I Z A Institute
of Labor Economics
Initiated by Deutsche Post Foundation

DISCUSSION PAPER SERIES

IZA DP No. 13533

The Intergenerational Transmission of Gender Role Attitudes: Evidence from Immigrant Mothers-In-Law

Julia Bredtmann
Lisa Sofie Höckel
Sebastian Otten

JULY 2020

I Z A Institute
of Labor Economics

Initiated by Deutsche Post Foundation

DISCUSSION PAPER SERIES

IZA DP No. 13533

The Intergenerational Transmission of Gender Role Attitudes: Evidence from Immigrant Mothers-In-Law

Julia Bredtmann
RWI, IZA and CReAM

Lisa Sofie Höckel
RWI and IZA

Sebastian Otten
CReAM, University of Duisburg-Essen and RWI

JULY 2020

ISSN: 2365-9793

IZA – Institute of Labor Economics

Schaumburg-Lippe-Straße 5–9
53113 Bonn, Germany

Phone: +49-228-3894-0
Email: publications@iza.org

www.iza.org

ABSTRACT

The Intergenerational Transmission of Gender Role Attitudes: Evidence from Immigrant Mothers-In-Law*

Previous literature has shown that attitudes and preferences are intergenerationally transmitted from parents to their children. We contribute to this literature by analyzing whether gender role attitudes are also transmitted across cultural boundaries, i.e., from immigrants to natives. Focusing on mixed couples, we examine whether the gender role attitudes of foreign-born mothers-in-law can explain the fertility and labor supply decisions of native US women. Our results reveal that women's labor market participation is significantly positively related to the gender role attitudes in her mother-in-law's country of origin. Employing a new identification strategy, we show that this finding is due to the intergenerational transmission of gender norms rather than other unobservable characteristics of the mother-in-law's country of origin. These results suggest that the cultural values held in their source country do not only influence the behavior of immigrants and their descendants, but can also affect the labor force participation of native women. We do, however, not find evidence that intergenerationally transmitted gender role attitudes affect the fertility behavior of native women.

JEL Classification: J13, J15, J22, D1

Keywords: intergenerational transmission, gender role attitudes, culture, immigration, fertility, female labor force participation

Corresponding author:
Lisa Sofie Höckel
RWI – Leibniz Institute for Economic Research
Hohenzollerstr. 1-3
45128 Essen
Germany
E-mail: lisa.hoeckel@rwi-essen.de

* The authors are grateful to Thomas Bauer, Delia Furtado, Nathan Nunn, Robert Pollak, Núria Rodríguez-Planas, Stefanie Schurer, as well as to conference participants at the ASREC 2018, the ESPE 2018 and the FRIAS Conference 2019 for helpful comments and suggestions. All remaining errors are our own.

1 Introduction

The economic literature has shown that children's economic outcomes such as educational attainment, labor supply, occupation, and income are highly correlated with the socioeconomic status of their parents (see Black and Devereux, 2011, for a review). In other words, parents transmit their economic and social status to their children. These cross-generational transfers occur through a variety of means. The recent literature on intergenerational mobility has revealed that beliefs, preferences, and attitudes are important pathways for the intergenerational transmission of economic outcomes (see, among others, Bisin and Verdier, 2000, 2001; Fernández *et al.*, 2004; Guiso *et al.*, 2006, 2008; Doepke and Zilibotti, 2008; Dohmen *et al.*, 2012). For instance, by passing on their gender role attitudes, parents can strongly influence their daughter's attitudes towards women's role in society and through this channel affect their educational attainment and labor force participation (e.g., Farré and Vella, 2013; Johnston *et al.*, 2014). We build on this literature by analyzing whether attitudes and norms are also transmitted across cultural boundaries, i.e., from immigrants to natives. In particular, we focus on mixed couples and investigate whether the gender role attitudes of foreign-born mothers-in-law affect the fertility and labor supply decisions of native US women who are married to second-generation immigrant men.

Our paper relates to two strands of the economic literature. The first strand follows the theory of intergenerational transmission of preferences and studies whether cultural values are transmitted between generations. In their model of endogenous cultural transmission, Bisin and Verdier (2000) show that parents are motivated to shape their children's cultural values by a "paternalistic altruism" similar to their own (Bisin and Verdier, 2000, p.962). A growing empirical body tests the relevance of intergenerational transmission of preferences in general (Bisin and Verdier, 2000; Guiso *et al.*, 2006; Cesarini *et al.*, 2009; Dohmen *et al.*, 2012) and with respect to gender roles in particular. The latter studies usually employ survey questions on attitudes to quantify the intergenerational correlation in gender role attitudes between mothers and their children. Using mother-child pairs from the National

Longitudinal Survey of Youth (NLSY79), Farré and Vella (2013), for example, document a strong correlation between mothers' gender role attitudes, as measured in 1979, and children's attitudes, as measured by the same set of survey questions asked in 1994-2002. They further find that maternal attitudes regarding the role of women do not only affect the labor force participation of daughters, but are also strongly correlated with the work decision of daughters-in-law. These findings are supported by Johnston *et al.* (2014), who use data from the 1970 British Cohort Study, which measures mothers' and children's gender role attitudes 25 years apart. The authors further show that, beyond the effect of maternal gender role attitudes, mother's work status in 1975 exhibits an additional effect on children's attitudes. Evidence that maternal employment is a strong predictor of daughter's and daughter-in-law's labor supply is also provided by Fernández *et al.* (2004) for the US and Kawaguchi and Miyazaki (2009) for Japan.

A second strand of literature follows the so called "epidemiological approach" (Fernández, 2007) and explores whether culture is mobile across countries. This literature studies the role of source-country culture in the economic behavior of immigrants in the host country (e.g., Antecol, 2000; Fernández and Fogli, 2009; Blau *et al.*, 2011; Ljunge, 2014; Bredtmann and Otten, 2015; Christopoulou and Lillard, 2015; Höckel, 2018). It relies on the assumption that when people emigrate, they leave their formal institutional environment behind, but take their values and beliefs with them and transmit them to their children. A common characteristic of studies utilizing this approach is that they use quantitative variables related to the outcomes studied instead of survey-based measures of attitudes as proxies for culture. In an early study, Antecol (2000) uses variation in the female labor force participation rate across immigrants' countries of origin as a proxy for culturally shaped gender role attitudes. She finds that the gender gap in the labor force participation of first-generation immigrant women in the US is positively correlated with the female labor force participation rate in their country of origin. For second and higher generations of immigrants, the explanatory power of the cultural proxy is substantially lower. Also for the US, Blau *et al.* (2011) show that the female to male labor force participation ratio in their country of origin is 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. Using the 1970 US Census, Fernández and Fogli (2009) find that the work and fertility outcomes of second-generation female immigrants are significantly correlated with the female labor force participation and fertility rate in their countries of origin. Blau *et al.* (2013) provide evidence for intergenerational transmission from mothers to second-generation immigrant daughters with respect to fertility and labor supply. Similarly to previous studies (Blau and Kahn, 2007; Parrado and Morgan, 2008; Almond *et al.*, 2013), the authors further find considerable assimilation towards natives with respect to the number of children.

In our paper, we combine these two strands of the literature and analyze whether the fertility and labor supply decisions of native US women are influenced by the gender role attitudes held in their mother-in-law's country of origin. In doing so, we contribute to the growing literature on the role of immigrants' source-country culture. While previous studies have solely focused on analyzing its effect on the economic outcomes of immigrants (and their descendants), we are the first to examine the role of immigrants' source-country culture in the behavior of native women by investigating the cultural spillovers from female immigrants to their native daughters-in-law. Studying this questions for the US case is important for several reasons. First, after a slow-down in the first half of the 20^{th} century, immigration to the US has increased remarkably over the last decades. Accordingly, the share of immigrants in the total population has increased from 5 percent in 1970 to 14 percent (or 45 million people) in 2017. The rise in immigration was further accompanied by an increase in the ethnic diversity among immigrants. For example, while 60 percent of immigrants were from Europe in 1970, this share decreased to 11 percent by 2017 (Migration Policy Institute, 2019). Lastly, as the immigrant population has grown, so has the chance that a native-born American will meet and marry a foreign-born spouse. Thus, the share of native-immigrant marriages in all marriages has almost doubled within the last decades, growing from 6 percent in 1970 to 10 percent in 2017 (Ruggles *et al.*, 2019). Against this background, investigating the cultural spillovers of foreign mothers-in-law on the labor supply and fertility behavior of native US women is of major importance.

Theoretically, the cultural values of the mother-in-law are expected to influence a woman either directly or indirectly, through the (intergenerationally inherited) gender role attitudes and behavior of her husband (Fernández *et al.*, 2004; Johnston *et al.*, 2014). Considering, for example, women's labor force participation decisions, this transmission can work through different complementary channels: First, men are more likely to support their working wives if they grew up with a non-traditional family model (i.e., one in which their mother worked). Second, men are more productive in household chores if their attitudes towards household time allocation are not determined by traditional gender roles. Third, men might demand an active labor force participation from their wives if they are used to economically independent women.

In the latter case, the husband's gender role attitudes may not only have a direct impact on wife's behavior. The effect of gender role attitudes could also work through assortative mating, whereby sons choose partners with similar attitudes to themselves and their mothers. However, models of inter-ethnic marriage imply that immigrants are, in general, more likely to marry other immigrants, preferable those of the same ethnic or cultural background. Intermarriage between (first- or second-generation) immigrants and natives is therefore interpreted as a key indicator of integration (Alba and Nee, 2005; Qian and Lichter, 2007; Adserà and Ferrer, 2015). By focusing on a sample of second-generation immigrant men who cohabit with a native woman, we thus argue that assortative mating based on intergenerationally transmitted gender role attitudes should at least be less prevalent than in other groups of immigrants. The fact that these men have chosen to marry (or cohabit with) a woman of a different cultural background reveals that the preservation of inherited cultural values through a selective partner choice should be of minor importance for them.

