DISCUSSION PAPER SERIES

IZA DP No. 3725

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September 2008

Forschungsinstitut
zur Zukunft der Arbeit
Institute for the Study
of Labor

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Discussion Paper No. 3725
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ABSTRACT

Gender, Source Country Characteristics and Labor Market Assimilation among Immigrants: 1980–2000*

We use 1980, 1990 and 2000 Census data to study the impact of source country characteristics on the labor supply assimilation profiles of married adult immigrant women and men. Women migrating from countries where women have high relative labor force participation rates work substantially more than women coming from countries with lower relative female labor supply rates, and this gap is roughly constant with time in the United States. These differences are substantial and hold up even when we control for wage offers and family formation decisions, as well as when we control for the emigration rate from the United States to the source country. Men's labor supply assimilation profiles are unaffected by source country female labor supply, a result that suggests that the female findings reflect notions of gender roles rather than overall work orientation. Findings for another indicator of traditional gender roles, source country fertility rates, are broadly similar, with substantial and persistent negative effects of source country fertility on the labor supply of female immigrants except when we control for presence of children, in which case the negative effects only become evident after ten years in the United States.

JEL Classification: D10, J16, J22, J24, J61

Keywords: immigration, labor supply, fertility, assimilation, gender

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* The authors are indebted to Martha Bailey, Charlie Brown, John DiNardo, Andrew Oswald, Mark Rosenzweig, Jeff Smith, Dean Yang and participants at the Society of Labor Economists meetings in Chicago, May 2007, the Wang Yanan Institute for Studies in Economics 2007 International Symposium on Contemporary Labor Economics, Xiamen University, Xiamen, China, December 2007, the Herman Colloquium, University of Michigan, March 2008, and the Centre for European Economic Research (ZEW) Workshop on Gender and the Labour Market, Mannheim, Germany, March 2008 for helpful comments and suggestions, to Fidan Kurtulus and Albert Yung-Hsu Liu for excellent research assistance and the Russell Sage Foundation for financial support. Portions of the research for this paper were completed while Blau and Kahn were Visiting Fellows in the Economics Department of Princeton University, supported by the Industrial Relations Section. They are very grateful for this support.

I. Introduction

A steady flow of new immigration has resulted in an increase in the foreign born share of the US population from 4.8 percent in 1970 to 11.1 percent in 2000. Perhaps more dramatically, the percentage of the foreign born population that came from Europe or North America fell from 70.4 to 18.5 percent between 1970 and 2000, with a corresponding increase in the Asian and Latin American share from 28.3 percent in 1970 to 52.4 percent in 1980 and 78.2 percent in 2000 (US Bureau of the Census website: http://www.census.gov). Thus, while the shift in source country composition was especially rapid between 1970 and 1980, further substantial changes occurred between 1980 and 2000. As we document in more detail below, this change in source country distribution has resulted in an immigrant population that increasingly comes from poorer countries with lower levels of education. An additional feature of the immigrant population that is less frequently noted is that immigrants typically come from countries with a more traditional division of labor by gender than the United States. Moreover, over the 1980-2000 period, the gender gap in labor supply in the United States narrowed much more than in immigrant source countries. If immigrant women's labor supply behavior mirrors that in their home countries, rising shares of the US population composed of immigrants from countries with more traditional gender roles will cause the US female labor force participation rate to be lower than otherwise. On the other hand, if immigrant women's labor supply eventually assimilates to US levels, this effect would be lessened.

While some evidence suggests that source country female participation does influence immigrant women's labor supply behavior in the United States (Antecol 2000), little is known about its effect on the assimilation process. The assimilation profile can shed light on what will happen in the long run as these women are exposed to labor market conditions and social norms in the United States. For example, suppose women from a more traditional country have on average a 20% hours shortfall relative to comparable immigrant women from less traditional countries. This could reflect a substantial and persistent 20% shortfall throughout their time in

the United States, or, say, a 40% shortfall during the early stages of their time in the United States, which falls to zero with longer residence. The two scenarios have different implications for convergence of the group to comparable natives and may impact the labor supply behavior of the second generation of immigrants as well.

In this paper, we study the impact of traditional gender roles in immigrant source countries on the assimilation of married immigrant women and men into the US labor market. We focus on married immigrants for whom gender roles are expected to have a greater effect and in order to consider explicitly the division of labor in the family among immigrants compared to natives. Family migration models have recently been developed to shed light on this question. At issue is the shape of the assimilation profile itself. One version of such models predicts that women will initially take dead-end jobs to finance their husbands' human capital investments, and eventually drop out of the labor market or reduce their labor supply as their husbands' labor market outcomes improve (Baker and Benjamin 1997). