Appendix

Table A1: Explanatory Power of Source- & Host-Country Fixed Effects

	1^{st}-Generation Immigrants			2^{nd}-Generation Immigrants		
	Full Model	**Restricted Model**		**Full Model**	**Restricted Model**	
		Excl. SC-FE	Excl. HC-FE		Excl. SC-FE	Excl. HC-FE
R^2	0.1739	0.1370	0.1617	0.1170	0.1032	0.1049
Semipartial R^2	–	0.0369	0.0122	–	0.0138	0.0121
Expl. Power SC-FE	21.22%	–	–	11.80%	–	–
Expl. Power HC-FE	7.02%	–	–	10.34%	–	–
Observations		5,167			3,112	

Notes: – Results are obtained from OLS regressions of Model 1. – Host-country population weights are applied. – The explanatory power of the source- and host-country fixed effects is computed as the difference between the R^2 of the full model and the R^2 of the respective restricted model. The values represent the proportion of the explained variance that can be explained by the sum of the source- and host-country fixed effects, respectively.

Table A2: List of Source Countries

	1^{st}-Generation Immigrants		2^{nd}-Generation Immigrants	
Source Country	Observations	Frequency (in %)	Observations	Frequency (in %)
Albania	121	2.33	–	–
Algeria	54	1.04	61	1.99
Argentina	32	0.62	–	–
Australia	36	0.69	–	–
Austria	49	0.94	72	2.35
Belgium	73	1.41	28	0.91
Bolivia	18	0.35	–	–
Brazil	111	2.14	–	–
Bulgaria	48	0.93	–	–
Canada	36	0.69	–	–
Chile	26	0.50	–	–
China	27	0.52	–	–
Colombia	33	0.64	–	–
Congo	32	0.62	–	–
Czechoslovakia	135	2.60	239	7.80
Denmark	38	0.73	35	1.14
DR Congo	15	0.29	–	–
Ecuador	41	0.79	–	–
Finland	104	2.01	95	3.10
France	224	4.32	123	4.01
Germany	385	7.42	310	10.12
Ghana	17	0.33	–	–
Greece	32	0.62	22	0.72
Hungary	38	0.73	89	2.90
India	67	1.29	28	0.91
Indonesia	32	0.62	64	2.09
Iran	49	0.94	–	–
Iraq	35	0.67	–	–
Ireland	26	0.50	73	2.38
Italy	141	2.72	286	9.33
Jamaica	–	–	17	0.55
Japan	16	0.31	–	–
Kenya	17	0.33	–	–
Mauritius	18	0.35	–	–
Morocco	112	2.16	47	1.53
Mozambique	18	0.35	–	–
Netherlands	66	1.27	49	1.60
Norway	31	0.60	32	1.04
Pakistan	33	0.64	–	–
Peru	20	0.39	–	–
Philippines	63	1.21	–	–
Poland	215	4.14	143	4.67
Portugal	188	3.62	31	1.01
Republic of Korea	16	0.31	–	–
Romania	152	2.93	59	1.93
South Africa	35	0.67	–	–
Spain	67	1.29	67	2.19
Sri Lanka	31	0.60	–	–
Sweden	90	1.74	34	1.11
Switzerland	31	0.60	16	0.52
Thailand	30	0.58	–	–
Tunisia	24	0.46	23	0.75
Turkey	179	3.45	72	2.35
United Kingdom	307	5.92	108	3.52
USA	98	1.89	48	1.57
USSR	755	14.56	582	18.99
Venezuela	19	0.37	–	–
Viet Nam	24	0.46	–	–
Yugoslavia	457	8.81	211	6.89
Total	5,167	100.00	3,112	100.00

Note: To form a consistent list of source countries, we aggregate source countries that split or combined over time (i.e., Czechoslovakia, the USSR, and Yugoslavia).

Table A3: Macroeconomic Data – Sources and Descriptions

Variable	Description	Years	Source
I. Source- & host-country variables			
FLFPR & MLFPR	Labor force participation rate is the proportion of a country's working-age population that engages actively in the labor market, either by working or looking for work. It provides an indication of the relative size of the supply of labor available to engage in the production of goods and services during a specified time-reference period. The rates are calculated for females and males by 5-year age group for the population aged 26 to 59 years. We interpolate missing values for intervening years from the available data. When linear interpolation is not possible, we impute missing values using estimated rates of change derived from available data for other age groups in the respective country.	1982–2011	ILO Department of Statistics, LABORSTA Internet. http://laborsta.ilo.org
Total fertility rate	Total fertility rate represents the number of children that would be born to a woman if she were to live to the end of her childbearing years and bear children in accordance with current age-specific fertility rates. We interpolate missing values for intervening years from the available data. When linear interpolation is not possible, we impute missing values using estimated rates of change derived from available data for the respective country.	1982–2011	World Bank Database, World Development Indicators. http://data.worldbank.org/indicator/SP.DYN.TFRT.IN
GDP per capita (in USD 1,000)	Per capita GDP is GDP in constant 2005 prices in USD 1,000 divided by the population. Data in constant prices in USD are converted into national currency using the annual period-average exchange rate of the base year for all years.	1982–2011	United Nations Statistics Division, National Accounts Main Aggregates Database. http://unstats.un.org/unsd/snaama/introduction.asp
Average years of schooling	Average years of schooling represents the number of years of schooling attained by an average person at all levels of schooling combined (primary, secondary, and tertiary). These data are measured by 5-year age group for the population aged 26 to 59 years. The data are available in 5-year intervals for the years 1980–2010. We interpolate missing values for intervening years from the available data for the period 1980–2010 and extrapolate for the year 2011.	1982–2011	Barro and Lee (2013). http://www.barrolee.com
Unemployment rate	Unemployment rate represents the share of the total labor force that is without work but available for and seeking employment. We extrapolate the unemployment rate from the available data for the year 2011.	2002–2011	World Bank Database, World Development Indicators. http://data.worldbank.org/indicator/SL.UEM.TOTL.ZS
Total migrant stock	International migrant stock is the number of people born in a country other than that in which they live. The data are available for the years 2000–2010 at five-year intervals. We interpolate missing values for intervening years from the available data for the period 2000–2010 and extrapolate for the year 2011.	2002–2011	World Bank Database, World Development Indicators. http://data.worldbank.org/indicator/SM.POP.TOTL.ZS

Table A3: Macroeconomic Data – Sources and Descriptions (Continued)

Variable	Description	Years	Source
MIPEX: Labor market mobility	The Migrant Integration Policy Index (MIPEX) is led by the British Council. It considers over 140 policy indicators grouped into 6 broad policy areas. Labor market mobility measures if migrant workers are eligible for the same opportunities as EU nationals to work in most sectors. The index varies between 0 and 100, with higher values meaning that migrants have more rights in the corresponding policy area. MIPEX is available for the years 2004, 2007, and 2010. As some of the countries included in our sample are only included from the 2010 version onwards, we use 2010 values for all years.	2010	http://www.mipex.eu
II. Bilateral variables			
Source-country migrant stock	Source-country migrant stock provides information on the host country's international migrant stock by country of birth in 10-year intervals for the years 1980–2010. The data are mostly based on population censuses and population register records. We interpolate missing values for intervening years from the available data for the period 1980–2010 and extrapolate for the year 2011.	1982–2011	World Bank Database, Global Bilateral Migration Database. http://data.worldbank.org/data-catalog/global-bilateral-migration-database
Colonial ties	Binary variable that is unity if the country pair has ever had a colonial relationship.	constant	Mayer and Zignago (2011). http://www.cepii.fr/anglaisgraph/bdd/distances.htm
Geographic distance	Geographic distance is the geodesic distance between country capitals in 1,000km. Geodesic distances are calculated following the great circle formula, which uses the geographic coordinates of the capital cities for calculating the distances between the countries.	constant	Mayer and Zignago (2011). http://www.cepii.fr/anglaisgraph/bdd/distances.htm
Genetic distance	The F_{ST} genetic distance index measures the genetic differences between populations as a fraction of the total genetic variance. The genetic distance data are collected by Cavalli-Sforza *et al.* (1994). The F_{ST} index is based on the frequency of 128 alleles related to 45 genes. By construction, the F_{ST} index ranges between 0 and 1; a higher F_{ST} is associated with larger differences. Genetic distance reports the calculated distance divided by 1,000.	constant	Spolaore and Wacziarg (2009). http://www.anderson.ucla.edu/faculty_pages/romain.wacziarg
Linguistic distance	The linguistic distance measure is drawn from linguistic research. The Automatic Similarity Judgment Program (ASJP), developed by the German Max Planck Institute for Evolutionary Anthropology, automatically evaluates the phonetic similarity between all of the world's languages. The basic idea is to compare pairs of words having the same meaning in two different languages according to their pronunciation. For each word pair, it is evaluated how many additions or subtractions are necessary to transform one word in one language into the same word in another language. The approach is called normalized and divided Levenshtein distance. We use the most prevalent native language of each country to calculate the distance.	constant	Bakker *et al.* (2009). http://www.eva.mpg.de