Our empirical analysis is based on the epidemiological approach and makes use of data from the US Current Population Survey (CPS) for the period 1994-2016. In addition, we employ a new identification strategy that addresses the problem of omitted variables at the level of the mother-in-law's country of origin by exploring the differential impact of the source-country cultural values of mothers- and fathers-in-law to identify the effect of

gender roles on women's behavioral responses.[1]

Using the ratio of the female to male labor force participation rate as a cultural proxy for gender roles, we find the probability that a women participates in the labor market to be significantly positively related to the ratio of the female to male labor force participation rate in her mother-in-law's country of origin. We further show that the labor supply effect is particularly pronounced following childbirth, and that it is due to the intergenerational transmission of gender roles rather than other unobservable factors at the mother-in-law's country of origin. This shows that cultural values are not only transmitted from mothers to their sons and daughters, but also to their daughters-in-law – either directly, or indirectly through their sons' gender role attitudes. Moreover, the results indicate that through this transmission mechanism, source-country cultural values do not only influence the labor force participation of female immigrants, but also of native women. With respect to women's fertility behavior, we do not find a robust correlation between a woman's number of children and the fertility rate in her mother-in-law's country of origin. This reveals that through the transmission of cultural values, immigration can affect the labor supply of native women, but does not seem to impact their fertility behavior.

The remainder of the paper is organized as follows. The next section outlines the empirical framework. Section 3 describes the data and in Section 4 we discuss our results. Section 5 provides concluding remarks.

2 Empirical Framework

To analyze the impact of gender role attitudes of a foreign mother-in-law on the work and fertility decisions of her native daughter-in-law, we use two different identification strategies. In our *baseline* specification, we follow the epidemiological approach (Fernández, 2007) and rely on variation in gender role attitudes across mother-in-law's countries of origin to identify the effect of source-country culture on the behavior of native women. For

[1]Similar intensity-of-treatment designs, comparing the cultural effects on women vs. men, have been applied by, e.g., Nollenberger *et al.* (2016), Rodríguez-Planas and Nollenberger (2018) and Rodríguez-Planas and de Galdeano (2019).

a sample of native women cohabiting[2] with men with a foreign-born mother, we estimate the following model:

$$y_{imfst} = \alpha + \beta\, CulturalProxy_{mt} + C'_{mt}\,\varphi + X'_i\,\lambda + \mu_f + \rho_s + \gamma_t + \varepsilon_{imfst}, \qquad (1)$$

where y_{imfst} is the work/fertility decision of native woman i with a mother-in-law from country m and a father-in-law from country f who resides in state s in the year of observation t. $CulturalProxy_{mt}$ refers to the gender role attitudes in the mother-in-law's country of origin in year t, C_{mt} contains further origin-country characteristics measured in year t, X_i contains household and individual characteristics, μ_f represents fixed effects for the father-in-law's source country[3], ρ_s denotes state of residence and γ_t year fixed effects. ε_{imfst} is the error term.

By including father-in-law source-country fixed effects, we only exploit variation in gender role attitudes across foreign mothers-in-law source countries, holding the father-in-law's source country constant. Thereby, we rule out that the gender role attitudes of the father-in-law's source country are confounding the estimated effect of our cultural proxy. However, the estimated effect β in Eq. (1) could still be biased if there exist other unobserved factors at the mother-in-law's source-country level that affect the work and fertility decisions of native women. The quality of education in his mother's country of origin, for example, might – through the intergenerational transmission of human capital – influence a man's economic position, which itself might be correlated with the work and fertility behavior of his wife. We therefore estimate an *extended* specification that is based on the assumption that gender role attitudes are more likely to be transmitted from mothers-in-law than from fathers-in-law, as it is mainly the behavior of the mother that serves as a role model for her son's attitudes with respect to women's role in society.[4] This

[2]We focus on cohabiting and not only on married couples as marriage rates in the US have largely decreased in the last decades. According to Lundberg *et al.* (2016), the emergence of cohabitation as an alternative to marriage has been a key feature of the post–World War II transformation of the American family.

[3]In our baseline sample, the father-in-law can be born in the same or in a different country as the mother-in-law. This includes the possibility that the father-in-law is a US native. As can be seen from Table A9, the results are robust to excluding father-in-law fixed effects from our baseline specification.

[4]Fernández *et al.* (2004), for example, argues that men whose mothers worked when they were

argument is supported by the findings of Blau *et al.* (2013), who show that the fertility and labor supply decisions of second-generation US immigrants are more strongly affected by the fertility and female labor force participation rate in the mother's source country than by the same characteristics in the father's source country. Gender-neutral country characteristics, in contrast, are expected to affect the behavior of native women similarly, irrespective of whether their father or mother-in-law is an immigrant.

In our *extended* specification, we thus estimate the following model for a sample of native women cohabiting with men who either have (i) a foreign-born mother and a native father or (ii) a native mother and a foreign-born father:

$$\begin{aligned} y_{ipst} = \eta + \phi\, MigMom_i + \kappa\, CulturalProxy_{pt} + \delta\, MigMom_i \times CulturalProxy_{pt} \\ + X_i'\,\pi + \omega_s + \tau_t + \upsilon_{ipst}. \end{aligned} \tag{2}$$

y_{ipst} is the work/fertility decision of native woman i with a foreign parent-in-law from country p residing in state s at the year of observation t. $MigMom_i$ is a dummy variable for having a foreign mother-in-law vs. a foreign father-in-law. Our main variable of interest is the interaction of having a foreign-born mother-in-law and the gender role attitudes in the foreign parent-in-law's country of origin, $MigMom_i \times CulturalProxy_{pt}$. Its coefficient δ can be interpreted as the additional influence of our cultural proxy when having a foreign-born mother-in-law over a foreign-born father-in-law. An effect of our cultural proxy that is unique to or stronger when the foreign parent-in-law is the mother and not the father suggests that the effect of the foreign mother-in-law's gender role attitudes reflects a cultural effect rather than capturing other unobserved factors at the parent-in-law's source-country level that are expected to exert similar effects through foreign-born mothers and fathers.[5] A similar intensity-of-treatment design, comparing the

adolescents develop a preference for working wives or are raised in a way that promotes helping out more in the household, making it easier for their wives to work.

[5]Of course, our identification strategy is only valid if migration flows to the US are not selective by gender, i.e., if male and female immigrants to the US come from similar source countries with comparable cultural values. To check this assumption, Tables A1 and A2 show the 15 most frequent source countries of the foreign mothers- and fathers-in-law in our sample along with their labor force participation ratios and fertility rates, respectively. As can be seen, the distribution of source countries and associated cultural values is fairly similar for the foreign-born mothers- and fathers-in-law in our sample.

cultural effects on women vs. men, has been applied, amongst others, by Nollenberger *et al.* (2016).

We estimate the parameters of Eqs. (1) and (2) using OLS, implying that the errors of both equations are normally distributed.[6] For simplicity, we thus model women's labor supply and fertility decisions as independent of each other, although they might be jointly determined (e.g. Francesconi, 2002). To address the problem of intra-class correlation in standard errors within source countries, we cluster standard errors at the level of the source country of the foreign mother-in-law (baseline specification) and the foreign parent-in-law (extended specification), respectively.

3 Data

Our data source at the individual level is the US Current Population Survey (CPS), which we extract from the IPUMS database (King *et al.*, 2010). Within this monthly US household survey, we derive data from the March Annual Social and Economic Supplement (ASEC) for our specifications on labor supply and data from the June Fertility Supplement for our specifications on fertility.[7] We restrict our sample to the period 1994-2016 as only those waves contain information on the country of origin of the parents of all household members. We are interested in the labor supply and fertility decisions of native women, i.e., of women who are born in the US and have US born parents.[8] further restrict the sample to those women cohabiting with a second-generation immigrant man, i.e., with a man who has at least one parent who is born outside the US.[9]

Our outcomes of interest are a woman's decision to participate in the labor market and

[6]Estimating the labor force participation equation with a probit or a logit model and the fertility equation under a negative binomial distribution yields similar results. The respective estimation results are available from the authors upon request.

[7]To avoid repeated observations for a given household due to the CPS rotation pattern, we use data from only the first time a household appears in the data.

[8]Note that we cannot rule out that some of the women in our sample are third-generation immigrants. While information on respondents' race and ethnicity could be used to identify immigrants of higher generations, Duncan and Trejo (2017) show that such subjective measures of ethnic self-identification suffer from severe measurement error.

[9]We consider both married and non-married partners that live in the same household. A robustness analysis including only married partners yields similar results. The respective estimation results are available from the authors upon request.

her number of children at the time of the interview. Labor force participation is measured by a binary indicator that takes value 1 if the woman is either employed or unemployed and 0 if she does not participate in the labor market.[10] A woman's number of children is measured by the number of live births ever had. For our estimations, we consider women aged 25-55. This restriction is applied to ensure that education is completed and retirement considerations do not determine work decisions yet.

Our main explanatory variables are the ratio of the female to the male labor force participation rate (RLFPR) and the fertility rate in the foreign parent-in-law's country of origin, which are derived from the World Development Indicators. These variables serve as proxies for the gender role attitudes in the source country of the foreign mother-in-law (or the foreign father-in-law).[11] Unlike source-country dummies, these cultural proxies reflect the preferences and believes towards women's market work and fertility in the source country more directly and capture changes over time. Moreover, the use of the ratio of the female to the male labor force participation rate has two advantages over the use of the female labor force participation rate: (i) the relative measure captures gender roles explicitly, net of other unobserved macroeconomic conditions correlated with a country's labor market conditions in general, and (ii) it implicitly adjusts for measurement errors in labor force participation rates at least to the extent that such measurement errors affect men's and women's participation rates similarly (Bredtmann and Otten, 2015). The fertility rate represents the total 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.

[10]Excluding unemployed women from the sample yields similar results. The respective estimation results are available from the authors upon request.

[11]Unlike the ratio of the female to male labor force participation rate, a country's fertility rate might not only reflect cultural values. In the absence of a public pension system or other financial instruments providing retirement income, children are perceived by parents as a component of their optimal retirement portfolio, as they will take care of their parents once they are retired (Boldrin and Jones, 2002). In case of such an "old-age security" motivation for childbearing, a high fertility rate does not necessarily mirror a population's strong cultural preference for large families and traditional gender roles, but might also reflect the economic benefit of having many children. In addition, there might be a discrepancy between actual and desired levels of fertility. However, utilizing information on desired levels of fertility from available survey data shows that, in our sample of countries, there is an almost on-to-one relationship between actual and desired levels of fertility. Considering a larger sample of countries, Günther and Harttgen (2016) come to a similar conclusion.

