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IZA DP No. 12692

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ABSTRACT

Culture or Context? Revisiting the Role of Culture in Shaping Economic Outcomes*

Past studies have consistently shown that cultural norms predict individual economic outcomes for second-generation US immigrants. However, due to the (mainly) European composition of immigrants prior to the 1965 Immigration Reform Act, most researchers have not accounted for the role of race and ethnicity in identifying culture parameters. Moreover, the majority of studies assume the US is a homogenous region in confronting challenges related to integrating women and disadvantaged minority groups into the labor market. Using recent micro-level data of working-age higher order immigrants, along with detailed local, social capital and source- country measures, allow me to conduct a comprehensive analysis of the relationship between cultural norms and female labor supply. For non-Hispanic Whites, the impact of culture is explained by variation in country-level factors, such as passport power and internationally standardized exam scores. In contrast, for Blacks, the relevant predictors of labor supply are local culture and social capital measures.

JEL Classification: Z10, P16

Keywords: culture, gender, race, ethnicity, second-generation immigrants, female labor supply, selection-bias

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I. Introduction

Over the past two decades, a large and growing body of literature has produced convincing evidence of the persistent effect of culture on social, political and economic outcomes (Antecol, 2000; Fernández, 2011; Algan and Cahuc, 2010; Alesina and Giuliano, 2011). The most popular approach used by economists is the epidemiological approach[1]–an empirical strategy that uses the variation across indicators for countries of ancestry or "source countries" to predict the individual outcomes of second-generation US immigrants, who presumably share the same host environment. The contribution of this paper is two-folds. First, I modify the epidemiological approach by relaxing some of its strong theoretical assumptions. Second, I apply the new methodology in order to quantify the impact of culture on a key economic outcome in the literature, female labor supply. I find that under a range of conditions, the number of work hours and the decision to participate in the labor force are largely unaffected by cultural proxies that correspond to her country of origin, or source country. For some groups, differences in the quality of source country institutions provides a mechanism for explaining cultural variation and female labor supply, almost eliminating the effect of culture. For others, it is primarily the immediate context of an individual's local environment in the US that is the strongest predictor of female labor supply. Thus, this paper demonstrates that the barriers to greater inclusion and integration of higher order immigrants can be ascribed to differences in local policies, institutions and norms in the host environment rather than to the persistence of cultural values derived from the country of origin or so-called "cultural resilience" among immigrant groups.

My approach differs from that in the existing literature in three important ways. First, I use a range of source country controls to assess the extent to which variations ascribed to cultural differences, may instead be explained by differences in

[1]This term was coined by Fernandez (2011).

the quality of national institutions. Most of the indicators used in this paper have never been tested in the literature to examine whether the effect of cultural norms on female labor supply is robust. A second concern addressed in this paper is the lack of discussion regarding second-generation immigrants who face additional societal challenges due to belonging to a race or ethnicity outside the mainstream (an "outgroup"). This is not surprising since prior to the the Immigration Reform Act of 1965, most immigrants were of European descent. Today, the composition of working-age higher order immigrants is increasingly diverse in terms of racial and ethnic ancestry–approximately 60% in the sample–allowing me to examine whether race and ethnicity influence the relationship between cultural norms and female labor supply. Consider the following example. Two second-generation 38 year old women apply for a job, where each applicant is a descendant of a South African immigrant couple; however, one applicant is White and the other is Black. Most employers will not know the origins of each applicant, but given the history of racial classification in the US, one will be classified by most Americans as "White" while the other is likely categorized as "Black/African American". How does this categorization affect their experiences in the labor market[2]? Section 2 provides a brief literature review on studies that documented racial differences in labor market outcomes in the US. Given that the general population, consisting mostly of natives, faces race-related (dis)advantages with respect to labor market outcomes, it is natural to assume that higher order immigrants confront similar challenges.

To properly isolate the effect of culture, one needs to question what other relevant factors are absent from the epidemiological approach. In addition to the supposition that the costs of integration and assimilation are equal among all second-generation immigrants, there is the underlying assumption that the barriers to labor market integration faced by women and/or minority groups are

[2]Keep in mind that since the two women share the same national origin, the epidemiological approach assigns both women an identical cultural proxy score.

the same in all parts of the US, and that such barriers do not vary over time. Returning to the previous example, a number of questions arise even if the race and ethnicity of the respondents are accounted for: Does living in a state with a relatively high female employment rate (among natives) increase the likelihood of the descendants of immigrants participating in the labor force? How about living in a state with high racial tensions or one where most residents view open border immigration policy as an economic threat? Does the performance of one's own immigrant group in the US labor market generally affect her ability to enter the labor force, or does such performance also depend on cohort and regional differences in the US? While this line of questioning is novel to the literature on culture, it is not a striking departure from the broader literature on the US (as reviewed in Section 2), which shows that there is considerable geographic and cohort heterogeneity in the evolution of female employment rates as well as of racial and immigrant integration policies.

Thus, unlike previous studies on culture, I examine several indices to measure the local context for each respondent, something which is usually done only for the individual's source country. I do not include fixed effects for geographically refined units or cohort groups because this approach does not reveal the mechanisms behind model parameter estimates. Measures of an individual's local context or the "local culture" include general and race-specific, state-cohort-level, female employment rates and two state-level indices of progressivity with regard to race-relations and immigration policy. In past studies, researchers also emphasized the importance of considering social capital proxies to capture the variation in endowments among immigrant groups; this was usually done by controlling for the average educational attainment by the source country for second-generation immigrants. In this paper, an extensive number of estimates are used to proxy for social capital, many of which capture human capital endowments and labor market integration rates of both first and second-generation immigrants.

To investigate whether cultural norms are a determinant of female labor supply,

I use two distinct measures that best reflect the *choice* of participating in the labor force and the *choice* of work hours. Specifically, the first outcome variable is binary and measures participation at the extensive margin, while the second measure is the number of weekly hours worked for those who are employed and 0 for those not in the labor force. Contrary to other definitions used in the literature, unemployed individuals are not included in the latter measure since usually, individuals do not choose to be in a state of unemployment[3]. To the extent that race and ethnicity play a vital role in predicting the unemployment rate of descendants of immigrants as that reflected in the general population, conflating those who are outside the labor force with those who are unemployed inflates the parameter of the source country culture proxy.

Finally, I produce bias-adjusted estimates of the culture parameter using the approach developed by Oster (2019), who demonstrates that movements in coefficients alone are not sufficient to address concerns about omitted variable and selection bias. Overall, these estimates corroborate the main results and show that previous estimates demonstrating a persistent effect of culture on female labor supply have been primarily due to omitted variable bias. In summary, the main research questions addressed in the paper are as follows: How do the parameters of the local host country and source country cultural proxies vary by race and ethnicity? Do individual, social, and demographic characteristics alter one cultural proxy more than another? Do the circumstances of the US local environment or social capital endowments of immigrant groups alter culture parameter estimates? Is it possible to identify channels at the source country level, beyond GDP per capita and average years of schooling, that may explain the variation in the effect of culture by examining an exhaustive number of source country indicators that proxy for the quality of institutions and the costs of migration?

The first set of findings demonstrates that the impact of source country and local

[3]Several studies in this literature conflate the two measures and use the number of hours worked, where both the unemployed and those outside of the labor force are coded with zero hours.

culture vary immensely by race and ethnicity. In line with past studies, I show that cultural proxies predict female labor supply for non-Hispanic Whites, and indeed, an increase in the percentage of own nationality in the area of residence exacerbates the impact of culture, as in Fernandez and Fogli (2009). In addition to source country indicators used in past studies to proxy for socioeconomic well-being such as average years of schooling or GDP per capita, I take the analysis one step further by incorporating variables that proxy for the costs of migrating to the US (i.e. distance) and the quality of institutions across source countries. I show that the persistent impact of source country culture for non-Hispanic Whites is explained away by variation in passport power, internationally standardized exam scores, and to a lesser extent, minimum distance to the US.

For non-Hispanic Whites, local conditions and social capital proxies are weak predictors of economic outcomes, although they are robust and persistent for Blacks. In fact, for Blacks, three local and social capital proxies are simultaneously strong predictors of individual labor supply and attenuate the source country culture parameter: the state-cohort-level black female employment rate, the state-level racial progressivity index score, and the overall cohort-employment rate of the respondent's nationality group in her US region of residence. Unexpectedly, in the presence of adequate individual controls, the female labor supply decisions of Hispanic Whites and Asian/Pacific-Islanders are neither shaped by the source country nor local culture proxy. However, all groups except for non-Hispanic Whites are strongly affected by low scores in the progressivity indices.

These findings highlight that for the majority of higher order immigrants, source country cultural norms have a negligible effect on female labor supply, once variables are included to capture the local context in the host country and the institutions of the source country. This paper focuses on quantifying the role of cross-country cultural variation for higher order US immigrants, but similar tactics may apply to those studying the effect of cross-regional cultural variation within a country. For example, if people from region A moved to region B in

the same country, it is possible that various social or cultural norms from region A shaped their (or their descendants') labor market outcomes in region B; or perhaps, employers in region B know how to identify immigrants and/or their descendants through visible signifiers (i.e. skin color, family name, etc) and discriminate accordingly. In other words, demand factors may play a crucial role in influencing the relationship between cultural norms and female labor supply. The approach in this paper can also be extended to test whether culture is related to other outcomes of interest: trust, redistribution and political participation.

Section 2 presents a brief literature review. In Section 3, I first set out how the epidemiological approach relies on strong oversimplified assumptions from theoretical studies on the cultural transmission of values and beliefs. Then, using the same theoretical frameworks as those currently present in the literature, I recommend several potential adjustments to relax the assumptions, and to make for a more realistic methodological approach to isolating the influence of culture in a context that also accounts for the current social and political challenges that higher order immigrants face today. Section 4 describes the micro-level data and the use of local and national measures, while Section 5 lays out the empirical strategy. Section 6 presents the main results and Section 7 produces estimates after selection bias is accounted for. Section 8 concludes.

II. Literature Review

To study culture, economists usually study higher order immigrants and in particular, second-generation immigrants or first generation US citizens. The sample of first-generation immigrants is usually excluded because it suffers from positive or negative selection bias relative to the overall population, either due to individual factors including personal characteristics such as the particular motivation and determination required to decide to migrate (Chiswick, 1978) or due to the impact of source country institutional factors such as the political system or the income distribution (Borjas, 1987). Concerns about selection bias

are mitigated when the sample is restricted to second-generation immigrants because these individuals neither participated in the cumbersome and momentous decision to migrate, nor were they directly influenced by the institutions of the source country. Moreover, unlike third or later-generation immigrants, those of the second-generation are likely to receive the lion's share of the source country's cultural values since the set of parental choices is the most typical mode of vertical transmission of norms and values (Bisin and Verdier, 2001; Tabellini, 2008; Bisin and Verdier, 2000).

Thus, in most of the literature on culture, the population of interest includes working age adults who were born and bred in the US but have at least one foreign-born parent. Restricting the sample of interest to second-generation immigrants allows researchers to control for the influence of US institutional factors—such as educational institutions, English proficiency, citizenship status, voting rights and access to local labor markets— while varying indicators that serve as a proxy for the cultural norms of source countries. Examples of proxies for a country's culture include the female labor force participation rate, the total fertility rate, or descriptive statistics (means and principal components) concerning citizens' views on gender roles, family ties, political participation and civic duties, or redistribution. By exploiting the variation in source country indicators or in summary statistics based on survey questions, researchers can test whether cultural norms at the national level in the country of ancestry have an impact on individual economic outcomes, such as trust, political participation, and as is studied in this paper, female labor supply.

In all, cultural values are wide-ranging and have been shown to have a significant impact on the social, political and economic trajectories of second-generation US immigrants [4]. Antecol (2000) is one of the earliest studies to use second and higher-generation US immigrants to examine the effect of cultural norms, using

[4]Reviews of the literature include (Guiso, Sapienza and Zingales, 2006), Fernandez (2011), and (Alesina and Giuliano, 2015).

the gender gap in labor force participation rates in the individual's source country as a proxy for culture. Antecol finds that culture plays a role in explaining why some groups of women work more relative to men than others. To generalize these results for more groups, Algan and Cahuc (2005) examine the impact of family ties on female, youth and elderly employment rates for second-generation immigrants. One limitation of the study was that the source countries for the second-generation immigrants were limited to 19 OECD countries which primarily include non-Hispanic Whites and Mexican Hispanics. The study finds that strong family ties are correlated with lower employment rates for each of the three different demographic groups in OECD countries from 1970 to 2003. Fernández and Fogli (2009) use data on US-born women with foreign-born fathers to show that source country female labor force participation rates and fertility rates both have a positive effect on the corresponding individual outcome for second-generation women. They use 25 source countries, with most observations involving European countries (of ancestry) and no observations relating to African source countries.

This approach is innovative and unique because it allows economists to quantify the economic effects of cultural norms that range substantially using cross-country analysis. However, unlike studies of the general US population, the epidemiological approach underestimates the role of geographic heterogeneity in the host country. For instance, Goldin and Katz (2002), who show that women in the 1960's and 1970's were more likely to use the pill in states with more lenient laws regarding contraceptive usage, find that women's access to the pill delayed the age of first marriage and increased the likelihood of professional employment. Another example is Fogli and Veldkamp (2011), who use even more refined geographic units in the form of US county-level data, along with time-series data to document how female labor force participation rates increased over time and space through a process that involved risk-averse mothers learning from nearby women about the impact of maternal employment on children's outcomes. Therefore, a natural approach is to assume, as I do here, that geographic and cohort

effects have predictive power and may even diminish the magnitude of the culture proxy.

Likewise, research on racial discrimination has demonstrated that there is substantial geographic heterogeneity in how the average person views policies such as racial segregation in residential areas and schools (Charles and Guryan, 2008). Negative public attitudes towards racial minority groups can easily impede their social mobility and integration in a particular area. The mechanisms range from taste-based discrimination as reported in audit or survey studies (Bertrand and Mullainathan, 2004; Charles and Guryan, 2008) to racial differences in premarket factors (Neal and Johnson, 1996) and the role of rising incarceration rates among black men relative to other groups (Western and Pettit, 2005). Thus, the persistence of racial and ethnic differences in the US labor market outcomes implies that despite source country cultural variation, more than half of second-generation immigrants today cannot be fully integrated into the US labor market. I compute two indices that rank all states based on Pew Research survey questions on race relations and the role of immigrants in our society. Moreover, education and employment rates are computed for each immigrant group by region and cohort group to account for the possibility that some immigrant groups are more likely to prosper in progressive regions.

While this paper primarily contributes to the literature on the role of culture in economic outcomes and the use of various approaches such as the epidemiological approach, it also complements the strands of literature on the convergence of employment and educational outcomes between natives and second-generation immigrants(Card, 2005), similarities in the labor market outcomes of black immigrants and black natives(Butcher, 1994), and racial differences in female labor supply (Neal, 2004). For example, I find that as is the case with the general population, second-generation Black women work more hours and are more likely to participate in the labor force than their non-Hispanic White counterparts. Likewise, they are even more likely to work in states with a low progressivity index

(i.e. those which usually have an above average Black male unemployment rate) and where there are above average Black state-cohort female employment rates.

Additionally, the paper contributes to the literature on native-immigrant gaps in wages and employment by gender (Butcher and DiNardo, 2002) and the relevance of the 1965 Immigration Reform Act (and other reforms) in reducing the native-immigrant wage gap (Card, 2005; Borjas, 2003). As scholars in the immigration literature revisited the US labor market after the 1965 reform to investigate how the greater ethnic and racial diversity of immigrants shaped wage differentials and employment outcomes for natives and immigrants, this paper argues that the literature on the epidemiological approach should be revisited to assess the role of culture in this new setting.

Finally, our findings are also consistent with arguments in the discrimination literature (Charles and Guryan, 2008; Rivkin, 1995), geographic differences in racial gaps in labor market outcomes (Bound and Freeman, 1992), the importance of geography and institutions in examining spatial differences in female employment rates in the US (Goldin and Katz, 2002; Fogli and Veldkamp, 2011), and the immense role of source country (Acemoglu, Johnson and Robinson, 2005*b*,*a*; Hanushek and Woessmann, 2011)institutions and indicators in stimulating economic growth or shaping individual outcomes (Borjas, 1987).

III. Methodology

In this section, I first review the epidemiological approach and its two main shortcomings: 1.) The assumption that the relationship between where one lives in the US and labor supply has no influence on the impact of culture on labor supply and: 2.) The assumption that belonging to a racial or ethnic subgroup plays no role in shaping the relationship between cultural norms and labor supply. For each assumption, I use the body of theoretical literature available on cultural transmission to present how some modifications are made to the empirical strategy.

The main aim of the epidemiological approach is to isolate the effect of culture--which can only be transmitted by parents--by controlling for institutional and environmental factors in the destination country. The approach argues that key summary statistics relating to the source country can serve as a cultural proxy for descendants of first generation immigrants residing in a similar and specified geographic area. Since social norms and cultural beliefs of immigrant groups vary accordingly, the source country cultural proxy is a predictor of individual economic or political outcomes of descendants of first generation immigrants.

Although most studies that examine how culture shapes individual decisions and outcomes refer to well-known theoretical models (Bisin and Verdier, 2011), the focus of the empirical strategies have emphasized the role of vertical transmission of cultural values from parents (denoted by d^i for cultural trait i in Bisin and Verdier, 2000) and have neglected the oblique transmission of values from the local context (denoted by q^i). Nevertheless, a key equilibrium outcome in Bisin and Verdier (2001) is that under some regularity assumptions, cultural heterogeneity emerges when there is cultural substitution, the notion that as the fraction of people with cultural trait i increases, parents with trait i are less likely to exert (costly) effort to socialize their children to adopt such a trait. Likewise, if cultural complementarity is sufficiently strong, the society moves closer to cultural homogeneity.

What can the properties of cultural substitution and cultural complementarity tell us about female labor supply of higher order immigrants? Let us start by more precisely defining the role of q^i. Bisin and Verdier argue that oblique transmission, q^i, results from choosing a random person with trait i from the population as a role model. If trait i involves being employed, the likelihood of choosing a role model with trait i increases with the frequency with which young female descendants of immigrants observe working women in their immediate environment. Hence, I argue that an adequate way to capture the relevance of oblique transmission is to compute the number of employed women as a fraction of all adult women

in the respondent's state of residence when she was 16 years old. In order to account for the possibility that young women seek role models that are nearby and within their own immigrant group, several other specific proxies that capture the distribution of educational attainment and employment rates of immigrant groups for different cohorts are computed at the state or regional level; such variables are meant to capture the local context.

A common finding in this paper is that some proxies for the local context attenuate the source country cultural parameter. One interpretation is that the oblique signals transmitted to women from the local context strongly reinforce or counteract the values taught by the parental culture such that the society moves towards an equilibrium dominated by local beliefs and values. For example, suppose that immigrants with high source country cultural proxies (e.g. high FLFPR) reside in two types of locations in the host country: regions with high (H) or low (L) female employment rates. If cultural complementarity holds, then members of the same immigrant group are much more likely to join the labor force and work long hours in region H than their counterparts who settled in region L . Thus, complementarity implies that cultural homogeneity is attained within smaller geographic units such as states. Such an interpretation cannot be realized without modifying the epidemiological approach to include measures that represent the local context.

The simple story of cultural homogeneity within states is straightforward and intuitively appealing, but unfortunately, the picture is much more complex. The most apparent reason is that the models reviewed thus far do not capture the possibility that cultural beliefs or views may be immediately altered when circumstances and incentives are sufficiently strong. For example, parents may initially have a generally negative perception of female employment because in their source country, when women were observed working, it was either extremely uncommon or was strongly associated with negative circumstances: living in poverty, working in the informal sector, being subjected to poor working conditions, and experi-

encing difficulty in raising children. Over time, parents observe that many women in the host country have gained employment in white collar jobs with full-time contracts and benefits, and secured access to high quality childcare. As parents update their beliefs, the signal they transmit directly to their daughters changes; this line of logic is consistent with Fernández (2013).