Table A3: Macroeconomic Data – Sources and Descriptions (Continued)

Variable	Description	Years	Source
Right of free movement of workers	Binary variable that is unity if citizens of a given source country underlie the right of free movement of workers in a given host country. The right of free movement of workers permits workers to search for employment, to be employed, and to reside in any Member State of the European Union. While it generally applies to all immigrants migrating within the European Union, there is a clause about a transition period before workers from the new Member States can be employed on equal, non-discriminatory terms in the old Member States. The old Member States have the right to impose such transitional period for 2 years, then to decide whether to extend it for additional 3 years, and then, if there is serious proof that labor from new Member States would be disruptive to the market in the old Member States, the period can be extended for the last time for 2 more years. Furthermore, citizens of the Member States of the European Economic Area and Switzerland have the same right of freedom of movement and these countries are treated as old Member States inside the EEA (European Commission, 2003, 2005).		
III. Host-region variables			
FLFPR & MLFPR	The source for the regional labour market information down to NUTS level 2 is the EU Labour Force Survey (EU-LFS). In contrast to the labor force participation rates at the country level, regional labor force participation rates are only available by 10-year age groups for the population aged 25 to 64 years.	2002–2011	Eurostat. http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lfst_r_lfp2actrt
GDP per capita	Per capita GDP is GDP in current prices in EUR 1,000 divided by the population.	2002–2011	Eurostat. http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=nama_r_e2gdp
Unemployment rate	The source for the regional labour market information down to NUTS level 2 is the EU Labour Force Survey (EU-LFS). The unemployment rate represents the share of the total labor force aged 15 and over that is without work but available for and seeking employment.	2002–2011	Eurostat.http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lfst_r_lfu3rt

Notes: – The macroeconomic indicators for the combined countries (i.e., Czechoslovakia, the USSR, and Yugoslavia) are calculated as a population-weighted average of the single-country values. – Due to their small size, Cyprus, Estonia, Lithuania, and Luxembourg cannot be sub-divided into NUTS regions. Thus, these countries had to be omitted from the analysis using regional data.

Supplementary Appendix

(not intended for publication)

Table SA1: Model 1 – Including Bilateral Fixed Effects

	1^{st}-Generation Immigrants		2^{nd}-Generation Immigrants	
	ME	StdE	ME	StdE
Age group (Ref.: Age 26-29)				
Age 30-34	−0.0164	(0.0389)	0.0274	(0.0518)
Age 35-39	0.0201	(0.0409)	0.0716	(0.0492)
Age 40-44	−0.0108	(0.0488)	0.0352	(0.0513)
Age 45-49	−0.0470	(0.0519)	−0.0031	(0.0512)
Age 50-54	−0.0494	(0.0535)	0.0246	(0.0527)
Age 55-59	−0.2344†	(0.0576)	−0.2492†	(0.0603)
Highest level of education (Ref.: Secd. education)				
Primary education	−0.0777***	(0.0298)	−0.0764**	(0.0381)
Tertiary education	0.0724**	(0.0288)	0.0959***	(0.0313)
Partner in household	−0.1204†	(0.0263)	0.0380	(0.0299)
No. of children in household	−0.0797†	(0.0155)	−0.0912†	(0.0182)
Youngest child 0-2	−0.1726†	(0.0437)	−0.1515***	(0.0587)
Youngest child 3-5	0.0044	(0.0411)	−0.0782	(0.0544)
Population density (Ref.: Medium populated)				
Densely populated	0.0183	(0.0261)	0.0681**	(0.0318)
Thinly populated	0.0147	(0.0284)	0.0278	(0.0337)
Years since migration (Ref.: > 20 years)				
Less than 1 year	−0.2129**	(0.0964)	–	–
1 to 5 years	−0.0594	(0.0459)	–	–
6 to 10 years	−0.0583	(0.0418)	–	–
11 to 20 years	0.0446	(0.0329)	–	–
Migrated after age 18	0.0158	(0.0405)	–	–
Speaks host-country language	0.0922***	(0.0348)	–	–
Both parents migrants	–	–	0.0007	(0.0311)
Host-country FE	no		no	
Source-country FE	no		no	
Bilateral FE	yes		yes	
Time FE	yes		yes	
Log likelihood	-2,548.6		-1,571.4	
Pseudo R^2	0.186		0.126	
Observations	5,167		3,112	