As outlined by Fernández and Fogli (2009), the two cultural proxies might have independent power to explain women's work and fertility behavior, as they may capture different aspects of culture. Whereas both variables should reflect a population's attitudes and beliefs with respect to the appropriate role of women in society, the fertility rate might further capture some independent cultural preferences for family size. Therefore, in our final specification, we also include both cultural proxies in our work and fertility regressions, respectively. In addition, we include a country's GDP per capita to control for differences in economic development between countries.

Our source-country indicators are assigned to women based on their parent-in-law's country of origin and year of observation (1994-2016). Similar to Antecol (2000) and Fernández and Fogli (2009), we use present values of the source-country characteristics as they reflect best how the country's cultural values have influenced the parent-in-law's counterparts who still live in their country of origin.[12] Origin countries with missing information on any aggregate indicator as well as countries for which the number of observations is particularly small (lower than 20) are excluded from the sample. In addition, to avoid our results to be driven by outliers, we exclude the 0.5 percent observations with the highest and the lowest values of our cultural proxy.[13]

Based on the detailed socio-demographic characteristics included in the CPS data, we generate some additional control variables at the individual and household level. We control for women's years of education, age and its square, race, Hispanic ethnicity, and for whether she is married or not. In the labor force participation estimations, we further control for the number of own children and the number of own children under the age of five in household. While information on the gender role attitudes or labor supply of a woman's mother is not available in the CPS data, we proxy maternal gender role attitudes by the state- and education-specific labor force participation rate of native women who

[12]Data limitation do not allow us to use cultural proxies prior to 1960. However, Fernández and Fogli (2009) and Marcén *et al.* (2018) show that results based on past and present cultural proxies are very similar. This result is supported by Tables A10 and A11, which show that our results are robust to using the average values of the RFLFPR and the fertility rate over our observation period, thus only exploring cross-country variation in the cultural proxies.

[13]Excluding the top and bottom 1 percent or 1.5 percent of observations yields quantitatively similar results. The respective estimation results are available from the authors upon request.

were aged 30 to 55 when the women in our sample were 15 years old. This is important to ensure that any effect of the mother-in-law's gender role attitudes is not only driven by assortative mating based on similar attitudes towards gender roles. Lastly, we add some characteristics of the husband, i.e., years of education, age and its square, personal income (only in the labor force participation estimations), race, and Hispanic ethnicity.[14]

4 Results

The estimation results on women's labor force participation are shown in Table 1.[15] Columns I-III are based on estimating the *baseline* specification in Eq. (1). The first column shows the effect of the RLFPR in the mother-in-law's country of origin on the probability that a woman participates in the labor force, controlling only for her characteristics as well as state of residence, year, and father-in-law country fixed effects. In column II, we add husband's characteristics and in our final specification in column III, we include the log of GDP per capita and the fertility rate in the mother-in-law's source country. The results of estimating the extended specification in Eq. (2) are presented in columns IV-VI. Similar to Eq. (1), we first only control for women's characteristics as well as state and year fixed effects (column IV). In column V, we additionally include husbands' characteristics and in column VI, we add further characteristics of the foreign parent-in-law's country of origin.

For both specifications, our results reveal a positive correlation between the cultural proxy and a woman's probability to participate in the labor market. In our *baseline* specification, the estimated effect of the RLFPR in the mother-in-law's source country is positive and significantly different from zero. In our preferred specification (column III), a 10 percentage points increase in RLFPR increases a woman's probability to participate in the labor market by 1.5 percentage points. In the *extended* specification, the coefficient for the RLFPR of the father-in-law's country of origin is insignificant and close to zero

[14]Descriptive statistics of all variables are shown in Tables A3 and A4 for the sample underlying the estimations on labor force participation and fertility, respectively.

[15]Full estimation results are shown in Tables A5 and A6.

in all columns. The interaction effect, i.e., the additional impact of the RLFPR if the foreign parent is the mother-in-law and not the father-in-law, is positive and statistically significant in all specifications. Adding the base effect (0.007) and the interaction effect (0.146) of the RLFPR reveals that a 10 percentage points increase in the RLFPR in the mother-in-law's country of origin increases a woman's probability to participate in the labor force by around 1.5 percentage points (column VI).[16] The magnitude of this effect is therefore comparable to the baseline specification. This gender difference in the effect of the RLFPR of the mother-in-law's and the father-in-law's country of origin reveals that our cultural proxy reflects a true cultural effect and not merely the effect of other (unobserved) characteristics of the parent-in-law's source country. This argumentation is supported by the fact that the other country characteristics controlled for, i.e., GDP per capita and the fertility rate in the mother/parent-in-law's country of origin, do not have any impact on women's labor force participation decisions.

In order to illustrate the magnitude of the cultural effect, we can compare it to the effects of other socio-demographic characteristics on women's labor force participation.[17] An increase in the RLFPR in the mother-in-law's country of origin by one standard deviation (12 percentage points), which roughly represents the difference in the RLFPR between Poland and Canada in 2016, increases women's likelihood of participating in the labor market by 1.8 percentage points. The effect of a one-standard-deviation increase in our cultural proxy on women's labor force participation is therefore almost as high as the effect of one additional year of education (2.2 percentage points) and about two thirds of the effect of one additional child in the household (2.8 percentage points). Interestingly, we can also compare the effect of RLFPR, which serves as a proxy for the gender roles held by a woman's mothers-in-law, to the estimated effect of the state-education specific female labor force participation rate of native women who were aged 30 to 55 when the women in our sample were 15 years old, which serves as a proxy for the gender roles held

[16]The overall effect of the RLFPR in the mother-in-law's country of origin is statistically significant at the 1-percent level.

[17]This comparison is based on the results of our baseline specification including woman's characteristics, husband's characteristics, and characteristics of the origin country of the mother-in-law (column III of Table A5). Using the results of the extended specification yields similar results.

by a woman's own mother. The effect of a one-standard-deviation increase in the RLFPR in the mother-in-law's country of origin on women's labor force participation is about half the size of the effect of a respective increase in the state-education specific labor force participation rate at age 15. This illustration of the magnitude of the effect of the RLFPR in the mother-in-law's country of origin on native women' labor supply reveals that this effect is by far not negligible.

We thus interpret our findings as evidence that the preferences and believes regarding working women held in the source country of their foreign mothers-in-law affect the labor force participation decision of native women. This result does not only confirm that husbands' attitudes are influential drivers of women's labor supply decision, as previously shown, amongst others, by Fernández *et al.* (2004), Farré and Vella (2013), and Johnston *et al.* (2014), but further reveals that source-country culture cannot only influence the labor market behavior of immigrants and their descendants, but can also have spillover effects on the labor market outcomes of native women. Of course, as already outlined by Farré and Vella (2013), our results must not reveal a causal relationship between men's preferences and the labor supply of women, as we cannot fully rule out that part of the effect operates through sorting in the marriage market. However, even in the latter case our findings have important implications for the labor market prospects of women. Given that at least previous waves of immigrants to the US mainly came from countries with more traditional gender roles (as measured by RLFPR, see Table A1), native women might become less involved in labor market activities, for example because of (missing) social pressure or to increase their marriage probability.

To further investigate in which family context source-country culture is most relevant, we divide our sample into sub-samples for women without children (Table 2) and women with children (Table 3). For women without children, the effect of our cultural proxy is positive and significant in the baseline specification, but small and statistically insignificant in the extended specification. This reveals that there is no robust effect of a mother-in-law's gender role attitudes on the labor supply of native US women without children. For women with children, in contrast, the gender role attitudes held in the mother-in-law's source

country have a large and significant effect in both specifications. This implies that our cultural effect is mainly driven by mothers, which is in line with the findings of Johnston *et al.* (2014), who show that the effect of maternal attitudes and beliefs are not constant throughout a woman's life. Instead, they are particularly relevant for women when they themselves have children. Our results add to this finding by showing that this is not only true for attitudes transmitted from parents to their children, but also for cultural beliefs transmitted from immigrant mothers-in-law.

The estimation results on our second outcome of interest, women's number of children, are reported in Table 4.[18] In contrast to our results on female labor force participation, we do not find a consistent significant effect of a mother-in-law's source-country culture on her daughter-in-law's number of children. Though the estimated effect of our cultural proxy, the fertility rate in the mother-in-law's country of origin, is positive, it is small in magnitude and insignificant once we control for other characteristics of the mother-in-law's country of origin (column III). The results of the extended specification further reveal no differential impact of the fertility rate in the foreign mother-in-law's and the foreign father-in-law's country of origin on women's number of children (columns IV-VI). One possible explanation for this finding might be that the fertility rate in the mother's source country is not a good proxy for her son's norms and values with respect to family size. However, we provide two robustness checks to show that the choice of cultural proxy alone cannot explain our findings. In Table 5, we use the fertility rate instead of the labor force participation ratio as our cultural proxy to explain women's labor supply. Both the baseline and the extended specification reveal a negative and statistically significant correlation between the fertility rate in the mother-in-law's country of origin and women's labor force participation. In Table 6, we use the ratio of the female to male labor force participation rate instead of the fertility rate to explain women's fertility behavior. While there is a negative and significant correlation between the labor force participation ratio in the mother-in-law's source country and women's number of children (column I), this correlation vanishes once husband's characteristics are controlled for (column II) and does

[18] Full estimation results are shown in Tables A7 and A8.

not appear in the extended specification (columns IV-VI). These results reveal that the lack of the cultural effect on women's fertility is not due to the choice of the cultural proxy.

To further test the robustness of the non-existing fertility effect, we use two alternative outcomes to explore the impact of source-country culture on the family formation of native US women. Analogous to our analysis on the number of children (see Table 4), we check whether the fertility rate in the mother-in-law's country of origin can explain women's age at first birth or their probability of being married.[19] The respective estimation results are shown in Tables 7 and 8. For both outcomes, we do not find a significant effect of our cultural proxy, confirming our basic result that women's family planning decisions are not influenced by their partner's intergenerationally inherited gender role attitudes.