At this point, the question is which group(s) are the most likely to influence the beliefs of parents? It is possible that parents are observing how women fare in their state, such that the general female employment to population rate (when their daughter is 16 years old) is an adequate indicator. However, it is also likely that parents are influenced by "success stories" within their immigrant and/or racial group, regardless of geographic differences. In this case, proxies such as race-specific overall and female employment rates of own immigrant group are more appropriate. Most likely, parental beliefs are shaped by experiences of their own immigrant group in their own region of residence, lending more credence to the previously mentioned variables (i.e. educational attainment and employment rates of own immigrant group by cohort group and region of residence). Note that some of the modifications outlined here do not imply that source country culture does not matter but instead aims to identify the channels through which culture influences individual outcomes, such as labor supply.

The second major shortcoming in the existing literature is the lack of discussion concerning the challenges faced by those second-generation immigrants who, in addition to the complexity of possessing a hybrid cultural identity, belong to a racial or ethnic minority group. This is likely attributed to the fact that in order to test whether the cultural parameter varies by race and ethnicity, a sufficiently large number of relevant source countries must be represented in the sample of second or higher order immigrants. Today, however, following the Immigration Act of 1965, and particularly in the wake of the recent waves of immigration in the 1980's and 1990's, there is a far more diverse sample of working-age descendants of immigrants . In other words, the predominance of European immigrants during

the first half of the 20th century explains why previous studies, which primarily examined the effect of culture on the economic outcomes of second-generation US immigrants in the period 1970-2000, did not address the potential role of race and ethnicity.

Suppose the researcher wants to quantify the effect of cultural norms, proxied for by the source country's female labor force participation rate, on the individual labor supply decisions of second-generation US women. Consider another example of second-generation women applying for jobs in the US. To simplify the problem, assume all second-generation women in the US are either Nigerian-American women or German-American women, and assume these two groups of women are comparable in terms of educational outcomes, age, ability, citizenship status, family background variables, and familial responsibilities. The only difference between the two groups of women is the birthplaces of their respective parents, and therefore, their cultural values. According to the conventional epidemiological approach, differences in the average female labor force participation rates between Germany and Nigeria—at the country level—should be a significant factor in explaining the differences in average female labor force participation rates for the two groups of second-generation women in the US.

However, it is reasonable to suppose that given the racial inequality prevalent in the US, second-generation Nigerian women would be more likely to experience racial discrimination and thus have less success in the labor market than their German counterparts, independently of the impact of differences in cultural practices between the two groups. It would not be surprising if a greater proportion of Nigerian-American women responded to discriminatory or unfair practices by exiting the labor force or by reducing the number of hours worked. As such, if Nigeria has a lower female labor force participation rate than Germany, then the research design described thus far would mechanically overstate the impact of culture by attributing the impact of adverse racial attitudes towards Blacks in the US labor market to a relatively low proclivity of Nigeria to

accommodate working women. There are other possible scenarios that might cast doubt on the role ascribed to cultural influences. For example, what if a greater proportion of Nigerian-American women join the labor force because (they anticipate that) their close male relatives (will) experience labor market discrimination in the near or distant future? In this case, the researcher might attribute the high female labor force participation rates of second-generation Black women to progressive integration and acculturation policies when, as in our example, at least part of Nigerian-American women's attachment to the labor market was motivated by a desire to offset negative household income shocks that are (anticipated) due to anxiety concerning racial discrimination. This thought experiment highlights how comparing second-generation immigrant groups of the same racial background, German-Americans and Norwegian-Americans, differs greatly from comparing those of diverse backgrounds, such as German-Americans and their Nigerian counterparts.

To address issues concerning race and ethnicity, this paper deviates from the standard approach in several ways, primarily because the major assumption that higher-than-first generation immigrants face identical environments is relaxed. While previous authors varied in their respective approaches, a common assumption is that all higher order female immigrants, and their spouses/heads of household, have the same opportunity cost of working, i.e. face identical market wages, an assumption that does not hold when wage differentials across race and ethnicity are persistent (see literature review). As a first step to addressing these shortcomings, the main results report separate regressions for each of the four major racial/ethnic subgroups: non-Hispanic Whites, Blacks, Hispanic-Whites and Asian/Pacific-Islanders. Additionally, if the sample size is sufficiently large, race-specific measures of local and social capital proxies at the state and regional levels are included. A second issue is that the US is usually treated as a homogeneous region in terms of its institutional and economic environment, where geographical differences in social attitudes about race and immigration policies

are not considered. To account for such heterogeneity, state-level measures of natives' perceptions of race-relations and immigration policy are computed. As was the case with H or L state-level female employment rates, the variations in racial or ethnic tensions across states might also result in different patterns of socialization experienced by parents who, although from the same immigrant group, live in different state types. Moreover, parents may update their beliefs about female employment upon learning about the degree of exclusion in their immediate environment.

Last but not least, this paper aims to use several publicly available data sources to identify whether cultural proxies vary across source countries in a way that reflects variation in other country-level social, economic and political indicators. As argued above, while I show that such indicators exist under certain conditions, this does not negate the influence of cultural beliefs but sheds light on which factors mostly likely contributed to their formation.

IV. Data

The main data set used in this paper consists of all monthly waves of the Current Population Survey (CPS) where data on the mother's birthplace and father's birthplace is available: January 1994 to September 2018. To increase the sample of source countries as well as the number of observations per source country, I include 1.5-generation, ("1.5 G"), immigrant women, the subgroup of immigrants who arrived to the US at age 10 or lower. I justify the inclusion of this group because they were too young to have decision-making authority about migrating to the US and were not directly affected by their source country's institutions. At the same time, they have acquired citizenship and had a sufficient amount of time to integrate and assimilate. Those who have not acquired US citizenship were excluded, making 1.5 G immigrants approximately 15% of the full sample.

The sample size is further limited to those between the ages of 25 and 54 in order to examine various measures of labor supply, specifically the number

of hours worked, employment status and labor force participation. While it is conventional to include a wider age range for this analysis[5], I wanted to abstract from decisions relating to early retirement and more advanced human capital investments. Further, if the number of immigrants belonging to a source country--defined as the foreign birthplace of the father and in the event that the father was US born or the data were not available, the birthplace of the mother[6]--were fewer than 50, the observations associated with those source countries were dropped from the sample. The full sample consists of 571,104 female US citizens between the ages of 25-54 from 124 source countries, who have at least one foreign born parent, and were either US born or migrated at age 10 years old or younger[7].Of this sample, 545,599 observations report either a positive number of working hours or are out of the labor force; the remaining 25,505 observations are unemployed and are not included when the dependent variable is a non-binary measure, i.e. weekly hours worked per week.

A. Source Country and Local Cultural Proxies

The primary cultural proxy is measured by the 2016 female labor force participation rate (FLFPR) of women aged 15-64, in the relevant source country, which is extracted from a World Bank database[8]. Figure 1 shows the relationship between the average number of working hours for 1.5 G and 2nd G immigrants by source country and the relevant FLFPR according to World Bank data. The relationship is illustrated using a bubble chart where each bubble is porportional

[5]For example, in many studies the analysis includes the working age population whose age ranges from 18-64

[6]As is the convention in this literature, the father's birthplace is used as the proxy for the respondent's source country. However, in the analysis, when the order of the parents is reversed, the results are not affected.

[7]For 49% of the full sample, both parents are born in the same country (abroad), but the corresponding figures are 41.5% for second-generation immigrants and 93% for 1.5 G immigrants respectively. A further 44% of the full sample, (or 86% of those whose parents were not born in the same country), had one parent that was born in the US and one parent born abroad. The remaining 7% of the sample had two parents that were born abroad in different countries.

[8]The data can be viewed here: https://data.worldbank.org/indicator/SL.TLF.CACT.FE.ZS. The female labor force participation rate is computed as the percentage of working age females, (aged 15-64), who participate in the labor force. I have used other years (2006, 2008, 2010, 2012, 2014) as alternative proxies, but there were no changes.

to the sample size of 1.5 and 2nd G immigrants from the CPS (see population legend): the color legend ensures that each region is marked with a different color. The regression coefficient for the culture proxy is available in the top left corner of the graph, along with the standard error, t-statistic, p-value and R-squared term. The plot shows that an approximate 50 ppt increase in the FLFPR of a source country–for example, from American Samoa to Vietnam– is predicted to increase the average number of working hours of higher order immigrants by 3.25 hours. The estimate is statistically significant and the R-squared term implies that 14% of the variation in working hours across 1.5 and 2nd G immigrant groups can be explained by differences in FLFPR across source countries. The aim of this paper is to test the strength of this result by incorporating individual-level variables, institutions of the source country and local conditions in the US.

In addition to using the FLFP rate for alternative years as a sensitivity check, other cultural proxies for each source country are constructed using summary statistics based on nationals' responses to five questions from the World Values Survey (WVS) that relate to gender roles[9]. In the main analysis, the only question from the WVS that is used to compute alternative cultural proxies is that which concerns testing opinions about the gender allocation of jobs in the presence of scarcity. The primary reason is that the summary statistics relating to responses to other WVS statements were only weakly correlated with labor force participation rates or on hours worked per week for the sample of interest[10]. Thus, the variable "Jobs_Scarce" refers to how respondents evaluated the following statement using a likert scale: *"When jobs are scarce, men have more right to a job than women."* Using only summary statistics related to "Jobs_Scarce" allows the

[9]For more details, see Data Appendix.

[10]Arguably, statements on the effectiveness of women's work fall into two categories, those concerning work-life balance and in particular balancing motherhood with a job or career, and those regarding the role of men and women in society (Bauernschuster and Rainer, 2011). Thus, it is likely that responses evaluating the latter group of statements are more correlated with female labor supply and labor force participation rates, because such statements involve the roles and rights of men and women (as is the case with Jobs_Scarce) than the rights of the child. For example, hypothetically, some may believe that it is not favorable for a woman to work while her child is young (and the reasons may vary from views on child-rearing to concerns about childcare options) but maintain that other women (childless or with older children) should work to contribute to society.

cultural parameter to have its highest possible magnitude for a maximum number of sample countries, and thus, if the parameter is attenuated (and/or not statistically significant) under certain conditions, then it can be deduced that the same conditions will reduce the corresponding parameter for any other cultural proxy derived from the WVS. The first alternative cultural proxy used in this paper is the weighted mean of "Jobs_Scarce" for each source country. Furthermore, I find that for some groups, the inverse of the coefficient of variation for Jobs_Scarce (the mean/standard deviation) was a stronger predictor of female labor supply than other measures frequently used in the literature, such as the mean or the first principal component of all measures[11]. This is hardly surprising given that the mean is sensitive to outliers and is not informative about the variation in responses.

Figures 2a and 2b report bubble charts for the relationship between working hours for 1.5G and 2nd G immigrants and the two alternative cultural proxies. Comparing the R-squared terms in Figures 1, 2a, and 2b suggests that the source country FLFPR is a more reliable measure of culture than the alternative proxies. Nevertheless, for most of the results, all three cultural proxies are used. To observe the relationship between the cultural proxies, Figure 3 graphs the bubble chart and the best fit line between the mean of Jobs_Scarce and the FLFPR; the figure shows that the two are strongly associated with one another. Note that most of the East Asian countries lie above the best fit line while most of the countries in Latin America/ Caribbean fall under the best fit line. This indicates that for East Asian countries, respondents' views on gender norms are more traditional than expected, given their FLFPR, while the opposite is true for Latin American respondents.

To capture the respondent's local culture, (within the US), with respect to how

[11]For example, I used two other measures. The first measure was simply the sum of the mean values for all five questions, where a high total is indicative of traditional gender values. This was also done separately for each question. The second measure is the score of the first principal component which takes into account the average responses to all five cultural proxy questions for each source country and provides a corresponding summary statistic.

women are integrated into the workforce, I create a variable that simultaneously accounts for state and cohort differences in female employment rates. To view the contrast in female employment rates between 1940 and 2000, heat maps provide a snapshot of rates in each year in Figures 4a and 4b. The state-cohort employment rate is the total number of employed women in the age range of 18-64 as a proportion of total respondents in the same age range, in a respondent's current state of residence during the year she turned 16 years old. To produce this variable, I first compute the year each respondent turned 16 , based on her age and the survey year. To cover all women in the sample, annual state employment rates are required between 1956 and 1993[12] . For those born in or after 1962, I used the full sample of the annual March Supplement of the CPS from 1962-2009 to compute the (weighted) female employment rate per state for each year[13]. Annual state employment rates prior to 1962 were proxied for using the combination of the 1950 and 1960 waves of the American Community Survey (ACS).

There are two potential problems with this variable. First, although past female employment rates in the current state of residence can shed light on the local institutions and laws that may potentially affect the decision to participate in the labor market (e.g. anti-discrimination laws, abortion laws, access to contraception, etc), there is no information on which state the respondent lived in when she was 16 years old. Thus, there is an embedded assumption that either the respondent did not move between the age of 16 and the time of the survey, or in case she did move, the local conditions of her state of residence at age 16 did not influence her labor supply decisions in a way that differed from those in the current state of residence. Second, historically speaking, Black women had much higher

[12]The oldest person in the sample was interviewed in 1994 and was 54 years old, while the youngest person in the sample was interviewed in 2018 and was 25 years old. This means that this paper covers birth cohorts between 1940 and 1993, who were 16 years old between 1956 and 2009.

[13]Prior to 1977, several states in the CPS were grouped together. Therefore, for a given year, states in the same group were assigned the same female employment rate. Specifically, between 1962 and 1972, there were 19 states that could be identified independently and 11 state groups, yielding 30*11=330 independent estimates. From 1973-1976, 13 states were uniquely identified, and there were 10 state groups, amounting to 23*4=92 estimates. From 1977-2009, all states, (including the District of Columbia), were uniquely identified, producing 33*51=1683 estimates. In total, 2105 (1683+330+92) employment rates were computed.

participation rates than White women, and their communities suffered from severe racial discrimination. Thus, the state-cohort female employment rate, which is dominated by non-Hispanic White women, may not serve as an appropriate proxy for Black women. Given the small sample size of black women in the CPS, a state-cohort measure of the black female employment rate is computed as an alternative local proxy for Black women using the ACS instead, where only a few cells are dropped due to small sample sizes (see Data appendix for more details). To address both of these issues, the possibility of having moved and the relatively small sample sizes for Black women, I compute US region-cohort measures of female employment rates, separately for Whites and Blacks. Since there are only 9 regions, it is reasonable to assume that people are much more likely to move to another state within a region than another state in a different region. Figures 4c and 4d display separate female employment rates for each race, by region and over time.

Finally, I use multiple waves[14] of the Pew Attitudes Surveys to construct state measures on social attitudes and beliefs of non-Hispanic Whites regarding race relations and immigration policy. In the 2000, 2009 and 2017 waves, respondents were asked to choose which of the following two statements came closer to their own views, even if neither statement was exactly correct: *"Racial discrimination is the main reason why many black people can't get ahead these days"* and *"Blacks who can't get ahead in this country are mostly responsible for their own condition"*. For the years 2009 and 2017, respondents were also asked to choose between: *"Our country needs to continue making changes to give blacks equal rights with whites"* and *"Our country has made the changes needed to give blacks equal rights with whites"*. Since 8.2% of respondents did not choose either statement, the variable ranges from 0 to 2, where 0 is assigned to those who chose the second statement (conservative), 1 is for individuals who could not commit to a choice and 2 is

[14]Specifically, I use the following waves: September, 2000, June 2006 Immigration Survey, Oct 28-Nov 30, 2009, Aug 27-Oct 4, 2015, Mar 17-26, 2016 and June 8-July 9, 2017. All waves included the immigration question while only the 2000, 2009 and 2017 waves included the questions on race-relations.

assigned to individuals who chose the first statement (liberal). Figure 5a reveals the weighted average by state through a heat map, where New Hampshire has the highest score (1.12) and Mississippi has the lowest score (0.19).

To gauge state-level differences concerning the presence of immigrants, the following pair of statements was used: *"Immigrants today strengthen our country because of their hard work and talents"* and *"Immigrants today are a burden on our country because they take our jobs, housing and healthcare"*. Using the same coding technique to obtain a weighted average score for each state, the heat map (Figure 5b) illustrates that Vermont had the highest score of 1.68 and again, Mississippi received the lowest score of 0.64. There is a 0.5 statistically significant correlation between the state measure of attitudes towards race and that for views on immigration policy. Together, these variables permit one to test the degree to which local institutions in the host environment affect individual behavior, and whether there are complementarities between the culture of the immigrant's country of origin and that of the local environment.

V. Empirical Strategy

The empirical strategy in this paper borrows from the epidemiological approach, where the parameters of the following model are estimated using either a linear probability model (LPM) or Ordinary Least Squares (OLS):

$$Y_{ichs} = \beta_0 + \beta_1 GR_c + \beta_2 LV_{hs} + \beta_3 X_i + \varepsilon_{ichs} \tag{1}$$

where Y_{ichs} represents a binary measure of labor force participation or non-binary measure (i.e. weekly hours) for individual i from source country c, cohort h, residing in state s. The extensive measure of labor force participation is a dummy variable where 1 is assigned to women who are employed or unemployed, i.e. not employed but searching for work, and 0 for those who are not in the labor force.

The non-binary measure equals the number of weekly hours reported for those who are employed and 0 for those not in the labor force. Since the goal of the estimation is to measure the impact of source country and local factors on the decision to participate, it is problematic to equate unemployed individuals with those outside the labor force by assigning both groups zero hours of work. Thus, for the non-binary measure, the sample consists only of employed women and those not in the labor force.

GR_c is the measure of gender roles, which differs across source countries, based on the female labor force participation rate in the source country. LV_{hs} is the proxy for local values, which varies by cohort and state, i.e. state-cohort employment rate. X_i is a matrix of individual level controls including ten educational dummies, age, age squared, four race/ethnicity dummy variables (non-Hispanic Whites, Hispanic Whites, Asians/Pacific Islanders and Blacks), two dummy variables–one for being married and one for being a naturalized citizen (1.5 G immigrant)–and the number of children. Some specifications also include a dummy variable for whether the female respondent's head of household or spouse has the same source country as the female respondent[15]; ε_{ichs} is a well-behaved error term. Year fixed effects are not identified since direct controls for age and indirect controls for cohort effects through LV_{hs} are included. Note that for the main analysis, equation (1) is first estimated in a pooled regression followed by a racial/ethnic subgroup analysis.

To account for serial correlation of the error terms among individuals from the same source country or among those who grew up in a similar context, standard errors are clustered at two levels (Cameron, Gelbach and Miller, 2011); the source-country level and the state-year-group level. I create 11 year-group levels such that each individual is assigned to only one group when 16 years old: 1962-1969, 1970-73, 1974-77, 1978-80, 1981-83, 1984-87, 1988-90, 1991-93, 1994-97, 1998-

[15]If a woman is the head of household and is unmarried, she does not count as someone who has the same source country as the head of household or spouse. In other words, she is assigned 0 for this dummy variable.

2000, and 2001-09. There are 51 geographic units including all 50 states plus the District of Columbia and thus, a total number of 561 (11*51) state/year-group cells. If the number of people belonging to a state/year-group cell is less than 30 in the pooled or subgroup analysis, the cell is dropped and those observations are removed. Since Black women have the fewest observations (5% of the entire sample) of all racial/ethnic groups, when estimating equation(1) for this subgroup, only four groups were created to ensure that most state/year-group cells include a sufficiently large sample size of at least 30 observations that represent 1.5 G and 2nd G immigrants: 1962-1984, 1985-91, 1992-97, 1998-2009. The first age group includes a larger cohort because Black women in the sample are primarily represented in younger cohorts. This amounted to 204 (51*4) state/year-group cells for black women in the sample.

Equation (1) raises several concerns about the endogeneity of GR_c and LV_{hs} calling into question whether $\beta_1$and β_2 are unbiased. When conducting robustness checks, several additional specifications are run such that a number of controls are independently included in an effort to both, mitigate selection bias and pinpoint the mechanisms driving the main results. Since most of these concerns involve selection bias, I attempt to address selection issues using two types of control variables: the first set of variables concerns the extent in which the degree of selection varies by source country and the second aims to identify ways in which different immigrant groups were advantaged/disadvantaged when they migrated to the US. To account for these issues, more structure is imposed on the error term such that local and source country institutions are :

$$\varepsilon_{ichs} = \delta_1 CI_c + \delta_2 LI_{s(h)} + \delta_3 CL_{cr(s)h} + \eta_{ichs} \tag{2}$$

Source country institutional controls are represented by the term CI_c. State level controls that represent fixed local institutions (or time-varying ones that

differ by cohort h) are depicted by $LI_{s(h)}$. Social capital controls that proxy for socioeconomic measures of a given immigrant group from source country c, residing in US region r (which depends on the state s), belonging to cohort h are denoted by $CL_{cr(s)h}$. In the next subsection, I elaborate on the source country cultural proxies that are used throughout this paper (CI_c), although most of the details are in the data appendix. Local and social capital controls are elaborated on in sections 6.2 and 6.3 respectively, and in the data appendix as well.

A. Identifying Mechanisms (Source Country Level)

I attempt to address selection issues using two types of control variables: the first set of variables addresses concerns about the extent to which the degree of selection varies by source country, and the second aims to identify ways in which different immigrant groups are advantaged through social, network and peer effects when they migrate to the US. This subsection reviews the source country controls used in the selection results.

It is possible that countries with less traditional views on gender roles are also ones that have stronger educational institutions, better functioning labor markets or institutional structures that are more similar to the US. As children grow up, they learn from their parents–whose knowledge about schools, institutions and the labor market are largely derived from the source country–how to navigate the US labor market. These factors can pinpoint the mechanisms by which descendants of immigrants from countries with relatively low scores on traditional gender norms have stronger labor market attachment.

To alleviate concerns about the degree to which the selection of immigrants varies by race, ethnicity and nationality—e.g. whether Asian immigrants are more positively selected than Hispanic immigrants are—I consider a wide range of controls at the source country level that may explain the causal association between the cultural proxy and the number of hours worked. Two common controls used in the literature are GDP per capita for the year 1970 and the Barro

and Lee (1970) measure for the average years of schooling in each source country. In addition to these measures, I use the 2000 measures since immigrants who migrated in the 1980's, 1990's and 2000's may have received multiple signals about the future direction of the country beyond the economic conditions of the year 1970. To increase the number of source countries, I also use the 1970 and 2000 Wittgenstein measures for the average number of years of schooling attained in each country.

The above-mentioned measures are either general economic indicators of the source country or measures for the average quantity of schooling. However, as shown by Hanushek and Woessmann (2010), the quality of schooling may be a stronger predictor of economic growth or of resilient institutions than quantity of schooling. For example, consider Portugal, Singapore and the Czech Republic, which have average years of schooling, (using the 2000 measure by Barro and Lee) of 6.7, 8.9 and 12.9 respectively, against an overall mean and standard deviation of 7.7 and 2.7 years. While those from the Czech Republic have the highest average quantity of schooling, how does the Czech Republic fair in terms of the quality of schooling?

One indicator to assess the quality of schooling is the Program for International Assessment (PISA), a study of the academic performance of 15 year old students in mathematics, science and reading, conducted by the OECD in approximately 70 countries. Intriguingly, the Czech Republic had a lower average score in the PISA Science exam in 2015 than the other two countries. The mean scores for Portugal, Singapore and the Czech Republic were 501, 556 and 493 respectively. To account for the quality of schooling, I use the 2015 PISA Science and Mathematics scores for 58 countries and the 2015 PISA English scores for 57 countries. The PISA exam is usually administered when students are in grade 10. Thus, to assess the importance of early childhood education, the Trends in International Mathematics and Science Study (TIMSS) exams serve as a proxy for the quality of earlier childhood education in a given country since they are usually adminis-

tered in grades 4 and 8[16] . Finally, I use four other cognitive measures–provided in Hanushek and Woessmann (2010)–to assess the quality of schooling at different points in the skill and age distribution, by averaging international test scores over time for each country[17].

Further, one might wish to take into account the extent to which labor markets in the countries of origin reward additional years of schooling or higher levels of educational attainment. While the returns to schooling are relatively high in the US, immigrants from countries will large informal sectors or immigrants that experienced substantially lower returns to education, may place less weight on the importance of having a career. This is especially relevant if parents are able to transmit strong signals to their children. In the case of women, whose familial and social obligations are especially time-consuming and highly valued by society at large, the tradeoffs between family and career may make it less worth aspiring to a career. To account for country-level differences in returns to education, estimates for social and private returns to secondary education and returns to years of schooling by country are taken from Psacharopoulos (1985) and Psacharopoulos & Patrinos (2004). For countries with multiple year results, I choose the estimate closest to 1970 and or take the average if the years are far apart but are centered on 1970[18].

Another way to address selection is by exploiting differences in the distances between source countries and the US, and positing that immigrants from countries that are farther away must pay a higher fixed cost to migrate–partially because they must arrive through legal means–and are likely more positively selected on

[16]TIMSS is run by the International Association for the Evaluation of Educational Achievement (IEA) to provide a global comparison of students' achievements and knowledge concerning the subjects of Math and Science in the 4th and 8th grade.

[17]The four measures are: 1.) cognitive, which comprises the average test scores in Math and Science exams from primary school through to the end of secondary schooling where all years are scaled to the PISA scale; 2.) lower secondary, which is a similar measures but the scores only apply to those who are in lower secondary; 3.) basic, which is the share of students reaching basic literacy and 4.) top, which is the share of top-performing students.

[18]For example, Canada has estimates for both 1961 and 1985, but neither is close to 1970, so the average is taken. Brazil, on the other hand, has estimates for 1970 and 1989, so the former estimate is used.

average. Distance is measured as the minimum number of kilometers between the airport in the source country's capital city and the nearest international airport in the US. Although this measure of selection is simple and intuitively appealing, like most controls, it overlooks major concerns. Specifically, a common critique concerning the literature on US immigrants and their descendants is that we do not observe how immigrants entered the country and thus, have little knowledge of their living conditions as well as their potential to be integrated. For example, it is well known that among immigrants, H1B visa entrants differ in a variety of observable characteristics from those who are seeking political asylum or hold refugee status. Moreover, the degree of selection varies substantially across source countries and legal or illicit routes of entry.

While it is not an ideal measure, passport power is a reliable indicator of the strength of a country's political and economic institutions, and may adjust for the selection concerns that arise from differences in the composition of US immigrants arriving from dissimilar circumstances. I use the 2006 measure of the Henley Passport Index, which assigns each country a score based on the number of countries a national is authorized to travel to without seeking the approval of the destination country's government [19]. Although inconclusive, there is suggestive evidence that passport power is a proxy for a country's institutions through its effect on international relations, openness, trade flows, FDI inflows, positive economic growth and progressive reforms (The Henley Passport Index, 2019; 2019 Henley Passport Index and Global Mobility Report). Moreover, it is also possible that immigrants from countries with relatively weak passport power experienced greater barriers to geographical mobility for work or leisure purposes throughout their lives prior to migrating to the US, thereby limiting their exposure to cultural and institutional complexities worldwide. Likewise, countries with a low

[19] 2006 was the first year the index became publicly available. A score of 1 is given under the following conditions: a.) if pre-departure approval is not required or b.) if the country can be accessed through: visa on arrival, a visitor's permit, or an electronic travel authority (ETA). If the passport requires any form of government approval prior to entry into a foreign country, then a score of 0 is given. The index is the sum of all the scores.

passport index score usually accommodate fewer immigrants or foreign nationals and thus, their respective residents are more likely to be immersed in the local cultural norms of these countries and less exposed to global or universal norms. Such source country norms and attitudes are thus, likely to have been transmitted to a greater extent to the descendants of US immigrants from countries with weaker passport power.

As expected, most of these indicators are correlated with the the main cultural proxy, FLFPR. Figures 6(a)-(g) graph the relationships between FLFPR and a.) 1970 GDP per capita, b.) 2000 GDP per capita, c.) 1970 Wittgenstein years of schooling, d.) cognitive skills, e.) PISA Science Scores, f.) private returns to secondary education, g.) distance to the US (km), and h.) Henley's Passport power index. While these graphs illustrate several trends, given space considerations, only a few main issues will be mentioned. Note that all coefficients are statistically significant and in the expected direction except for the relationship between FLFPR and the private returns to secondary education, where the coefficient is negative. This is likely due to the fact that high income countries have relatively high FLFPR, stronger institutions, better enforcement mechanisms, relatively smaller informal sectors, high minimum wages, and therefore, relatively low returns to schooling. While all the graphs are informative, it is clear that the strongest two predictors of FLFPR are passport power and PISA scores. Additionally, note that in most graphs, the majority of countries in the Middle East and North Africa (MENA)/ South Asia regions are under the best fit line, which means that according to any of these indicators, these countries consistently underperform in terms of FLFPR.

VI. Main Results

Table 1 displays the parameter estimates of equation (1) for the full sample, where there are 124 source countries, 561 state-year groups, and the dependent variable in Panels A and B, respectively, represents the extensive margin of female

labor force participation and the non-binary measure of labor supply for each individual. The results in col (1) estimate that a 50 percentage point increase in the female labor force participation rate in the respondent's source country, raises the number of hours worked by approximately 3.1 hours (Panel A); or alternatively, increases the likelihood of participating in the US labor force by 7.8 percentage points (ppts). Both point estimates are statistically and economically significant.

In the next specification, education controls, age effects, and whether the individual was a naturalized citizen (1.5 G) or born in the US (2nd generation) are included. The effects are reduced to 0.94 hours and 5 ppts respectively, and are no longer statistically significant. This suggests that 2nd and 1.5 G immigrants from countries with high FLFPR's are also better educated and older, possibly with more years of work experience. Additionally, differences in work hours between 1.5 and 2nd generation female immigrants are not statistically significantly different from zero. It is worth noting that this is our preferred baseline specification, and thus, will serve as a natural comparison point when selection issues are addressed and discussed in later sections.

Col (3) relates to controls for marital status and the number of children. The number of weekly hours worked by married women is about 3 hours fewer than for unmarried women and for every additional child, there is an approximate decline of 1.9 work hours; however, there is no change in the parameter of interest. Married women are also less likely to participate in the labor force, by 5.7 ppts, whereas having an extra child decreases this likelihood by 2.9 ppts. Note that in this specification, 1.5 G immigrants work 0.6 more hours per week and the point estimate is statistically significant. In comparison with the point estimate in col (2), this implies that 1.5 G immigrants are more likely to be married and have more children, leading to the downward bias of differences in hours worked between 1.5 and 2nd generation immigrants in earlier specifications.

Col (4) introduces race and ethnicity controls, where non-Hispanic Whites are

the reference group. The estimates show that Hispanic Whites and Blacks work approximately 1.3-2 hours more than non-Hispanic Whites and Asian-Pacific Islanders, but what is more striking is that the parameter of interest rose dramatically in magnitude to 3.3 hours and is highly statistically significant. This is primarily due to the fact that some of the Blacks and Hispanic Whites, who are more likely to participate in the US labor force, originate from countries that have relatively low female labor force participation rates; this suggests that the estimates in col's (2) and (3) are downward biased. Another intriguing finding is that the cultural proxy or FLFPR is only a strong predictor of female labor supply between global regions, as shown in col (5). When regional controls are included, the parameter of interest is attenuated and statistically insignificant.

In col (6), marital status is replaced by a dummy variable that indicates whether the head of the respondent's household (or in the event that the respondent is the head of the household, the partner of the respondent) has the same source country. Col (6) shows that the parameter of interest is attenuated but remains statistically and economically significant. Panel B shows that the results are similar when using extensive measures of labor supply.

In summary, the results show that demographic controls, excluding race and ethnicity, can eliminate the impact of culture on female labor supply. Nevertheless, differences in FLFPR or social norms and beliefs about gender roles are powerful predictors of female labor supply across global regions and within racial/ethnic subgroups. In the remainder of this section, I investigate the role of both source country and local cultural trends and norms for each racial-ethnic subgroup since all parameters vary by subgroup, as will be shown in Tables 2-5. The results are replicated using the alternative culture proxy, concerning the allocation of scarce jobs between the two genders, and the findings show a similar pattern (unreported).

A. *Non-Hispanic Whites*

Table 2 reports the parameter estimates for non-Hispanic Whites, who constitute the largest group of 1.5G and 2nd G immigrants, comprising 113 source countries and 560 state year groups. Since this is the first study to incorporate 1.5 G immigrants, and given that non-Hispanic Whites made up an even greater proportion of working-age, second-generation immigrants prior to the changes facilitated by the 1965 Immigration Act, it is worth highlighting that previous studies could not address the degree to which findings were driven by this group. In the absence of controls, col (1) shows that non-Hispanic White immigrants from countries with higher participation rates are more likely to join the labor force. A 50-percentage point increase in country of origin participation rates leads to a 1.3 hour increase in weekly hours worked, which is statistically significant, although, relative to previous results, the magnitude of the point estimate is weak. Standard errors are clustered at the source country level. In addition, a 50-percentage point increase in the female employment rate, when the respondent was 16, increases the number of weekly hours by 1.9 hours, where standard errors are clustered at the state/year group level. When the two parameters are included in col (3), both point estimates are statistically and economically significant; standard errors are two-way clustered at the source country and state/year group level.

The introduction of demographic controls attenuates the local culture effect but increases the source country cultural effect. This is likely due to the fact that, for non-Hispanic Whites, married women and mothers work fewer hours and come from countries with high participation rates. However, controls for education, age and other factors reduce the role of local institutions. In col (5), instead of controlling for whether or not a woman is married, I control for whether the head of the household (usually spouse or parent) has the same source country. For non-Hispanic Whites, this population comprised approximately 10% of the sample. As shown in col (5), the effect of culture was attenuated and marginally significant. In fact, when this subgroup was removed from the sample in col

6, the effect of the source country and local culture were no longer significant. Thus, for non-Hispanic Whites, the results for culture are driven by the 10% subsample whose spouse or household head is from the same source country. At the bottom of Table 2, the results show that using the extensive measure of labor force participation as the outcome variable yields figures that are more precisely estimated.

B. Blacks

Table 3 displays the estimates of the parameters of interest for 1.5G and 2nd G immigrants who identified as Black/African American in the CPS. They come from a total of 65 source countries and reside in 132 state-year groups. Col (1) shows that the point estimates of the parameters for SC culture and local culture are large in magnitude and precisely estimated. A 50-percentage point increase in the FLFPR of the respondent's source country is expected to increase an individual's number of work hours by about 7.6 hours per week. When controls are included, both parameter estimates are attenuated and in particular, the effect of SC culture is less than one-third of its initial magnitude and is only marginally significant. In contrast to non-Hispanic Whites, marital status and having children do not have an impact on weekly hours worked for Black female descendants of US immigrants.

In col (4), marital status is replaced with the dummy variable that relates to whether the head of the household/partner comes from the same source country. In contrast to the effect of marital status, living with someone who is from the same source country reduces hours worked by about 3 units per week. As with non-Hispanic Whites, when those individuals are removed from the sample in col (5), the effect of the SC culture is no longer statistically significant, although only slightly attenuated. Note that the parameter for the local culture variable is inflated, suggesting that the labor market outcomes of Black women who live with a close relative from the same source country are less likely to be shaped by

local cultural trends when compared to other descendants of Black immigrants.

Col (6) includes the full sample and introduces a variable that measures the level of sympathy towards the plight experienced by Blacks and African-Americans in society. The results show that Blacks who live in progressive states are much less likely to work. Furthermore, the parameters for both source country and local culture variables are attenuated, which implies that progressive states have on average and across years relatively low female employment rates and that Black immigrants who live in progressive states come from countries with low female labor force participation rates. These trends highlight the role of local, cultural or institutional, factors, which appear to have persistent and independent effects and can also reduce the impact of the source country cultural proxy on hours worked. At the bottom of Table 3, the parameter estimates reveal that source country and local cultural proxies seem to be stronger predictors of extensive measures of labor supply than the measure for work hours, where the unemployed are excluded.

C. Hispanic Whites

Table 4 presents the parameter estimates for Hispanic Whites, for whom there are 58 countries and 461 state/year-groups that have met the minimum threshold of observations to be included in the analysis. The results show that changes in the FLFPR of the source country have a substantial effect on individual working hours for 1.5G and 2nd generation Hispanic White immigrants. In fact, a 50 percentage point increase in the FLFPR of the source country leads to an 8 hour increase in hours worked per week and/or a 33% increase in labor force participation rates. Meanwhile, the female employment rate at the state level does not shape employment trends for this group. When controls are included in col (3), the effect of the SC cultural proxy is no longer statistically significant. For Hispanic Whites, demographic controls almost completely account for the differences in both measures of labor supply that are observed across countries of origin. Additionally, this is the only group where naturalized citizens or 1.5 G

immigrants are predicted to work more hours than second-generation immigrants, and the difference is not statistically different from zero.

The parameter for SC culture is further attenuated when the effect of marital status is replaced by considering the effect of whether or not an individual lives with a partner or household head from the same source country. In the last column, a variable is introduced to measure the degree to which residents of the state believe that immigrants make a positive contribution to society. Hispanic whites who live in states that are more tolerant of immigration, work fewer hours and when comparing col (3) and col (6), the parameters for the SC and local cultural variable show a slight decline.

D. Asian/Pacific-Islanders

For Asians and Pacific-Islanders, the impact of the SC cultural proxy is low and not statistically significant even without controls (Table 5). The local employment rate is economically and statistically significant, but in the presence of controls, the parameter is reduced and loses precision. Marital status, having children and living with a partner or head of household from the same source country all have negative effects on weekly hours worked. However, what is most striking about Table 5 is col (6), where the effect of living in a state in which most residents have a positive view of immigrants has a strong, positive and statistically significant impact on hours worked. This is in contrast to the results for Blacks and Hispanic Whites, where residing in progressive states leads to fewer hours being worked. These results, again, demonstrate the importance of incorporating local factors separately by race and ethnicity.

VII. Selection Results

The results in the previous section show that, when controlling for education, age and marital status, the female labor supply decisions of Hispanic Whites and Asian/Pacific-Islanders are neither affected by the source country culture proxy

nor the local culture proxy. This is true even if alternative cultural proxies from the WVS are used [20]. Since one of the primary aims of this paper is to identify the mechanisms behind the importance of source country and local culture for economic outcomes, the remainder of this paper will focus on non-Hispanic Whites and Blacks.

A. Source Country Channels

Tables 6 and 7 present the parameter estimates of β_1 for Blacks and non-Hispanic Whites respectively, where β_1 is the parameter that corresponds to the FLFPR of the source country. Since some variables were not collected for all 124 countries in the primary dataset, β_1 is estimated for each subsample, both before and after each control is independently included in the main regression equation. The main regression includes the following baseline controls: state-cohort employment rate, education dummies, age, age squared, and a dummy for being a 1.5 G immigrant. Moreover, the number of source countries and the total number of observations are included for each specification. The first column reports β_1 and assumes the dependent variable is a binary outcome variable that measures the extensive margin of female labor supply, while the second column assumes the dependent variable is hours worked per week. Thus, each cell in the first two columns of Table 6 represents an estimate of β_1 from a separate regression.

For the remainder of this subsection, I present the findings by comparing the parameter estimate before and after the inclusion of each control. If, for a particular subsample, the parameter estimate was economically and statistically significant in the main equation, and then became attenuated and statistically insignificant after a control was added, then it can be posited that a potential channel for understanding how culture influences economic outcomes is identified. The last subsection conducts a robustness check for these results. Note that the inclu-

[20] Results available upon request.

sion of GDP per capita in 1970 and 2000, as well as average years of schooling measures inflate β_1 for non-Hispanic Whites. This is because the descendants of non-Hispanic White immigrants from countries with fewer years of schooling or relatively low GDP per capita are more likely to work, controlling for the above-mentioned individual factors, although their countries have relatively low female labor force participation rates. For Blacks, either the point estimate stays the same or is slightly attenuated.

Thus, GDP per capita and average years of schooling do not shed light on the large and persistent effect of culture. However, for non-Hispanic Whites, quality of schooling measures—such as the PISA and TIMSS exams—can be seen to have a role both in attenuating the magnitude of β_1 and eliminating statistical significance. One explanation for the differences in results between quantity and quality of schooling measures is that quality measures are collected for a positively selected sample of the source country population, which may better reflect the US immigrants from that country. For example, the average years of schooling for most developing countries is far below 10 years, but the PISA exam is administered when students are in the 10th grade, and only in certain regions of these countries. This may also explain why controls for TIMSS scores in the 8th grade led to similar results to those for the PISA exam, whereas the scores of the 4th grade TIMSS exams resulted in the inflation of β_1.

For Blacks, the results are more ambiguous since PISA exams attenuate the value of β_1, but only for the non-binary dependent variable. Additionally, it is difficult to assess the impact of quality of schooling measures, since none of the parameter estimates were statistically significant in the main equation prior to the inclusion of schooling quality controls, possibly due to the relatively small number of source countries represented in the sample. Next, I assess how β_1 changes after accounting for the degree to which the labor market of the source country rewards secondary education. In contrast to the case of quality of schooling measures, β_1 is statistically significant for non-Hispanic Whites and Blacks for the subsamples

in the main equation. However, after labor market returns are included, the value of β_1 is reduced and becomes statistically insignificant on both margins for Black descendants of immigrants, but is inflated for non-Hispanic Whites. Given that the returns to the labor market are negatively correlated with female labor force participation rates at the country level, these findings reflect the fact that Black descendants of immigrants from countries with high labor market returns to education are less likely to participate in the labor force and/or work fewer hours.

The last two controls are passport power and distance. For non-Hispanic Whites, the inclusion of passport power eliminates the economic and statistical significance of the parameter estimates for both measures of labor supply. Unlike most specifications, the regressions cover almost the entire sample of non-Hispanic Whites and include 98 (out of 113) source countries. Passport power had no meaningful effect on the parameter of interest for Blacks. Since the minimum distance to the US was computed for all countries, the full sample is analyzed. The inclusion of distance reduces β_1 for both margins but does not eliminate statistical significance for non-Hispanic Whites, while for Blacks, there is virtually no effect.

For completeness, Tables A1 and A2 in the appendix replicate Tables 6 and 7 respectively using the two alternative cultural proxies from the WVS, the mean and coefficient of variation, at the source country level, of the responses to the question on the scarcity of jobs[21] . Although fewer countries are represented and the main regressions have less statistical power, passport power, distance, and quality of schooling measures continue to be the primary drivers behind the culture puzzle for non-Hispanic Whites. For Blacks, passport power and distance also play a crucial role in explaining the influence of social norms and attitudes, though this was not the case when the FLFPR of the source country was the culture proxy. Additionally, years of schooling measures and GDP in 1970 alter

[21] Variables are excluded if the subsample represents fewer than 24 source countries.

β_1, but unlike the case when FLFPR was the culture proxy, social and private returns to schooling in the source country do not.

In summary, source country controls such as passport power, quality of schooling measures and minimum distance can be seen to point to the channels through which culture impacts individual economic outcomes. However, this is primarily true for non-Hispanic Whites; for Blacks, the results are less convincing and more mixed. For many of the specifications, statistical power was too low for the main regressions. In an attempt to search for other mechanisms, I turn in the next subsection to other specifications where local and/or social capital measures are at the center of the discussion.

B. Selection Bias (Local Controls)

The sample of interest in this paper involves 1.5G and 2nd generation immigrants, a group that is caught between two cultures. The previous subsection presents how differences in the circumstances of the source countries may have led to differences in the culture proxy. Source country circumstances primarily influence the behavior, attitudes and values of first-generation immigrants, or parents of our sample of interest. For 1.5G and 2nd generation immigrants, however, network/peer effects and local institutions are likely to play a more crucial role in understanding how culture impacts economic outcomes. As a first step to understanding these interactions, I address the question: How do local US institutions, in combination with the presence of a strong immigrant community from the parents' source country, shape the individual economic outcomes of higher order immigrants? According to Fernandez and Fogli (2009), the effect of culture on economic outcomes is intensified as the extent to which members of the same ethnic group increasingly cluster together.

To investigate the importance of immigrant concentration, Table 8 displays OLS regressions for non-Hispanic Whites (Panel A) and Blacks (Panel B), where hours worked is regressed on the female labor force participation rate in the

source country, the state-cohort employment rate, the share of SC immigrants per region/cohort group, and the interaction terms between the latter variable and the first two variables. The share of SC immigrants is computed by using the ACS to estimate the weighted share of first-generation immigrants born in the respondent's source country as a fraction of working-age immigrants (18-64) who reside in the respondent's region in the US. For this measure and all other social capital proxies that account for cohort group effects, proxies for each cohort group are computed during a year/period when the members of the cohort group were in their teenage years or early 20's. Cells with fewer than 30 immigrants per SC/region/cohort group are dropped before shares were computed.

The results in Panel A show that culture has a strong and robust effect on the number of hours worked for non-Hispanic Whites, even after controlling for the concentration of immigrants from the same SC living in an individual's US region during her teenage years (Col's 1-2). As expected from the results in Table 2, local employment effects do not predict individual economic outcomes for non-Hispanic Whites. In col (3), interaction terms are included. The culture parameter continues to be statistically and economically significant while the share of immigrants from the same source country has little to no effect on hours worked. Furthermore, culture has a stronger influence on an individual's economic outcomes the higher the share of SC immigrants, which is consistent with Fernandez and Fogli (2009).

To address the fact that black and white women experienced different trajectories across US regions and cohorts, I replace the state-cohort female employment rate with a race-specific local female employment rate in col (4)-(6). Given the small sample size of Black women, state cohort groups are created using the ACS, as is the case with other social capital proxies (see footnote 19 and the Data appendix for more details). In Panel A, col (4)-(6) reveal that replacing the local proxy with a race-specific one has no effects on the results of non-Hispanic Whites.

Col (1)-(2) in Panel B are similar to those of Panel A, in that culture and

the share of own-nationality immigrants both have a positive effect on hours worked. The main difference across panels is that for Blacks, the state cohort female employment rate is a strong predictor of female labor supply. Additionally, when interaction terms are included, the cultural proxy has no effect on economic outcomes and the interaction term between the cultural proxy and the share of own-nationality immigrants has an ambiguous effect on hours worked. This is because although a greater share of SC immigrants amplifies the effect of the cultural proxy, a rise in the share of SC immigrants works in the opposite direction and reduces female labor supply, unless the combination of the source country FLFPR and the state cohort female employment rate are sufficiently high.

In col (4)-(6), the results show that the race-specific, local, female employment rates are much more robust than the general ones. In fact, in col (4), which has no interaction terms, the cultural parameter is attenuated and is no longer statistically significant. This suggests that Black immigrants from high FLFPR countries are more likely to reside in states where black female employment is more common during their teenage years/early adulthood. Thus, for Black descendants of immigrants, there is reason to believe that local proxies outweigh the effect of source country proxies. Finally, in col (6), as the share of own SC immigrants increases, the effect is consistently positive and increases with the FLFPR in the source country but not the local employment rate; the local employment rate has its own persistent and independent effect as opposed to that shown in col (3).

C. Mitigating Selection Bias (Social Capital Measures)

These results indicate that the extent to which immigrants from an individual's source country are present (in her region of residence during her teens/early adulthood) influences that individual's decision to participate in the labor market, both by placing more weight on the influence of SC culture and independently. A natural way to proceed is to investigate whether social capital measures can help explain these trends. Immigrants can experience different levels of social

capital due to the educational and employment outcomes of members of their parents' nationality. As done in other studies (e.g. Alesina and Guiliano, 2010), I use the average weighted number of years of schooling for 1.5G and 2nd generation immigrants, which was derived from the main dataset of CPS monthly waves between 1994 and 2018 as a way to control for the respective group's ethnic human capital. To account for racial differences within the same source country, race-specific ethnic human capital is computed so that for example, the ethnic human capital measure for descendants of South African immigrants is the average years of schooling of all 1.5 and 2nd G South African Blacks.

As can be seen in the top panel of Table 9, these measures do not explain how the variation in cultural attitudes explains the variation in female labor supply across source countries. In fact, for Blacks, the effects are enlarged since immigrant groups with a high level of ethnic human capital are less likely to work, even when they come from high FLFPR countries. It is possible that some groups view educational attainment as an important commodity for the marriage market rather than the labor market, suggesting that employment proxies of immigrant groups should be used instead.

To address these issues, I first compute the female and overall employment rates of first-generation immigrants for each source country, followed by race-specific measures of each (Panel B). Note that both types of female employment rates of first-generation immigrants from one's source country have little to no effect for Blacks while they have a substantive effect for non-Hispanic Whites, in terms of both statistical and economic significance. Differences in the overall employment rates lead to some attenuation of the culture parameter for all specifications and eliminate statistical significance for Blacks. In general, as shown in Figures 7a and 7b, overall employment rates of first-generation immigrants are more strongly correlated with the culture proxy than female employment rates of first-generation immigrants, suggesting that both genders from low FLFPR countries experience labor market challenges in the host country, such as barriers to social mobility and

economic integration. For example, if immigrants who come from countries with weak institutions are also less likely to transfer the skills they acquired from their source country, and countries with weak institutions have relatively low scores for FLFPR and mean of Job_Scarce, then first-generation immigrants of both genders will face difficulty in the US labor market, and experience lower labor market attachment.

Alternatively, it is possible that where and when immigrant communities formed in the US, constitute the combination of factors that primarily shape the labor market outcomes of 1.5/2nd generation immigrants. To account for cohort and regional effects, I also include controls for the educational distribution, employment rates and female employment rates of first-generation immigrants by US region of residence and cohort group (Panel C). While these variables have little to no impact on non-Hispanic Whites, they have a strong effect on Blacks. In fact, differences in overall employment rates (by SC/region/cohort group) reduce the parameter of interest from a statistically significant 4.34 to a statistically insignificant 1.89; for non-Hispanic Whites, controlling for overall employment rates does not alter the parameter of interest but controlling for the female employment rate slightly attenuates the parameter.

Comparing Panels, A, B, and C indicates that for Blacks, the social capital endowed by immigrant groups in the form of education and employment can explain how cultural norms influence individual economic outcomes if cohort and regional effects are accounted for, while gender-specific endowments by immigrant group are not a major contributing factor. These findings corroborate and reinforce the role of US local conditions, such as race relations and the local Black female employment rate in influencing the female labor supply of Black descendants of immigrants. Meanwhile, for non-Hispanic Whites, regional and cohort effects do not hold much weight, but female employment outcomes of first-generation immigrants by SC are an essential avenue to understanding the mechanisms behind the influence of culture. These results are consistent with the previous findings that

non-Hispanic Whites are primarily affected by source country conditions and institutions, which are most likely to impact gender-specific employment outcomes of first-generation immigrants. In fact, among non-Hispanic Whites, there is a strong positive correlation between the female employment rate of first-generation women and work hours of 1.5G and second-generation immigrant women; for Blacks, the correlation is positive but not statistically significant (see Figures 7c-7d).

To capture the complex relationship between culture and employment outcomes across space and cohorts, Figures 8(a)-(b) display the source-country level correlation between female employment rates and the two main cultural proxies by cohort group, separately for each region; Figures 8 (c)-(d) replicate the exercise with the exception that the rate of female employment is substituted by the overall employment rate. The results show that the correlation between an immigrant group's employment rate and its cultural proxy varies substantially by region and cohort group. There appears to be more variation in the correlation rates across regions in earlier cohorts than in more recent cohorts, where there is an increasingly unambiguous relationship between the cultural proxies and the employment rates of first-generation immigrants in the expected direction.

D. Bias-Adjusted Estimates

Thus far, I have assessed the role of culture in explaining female labor supply solely by observing the movement in coefficients when the set of controls varies within each specification. However, it is possible that there still exists some level of selection bias since there may be a host of characteristics, unobservable to the researcher, that alter labor supply. To address this concern, I estimate bias-adjusted bounded effects for the parameter of interest (FLFPR) using the approach outlined in Oster (2019), where she argues that the degree to which omitted variables alter the R^2 term must be accounted for. Thus, the estimator relies on two main inputs, in addition to the parameter coefficients and the R^2

terms before and after controls are included: 1.) the value of δ, which represents the degree of selection on unobservable and observable variables [22]; 2.) a maximum value for the R^2term.

I use the recommendations in Oster (2019), and assume that δ is bounded at the top by 1 when computing the estimator so that the observable characteristics are at least as important as the unobservable characteristics in mitigating selection bias. Negative values simply mean that the covariance between observable characteristics and the variable of interest have a different sign from the covariance between the unobservable characteristics and the variable of interest. For R_{max},I use the recommended value of $1.3\widetilde{R}$, where $\widetilde{R}$ is the R^2 term associated with the regressions that includes the control variables.

Tables 10 and 11 displays the relevant parameter estimates for Blacks and non-Hispanic Whites respectively. β^0 estimates the effect of FLFPR of the respondent's source country on weekly hours worked (without any controls) for each sample where the variable of interest is observed. Likewise, $\widetilde{\beta}$ measures the cultural proxy parameter with the following controls: a dummy for being a 1.5 generation immigrant, education dummies, age, age squared and the variable of interest. δ represents the selection proportionality level required so that β=0 when R_{max}=0.06. In the fifth column, (β^*,$\widetilde{\beta}$) represents the bounded set for where the true β lies given that δ is bounded by 1 and R_{max}=0.06. For non-Hispanic Whites, I also compute another bounded set where I use a value that is twice the recommended value for R_{max}, $2.6\widetilde{R}$, since their levels of R^2 are exceptionally low.

In the first panel of Tables 10 and 11, I computed the relevant statistics for source country controls that inflated the cultural proxy parameter, as evidenced in Tables 6 and 7 respectively, followed by source country controls that reduced the proxy parameter in the second panel. I assess whether there is an effect on culture by examining whether the bias-adjusted bounded set contains 0. Finally,

[22] δ is the ratio of the effect of unobservables on the treatment divided by the effect of observables on the treatment

I repeat the same exercise for social capital controls that proxy for the human capital endowment and transition to employment for first-generation immigrants.

For Blacks, I find that for specifications where the inclusion of source country variables increased the cultural proxy parameter, the bounded set does not contain 0 except for the Barro and Lee (1970) measure. Moreover, all source country indicators that reduced the parameter contain 0 in the bounded set except for the cognitive measure. As is consistent with the main results, controls for social capital have the most significant impact in reducing the culture parameter estimate, and the bounded set contains a larger portion of negative values. For non-Hispanic Whites, the results show fewer variables that result in a bounded set that contains 0, but I still find that there is a zero effect for the following source country variables: passport power, scores for the PISA science exam, and distance. Note that only controlling for scores for the PISA science exam allows the bounded set to contain 0 when R_{max} is set to $1.3\widetilde{R}$; this result is robust to any changes made in R_{max}. Likewise, if FLFPR is replaced with the mean of Jobs_Scarce, controlling for passport power leads to a bounded set that contains 0 (unreported). With respect to social capital proxies, only employment rates at the source country level eliminate the cultural effect for non-Hispanic Whites; cohort effects and region of residence do not matter as in the main results.

Overall, these results corroborate the main finding that social capital proxies and in particular cohort effects and region of residence are more relevant for Blacks. Meanwhile, culture has a stronger effect on non-Hispanic Whites but there are quite a few confounding variables (depending on assumptions made by the researcher) that suggest that the persistent impact of culture is largely due to omitted variable and selection bias.

VIII. Conclusion

The fact that US immigrants during the first half of the 20th century were predominantly of European origin explains why previous studies, which primar-

ily examined the effect of cultural proxies on the social, economic and political outcomes of second-generation US immigrants, did not address or give scope for attending to the potential role of race, ethnicity and regional heterogeneity in the US. Today, however, more recent waves of immigration following the Immigration Act of 1965 and particularly those of the 1980's and 1990's, allow for a more diverse sample of immigrants, whose children are currently of working age.

This context has allowed me to re-examine the impact of culture on economic outcomes by focusing on several questions: Does controlling for race or local conditions alter the source country cultural proxy parameter? Do individual, social and demographic controls alter one cultural proxy parameter more than another? How do the parameters of the local and source culture proxies vary by race and ethnicity? Is it possible to identify channels that may explain the cultural variation across source countries by examining a variety of controls, ranging from economic and political conditions in source countries to various local and social capital measures experienced by higher order immigrants in the US?

The findings suggest that the labor market effects of source country culture and local culture vary immensely by race and ethnicity. First, I find that in the presence of adequate individual controls, the female labor supply decisions of Hispanic Whites and Asian/Pacific-Islanders are neither affected by the source country nor local culture proxy. For non-Hispanic Whites the source country cultural proxy is a critical and persistent predictor of female labor supply. However, the effect of culture is explained away by source country variations in key economic, political and social indicators, such as differences in passport power, international standardized exam scores, and minimum distance to the US. Intriguingly, local conditions such as the state-cohort female employment rate are weak predictors of non-Hispanic Whites' labor supply.

By contrast, for Blacks, several proxies for local conditions and social capital at the state or regional level are not only strong predictors of labor force participation and hours worked, but also lead to the attenuation of the source country cultural

parameter. This can be attributed to the fact that local conditions are correlated with cultural proxies from the source country. For example, Black descendants of immigrants living in a particular geographic area and time period that is characterized by high Black female employment rates, are more likely to come from high FLFPR countries. Thus, Black immigrants select into regions where the local female employment rates are more consistent with that of their country of origin. Likewise, Black immigrants who come from low FLFPR source countries are more likely to live in states where Black female employment rates are relatively low and/or in states with more socially progressive attitudes. Since Blacks living in progressive states work substantially fewer hours than their counterparts, this explains why controlling for how progressive (attitudes to) race-relations are across states also reduces the source country cultural parameter.

Finally, controlling for various measures of social capital reinforces the previous results, by showing that the effect of an immigrant group's culture on the labor supply of Blacks is primarily affected by variations across cohorts and regions in the endowment of education and employment outcomes of first-generation immigrants (by SC). This is not the case for non-Hispanic Whites, where the most relevant social capital measure for explaining away the culture effect is the female employment rate of first-generation immigrant groups (by SC): a measure that is likely driven by conditions in the source country.

This paper argues that while culture matters, the channels through which culture influences individual outcomes vary by race, ethnicity and local conditions. For Hispanic Whites and Asian/Pacific-Islanders, differences in basic demographic controls are sufficient to account for the variation in local context and source country cultural proxies that influence labor supply. The primary mechanism that drives the relationship between culture and female labor supply for non-Hispanic Whites involves differences in source country conditions, while for Blacks, the local conditions in the US are of paramount importance and appear to reinforce and outweigh the effects of values transmitted by the parental culture.

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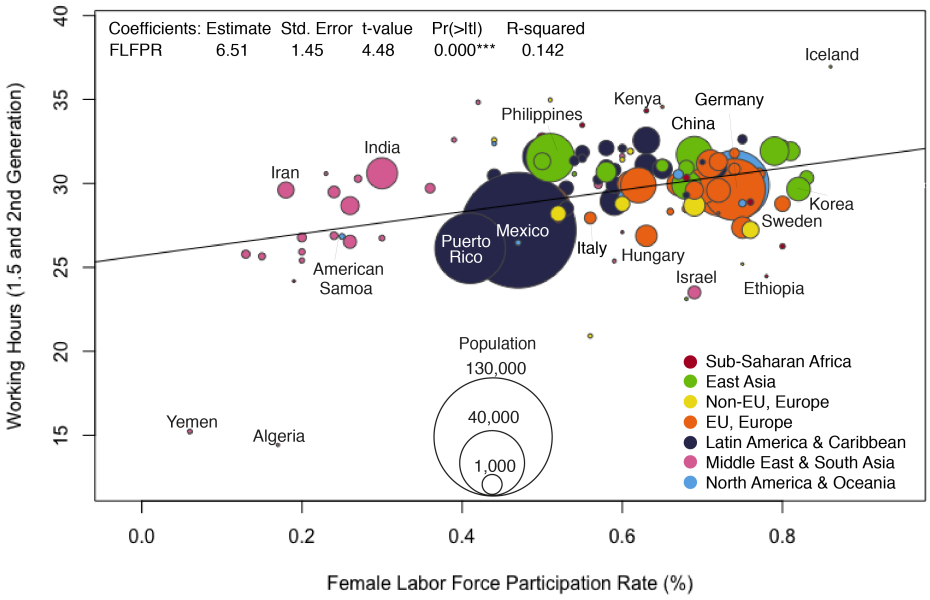

Figure 1–FLFPR (1st Culture Proxy) and Work Hours for 1.5 and 2nd G

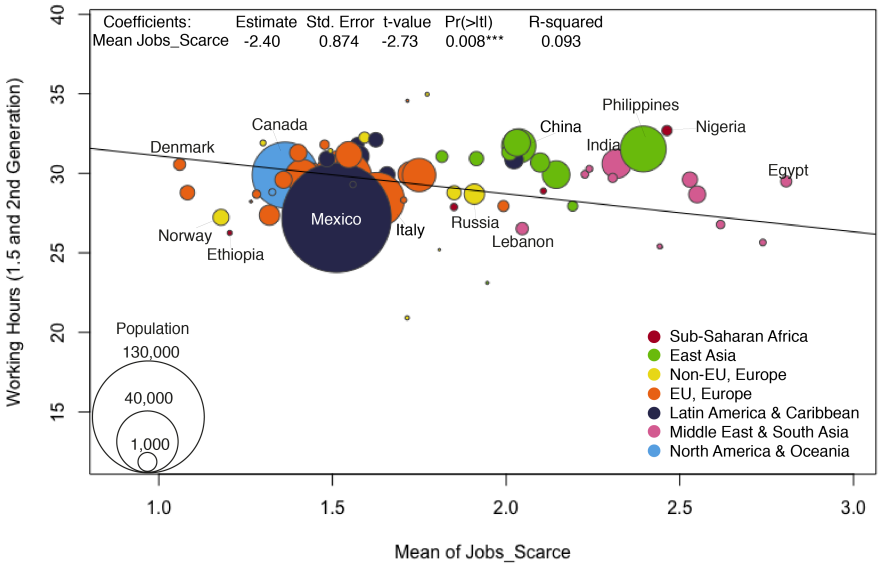

Figure 2a–Mean of Jobs_Scarce (2nd Culture Proxy) and Work Hours for 1.5 and 2nd G

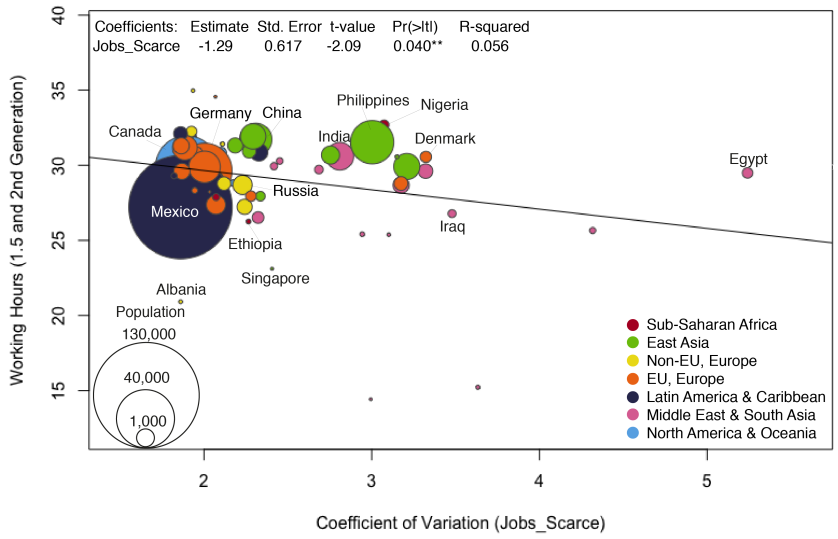

Figure 2b–Inverse of COV of Jobs_Scarce (3rd Culture Proxy) and Work Hours for 1.5 and 2nd G

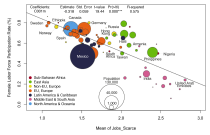

Figure 3–FLFPR (1st Culture Proxy) and Mean of Jobs_Scarce (2nd Culture Proxy)

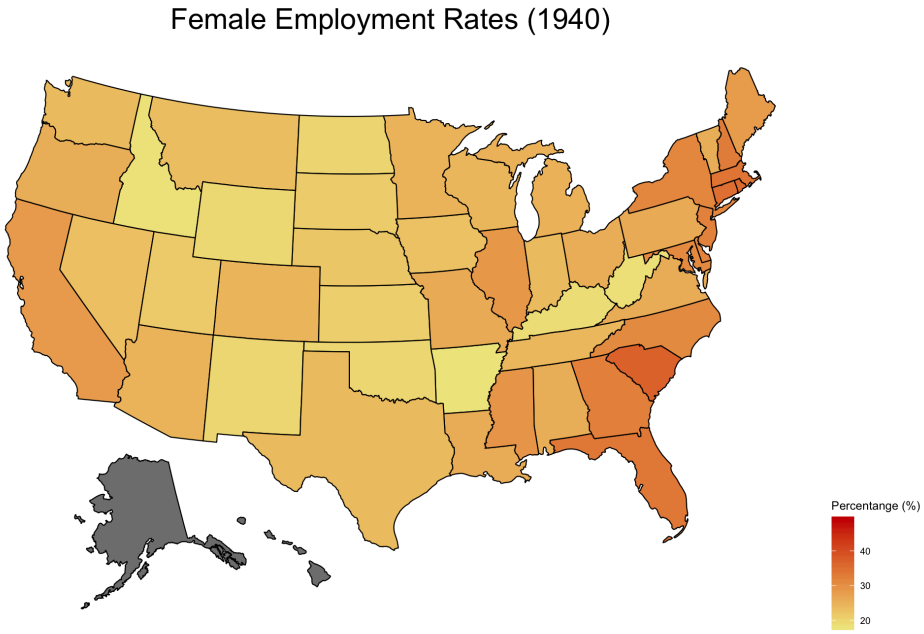

Figure 4a

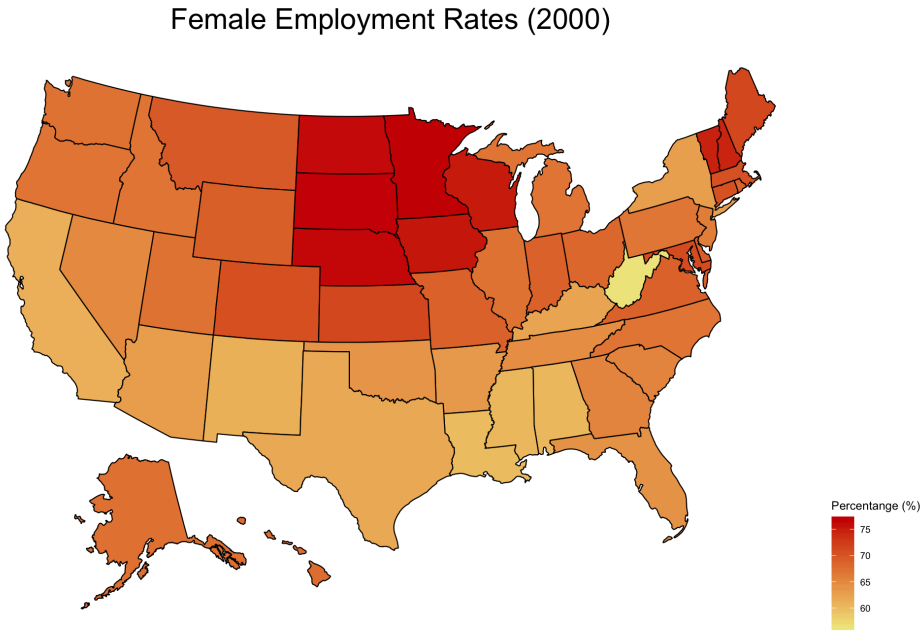

Figure 4b

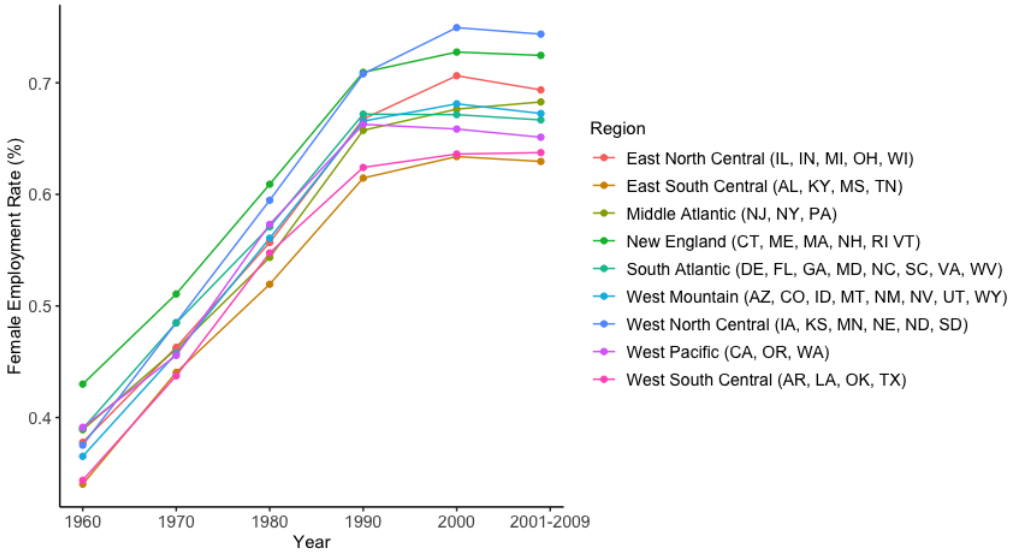

Figure 4c–Female Employment Rate of Non-Hispanic Whites by US region over time

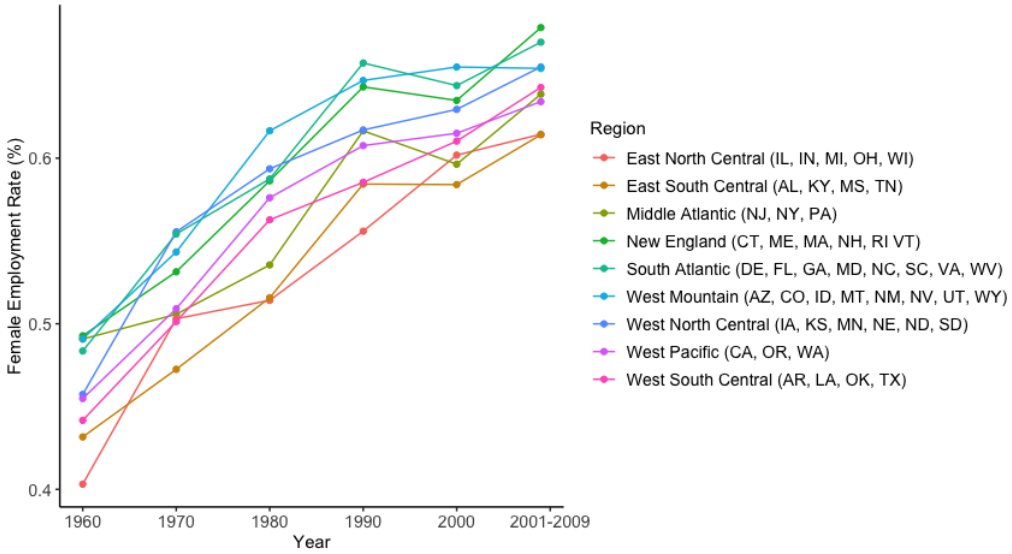

Figure 4d–Female Employment Rate of Blacks by US region over time

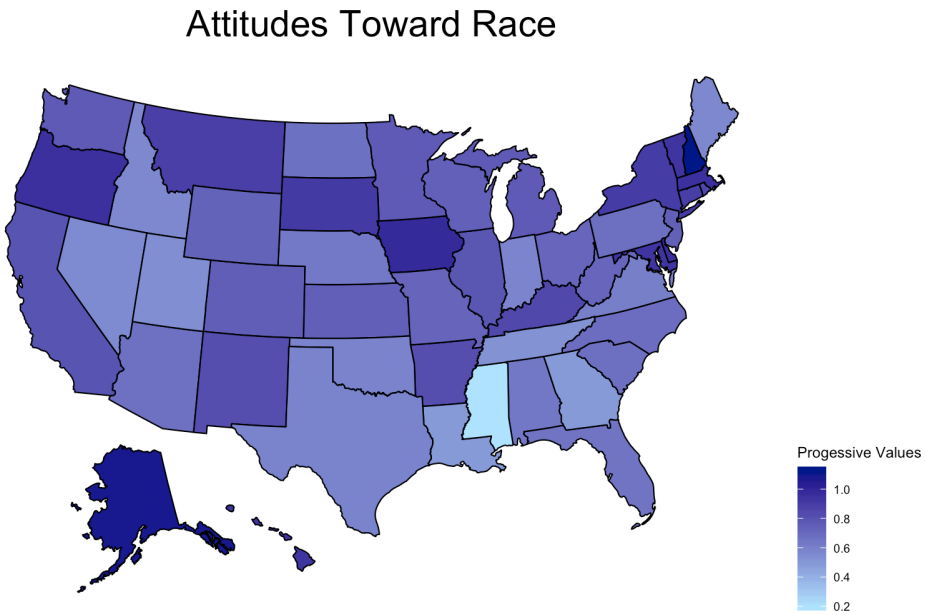

Figure 5a

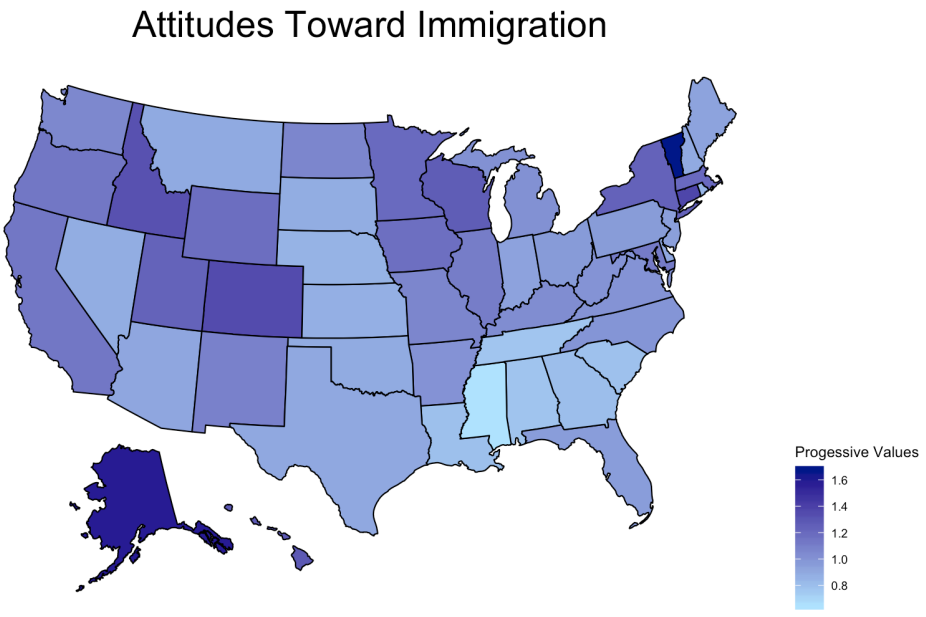

Figure 5b

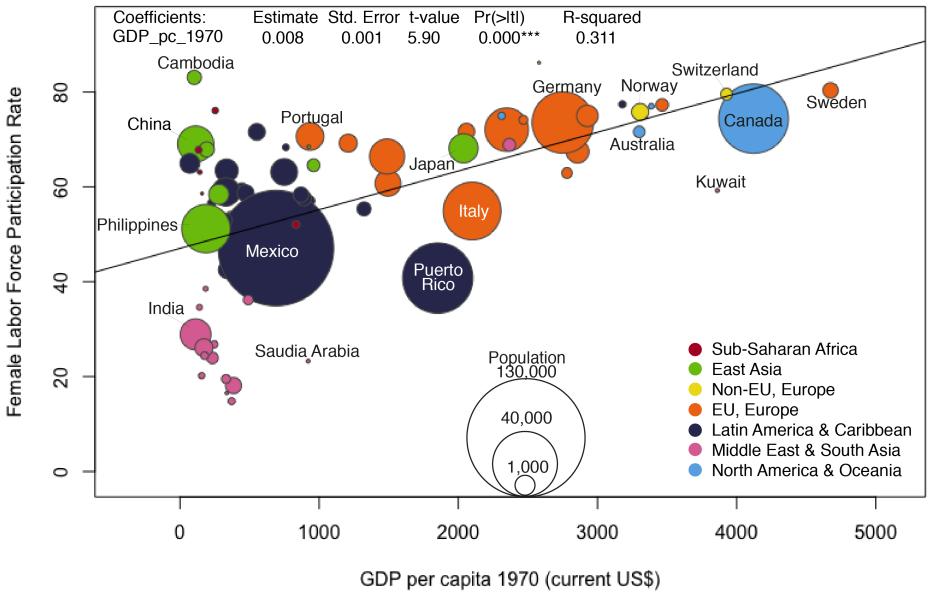

Figure 6a–FLFPR and 1970 GDP per capita

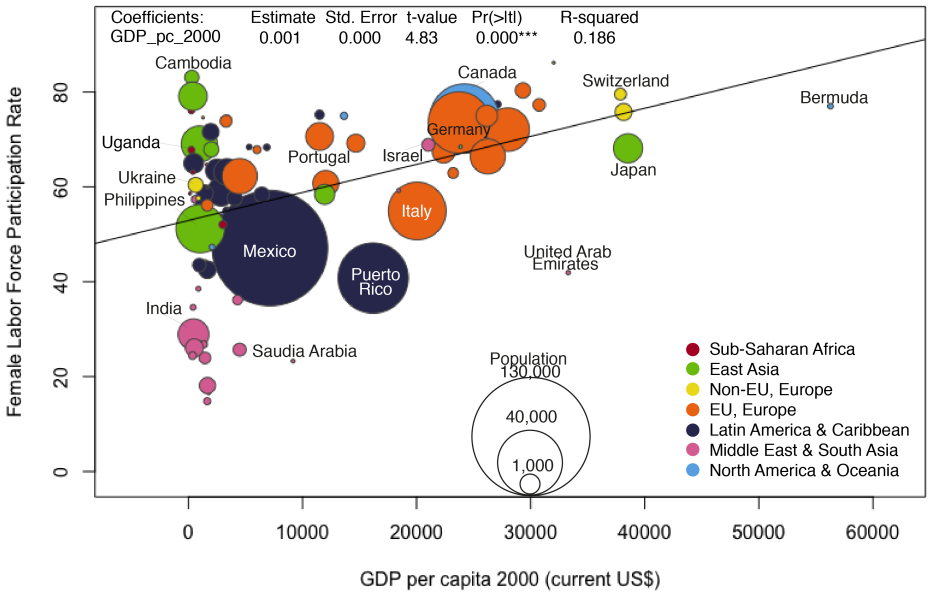

Figure 6b–FLFPR and 2000 GDP per capita

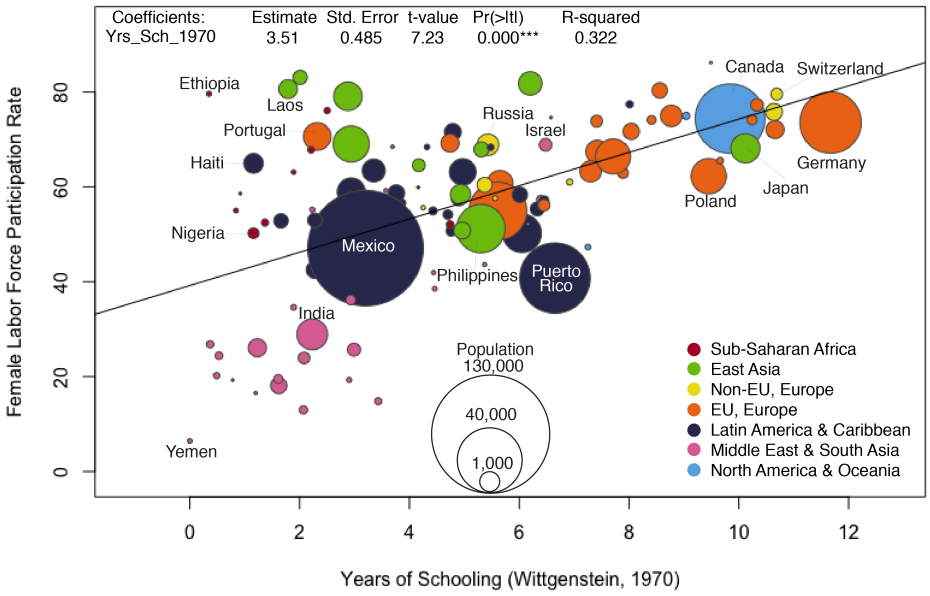

Figure 6c–FLFPR and 1970 Wittgenstein years of schooling

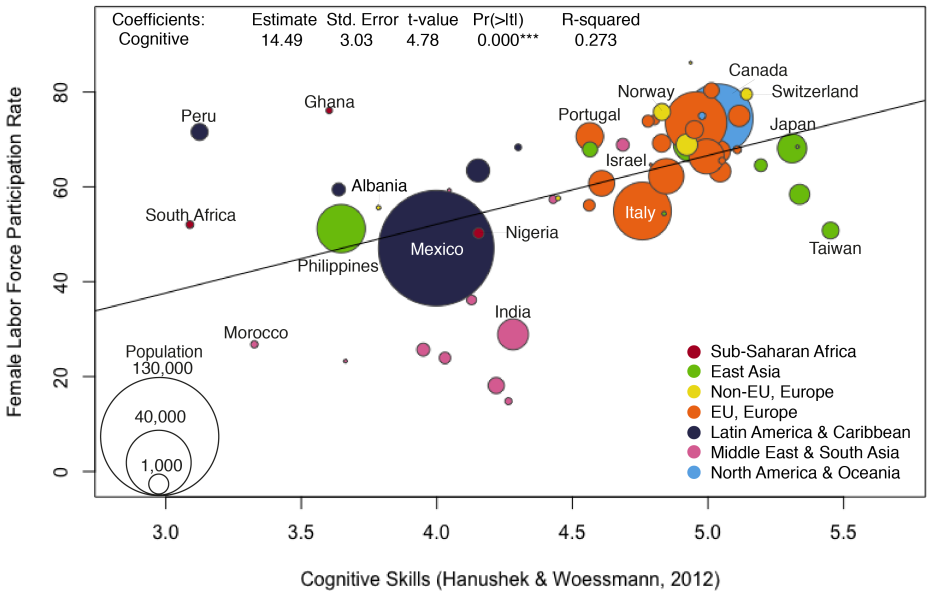

Figure 6d–FLFPR and Cognitive Skills Measure

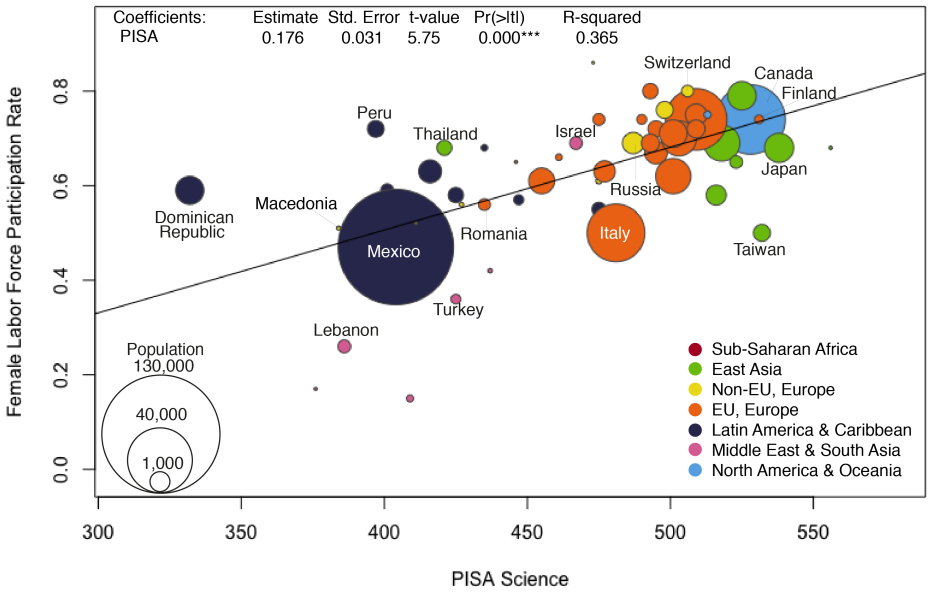

Figure 6e–FLFPR and PISA Science Scores

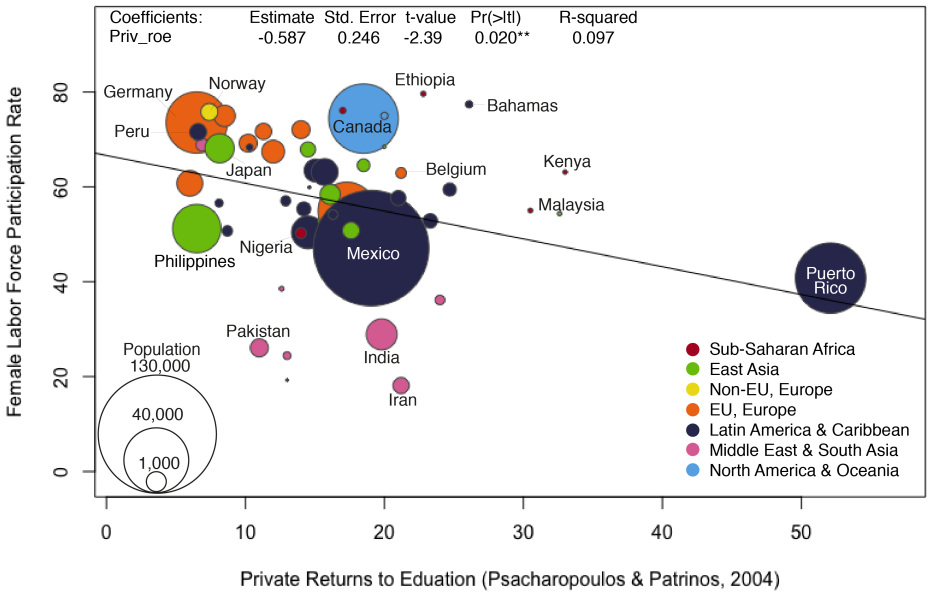

Figure 6f–FLFPR and Private Returns to Schooling

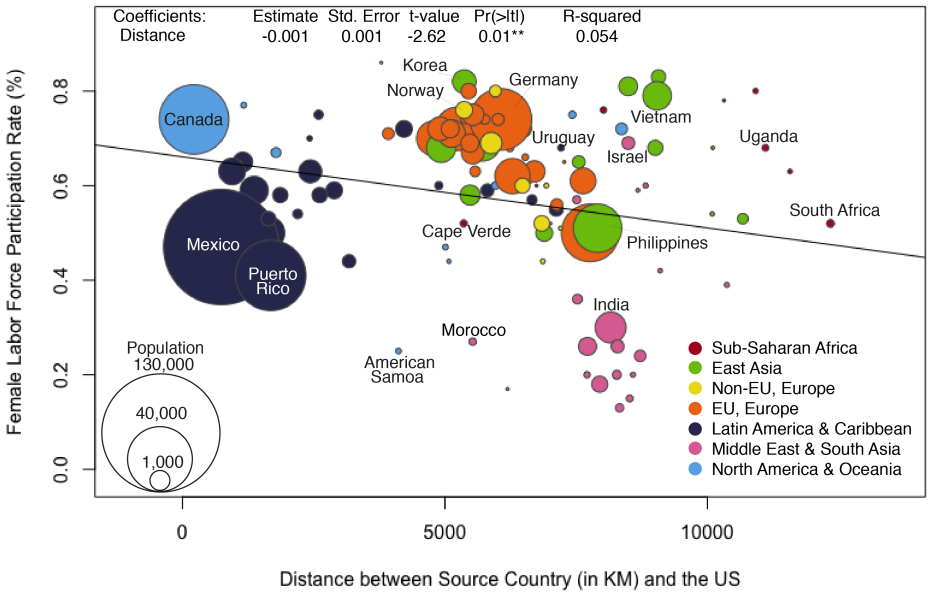

Figure 6g–FLFPR and Minimum Distance to the US

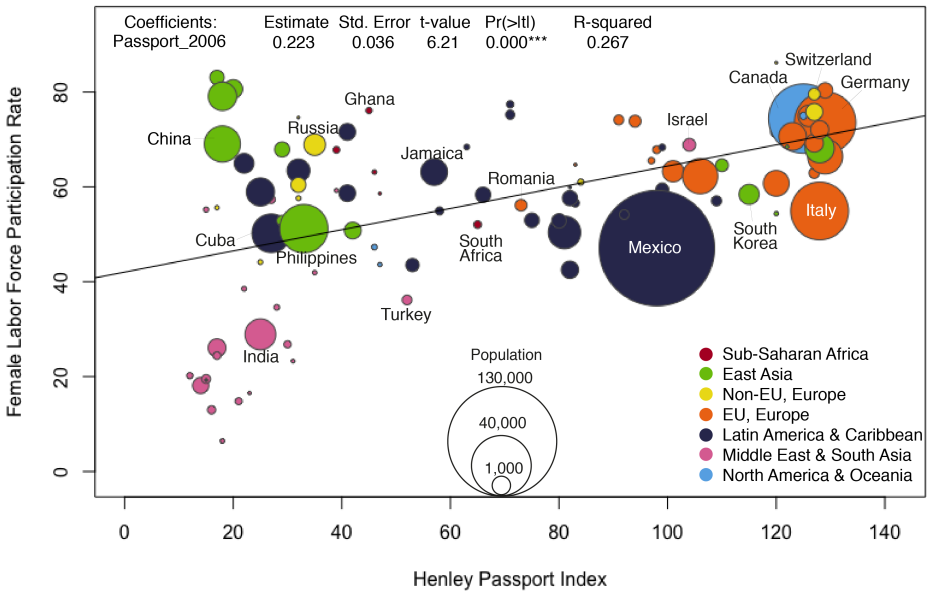

Figure 6h–FLFPR and Passport Power Index

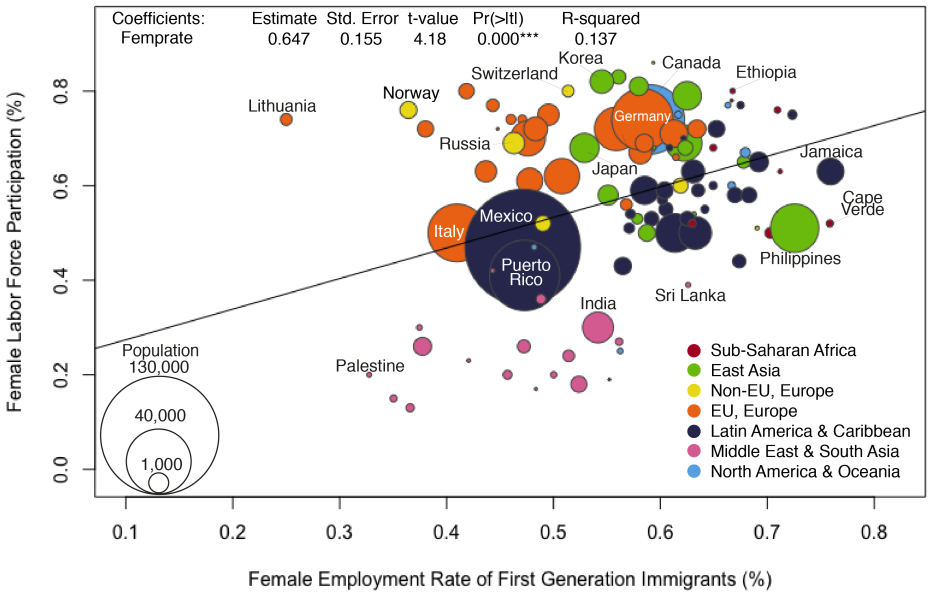

Figure 7a–FLFPR and Female Employment Rate of 1st Generation Immigrants

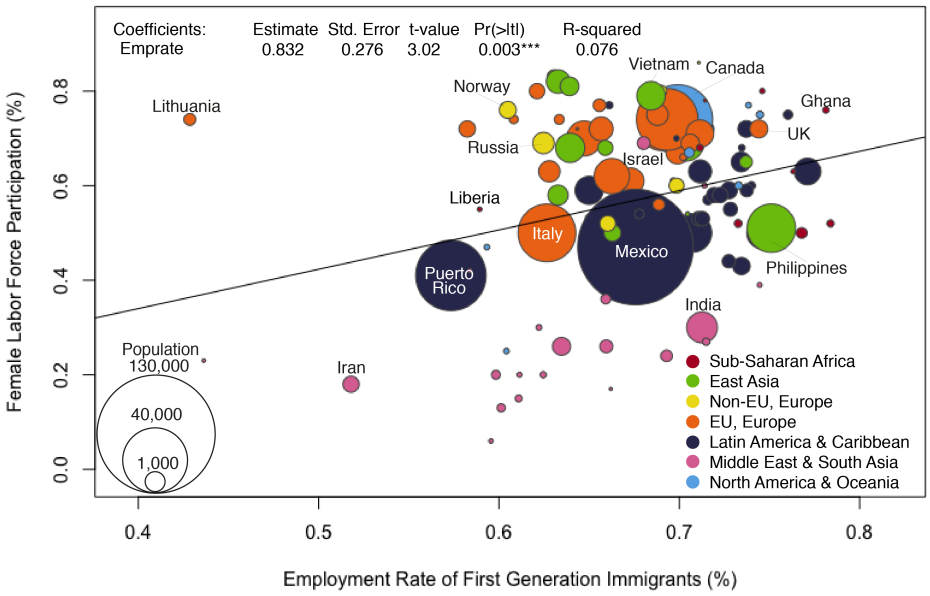

Figure 7b–FLFPR and Overall Employment Rate of 1st Generation Immigrants

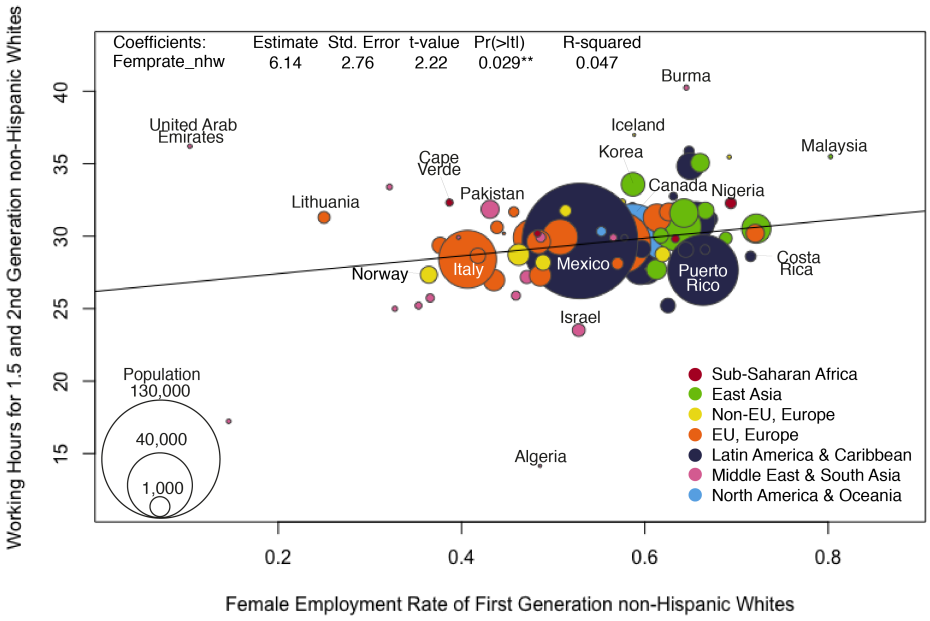

Figure 7c–Female Employment Rate of 1st Gen White Immigrants and Work Hours for 1.5 and 2nd G

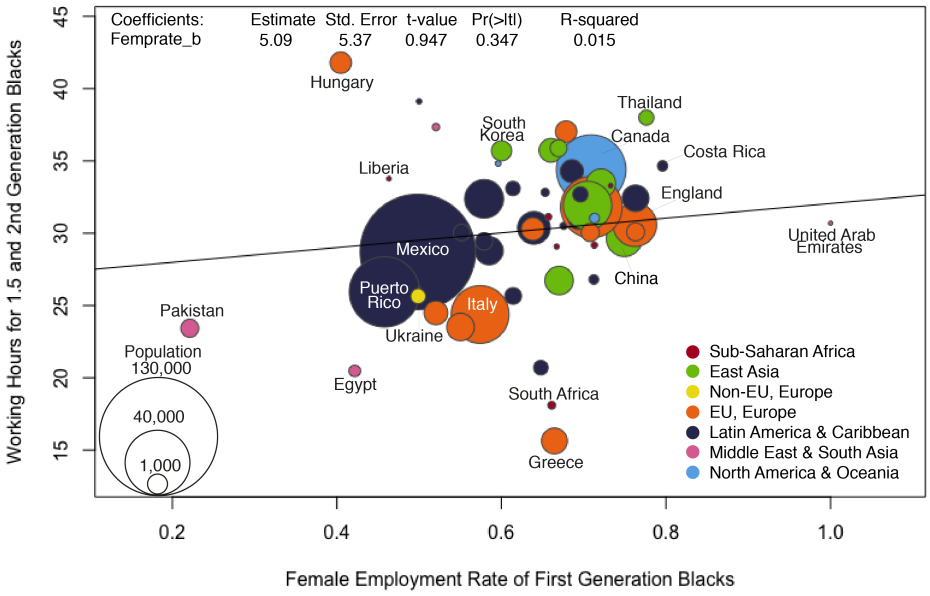

Figure 7d– Female Employment Rate of 1st Gen Black Immigrants and Work Hours for 1.5 and 2nd G