Notes: – † $p < 0.001$; *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$. – *Robust standard errors in parentheses.* – *Host-country population weights are applied.*

Table SA2: Model 2 – Including Host-Country x Time FE

	1^{st}-Generation Immigrants		2^{nd}-Generation Immigrants	
	ME	StdE	ME	StdE
Source-country characteristics				
FLFPR/MLFPR	0.0017***	(0.0006)	0.0002	(0.0013)
Total fertility rate	−0.0022	(0.0229)	0.0454	(0.0379)
GDP per capita (in USD 1,000)	−0.0053***	(0.0017)	0.0000	(0.0024)
Average years of schooling	0.0226***	(0.0075)	0.0057	(0.0082)
Source-country group (Ref.: Northern & Western Europe)				
East Asia & Pacific	−0.1844	(0.1333)	0.2713	(0.2598)
Eastern Europe & Central Asia	−0.0952*	(0.0544)	0.0200	(0.0676)
Latin America & Caribbean	−0.0480	(0.1183)	–	–
Middle East & North Africa	0.0056	(0.0821)	0.0153	(0.0844)
North America	−0.0150	(0.0714)	−0.2106	(0.1608)
South Asia	0.0386	(0.1443)	0.2309*	(0.1393)
Sub-Saharan Africa	−0.0561	(0.1197)	–	–
Relationship between source and host country				
Source-country migrant stock (% of population)	0.0144*	(0.0081)	−0.0119*	(0.0062)
Colonial ties	0.0263	(0.0288)	0.0332	(0.0278)
Geographic distance (in 1,000km)	0.0112	(0.0095)	0.0006	(0.0250)
Genetic distance	0.0486	(0.0352)	−0.1684†	(0.0350)
Linguistic distance	0.0004	(0.0005)	0.0004	(0.0005)
Right of free movement of workers	0.1257†	(0.0306)	–	–
Individual controls	yes		yes	
Host-country FE	no		no	
Source-country FE	no		no	
Time FE	no		no	
Host-country x time FE	yes		yes	
Log likelihood	-2,225.4		-1,381.1	
Pseudo R^2	0.155		0.125	
Observations	5,104		3,024	

Notes: – † $p < 0.001$; *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$. – *Standard errors are clustered at the source-country level.* – *Host-country population weights are applied.*

Table SA3: Model 3 – Including Source-Country x Time FE

	1^{st}-Generation Immigrants	
	ME	StdE
Host-country characteristics		
FLFPR/MLFPR	0.0059***	(0.0017)
Total fertility rate	0.1283**	(0.0590)
GDP per capita (in USD 1,000)	−0.0014	(0.0018)
Unemployment rate (in %)	−0.0002	(0.0032)
Total migrant stock (% of population)	0.0055**	(0.0022)
MIPEX: Labor market mobility	−0.0006	(0.0009)
Host-country group (Ref.: Continental Europe)		
Scandinavia	0.1064**	(0.0480)
Anglo-Saxon countries	−0.0267	(0.0214)
Southern Europe	0.1668***	(0.0464)
Baltic countries	−0.2000***	(0.0639)
Eastern Europe	0.0461	(0.0801)
Relationship between source and host country		
Source-country migrant stock (% of population)	0.0084*	(0.0044)
Colonial ties	0.0287	(0.0364)
Geographic distance (in 1,000km)	0.0080	(0.0226)
Genetic distance	0.1361**	(0.0599)
Linguistic distance	0.0003	(0.0006)
Right of free movement of workers	0.0414	(0.0507)
Individual controls	yes	
Host-country FE	no	
Source-country FE	no	
Time FE	no	
Source-country x time FE	yes	
Log likelihood	-2,546.9	
Pseudo R^2	0.231	
Observations	5,167	

Notes: – † $p < 0.001$; *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$. – *Standard errors are clustered at the host-country level.* – *Host-country population weights are applied.*