This result is in line with the findings of Johnston *et al.* (2014). The authors test whether women with traditional mothers are more likely to marry and have children and find statistically insignificant estimates near zero for both, the impact of maternal gender role attitudes on marital status and motherhood. In the context of immigrant women, this finding further supports the adaption hypothesis, which posits that fertility norms of immigrants begin to resemble those of the native population once they settle in their new environment (Parrado and Morgan, 2008; Adsera *et al.*, 2012; Adsera and Ferrer, 2014). The empirical literature confirms the adaption hypothesis by analyzing the fertility behavior of immigrants dependent on age at immigration. Adsera and Ferrer (2014), for example, show that the fertility rate of women who migrated to Canada before age 6 is indistinguishable from that of natives.

A complementary argument is given by Chabé-Ferret (2019), who provides empirical evidence for the existence of a trade-off between the benefits and costs of following a cultural norm.[20] As Chabé-Ferret (2019) argues, if the welfare costs of sticking with a norm are large enough, they outweigh the associated utility gain and people decide not to

[19] While there is little evidence in the literature on cultural effects on the probability of being married, Furtado *et al.* (2013) show that the divorce tendencies of childhood-arriving immigrants in the US can be explained by source-country divorce rates.

[20] Studying the birth timing decisions of second-generation immigrant women in France and the US, Chabé-Ferret (2019) shows that source-country fertility norms do not matter for the age at first and second birth, which are costly decisions to adjust, but for the timing of third births.

comply with it. In our context, one could argue that following a culturally transmitted fertility norm (i.e., having many children) is more costly for women than following a respective norm against female work (i.e., not participating in the labor market). As the economic costs of raising children in the US are very high[21], budget constraints may simply prevent women from complying with a culturally transmitted fertility norm.

5 Conclusion

The recent literature on intergenerational mobility has shown that the intergenerational transmission of preferences and attitudes is an important mechanism for the high correlation between the economic outcomes of parents and their children. We contribute to this literature by examining whether maternal gender role attitudes are also transmitted across cultural boundaries, i.e., from immigrants to natives. In particular, we focus on mixed couples and analyze whether the fertility and labor supply decisions of native US women who are married to second-generation immigrant men are affected by the gender role attitudes held in their mother-in-law's country of origin.

Our empirical analysis is based on data from the US Current Population Survey (CPS) for the period 1994-2016. To identify the cultural spillovers from female immigrants to the subsequent generation of female natives, we use two different identification strategies. Our first set of results is based on the well-established epidemiological approach (Fernández, 2007). To address the problem of omitted variables at the mother-in-law's country of origin, we further employ a novel identification strategy that explores the differential impact of the source-country cultural values of mothers- and fathers-in-law.

Our results reveal that the probability that a woman participates in the labor market is significantly positively related to the ratio of the female to male labor force participation rate in her mother-in-law's country of origin. Results based on an intensity-of-treatment design provide evidence that this finding is due to the intergenerational transmission of

[21]The United States Department of Agriculture estimates that the current per-child cost from birth to age 17 (which does not factor in college tuition costs) can be as high as $372,000, or about $23,000 per year (Lino *et al.*, 2017).

gender roles rather than other unobservable factors at the mother-in-law's country of birth. These results indicate that attitudes and values are not only transmitted from mothers to their sons and daughters, but also to their daughters-in-law. More importantly, they reveal that through this transmission mechanism, the cultural values held in their country of origin do not only influence the labor force participation of female immigrants, but can also affect the labor market behavior of native women. This is particularly remarkable for our sample, in which the intermarriage with native women signals a rather "non-traditionalist" selection of second-generation immigrant men.

In contrast to our results on female labor force participation, we do not find a consistent significant effect on women's fertility behavior. Though the estimated effect of our cultural proxy, the fertility rate in the mother-in-law's source country, on a woman's number of children is positive, it is small in magnitude and mostly insignificant. Hence, we do not find evidence that the intergenerationally transmitted gender role attitudes of their foreign mother-in-law affect the fertility behavior of native US women.

Nevertheless, our results on women's labor force participation provide further evidence that preferences and attitudes are an important pathway for the intergenerational transmission of economic outcomes. Specifically, they reveal that the gender role attitudes held by immigrant women in the US are not only transmitted to their sons and daughters, but can also affect the labor force participation of their native daughters-in-law. In line with Fernández *et al.* (2004) and Johnston *et al.* (2014), we interpret our results as evidence that the cultural values of the mother-in-law influence a woman mainly through the gender role attitudes and the behavior of her husband. Another possibility is, of course, that the effect of gender role attitudes partly works through assortative mating, whereby sons choose wives with similar attitudes to themselves and their mothers. However, as our sample consists solely of inter-ethnically married and thus rather well-integrated second-generation immigrants and as we attempt to control for the gender role attitudes of a woman's own mother, we argue that sorting in the marriage market cannot be the whole story. Still, even in the case of assortative mating, our findings have important implications for the labor market prospects of women. Given that at least previous waves of immigrants to the

US mainly came from countries with more traditional gender roles (see Table A1), women might become less involved in labor market activities, for example because of (missing) social pressure or to increase their marriage probability.

References

Adserà, A. and Ferrer, A. (2015). Immigrants and demography: Marriage, divorce, and fertility. In *Handbook of the Economics of International Migration*, vol. 1, Elsevier, pp. 315–374.

Adsera, A. and Ferrer, A. M. (2014). Factors influencing the fertility choices of child immigrants in Canada. *Population Studies*, **68** (1), 65–79.

—, —, Sigle-Rushton, W. and Wilson, B. (2012). Fertility patterns of child migrants: Age at migration and ancestry in comparative perspective. *The Annals of the American Academy of Political and Social Science*, **643** (1), 160–189.

Alba, R. D. and Nee, V. G. (2005). *Remaking the American Mainstream: Assimilation and Contemporary Immigration*. Massachusetts: Harvard University Press.

Almond, D., Edlund, L. and Milligan, K. (2013). Son preference and the persistence of culture: evidence from South and East Asian immigrants to Canada. *Population and Development Review*, **39** (1), 75–95.

Antecol, H. (2000). An examination of cross-country differences in the gender gap in labor force participation rates. *Labour Economics*, **7** (4), 409–426.

Bisin, A. and Verdier, T. (2000). "Beyond the melting pot": cultural transmission, marriage, and the evolution of ethnic and religious traits. *Quarterly Journal of Economics*, **115** (3), 955–988.

— and — (2001). The economics of cultural transmission and the dynamics of preferences. *Journal of Economic Theory*, **97** (2), 298–319.

Black, S. E. and Devereux, P. J. (2011). Recent Developments in Intergenerational Mobility. In D. Card and O. Ashenfelter (eds.), *Handbook of Labor Economics, Vol. 4, Part B*, Amsterdam: Elsevier, pp. 1487–1541.

Blau, F. D. and Kahn, L. M. (2007). Gender and assimilation among Mexican Americans. In *Mexican immigration to the United States*, University of Chicago Press, pp. 57–106.

—, —, Liu, A. Y.-H. and Papps, K. L. (2013). The transmission of women's fertility, human capital, and work orientation across immigrant generations. *Journal of Population Economics*, **26** (2), 405–435.

—, — and Papps, K. L. (2011). Gender, source country characteristics, and labor market assimilation among immigrants. *The Review of Economics and Statistics*, **93** (1), 43–58.

Boldrin, M. and Jones, L. E. (2002). Mortality, Fertility, and Saving in a Malthusian Economy. *Review of Economic Dynamics*, **5** (4), 775–814.

Bredtmann, J. and Otten, S. (2015). The Role of Source- and Host-Country Characteristics in Female Immigrant Labor Supply. MPRA Paper No. 44544.

Cesarini, D., Dawes, C. T., Johannesson, M., Lichtenstein, P. and Wallace, B. (2009). Genetic variation in preferences for giving and risk taking. *Quarterly Journal of Economics*, **124** (2), 809–842.

Chabé-Ferret, B. (2019). Adherence to cultural norms and economic incentives: Evidence from fertility timing decisions. *Journal of Economic Behavior & Organization*, **162**, 24–48.

Christopoulou, R. and Lillard, D. R. (2015). Is smoking behavior culturally determined? Evidence from British immigrants. *Journal of Economic Behavior & Organization*, **110**, 78–90.

Doepke, M. and Zilibotti, F. (2008). Occupational choice and the spirit of capitalism. *The Quarterly Journal of Economics*, **123** (2), 747–793.

Dohmen, T., Falk, A., Huffman, D. and Sunde, U. (2012). The intergenerational transmission of risk and trust attitudes. *The Review of Economic Studies*, **79** (2), 645–677.

Duncan, B. and Trejo, S. J. (2017). The Complexity of Immigrant Generations: Implications for Assessing the Socioeconomic Integration of Hispanics and Asians. *Industrial and Labor Relations Review*, **70** (5), 1146–1175.

Farré, L. and Vella, F. (2013). The intergenerational transmission of gender role attitudes and its implications for female labour force participation. *Economica*, **80** (318), 219–247.

Fernández, R. (2007). Alfred Marshall lecture: Women, work, and culture. *Journal of the European Economic Association*, **5** (2–3), 305–332.

Fernández, R. and Fogli, A. (2009). Culture: An empirical investigation of beliefs, work, and fertility. *American Economic Journal: Macroeconomics*, **1** (1), 146–177.

—, Fogli, A. and Olivetti, C. (2004). Mothers and sons: Preference formation and female labor force dynamics. *Quarterly Journal of Economics*, **119** (4), 1249–1299.

Francesconi, M. (2002). A Joint Dynamic Model of Fertility and Work of Married Women. *Journal of Labor Economics*, **20** (2), 336–380.

Furtado, D., Marcén, M. and Sevilla, A. (2013). Does Culture Affect Divorce? Evidence From European Immigrants in the United States. *Demography*, **50** (3), 1013–1038.

Guiso, L., Monte, F., Sapienza, P. and Zingales, L. (2008). Culture, gender, and math. *Science*, **320** (5880), 1164–1165.