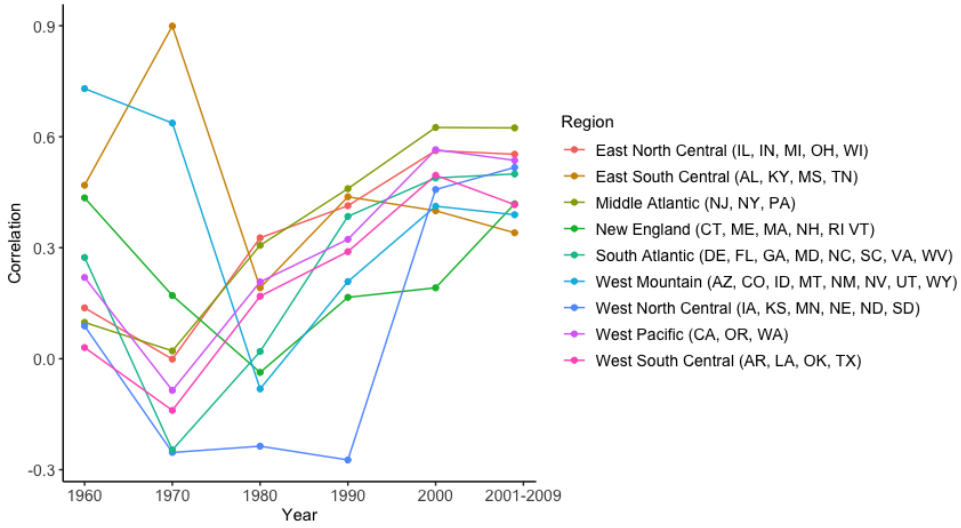

Figure 8a–Correlation between Female Employment Rate and FLFPR by US region

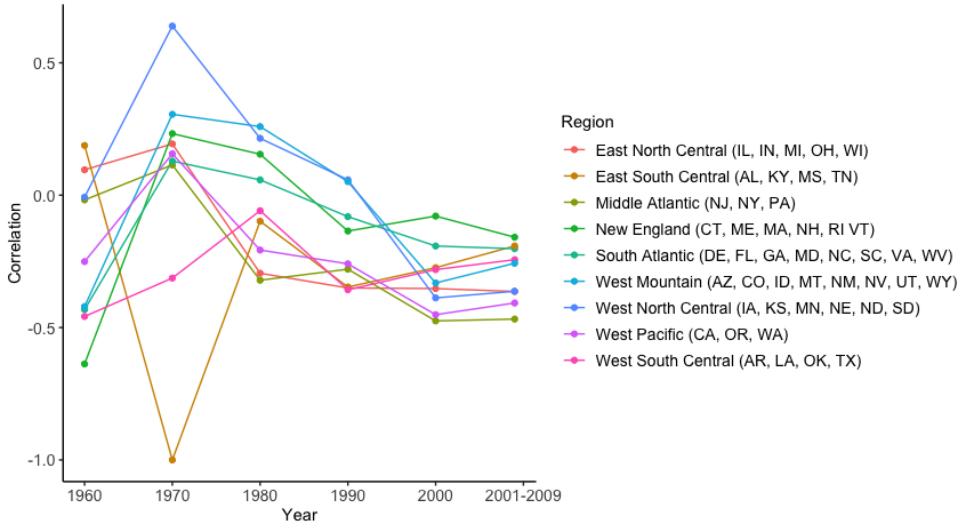

Figure 8b–Correlation between Female Employment Rate and (mean) Jobs_Scarce by US region

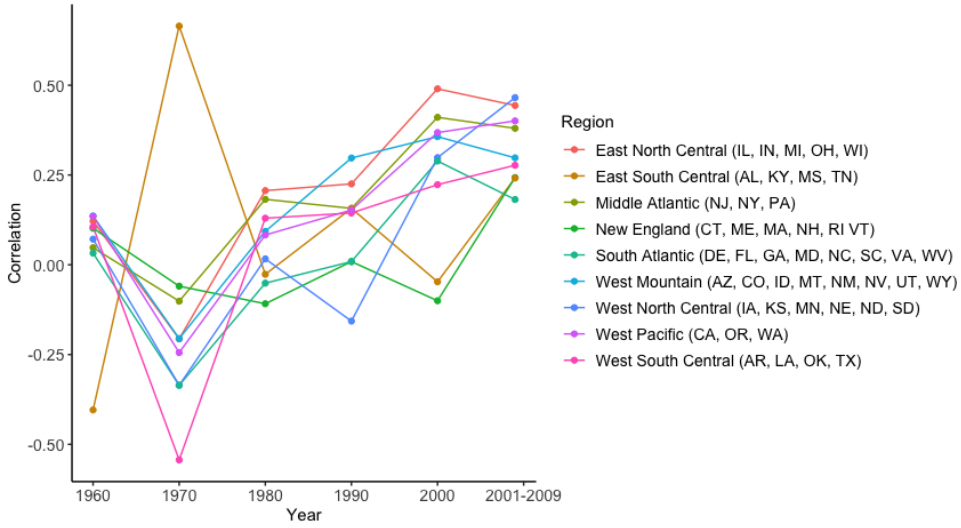

Figure 8c–Correlation between Overall Employment Rate and FLFPR by US region

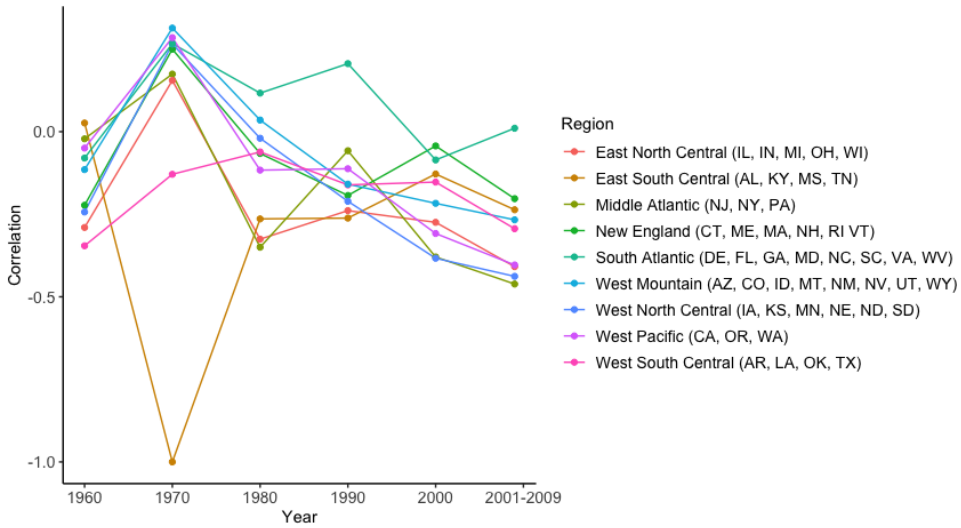

Figure 8d–Correlation between Overall Employment Rate and (mean) Jobs_Scarce by US region

TABLE 1—WHAT IS THE QUANTITATIVE EFFECT OF CULTURE ON FEMALE LABOR SUPPLY?

Panel A: Y=Weekly Hours	(1)	(2)	(3)	(4)	(5)	(6)
FLFPR in SC	6.22***	0.939	0.283	3.34**	1.76	2.34*
	(2.21)	(1.54)	(1.86)	(1.29)	(2.27)	(1.37)
1.5 generation		0.252	0.602**	0.537**	0.633***	0.625***
		(0.238)	(0.239)	(0.223)	(0.213)	(0.222)
Married			−3.28***	−3.17***	−3.16***	
			(0.379)	(0.368)	(0.371)	
Number of Children			−1.87***	−1.93***	−1.94***	−2.32***
			(0.237)	(0.239)	(0.238)	(0.279)
Same SC as Head/Spouse						−2.30***
						(0.263)
Blacks				1.33***	0.455	2.17***
				(0.253)	(0.378)	(0.344)
Hispanic Whites				2.01***	0.779***	2.63***
				(0.296)	(0.265)	(0.346)
Asian/Pacific Islanders				0.202	−0.00100	0.744
				(0.537)	(0.368)	(0.541)
East Asia					0.430	
					(0.443)	
Latin America					1.15**	
					(0.519)	
Non-EU Europe					−0.995*	
					(0.523)	
Middle East/South Asia					−1.67*	
					(0.981)	
Sub-Saharan Africa					−1.14	
					(0.845)	
Oceania/North America					0.730***	
					(0.234)	
Education/age		X	X	X	X	X
Observations	545,599	545,599	545,599	545,599	545,599	545,599
Panel B: Extensive Measure of FLFPR; Y=1 if the individual is a labor force participant						
FLFPR in SC	0.155***	0.0490	0.0400	0.0870***	0.0340	0.0670**
	(0.0380)	(0.0300)	(0.0360)	(0.0280)	(0.0450)	(0.0300)
Observations	570,262	570,262	570,262	570,262	570,262	570,262

Table 1 estimates OLS regressions in Panel A where standard errors are two-way clustered using 124 source countries and 561 state-year groups. The dependent variable is the number of hours worked weekly for employed individuals and 0 for non-participants; unemployed people are excluded. The reference groups are unmarried, childless, non-Hispanic Whites, 2nd generation immigrants, descendants of EU immigrants and those whose SC differs from that of the Head/spouse. Panel B replicates the specifications in Panel A except the model is estimated using a LPM, where the dependent variable is a binary variable that equals 1 if the respondent is a labor force participant and 0 otherwise. Robust standard errors in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

TABLE 2—HOW DO SC AND LOCAL CULTURAL TRENDS SHAPE LABOR SUPPLY (NON-HISPANIC WHITES)

Y=Weekly Hours	(1)	(2)	(3)	(4)	(5)	(6)
FLFPR in SC	2.55**		2.87***	3.50***	2.01*	1.59
	(1.07)		(1.03)	(1.12)	(1.16)	(1.07)
Local Employment Rate		3.75**	4.20**	1.26	2.51*	0.953
		(1.73)	(1.69)	(1.48)	(1.45)	(1.52)
1.5 generation				−0.391	−0.131	0.149
				(0.321)	(0.309)	(0.255)
Married				−4.22***		−4.51***
				(0.219)		(0.207)
Number of Children				−2.90***	−3.49***	−2.99***
				(0.110)	(0.115)	(0.0990)
Same SC as Head/Partner					−3.08***	
					(0.474)	
Education/Age				X	X	X
Number of SC	113	113	113	113	113	111
State/Year Groups	560	560	560	560	560	558
Panel B: Extensive Measure of FLFPR; Y=1 if the individual is a labor force participant						
FLFPR in SC	0.0850***		0.0920***	0.0930***	0.0660**	0.0460*
	(0.0200)		(0.0190)	(0.0250)	(0.0260)	(0.0240)
Local Employment Rate		0.0810***	0.0960***	0.0310	0.0510	0.0300
		(0.0300)	(0.0290)	(0.0330)	(0.0330)	(0.0320)
Observations	242,908	242,908	242,908	242,908	242,908	218,737

Table 2 displays results for Non-Hispanic Whites only. Panel A estimates OLS regressions where standard errors are two-way clustered by the number of source countries and state-year groups. The dependent variable is the number of hours worked weekly for employed individuals and 0 for non-participants; unemployed people are excluded. The reference groups are unmarried, childless, 2nd generation immigrants, and those whose SC differs from that of the Head/spouse. In col (6), observations are excluded if the female respondent has the same SC as the household head or spouse. Panel B replicates the specifications in Panel A except the dependent variable is a binary variable that equals 1 if the female respondent is a labor force participant and 0 otherwise. The models are estimated using a linear probability model and standard errors are also two-way clustered as in Panel A. Robust standard errors in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

TABLE 3—HOW DO SC AND LOCAL CULTURAL TRENDS SHAPE LABOR SUPPLY (BLACKS)

Y=Weekly Hours	(1)	(2)	(3)	(4)	(5)	(6)
FLFPR in SC	15.2***	14.6***	4.49*	4.43*	4.19	3.85
	(5.00)	(4.60)	(2.39)	(2.37)	(2.63)	(2.45)
Local Employment Rate		13.5***	9.51**	9.45***	13.2***	7.90**
		(4.71)	(3.64)	(3.45)	(4.90)	(3.37)
1.5 generation			0.643	1.04	0.383	0.752
			(0.802)	(0.829)	(0.805)	(0.771)
Married			−0.951		−1.01	−1.14
			(0.928)		(1.34)	(0.885)
Number of Children			−0.406	−0.574**	−0.595	−0.434*
			(0.258)	(0.242)	(0.377)	(0.238)
Same SC as Head/Partner				−2.89***		
				(0.697)		
Progressive Index (Race)						−6.71***
						(2.05)
Education/Age						
			X	X	X	X
Number of SC						
State/Year Groups	65	65	65	65	62	65
	132	132	132	132	127	132
Panel B: Extensive Measure of FLFPR; Y=1 if the individual is a labor force participant						
FLFPR in SC	0.335***	0.317***	0.116**	0.118**	0.105*	0.108*
	(0.106)	(0.0970)	(0.0550)	(0.0560)	(0.0570)	(0.0550)
Local Employment Rate		0.357***	0.193**	0.193**	0.286***	0.171**
		(0.0930)	(0.0800)	(0.0780)	(0.107)	(0.0810)
Observations	28,675	28,675	28,675	28,675	21,975	28,675

Table 3 displays results for Blacks only. Panel A estimates OLS regressions where standard errors are two-way clustered by the number of source countries and state-year groups. The dependent variable is the number of hours worked weekly for employed individuals and 0 for non-participants; unemployed people are excluded. The reference groups are unmarried, childless, 2nd generation immigrants, and those whose SC differs from that of the Head/spouse. In col (5), observations are excluded if the female respondent has the same SC as the household head or spouse. Col (6) introduces a proxy for how progressive the non-Hispanic Whites are in the state of residence of the respondent (see text for more detail). Panel B replicates the specifications in Panel A except the dependent variable is a binary variable that equals 1 if the female respondent is a labor force participant and 0 otherwise. The models are estimated using a linear probability model and standard errors are also two-way clustered as in Panel A. Robust standard errors in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 4—How Do SC and Local Cultural Trends Shape Labor Supply (Hispanic Whites)

Y=Weekly Hours	(1)	(2)	(3)	(4)	(5)	(6)
FLFPR in SC	17.5***	17.2***	4.01	1.99	3.33	3.72
	(3.40)	(3.16)	(4.06)	(4.54)	(4.47)	(3.62)
Local Employment Rate		4.05	2.31	3.39	4.56	1.84
		(4.80)	(4.28)	(3.68)	(4.98)	(3.72)
1.5 generation			0.962***	1.00***	0.709**	0.955***
			(0.233)	(0.235)	(0.346)	(0.226)
Married			−2.49***		−3.21***	−2.56***
			(0.928)		(1.34)	(0.885)
Number of Children			−1.30***	−1.55***	−1.60***	−1.30***
			(0.101)	(0.148)	(0.138)	(0.0980)
Same SC as Head/Partner				−1.89***		
				(0.604)		
Progressive (Immigration)						−4.31**
						(1.95)
Education/Age			X	X	X	X
Number of SC						
State/Year Groups	58	58	58	58	58	58
	461	461	461	461	461	461
Panel B: Extensive Measure of FLFPR; Y=1 if the individual is a labor force participant						
FLFPR in SC	0.349***	0.335***	0.0760	0.0300	0.0480	0.0720
	(0.0650)	(0.0580)	(0.0710)	(0.0810)	(0.0810)	(0.0670)
Local Employment Rate		0.154	0.0540	0.0780	0.105	0.0490
		(0.119)	(0.105)	(0.0920)	(0.124)	(0.0960)
Observations	176,592	176,592	176,592	176,592	106,631	176,592

Table 4 displays results for Hispanic Whites only. Panel A estimates OLS regressions where standard errors are two-way clustered by the number of source countries and state-year groups. The dependent variable is the number of hours worked weekly for employed individuals and 0 for non-participants; unemployed people are excluded. The reference groups are unmarried, childless, 2nd generation immigrants, and those whose SC differs from that of the Head/spouse. In col (5), observations are excluded if the female respondent has the same SC as the household head or spouse. Col (6) introduces a proxy for how progressive the non-Hispanic Whites are in the state of residence of the respondent (see text for more detail). Panel B replicates the specifications in Panel A except the dependent variable is a binary variable that equals 1 if the female respondent is a labor force participant and 0 otherwise. The models are estimated using a linear probability model and standard errors are also two-way clustered as in Panel A. Robust standard errors in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

TABLE 5—HOW DO SC AND LOCAL CULTURAL TRENDS SHAPE LABOR SUPPLY (ASIAN/PACIFIC ISLANDERS)

Y=Weekly Hours	(1)	(2)	(3)	(4)	(5)	(6)
FLFPR in SC	2.68	2.56	3.66	3.29	1.05	3.58
	(1.97)	(1.94)	(2.71)	(2.75)	(2.20)	(2.64)
Local Employment Rate		8.46*	3.19	3.65	0.949	3.43
		(5.00)	(6.26)	(6.37)	(5.02)	(6.10)
1.5 generation			0.187	0.309	−0.453	0.233
			(0.429)	(0.424)	(0.412)	(0.419)
Married			−2.61***		−3.02***	−2.52***
			(0.330)		(0.625)	(0.340)
Number of Children			−2.08***	−2.44***	−2.48***	−2.08***
			(0.403)	(0.382)	(0.426)	(0.403)
Same SC as Head/Partner				−2.98***		
				(0.639)		
Progressive (Immigration)						4.44***
						(1.22)
Education/Age			X	X	X	X
Number of SC						
State/Year Groups	53	53	53	53	50	53
	345	345	345	345	300	345
Panel B: Extensive Measure of FLFPR; Y=1 if the individual is a labor force participant						
FLFPR in SC	0.0670	0.0650	0.0790	0.0750	0.0360	0.0770
	(0.0420)	(0.0420)	(0.0610)	(0.0610)	(0.0560)	(0.0590)
Local Employment Rate		0.169*	0.0490	0.0580	−0.0350	0.0550
		(0.100)	(0.133)	(0.134)	(0.0930)	(0.129)
Observations	69,742	69,742	69,742	69,742	45,113	69,742

Table 5 displays results for Hispanic Whites only. Panel A estimates OLS regressions where standard errors are two-way clustered by the number of source countries and state-year groups. The dependent variable is the number of hours worked weekly for employed individuals and 0 for non-participants; unemployed people are excluded. The reference groups are unmarried, childless, 2nd generation immigrants, and those whose SC differs from that of the Head/spouse. In col (5), observations are excluded if the female respondent has the same SC as the household head or spouse. Col (6) introduces a proxy for how progressive the non-Hispanic Whites are in the state of residence of the respondent (see text for more detail). Panel B replicates the specifications in Panel A except the dependent variable is a binary variable that equals 1 if the female respondent is a labor force participant and 0 otherwise. The models are estimated using a linear probability model and standard errors are also two-way clustered as in Panel A. Robust standard errors in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

TABLE 6—CAN SOURCE COUNTRY INSTITUTIONS EXPLAIN THE CULTURE EFFECT FOR BLACKS?

Blacks	$Y = 1/0$; LFP	$Y = Hours/Wk$	Countries	Observations
		Economic Indicators		
Main Equation (Table 1 col 2)	0.130**	5.45**	47	26,316
• GDPpc_1970	0.130**	5.47**	47	26,316
Main Equation	0.124**	4.60*	58	27,941
• GDPpc_2000	0.124**	4.63*	58	27,941
		Educational Attainment		
Main Equation	0.0790	2.40	51	21,005
• Barro and Lee (1970)	0.0540	0.576	51	21,005
• Barro and Lee (2000)	0.0630	1.18	51	21,005
Main Equation	0.134**	5.41*	59	27,182
• Wittgenstein (1970)	0.136**	5.60**	59	27,182
• Wittgenstein (2000)	0.141**	6.05**	59	27,182
		Quality of Education		
Main Equation	0.166	5.11	25	7,011
• PISA Math	0.167	3.00	25	7,011
• PISA Science	0.160	2.27	25	7,011
Main Equation	0.180	5.52	24	5,655
• PISA English	0.157	2.18	24	5,655
Main Equation	0.114	5.77	28	5,778
• Cognitive	0.0710	2.70	28	5,778
• Lower Secondary	0.0570	2.27	28	5,778
• Basic	0.0970	4.81	28	5,778
• Top	0.125	3.52	28	5,778
		Health of the Labor Market		
Main Equation	0.121*	5.74*	38	17,842
• Social Returns	0.0720	2.87	38	17,842
Main Equation	0.123*	5.93*	37	18,554
• Private Returns	0.0670	3.35	37	18,554
Main Equation	0.0180	0.931	31	12,113
• Returns to Years	0.0160	0.705	31	12,113
		Mobility/Institutions		
Main Equation	0.0640	1.90	57	22,563
• Passport (2006)	0.0650	2.00	57	22,563
Main Equation	0.126***	5.10**	65	28,675
• Minimum Distance (KM)	0.129**	5.20**	65	28,675

Notes: Tables 6 and 7 present the parameter estimates of β_1 for Blacks and non-Hispanic Whites respectively, where β_1 is the parameter that corresponds to the FLFPR of the source country. β_1 is estimated for each subsample, both, before and after each control is independently included in the main regression equation. The main regression includes the following additional controls: state-cohort employment rate, education dummies, age, age squared, and a dummy for being a 1.5-generation immigrant. Moreover, the number of source countries and the total number of observations are included for each specification. The dependent variable in the first column is the extensive margin of female labor supply and in the second column, it is the number of weekly hours worked. See text for full explanation of variables.