—, Sapienza, P. and Zingales, L. (2006). Does culture affect economic outcomes? *Journal of Economic Perspectives*, **20** (2), 23–48.

Günther, I. and Harttgen, K. (2016). Desired fertility and number of children born across time and space. *Demography*, **53** (1), 55–83.

Höckel, L. S. (2018). Collectivism in the labor market: Evidence from second generation immigrants in the United States. *Journal of Comparative Economics*, **46** (4), 1347–1369.

Johnston, D. W., Schurer, S. and Shields, M. A. (2014). Maternal gender role attitudes, human capital investment, and labour supply of sons and daughters. *Oxford Economic Papers*, **66** (3), 631–659.

Kawaguchi, D. and Miyazaki, J. (2009). Working mothers and sons' preferences regarding female labor supply: direct evidence from stated preferences. *Journal of Population Economics*, **22** (1), 115–130.

King, M., Ruggles, S., Alexander, J. T., Flood, S., Genadek, K., Schroeder, M. B., Trampe, B. and Vick, R. (2010). Integrated public use microdata series, current population survey: Version 3.0. [machine-readable database].

Lino, M., Kuczynski, K., Rodriguez, N. and Schap, T. (2017). Expenditures on Children by Families, 2015. Miscellaneous Publication No. 1528-2015. U.S. Department of Agriculture, Center for Nutrition Policy and Promotion.

Ljunge, M. (2014). Trust issues: Evidence on the intergenerational trust transmission among children of immigrants. *Journal of Economic Behavior & Organization*, **106**, 175–196.

Lundberg, S., Pollak, R. A. and Stearns, J. (2016). Family Inequality: Diverging Patterns in Marriage, Cohabitation, and Childbearing. *Journal of Economic Perspectives*, **30** (2), 79–102.

Marcén, M., Molina, J. A. and Morales, M. (2018). The effect of culture on the fertility decisions of immigrant women in the United States. *Economic Modelling*, **70**, 15–28.

Migration Policy Institute (2019). Data Hub. https://www.migrationpolicy.org/programs/data-hub/charts/immigrant-population-over-time.

Nollenberger, N., Rodríguez-Planas, N. and Sevilla, A. (2016). The Math Gender Gap: The Role of Culture. *American Economic Review: Papers & Proceedings*, **106** (5), 257–261.

Parrado, E. A. and Morgan, S. P. (2008). Intergenerational fertility among hispanic women: New evidence of immigrant assimilation. *Demography*, **45** (3), 651–671.

Qian, Z. and Lichter, D. T. (2007). Social boundaries and marital assimilation: Interpreting trends in racial and ethnic intermarriage. *American Sociological Review*, **72** (1), 68–94.

Rodríguez-Planas, N. and de Galdeano, A. S. (2019). Intergenerational transmission of gender social norms and teenage smoking. *Social Science & Medicine*, **222**, 122–132.

— and Nollenberger, N. (2018). Let the girls learn! It is not only about math ... it's about gender social norms. *Economics of Education Review*, **62**, 230–253.

Ruggles, S., Flood, S., Goeken, R., Grover, J., Meyer, E., Pacas, J. and Sobek, M. (2019). IPUMS USA: Version 9.0 [dataset]. Minneapolis, MN: IPUMS, 2019. https://doi.org/10.18128/D010.V9.0.

Tables

Table 1: Women's Labor Force Participation

	Baseline specification			Extended specification		
	I	II	III	IV	V	VI
Origin country characteristics[a]						
Ratio of female to male LFPR (RLFPR)	0.107***	0.138***	0.146***	−0.027	0.020	0.007
	(0.040)	(0.041)	(0.045)	(0.050)	(0.054)	(0.056)
Foreign mother-in-law	–	–	–	−0.110†	−0.105†	−0.103†
				(0.032)	(0.029)	(0.029)
Foreign mother-in-law × RLFPR	–	–	–	0.157***	0.149†	0.146†
				(0.046)	(0.042)	(0.042)
Log of GDP per capita	–	–	−0.010	–	–	0.004
			(0.007)			(0.006)
Fertility rate (FR)	–	–	−0.017*	–	–	0.000
			(0.010)			(0.010)
Husband's characteristics	no	yes	yes	no	yes	yes
Father-in-law country FE	yes	yes	yes	no	no	no
Observations	13,369	13,369	13,369	13,712	13,712	13,712
Adjusted R^2	0.062	0.075	0.075	0.051	0.067	0.067

*Notes: – Results are obtained from OLS regressions. All regressions include controls for women's characteristics, the state-education-specific FLFPR at age 15 as well as state and year fixed effects. Full estimation results are shown in Tables A5 and A6. – The sample of the baseline specification includes all US born women aged 25-55 with a US born husband and a foreign mother-in-law. The sample of the extended specification includes all US born women aged 25-55 with a US born husband and one foreign parent-in-law (mother-in-law or father-in-law). – [a] In the baseline specification, the origin country characteristics refer to the country of birth of the foreign mother-in-law. In the extended specification, the origin country characteristics refer to the country of birth of the foreign parent-in-law. – Standard errors (in parentheses) are clustered at the level of the origin country of the foreign mother-in-law (baseline specification) and the foreign parent-in-law (extended specification), respectively. – † p<0.001, *** p<0.01, ** p<0.05 * p<0.10.*

Table 2: Women's Labor Force Participation – Women without Children

	Baseline specification			Extended specification		
	I	II	III	IV	V	VI
Origin country characteristics[a]						
Ratio of female to male LFPR (RLFPR)	0.134**	0.170**	0.218***	0.057	0.069	0.046
	(0.060)	(0.068)	(0.067)	(0.074)	(0.081)	(0.077)
Foreign mother-in-law	–	–	–	−0.066	−0.065	−0.065
				(0.093)	(0.096)	(0.097)
Foreign mother-in-law × RLFPR	–	–	–	0.071	0.065	0.065
				(0.126)	(0.130)	(0.130)
Log of GDP per capita	–	–	−0.021*	–	–	0.003
			(0.012)			(0.012)
Fertility rate (FR)	–	–	−0.018	–	–	−0.008
			(0.016)			(0.021)
Husband's characteristics	no	yes	yes	no	yes	yes
Father-in-law country FE	yes	yes	yes	no	no	no
Observations	3,280	3,280	3,280	3,523	3,523	3,523
Adjusted R^2	0.056	0.057	0.057	0.056	0.057	0.056

*Notes: – Results are obtained from OLS regressions. All regressions include controls for women's characteristics, the state-education-specific FLFPR at age 15 as well as state and year fixed effects. – The sample of the baseline specification includes all US born women aged 25-55 with a US born husband and a foreign mother-in-law who do not live with own children in their household. The sample of the extended specification includes all US born women aged 25-55 with a US born husband and one foreign parent-in-law (mother-in-law or father-in-law) who do not live with own children in their household. – [a] In the baseline specification, the origin country characteristics refer to the country of birth of the foreign mother-in-law. In the extended specification, the origin country characteristics refer to the country of birth of the foreign parent-in-law. – Standard errors (in parentheses) are clustered at the level of the origin country of the foreign mother-in-law (baseline specification) and the foreign parent-in-law (extended specification), respectively. – † p<0.001, *** p<0.01, ** p<0.05 * p<0.10.*

Table 3: Women's Labor Force Participation – Women with Children

	Baseline specification			Extended specification		
	I	II	III	IV	V	VI
Origin country characteristics[a]						
Ratio of female to male LFPR (RLFPR)	0.099*	0.130**	0.137**	−0.057	0.007	−0.000
	(0.056)	(0.052)	(0.058)	(0.059)	(0.065)	(0.065)
Foreign mother-in-law	–	–	–	−0.121**	−0.111**	−0.110**
				(0.051)	(0.046)	(0.046)
Foreign mother-in-law × RLFPR	–	–	–	0.183**	0.170**	0.168**
				(0.072)	(0.065)	(0.065)
Log of GDP per capita	–	–	−0.009	–	–	0.003
			(0.009)			(0.006)
Fertility rate (FR)	–	–	−0.015	–	–	0.003
			(0.013)			(0.010)
Husband's characteristics	no	yes	yes	no	yes	yes
Father-in-law country FE	yes	yes	yes	no	no	no
Observations	10,089	10,089	10,089	10,189	10,189	10,189
Adjusted R^2	0.034	0.054	0.054	0.024	0.050	0.050

*Notes: – Results are obtained from OLS regressions. All regressions include controls for women's characteristics, the state-education-specific FLFPR at age 15 as well as state and year fixed effects. – The sample of the baseline specification includes all US born women aged 25-55 with a US born husband and a foreign mother-in-law who do not live with own children in their household. The sample of the extended specification includes all US born women aged 25-55 with a US born husband and one foreign parent-in-law (mother-in-law or father-in-law) who do not live with own children in their household. – [a] In the baseline specification, the origin country characteristics refer to the country of birth of the foreign mother-in-law. In the extended specification, the origin country characteristics refer to the country of birth of the foreign parent-in-law. – Standard errors (in parentheses) are clustered at the level of the origin country of the foreign mother-in-law (baseline specification) and the foreign parent-in-law (extended specification), respectively. – † p<0.001, *** p<0.01, ** p<0.05 * p<0.10.*

Table 4: Women's Number of Children

	Baseline specification			Extended specification		
	I	II	III	IV	V	VI
Origin country characteristics[a]						
Fertility rate (FR)	0.123***	0.089**	0.085	0.246***	0.170**	0.197***
	(0.043)	(0.043)	(0.060)	(0.087)	(0.070)	(0.064)
Foreign mother-in-law	–	–	–	0.240	0.216	0.206
				(0.152)	(0.145)	(0.149)
Foreign mother-in-law × FR	–	–	–	−0.109	−0.093	−0.090
				(0.080)	(0.075)	(0.076)
Log of GDP per capita	–	–	0.016	–	–	0.028
			(0.045)			(0.030)
Ratio of female to male LFPR (RLFPR)	–	–	−0.315	–	–	−0.013
			(0.340)			(0.232)
Husband's characteristics	no	yes	yes	no	yes	yes
Father-in-law country FE	yes	yes	yes	no	no	no
Observations	3,303	3,303	3,303	3,418	3,418	3,418
Adjusted R^2	0.167	0.171	0.171	0.151	0.165	0.164

*Notes: – Results are obtained from OLS regressions. All regressions include controls for women's characteristics, the state-education-specific FLFPR at age 15 as well as state and year fixed effects. Full estimation results are shown in Tables A7 and A8. – The sample of the baseline specification includes all US born women aged 25-55 with a US born husband and a foreign mother-in-law. The sample of the extended specification includes all US born women aged 25-55 with a US born husband and one foreign parent-in-law (mother-in-law or father-in-law). – [a] In the baseline specification, the origin country characteristics refer to the country of birth of the foreign mother-in-law. In the extended specification, the origin country characteristics refer to the country of birth of the foreign parent-in-law. – Standard errors (in parentheses) are clustered at the level of the origin country of the foreign mother-in-law (baseline specification) and the foreign parent-in-law (extended specification), respectively. – † p<0.001, *** p<0.01, ** p<0.05 * p<0.10.*

Table 5: Women's Labor Force Participation – Reverse Cultural Proxies

	Baseline specification			Extended specification		
	I	II	III	IV	V	VI
Origin country characteristics[a]						
Fertility rate (FR)	−0.014**	−0.018**	−0.017*	0.014	0.007	0.016
	(0.007)	(0.007)	(0.010)	(0.009)	(0.009)	(0.012)
Foreign mother-in-law	–	–	–	0.065***	0.061***	0.058**
				(0.024)	(0.023)	(0.024)
Foreign mother-in-law × FR	–	–	–	−0.035***	−0.033***	−0.032***
				(0.011)	(0.011)	(0.011)
Log of GDP per capita	–	–	−0.010	–	–	0.004
			(0.007)			(0.006)
Ratio of female to male LFPR (RLFPR)	–	–	0.146***	–	–	0.072
			(0.045)			(0.049)
Husband's characteristics	no	yes	yes	no	yes	yes
Father-in-law country FE	yes	yes	yes	no	no	no
Observations	13,369	13,369	13,369	13,712	13,712	13,712
Adjusted R^2	0.062	0.074	0.075	0.051	0.067	0.067

*Notes: – Results are obtained from OLS regressions. All regressions include controls for women's characteristics, the state-education-specific FLFPR at age 15 as well as state and year fixed effects. – The sample of the baseline specification includes all US born women aged 25-55 with a US born husband and a foreign mother-in-law. The sample of the extended specification includes all US born women aged 25-55 with a US born husband and one foreign parent-in-law (mother-in-law or father-in-law). – [a] In the baseline specification, the origin country characteristics refer to the country of birth of the foreign mother-in-law. In the extended specification, the origin country characteristics refer to the country of birth of the foreign parent-in-law. – Standard errors (in parentheses) are clustered at the level of the origin country of the foreign mother-in-law (baseline specification) and the foreign parent-in-law (extended specification), respectively. – † p<0.001, *** p<0.01, ** p<0.05 * p<0.10.*

Table 6: Women's Number of Children – Reverse Cultural Proxies

	Baseline specification			Extended specification		
	I	II	III	IV	V	VI
Origin country characteristics[a]						
Ratio of female to male LFPR (RLFPR)	−0.580**	−0.414	−0.315	−0.646	−0.212	−0.058
	(0.261)	(0.283)	(0.340)	(0.494)	(0.382)	(0.323)
Foreign mother-in-law	–	–	–	0.013	−0.011	−0.027
				(0.298)	(0.283)	(0.276)
Foreign mother-in-law × RLFPR	–	–	–	0.062	0.091	0.102
				(0.402)	(0.386)	(0.378)
Log of GDP per capita	–	–	0.016	–	–	0.029
			(0.045)			(0.030)
Fertility rate (FR)	–	–	0.085	–	–	0.152***
			(0.060)			(0.050)
Husband's characteristics	no	yes	yes	no	yes	yes
Father-in-law country FE	yes	yes	yes	no	no	no
Observations	3,303	3,303	3,303	3,418	3,418	3,418
Adjusted R^2	0.166	0.171	0.171	0.147	0.162	0.164

*Notes: – Results are obtained from OLS regressions. All regressions include controls for women's characteristics, the state-education-specific FLFPR at age 15 as well as state and year fixed effects. – The sample of the baseline specification includes all US born women aged 25-55 with a US born husband and a foreign mother-in-law. The sample of the extended specification includes all US born women aged 25-55 with a US born husband and one foreign parent-in-law (mother-in-law or father-in-law). – [a] In the baseline specification, the origin country characteristics refer to the country of birth of the foreign mother-in-law. In the extended specification, the origin country characteristics refer to the country of birth of the foreign parent-in-law. – Standard errors (in parentheses) are clustered at the level of the origin country of the foreign mother-in-law (baseline specification) and the foreign parent-in-law (extended specification), respectively. – † p<0.001, *** p<0.01, ** p<0.05 * p<0.10.*

Table 7: Women's Age at First Birth

	Baseline specification			Extended specification		
	I	II	III	IV	V	VI
Origin country characteristics[a]						
Fertility rate (FR)	−0.080	0.007	0.118	0.044	0.193	0.198
	(0.184)	(0.202)	(0.274)	(0.244)	(0.219)	(0.296)
Foreign mother-in-law	–	–	–	0.564	0.505	0.510
				(0.663)	(0.633)	(0.659)
Foreign mother-in-law × FR	–	–	–	−0.107	−0.120	−0.120
				(0.310)	(0.297)	(0.306)
Log of GDP per capita	–	–	0.262	–	–	0.072
			(0.189)			(0.163)
Ratio of female to male LFPR (RLFPR)	–	–	−2.405**	–	–	−1.093
			(1.065)			(0.767)
Husband's characteristics	no	yes	yes	no	yes	yes
Father-in-law country FE	yes	yes	yes	no	no	no
Observations	2,510	2,510	2,510	2,581	2,581	2,581
Adjusted R^2	0.358	0.375	0.375	0.307	0.326	0.325

*Notes: – Results are obtained from OLS regressions. All regressions include controls for woman's characteristics, the state-education-specific FLFPR at age 15 as well as state and year fixed effects. – The sample of the baseline specification includes all US born women aged 25-55 with a US born husband and a foreign mother-in-law. The sample of the extended specification includes all US born women aged 25-55 with a US born husband and one foreign parent-in-law (mother-in-law or father-in-law). – [a] In the baseline specification, the origin country characteristics refer to the country of birth of the foreign mother-in-law. In the extended specification, the origin country characteristics refer to the country of birth of the foreign parent-in-law. – Standard errors (in parentheses) are clustered at the level of the origin country of the foreign mother-in-law (baseline specification) and the foreign parent-in-law (extended specification), respectively. – † p<0.001, *** p<0.01, ** p<0.05 * p<0.10.*

Table 8: Women's Probability of Being Married

	Baseline specification			Extended specification		
	I	II	III	IV	V	VI
Origin country characteristics[a]						
Fertility rate (FR)	−0.016	−0.014	−0.020	−0.014	−0.009	−0.019
	(0.014)	(0.014)	(0.016)	(0.013)	(0.015)	(0.014)
Foreign mother-in-law	–	–	–	0.024	0.029	0.033
				(0.028)	(0.028)	(0.029)
Foreign mother-in-law × FR	–	–	–	−0.001	−0.004	−0.005
				(0.016)	(0.016)	(0.016)
Log of GDP per capita	–	–	−0.013	–	–	−0.017**
			(0.009)			(0.007)
Ratio of female to male LFPR (RLFPR)	–	–	0.111*	–	–	0.102**
			(0.065)			(0.040)
Husband's characteristics	no	yes	yes	no	yes	yes
Father-in-law country FE	yes	yes	yes	no	no	no
Observations	3,303	3,303	3,303	3,418	3,418	3,418
Adjusted R^2	0.114	0.118	0.119	0.109	0.115	0.117

*Notes: – Results are obtained from OLS regressions. All regressions include controls for women's characteristics, the state-education-specific FLFPR at age 15 as well as state and year fixed effects. – The sample of the baseline specification includes all US born women aged 25-55 with a US born husband and a foreign mother-in-law. The sample of the extended specification includes all US born women aged 25-55 with a US born husband and one foreign parent-in-law (mother-in-law or father-in-law). – [a] In the baseline specification, the origin country characteristics refer to the country of birth of the foreign mother-in-law. In the extended specification, the origin country characteristics refer to the country of birth of the foreign parent-in-law. – Standard errors (in parentheses) are clustered at the level of the origin country of the foreign mother-in-law (baseline specification) and the foreign parent-in-law (extended specification), respectively. – † p<0.001, *** p<0.01, ** p<0.05 * p<0.10.*

Appendix

Table A1: 15 Most Frequent Source Countries – Labor Force Participation Sample

Mother-in-law's birthplace			**Father-in-law's birthplace**		
Country	Freq	RLFPR	Country	Freq	RLFPR
US	0.487	0.805	US	0.513	0.806
Canada	0.094	0.834	Mexico	0.079	0.508
Germany	0.076	0.766	Canada	0.074	0.835
England	0.050	0.785	Italy	0.057	0.606
Mexico	0.049	0.507	Germany	0.048	0.763
Italy	0.031	0.608	Puerto Rico	0.018	0.627
Japan	0.020	0.666	England	0.018	0.780
Ireland	0.018	0.697	Philippines	0.013	0.623
Scotland	0.011	0.786	Ireland	0.013	0.711
El Salvador	0.011	0.547	Poland	0.012	0.764
Poland	0.011	0.763	Netherlands	0.010	0.777
France	0.010	0.804	El Salvador	0.010	0.561
Puerto Rico	0.010	0.628	Russia	0.009	0.793
Philippines	0.009	0.633	Greece	0.008	0.657
Cuba	0.006	0.576	Scotland	0.007	0.781
Top 15	0.894	0.694	Top 15	0.889	0.706
Total	1.000	0.696	Total	1.000	0.701

Notes: – For the labor force participation sample the table shows the 15 most frequent source countries of the foreign parents-in-law in our extended specification as well as each country's average ratio of the female to male labor force participation rate (RLFPR) over the observation period. – The last two rows depict the share of foreign parents-in-law from the 15 most frequent source countries in all foreign parents-in-law and the mean of the RLFPR of the top 15 countries and the full sample, respectively.