TABLE 7—CAN SOURCE COUNTRY INSTITUTIONS EXPLAIN THE CULTURE EFFECT FOR NON-HISPANIC WHITES?

Non-Hispanic Whites	Y=1/0 ; LFP	Y=Hours/Wk	Countries	Observations
Economic Indicators				
Main Equation (Table 1 col 2)	0.0660**	2.09*	74	202,529
• GDPpc_1970	0.0720*	3.41*	74	202,529
Main Equation	0.0760***	2.28*	95	226,614
• GDPpc_2000	0.0780**	2.98**	95	226,614
Educational Attainment				
Main Equation	0.0860***	3.08**	92	214,317
• Barro and Lee (1970)	0.133**	6.65***	92	214,317
• Barro and Lee (2000)	0.172***	7.59***	92	214,317
Main Equation	0.0880***	3.23***	103	219,930
• Wittgenstein (1970)	0.110**	4.56**	103	219,930
• Wittgenstein (2000)	0.114**	4.90**	103	219,930
Quality of Education				
Main Equation	0.0730*	3.03	58	192,910
• PISA Math	0.0450	2.86	58	192,910
• PISA Science	0.	1.11	58	192,910
Main Equation	0.0720*	3.01	57	192,556
• PISA English	−0.00300	0.930	57	192,556
Main Equation	0.0750**	3.50***	41	184,620
• TIMSS Math (4th grade)	0.0880**	3.75***	41	184,620
Main Equation	0.0690**	3.09***	39	183,768
• TIMSS Science (4th grade)	0.0980**	4.37**	39	183,768
Main Equation	0.0860**	3.28**	30	124,658
• TIMSS Math (8th grade)	0.0900	2.60	30	124,658
• TIMSS Science (8th grade)	0.0850	2.63	30	124,658
Main Equation	0.0850***	2.79**	62	200,546
• Cognitive	0.107**	4.65***	62	200,546
• Lower Secondary	0.102**	4.40**	62	200,546
• Basic	0.105***	4.24***	62	200,546
• Top	0.114**	4.19**	62	200,546
Health of the Labor Market				
Main Equation	0.0720**	1.26	47	127,354
• Social Returns	0.0780**	1.50	47	127,354
Main Equation	0.0680**	1.65	50	158,653
• Private Returns	0.0970***	2.35	50	158,653
Main Equation	0.0620*	1.27	42	151,781
• Returns to Years	0.0680*	1.66	42	151,781
Mobility/Institutions				
Main Equation	0.0910***	3.24***	98	215,143
• Passport (2006)	0.0410	2.12	98	215,143
Main Equation	0.0880***	3.23***	113	245,184
• Minimum Distance (KM)	0.0630***	1.98*	113	245,184

TABLE 8—DOES THE SHARE OF NATIONALS INTERACT WITH THE SOURCE COUNTRY OR LOCAL CULTURE?

Non-Hispanic Whites	Local Emp Rate is Computed for All			Emp Rate based on Cohort/Race		
Y=Weekly Hours	(1)	(2)	(3)	(4)	(5)	(6)
FLFPR in SC	3.33***	3.64***	2.41**	3.30***	3.66***	2.49**
	(1.26)	(0.945)	(1.19)	(1.22)	(0.942)	(1.18)
% Nationality		8.90***	−8.05		8.59***	−9.74
		(2.40)	(13.9)		(2.24)	(16.6)
% Nationality*FLFPR			31.9***			31.7***
			(10.9)			(11.9)
Local Emp Rate	0.447	1.13	1.51	0.314	1.18	1.52
	(1.56)	(1.47)	(1.95)	(1.48)	(1.39)	(2.00)
% Nationality*Local			−1.34			1.74
			(16.9)			(21.4)
Source Countries	100	100	100	100	100	100
Local Clusters	516	516	516	516	516	516
Observations	219,447	219,447	219,447	204,943	204,943	204,943
R-squared	0.043	0.044	0.044	0.043	0.044	0.044
Panel B: Blacks						
FLFPR in SC	4.27*	5.53**	1.54	3.76	4.99**	0.735
	(2.49)	(2.24)	(3.08)	(2.54)	(2.29)	(3.00)
% Nationality		3.67**	−117***		3.55**	−110*
		(1.79)	(28.4)		(1.64)	(55.9)
% Nationality*FLFPR			99.3**			118**
			(48.0)			(45.0)
Local Emp Rate	13.2***	13.3***	6.26	24.2***	24.3***	18.7**
	(3.22)	(3.24)	(4.67)	(5.78)	(5.90)	(7.23)
% Nationality*Local			117**			93.5
			(44.5)			(99.9)
Source Countries	58	58	58	58	58	58
Local Clusters	131	131	131	131	131	131
Observations	26,841	26,841	26,841	26,841	26,841	26,841
R-squared	0.103	0.104	0.106	0.105	0.105	0.106

Table 8 displays OLS regressions for non-Hispanic Whites (Panel A) and Blacks (Panel B) where the dependent variable is the number of hours worked weekly for employed individuals and 0 for non-participants; unemployed people are excluded. All specifications include the following controls: marital status, number of children, 1.5 generation immigrants, education dummies, age and age squared. The share of SC immigrants is computed by using the ACS to estimate the weighted share of first-generation immigrants born in the respondent's SC as a fraction of working-age immigrants (18-64) who reside in the respondent's region in the US during the time period that the respondent was a teenager (accounting for cohort effects). Cells with fewer than 30 immigrants per SC/region/cohort group were dropped. Col (4)-(6) replace the state/ cohort female employment rate with a race specific one. Robust standard errors in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

TABLE 9—DOES SOCIAL CAPITAL SHAPE SOURCE COUNTRY CULTURE?

Y=Weekly Hours	Blacks	Obs(SC)	Non-Hispanic W	Obs(SC)
Controls for 1.5/2nd generation immigrants (CPS) by SC or SC/Race				
Main Equation	5.10**	28,675 (65)	3.18***	242,970 (111)
• Years of Schooling (SC)	8.28***	28,675 (65)	3.16***	242,970 (111)
Main Equation	5.10**	28,675 (65)	3.23***	245,184 (113)
• Years of Schooling (SC/Race)	7.47***	28,675 (65)	2.68**	245,184 (113)
Employment Rates for 1st generation immigrants by SC or SC/Race				
Main Equation	5.01**	28,543(63)	3.33***	219,447 (100)
• % Female Emp Rate (SC)	4.77**	28,543(63)	1.69	219,447 (100)
Main Equation	5.36**	28,438(61)	3.33***	219,447 (100)
• % Fem Emp Rate (SC/Race)	4.65*	28,438(61)	1.86	219,447 (100)
Main Equation	5.01**	28,543(63)	3.33***	219,447 (100)
• % Overall Emp Rate (SC)	4.31	28,543(63)	2.15*	219,447 (100)
Main Equation	5.10**	28,505(62)	3.33***	219,447 (100)
• % Emp Rate (SC/Race)	4.60*	28,505(62)	2.02*	219,447 (100)
Controls for 1st generation immigrants by SC/cohort group/US region				
Main Equation	4.27*	26,842 (58)	3.33***	219,447 (100)
• Educational Controls	3.63	26,842 (58)	4.46***	219,447 (100)
Main Equation	4.34*	26,758 (58)	3.21**	214,469 (99)
• % Emp	1.89	26,758 (58)	2.70**	214,469 (99)
Main Equation	4.43*	26,376 (58)	3.36***	218,507 (100)
• % Female Emp	2.05	26,376 (58)	3.29**	218,507 (100)

Notes: Tables 9 present the parameter estimates of β_1 for Blacks in col(1) and non-Hispanic Whites in col(3), where β_1 is the parameter that corresponds to the FLFPR of the source country and the dependent variable is the number of weekly hours worked. β_1 is estimated for each subsample, both, before and after each control is independently included in the main regression equation. The main regression includes the following additional controls: state-cohort employment rate, education dummies, age, age squared, and a dummy for being a 1.5-generation immigrant. Moreover, the number of source countries and the total number of observations are included for each specification for non-Hispanic Whites in col (2) and Blacks in col(4). See text for full explanation of variables.

TABLE 10—BIAS ADJUSTMENT USING METHOD IN OSTER (2019) [BLACKS (Y-HRS)]

Variable of Interest	β^0	$\tilde{\beta}$	δ	$(\beta^*, \tilde{\beta})(R_{max} = 1.3\tilde{R})$	$\beta = 0$?
SC Variables that Increase Cultural Proxy Parameter					
BL_Years of Schooling (1970)	6.97	0.58	0.28	$(-1.46,\ 0.57)$	X
Wittgenstein (2000)	16.28	6.05	3.24	$(4.31,\ 6.05)$	
Distance	15.23	5.21	2.82	$(3.45,\ 5.21)$	
GDP_1970	16.9	5.46	2.26	$(3.13,\ 5.47)$	
SC Variables that Reduce Cultural Proxy Parameter					
PISA (Science)	12.5	2.27	0.44	$(-3.29,\ 2.27)$	X
Cognitive	8.39	2.7	1.03	$(0.11,\ 2.69)$	
Lower Secondary	8.39	2.26	0.96	$(-0.08,\ 2.69)$	X
Social Returns	18.7	2.87	0.34	$(-6.52,\ 2.87)$	X
Private Returns	19.24	3.34	0.41	$(-5.76,\ 3.35)$	X
Social Capital Controls (1^{st} gen immigrants)					
% Fem Emp Rate (SC)	15.	4.8	0.62	$(-3.78,\ 4.8)$	X
% Female Emp (SC/Race)	16	4.65	0.47	$(-7.42,\ 4.65)$	X
% Emp Rate (SC)	15.3	4.31	0.59	$(-3.75,\ 4.31)$	X
% Emp Rate (SC/Race)	15.7	4.6	0.57	$(-4.6,\ 4.6)$	X
Social Capital Controls (1^{st} gen immigrants) by SC/cohort group/region					
Education Controls	16	3.62	0.57	$(-3.1,\ 3.62)$	X
% Female Emp	16.2	2.04	0.24	$(-7.46,\ 2.04)$	X
% Emp	16	1.88	0.26	$(-5.83, 1.88)$	X

Table 10 displays results to OLS regressions for non-Hispanic Whites where the dependent variable is the number of hours worked weekly for employed individuals and 0 for non-participants; unemployed people are excluded. β^0 estimates the effect of FLFPR of the respondent's source country on weekly hours worked (without any controls) for each sample where the variable of interest is observed. Likewise, $\tilde{\beta}$ measures the cultural proxy parameter but controls include a dummy for being a 1.5 generation immigrant, education dummies, age, age squared and the variable of interest. δ represents the selection proportionality level (the degree in which the unobservables are related to the treatment more than the observables are related to the treatment) required so that $\beta = 0$ when $R_{\max} = 1.3\tilde{R}$, where $\tilde{R}$ corresponds to the R^2 term in the regression with controls and ranges from 0.07 to 0.11.

TABLE 11—BIAS ADJUSTMENT USING METHOD IN OSTER (2019) [NON-HISPANIC WHITES (Y-HRS)]

Variable of Interest	β^0	$\tilde{\beta}$	δ	$(\beta^*, \tilde{\beta})(R^1_{max})$	$(\beta^*, \tilde{\beta})(R^2_{mas})$
SC Variables that Increase Cultural Proxy Parameter					
GDPpc_1970	1.45	3.42	−14	(3.42, 5.87)	(3.41, 451)
Barro and Lee (1970)	2.15	6.65	−10.9	(6.65, 14.8)	(6.65, 409)
Wittgenstein (1970)	2.62	4.56	10	(4.56, 7.62)	(3.74, 21.2)
TIMSS (Math 4th Grade)	2.13	3.75	−7	(3.75, 5.12)	(3.74, 21.2)
Cognitive	1.38	4.65	−5.6	(4.65, 8.2)	(4.64, 271)
SC Variables that Reduce Cultural Proxy Parameter					
PISA (Science)	3.73	1.11	0.35	(−4.35, 1.11)	(−1067, 1.11)
TIMSS Science (8th Grade)	1.95	2.63	2.9	(2.63, 4.2)	(1.03, 2.62)
Passport (2006)	2.45	2.12	3.11	(1.9, 2.12)	(−584, 2.12)
Distance	2.55	1.98	4.65	(1.68, 1.97)	(−0.33, 1.97)
Social Capital Controls (1^{st} gen immigrants)					
% Female Emp Rate (SC)	3.27	1.69	2.1	(0.94, 1.69)	(−4.42, 1.69)
% Female Emp Rate (SC/Race)	3.26	1.86	2.91	(1.28, 1.86)	(−2.13, 1.86)
% Overall Emp Rate (SC)	3.26	2.14	3.6	(1.49, 2.02)	(−1.43, 2.15)
% Emp Rate (SC/Race)	3.26	2.02	3.42	(1.64, 2.15)	(−1.51, 2.02)
Social Capital Controls (1^{st} gen immigrants) by SC/cohort group/region					
Education Controls	3.26	4.46	−21	(4.46, 5.02)	(4.46, 9.03)
% Female Emp	3.17	2.7	7.66	(2.49, 2.7)	(3.22, 3.28)
% Emp	3.32	3.29	58	(3.28, 3.29)	(1.16, 2.7)

Table 11 displays results to OLS regressions for non-Hispanic Whites where the dependent variable is the number of hours worked weekly for employed individuals and 0 for non-participants; unemployed people are excluded. β^0 estimates the effect of FLFPR of the respondent's source country on weekly hours worked (without any controls) for each sample where the variable of interest is observed. Likewise, $\tilde{\beta}$ measures the cultural proxy parameter but controls include a dummy for being a 1.5 generation immigrant, education dummies, age, age squared and the variable of interest. δ represents the selection proportionality level (the degree in which the unobservables are related to the treatment more than the observables are related to the treatment) required so that $\beta = 0$ when $R_{\max} = 0.06$.
$(\beta^*, \beta^{\sim})(R^1_{\max})$ represents the bounded set for where the true β lies given that $\delta == 1$ and $R_{\max} = 0.06$.
$(\beta^*, \beta^{\sim})(R^2_{\max})$ represents the bounded set for where the true β lies given that $\delta == 1$ and $R_{\max} = 0.13$.

TABLE A1—ARE THE RESULTS SENSITIVE TO ALTERNATIVE PROXIES FOR CULTURE? (BLACKS)

Blacks (Y=Weekly Hours)	Mean (Jobs Scarce)	Coef of Variation	#SC	#Obs
Economic Indicators				
Main Equation (Table 1 col 2)	−3.48***	−2.07**	29	10,027
• GDPpc_1970	−2.76**	−1.61	29	10,027
Main Equation	−3.20**	−2.17**	34	10,352
• GDPpc_2000	−2.25	−1.76*	34	10,352
Educational Attainment				
Main Equation	−4.45***	−2.57*	33	9,476
• Barro and Lee (1970)	−3.50**	−1.89	33	9,476
• Barro and Lee (2000)	−3.41*	−1.79	33	9,476
Main Equation	−3.15**	−2.17**	36	10,578
• Wittgenstein (1970)	−2.11	−1.60	36	10,578
• Wittgenstein (2000)	−2.19	−1.57	36	10,578
Quality of Education				
Main Equation	−3.45*	−1.68	28	5,778
• Cognitive	−3.02*	−1.63	28	5,778
• Lower Secondary	−2.84*	−1.62	28	5,778
• Basic	−3.43**	−1.84*	28	5,778
• Top	−3.16*	−1.62	28	5,778
Health of the Labor Market				
Main Equation	−2.10	−0.938	25	5,627
• Social Returns	−2.63*	−1.39	25	5,627
Main Equation	−1.81	−0.764	25	5,796
• Private Returns	−2.43*	−1.29	25	5,796
Main Equation	−2.74	−1.00	24	4,870
• Returns to Years	−2.40	−0.474	24	4,870
Mobility/Institutions				
Main Equation	−2.78**	−1.57	35	10,530
• Passport (2006)	−1.82	−0.608	35	10,530
Main Equation	−3.15**	−2.17**	36	10,578
• Minimum Distance (KM)	−1.97	−0.950	36	10,578

Note: Tables A1 and A2 replicate Tables 6 and 7 respectively using the two alternative cultural proxies from the WVS, the mean and coefficient of variation (at the source country level) of the responses to the question on the scarcity of jobs. Variables are dropped if sample represents fewer than 24 source countries.

TABLE A2—ARE THE RESULTS SENSITIVE TO ALTERNATIVE PROXIES FOR CULTURE? (NON-HISPANIC WHITES)

Non-Hispanic Whites (Y=Hrs)	Mean (Jobs Scarce)	Coef of Variation	#SC	#of Obs
Economic Indicators				
Main Equation (Table 1 col 2)	−0.851	−0.764**	49	170.093
• GDPpc_1970	−1.17	−0.777*	49	170.093
Main Equation	−0.884	−0.730**	66	193,834
• GDPpc_2000	−0.783	−0.670*	66	193,834
Educational Attainment				
Main Equation	−1.17**	−0.893**	66	199,789
• Barro and Lee (1970)	−1.49	−0.922*	66	199,789
• Barro and Lee (2000)	−1.91**	−1.04**	66	199,789
Main Equation	−1.26**	−0.932**	73	201,757
• Wittgenstein (1970)	−1.22	−0.863*	73	201,757
• Wittgenstein (2000)	−1.34	−0.894*	73	201,757
Quality of Education				
Main Equation	−1.25	−1.20	52	187,533
• PISA Math	−1.09	−1.18*	52	187,533
• PISA Science	−0.827	−1.15*	52	187,533
Main Equation	−1.25	−1.21	51	187,179
• PISA English	−0.667	−1.07	51	187,179
Main Equation	−1.10	−1.12*	37	167,526
• TIMSS Math (4th grade)	−0.975	−1.07*	37	167,526
Main Equation	−0.865	−0.976	35	166,674
• TIMSS Science (4th grade)	−0.892	−0.978	35	166,674
Main Equation	−1.25	−0.681	26	107,130
• TIMSS Math (8th grade)	−0.721	−0.405	26	107,130
• TIMSS Science (8th grade)	−0.755	−0.418	26	107,130
Main Equation	−1.08*	−0.811**	58	195,670
• Cognitive	−1.39*	−0.849**	58	195,670
• Lower Secondary	−1.33*	−0.831**	58	195,670
• Basic	−1.41**	−0.872**	58	195,670
• Top	−1.17*	−0.814**	58	195,670
Health of the Labor Market				
Main Equation	−0.387	−0.879	34	116,677
• Social Returns	−0.387	−0.888	34	116,677
Main Equation	−0.612	−0.724	36	145,232
• Private Returns	−0.612	−0.726	36	145,232
Main Equation	−0.532	−0.540	32	142,701
• Returns to Years	−0.636	−0.688	32	142,701
Mobility/Institutions				
Main Equation	−1.27**	−1.16**	69	200,256
• Passport (2006)	0.0820	−0.612	69	200,256
Main Equation	−1.25**	−0.930**	74	201,818
• Minimum Distance (KM)	−0.449	−0.620*	74	201,818