Table A2: 15 Most Frequent Source Countries – Fertility Sample

Mother-in-law's birthplace			**Father-in-law's birthplace**		
Country	Freq	FR	Country	Freq	FR
US	0.472	1.979	US	0.528	1.986
Canada	0.104	1.591	Canada	0.073	1.600
Germany	0.085	1.364	Mexico	0.066	2.514
England	0.050	1.775	Italy	0.062	1.294
Mexico	0.037	2.557	Germany	0.044	1.366
Italy	0.032	1.289	England	0.020	1.750
Japan	0.025	1.380	Puerto Rico	0.017	1.717
Ireland	0.023	1.912	Ireland	0.014	1.921
El Salvador	0.016	3.385	El Salvador	0.013	3.110
France	0.013	1.862	Poland	0.011	1.466
Philippines	0.010	3.359	Hungary	0.010	1.421
Scotland	0.010	1.757	Greece	0.010	1.345
Puerto Rico	0.008	1.728	Philippines	0.010	3.365
Greece	0.006	1.378	Scotland	0.010	1.754
Netherlands	0.006	1.722	Netherlands	0.009	1.697
Top 15	0.898	1.936	Top 15	0.896	1.887
Total	1.000	1.964	Total	1.000	2.012

Notes: – For the fertility sample the table shows the 15 most frequent source countries of the foreign parents-in-law in our extended specification as well as each country's average fertility rates (FR) over the observation period. – The last two rows depict the share of foreign parents-in-law from the 15 most frequent source countries in all foreign parents-in-law and the mean of the FR of the top 15 countries and the full sample, respectively.

Table A3: Descriptive Statistics – Labor Force Participation Sample

	Baseline specification		**Extended specification**	
	Mean	StD	Mean	StD
Labor force participation	0.77	0.42	0.78	0.41
Mother-in-law's country characteristics				
Ratio of female to male LFPR	0.69	0.12	–	–
GDP per capita (in ten thousands)	2.81	1.72	–	–
Fertility rate	1.82	0.56	–	–
Foreign parent-in-law's country characteristics				
Ratio of female to male LFPR	–	–	0.71	0.12
GDP per capita (in ten thousands)	–	–	2.99	1.72
Fertility rate	–	–	1.80	0.56
Woman's characteristics				
Years of education	14.43	2.71	14.42	2.70
Age	39.94	8.08	40.59	8.13
Race				
White	0.94	0.24	0.94	0.23
Black	0.02	0.15	0.02	0.12
Other race	0.04	0.20	0.04	0.20
Hispanic ethnicity	0.10	0.31	0.08	0.28
Married	0.91	0.29	0.92	0.27
Number of own children in hh	1.53	1.21	1.49	1.19
Number of own children under age 5 in hh	0.35	0.64	0.32	0.62
State-education FLFPR at age 15	0.67	0.12	0.66	0.13
Husband's characteristics				
Years of education	14.36	2.83	14.39	2.85
Age	42.52	9.57	43.25	9.66
Personal income (in thousands)	67.10	72.12	65.26	70.07
Race				
White	0.90	0.30	0.91	0.28
Black	0.02	0.15	0.02	0.13
Other race	0.08	0.27	0.07	0.25
Hispanic ethnicity	0.25	0.43	0.18	0.39
Observations	13,369		13,712	

Table A4: Descriptive Statistics – Fertility Sample

	Baseline specification		**Extended specification**	
	Mean	StD	Mean	StD
Number of births ever had	1.75	1.28	1.75	1.30
Mother-in-law's country characteristics				
Fertility rate	1.82	0.58	–	–
GDP per capita (in ten thousands)	2.82	1.68	–	–
Ratio of female to male LFPR	0.69	0.12	–	–
Foreign parent-in-law's country characteristics				
Fertility rate	–	–	1.78	0.56
GDP per capita (in ten thousands)	–	–	2.99	1.65
Ratio of female to male LFPR	–	–	0.70	0.12
Woman's characteristics				
Years of education	14.36	2.67	14.34	2.62
Age	36.24	6.21	36.62	6.17
Race				
White	0.94	0.24	0.95	0.22
Black	0.02	0.14	0.02	0.13
Other race	0.04	0.19	0.03	0.18
Hispanic ethnicity	0.09	0.29	0.06	0.24
Married	0.90	0.31	0.90	0.29
State-education FLFPR at age 15	0.70	0.12	0.68	0.12
Husband's characteristics				
Years of education	14.31	2.78	14.31	2.74
Age	39.10	8.10	39.36	8.05
Race				
White	0.90	0.31	0.92	0.27
Black	0.02	0.15	0.02	0.13
Other race	0.08	0.27	0.06	0.24
Hispanic ethnicity	0.21	0.41	0.14	0.35
Observations	3,303		3,418	

Table A5: Women's Labor Force Participation – Baseline Specification

	I	II	III
Ratio of female to male LFPR (RLFPR)	0.107***	0.138***	0.146***
	(0.040)	(0.041)	(0.045)
Log of GDP per capita	–	–	−0.010
			(0.007)
Fertility rate (FR)	–	–	−0.017*
			(0.010)
Woman's characteristics			
Years of education	0.017†	0.022†	0.022†
	(0.002)	(0.002)	(0.002)
Age/100	1.763***	1.644*	1.619*
	(0.627)	(0.866)	(0.873)
Age squared/100	−2.155***	−1.734	−1.698
	(0.775)	(1.051)	(1.060)
Race (Ref: White)			
Black	0.067**	0.008	0.009
	(0.027)	(0.040)	(0.040)
Other race	0.001	−0.014	−0.013
	(0.017)	(0.019)	(0.019)
Hispanic ethnicity	−0.010	−0.020	−0.019
	(0.013)	(0.012)	(0.012)
Married	−0.050†	−0.042***	−0.042***
	(0.012)	(0.013)	(0.013)
Number of own children in hh	−0.030†	−0.028†	−0.028†
	(0.004)	(0.004)	(0.004)
Number of own children under age 5 in hh	−0.097†	−0.096†	−0.096†
	(0.007)	(0.006)	(0.006)
State-education FLFPR at age 15	0.245†	0.267†	0.271†
	(0.059)	(0.057)	(0.057)
Husband's characteristics			
Years of education	–	−0.005***	−0.005***
		(0.002)	(0.002)
Age/100	–	0.470	0.480
		(0.613)	(0.613)
Age squared/100	–	−0.689	−0.699
		(0.673)	(0.674)
Personal income (in thousands)	–	−0.001†	−0.001†
		(0.000)	(0.000)
Race (Ref: White)			
Black	–	0.070**	0.070**
		(0.033)	(0.034)
Other race	–	0.034**	0.032**
		(0.015)	(0.015)
Hispanic ethnicity	–	0.006	0.007
		(0.012)	(0.012)
State FE	yes	yes	yes
Year FE	yes	yes	yes
Father-in-law country FE	yes	yes	yes
Observations	13,369	13,369	13,369
Adjusted R^2	0.062	0.075	0.075

*Notes: – Results are obtained from OLS regressions. – The sample of the baseline specification includes all US born women aged 25-55 with a US born husband and a foreign mother-in-law. – Standard errors (in parentheses) are clustered at the level of the origin country of the foreign mother-in-law. – † p<0.001, *** p<0.01, ** p<0.05 * p<0.10.*

Table A6: Women's Labor Force Participation – Extended Specification

	I	II	III
Foreign parent-in-law country characteristics			
Foreign mother-in-law	−0.110†	−0.105†	−0.103†
	(0.032)	(0.029)	(0.029)
Ratio of female to male LFPR (RLFPR)	−0.027	0.020	0.007
	(0.050)	(0.054)	(0.056)
Foreign mother-in-law × RLFPR	0.157***	0.149†	0.146†
	(0.046)	(0.042)	(0.042)
Log of GDP per capita	–	–	0.004
			(0.006)
Fertility rate (FR)	–	–	0.000
			(0.010)
Woman's characteristics			
Years of education	0.018†	0.024†	0.024†
	(0.001)	(0.002)	(0.002)
Age/100	1.454**	0.853	0.855
	(0.596)	(0.530)	(0.531)
Age squared/100	−1.941**	−1.070*	−1.071*
	(0.743)	(0.619)	(0.621)
Race (Ref: White)			
Black	0.059	−0.009	−0.009
	(0.038)	(0.056)	(0.056)
Other race	−0.023	−0.041	−0.042
	(0.031)	(0.033)	(0.033)
Hispanic ethnicity	0.032	0.014	0.014
	(0.021)	(0.023)	(0.023)
Married	−0.035**	−0.025	−0.024
	(0.015)	(0.015)	(0.015)
Number of own children in hh	−0.031†	−0.028†	−0.028†
	(0.004)	(0.004)	(0.004)
Number of own children under age 5 in hh	−0.095†	−0.093†	−0.093†
	(0.008)	(0.007)	(0.007)
State-education FLFPR at age 15	0.131**	0.146**	0.145**
	(0.066)	(0.066)	(0.066)
Husband's characteristics			
Years of education	–	−0.005***	−0.005***
		(0.002)	(0.002)
Age/100	–	1.106***	1.103***
		(0.394)	(0.394)
Age squared/100	–	−1.280***	−1.277***
		(0.443)	(0.442)
Personal income (in thousands)	–	−0.001†	−0.001†
		(0.000)	(0.000)
Race (Ref: White)			
Black	–	0.062	0.064
		(0.044)	(0.045)
Other race	–	0.027*	0.030*
		(0.015)	(0.015)
Hispanic ethnicity	–	0.012	0.013
		(0.014)	(0.015)
State FE	yes	yes	yes
Year FE	yes	yes	yes
Observations	13,712	13,712	13,712
Adjusted R^2	0.051	0.067	0.067

*Notes: – Results are obtained from OLS regressions. – The sample of the extended specification includes all US born women aged 25-55 with a US born husband and one foreign parent-in-law (mother-in-law or father-in-law). – Standard errors (in parentheses) are clustered at the level of the origin country of the foreign parent-in-law. – † p<0.001, *** p<0.01, ** p<0.05 * p<0.10.*

Table A7: Women's Number of Children – Baseline Specification

	I	II	III
Fertility rate (FR)	0.123***	0.089**	0.085
	(0.043)	(0.043)	(0.060)
Log of GDP per capita	–	–	0.016
			(0.045)
Ratio of female to male LFPR (RLFPR)	–	–	−0.315
			(0.340)
Woman's characteristics			
Years of education	−0.082†	−0.079†	−0.079†
	(0.011)	(0.012)	(0.012)
Age/100	26.991†	23.177†	23.271†
	(5.553)	(6.034)	(6.116)
Age squared/100	−31.055†	−25.666†	−25.796***
	(7.112)	(7.497)	(7.607)
Race (Ref: White)			
Black	0.202	−0.249	−0.249
	(0.199)	(0.198)	(0.197)
Other race	0.099	0.087	0.087
	(0.107)	(0.122)	(0.124)
Hispanic ethnicity	0.138*	0.094	0.094
	(0.081)	(0.083)	(0.083)
Married	0.642†	0.636†	0.638†
	(0.079)	(0.077)	(0.076)
State-education FLFPR at age 15	−0.598	−0.613	−0.621
	(0.448)	(0.456)	(0.454)
Husband's characteristics			
Years of education	–	−0.003	−0.003
		(0.010)	(0.010)
Age/100	–	4.761†	4.788†
		(1.296)	(1.302)
Age squared/100	–	−6.124†	−6.153†
		(1.287)	(1.292)
Race (Ref: White)			
Black	–	0.670***	0.669***
		(0.212)	(0.213)
Other race	–	0.007	0.002
		(0.079)	(0.080)
Hispanic ethnicity	–	0.145**	0.115
		(0.070)	(0.074)
State FE	yes	yes	yes
Year FE	yes	yes	yes
Father-in-law country FE	yes	yes	yes
Observations	3,303	3,303	3,303
Adjusted R^2	0.167	0.171	0.171

*Notes: – Results are obtained from OLS regressions. – The sample of the baseline specification includes all US born women aged 25-55 with a US born husband and a foreign mother-in-law. – Standard errors (in parentheses) are clustered at the level of the origin country of the foreign mother-in-law. – † p<0.001, *** p<0.01, ** p<0.05 * p<0.10.*

Table A8: Women's Number of Children – Extended Specification

	I	II	III
Foreign parent-in-law country characteristics			
Foreign mother-in-law	0.240	0.216	0.206
	(0.152)	(0.145)	(0.149)
Fertility rate (FR)	0.246***	0.170**	0.197***
	(0.087)	(0.070)	(0.064)
Foreign mother-in-law × FR	−0.109	−0.093	−0.090
	(0.080)	(0.075)	(0.076)
Log of GDP per capita	–	–	0.028
			(0.030)
Ratio of female to male LFPR (RLFPR)	–	–	−0.013
			(0.232)
Woman's characteristics			
Years of education	−0.081†	−0.082†	−0.081†
	(0.011)	(0.010)	(0.010)
Age/100	30.130†	24.560†	24.528†
	(4.260)	(4.877)	(4.849)
Age squared/100	−35.291†	−26.292†	−26.245†
	(6.031)	(6.944)	(6.917)
Race (Ref: White)			
Black	0.356	−0.203	−0.211
	(0.240)	(0.206)	(0.205)
Other race	0.232	0.183	0.176
	(0.171)	(0.185)	(0.184)
Hispanic ethnicity	0.244**	0.106	0.106
	(0.119)	(0.134)	(0.133)
Married	0.611†	0.600†	0.602†
	(0.067)	(0.066)	(0.066)
State-education FLFPR at age 15	−0.517*	−0.493*	−0.502*
	(0.296)	(0.294)	(0.294)
Husband's characteristics			
Years of education	–	−0.002	−0.002
		(0.009)	(0.009)
Age/100	–	6.459***	6.375***
		(2.025)	(2.031)
Age squared/100	–	−9.257†	−9.164†
		(2.077)	(2.077)
Race (Ref: White)			
Black	–	0.793†	0.810†
		(0.228)	(0.229)
Other race	–	0.077	0.093
		(0.081)	(0.082)
Hispanic ethnicity	–	0.298†	0.303***
		(0.082)	(0.098)
State FE	yes	yes	yes
Year FE	yes	yes	yes
Observations	3,418	3,418	3,418
Adjusted R^2	0.151	0.165	0.164

*Notes: – Results are obtained from OLS regressions. – The sample of the extended specification includes all US born women aged 25-55 with a US born husband and one foreign parent-in-law (mother-in-law or father-in-law). – Standard errors (in parentheses) are clustered at the level of the origin country of the foreign parent-in-law. – † p<0.001, *** p<0.01, ** p<0.05 * p<0.10.*

Table A9: Baseline Specification – Without Father-in-law Country FE

	Labor force participation			Number of children		
	I	II	III	IV	V	VI
Origin country characteristics[a]						
Ratio of female to male LFPR (RLFPR)	0.102*	0.177†	0.189†	–	–	−0.585**
	(0.056)	(0.043)	(0.045)			(0.253)
Fertility rate (FR)	–	–	−0.001	0.133***	0.089**	0.107**
			(0.008)	(0.047)	(0.037)	(0.051)
Log of GDP per capita	–	–	−0.004	–	–	0.054
			(0.006)			(0.034)
Husband's characteristics	no	yes	yes	no	yes	yes
Observations	13,369	13,369	13,369	3,303	3,303	3,303
Adjusted R^2	0.057	0.071	0.071	0.160	0.166	0.167

Notes: – Results are obtained from OLS regressions. All regressions include controls for woman's characteristics, a state-education-group FLFP control at age 16 as well as state and year fixed effects. – The sample includes all US born women aged 25-55 with a US born husband and a foreign mother-in-law. – [a] *The origin country characteristics refer to the country of birth of the foreign mother-in-law. – Standard errors (in parentheses) are clustered at the level of the origin country of the foreign mother-in-law. – † p<0.001, *** p<0.01, ** p<0.05 * p<0.10.*

Table A10: Women's Labor Force Participation – Using only Cross-country Variation in RLFPR

	Baseline specification			Extended specification		
	I	II	III	IV	V	VI
Origin country characteristics[a]						
Ratio of female to male LFPR (1994-2016) (RLFPR)	0.092**	0.121***	0.116**	−0.019	0.028	0.008
	(0.040)	(0.043)	(0.051)	(0.050)	(0.055)	(0.058)
Foreign mother-in-law	–	–	–	−0.099***	−0.096†	−0.094†
				(0.031)	(0.027)	(0.027)
Foreign mother-in-law × RLFPR (1994-2016)	–	–	–	0.141***	0.136†	0.134†
				(0.043)	(0.038)	(0.038)
Log of GDP per capita (1994-2016)	–	–	−0.011	–	–	0.004
			(0.007)			(0.006)
Fertility rate (1994-2016)	–	–	−0.028**	–	–	−0.002
			(0.013)			(0.011)
Husband's characteristics	no	yes	yes	no	yes	yes
Father-in-law country FE	yes	yes	yes	no	no	no
Observations	13,369	13,369	13,369	13,712	13,712	13,712
Adjusted R^2	0.062	0.074	0.075	0.051	0.067	0.067

*Notes: – Results are obtained from OLS regressions. All regressions include controls for women's characteristics, the state-education-specific FLFPR at age 15 as well as state and year fixed effects. – The sample of the baseline specification includes all US born women aged 25-55 with a US born husband and a foreign mother-in-law. The sample of the extended specification includes all US born women aged 25-55 with a US born husband and one foreign parent-in-law (mother-in-law or father-in-law). – [a] In the baseline specification, the origin country characteristics refer to the country of birth of the foreign mother-in-law. In the extended specification, the origin country characteristics refer to the country of birth of the foreign parent-in-law. – Standard errors (in parentheses) are clustered at the level of the origin country of the foreign mother-in-law (baseline specification) and the foreign parent-in-law (extended specification), respectively. – † p<0.001, *** p<0.01, ** p<0.05 * p<0.10.*

Table A11: Women's Number of Children – Using only Cross-country Variation in the Fertility Rate

	Baseline specification			Extended specification		
	I	II	III	IV	V	VI
Origin country characteristics[a]						
Fertility rate (1994-2016) (FR)	0.149***	0.112**	0.121*	0.273***	0.183***	0.216†
	(0.048)	(0.047)	(0.065)	(0.083)	(0.067)	(0.063)
Foreign mother-in-law	–	–	–	0.257*	0.234	0.222
				(0.148)	(0.141)	(0.145)
Foreign mother-in-law × FR (1994-2016)	–	–	–	−0.117	−0.103	−0.099
				(0.079)	(0.074)	(0.075)
Log of GDP per capita (1994-2016)	–	–	0.017	–	–	0.029
			(0.047)			(0.033)
Ratio of female to male LFPR (1994-2016)	–	–	−0.141	–	–	−0.003
			(0.400)			(0.267)
Husband's characteristics	no	yes	yes	no	yes	yes
Father-in-law country FE	yes	yes	yes	no	no	no
Observations	3,303	3,303	3,303	3,418	3,418	3,418
Adjusted R^2	0.167	0.171	0.171	0.151	0.165	0.164

*Notes: – Results are obtained from OLS regressions. All regressions include controls for women's characteristics, the state-education-specific FLFPR at age 15 as well as state and year fixed effects. – The sample of the baseline specification includes all US born women aged 25-55 with a US born husband and a foreign mother-in-law. The sample of the extended specification includes all US born women aged 25-55 with a US born husband and one foreign parent-in-law (mother-in-law or father-in-law). – [a] In the baseline specification, the origin country characteristics refer to the country of birth of the foreign mother-in-law. In the extended specification, the origin country characteristics refer to the country of birth of the foreign parent-in-law. – Standard errors (in parentheses) are clustered at the level of the origin country of the foreign mother-in-law (baseline specification) and the foreign parent-in-law (extended specification), respectively. – † p<0.001, *** p<0.01, ** p<0.05 * p<0.10.*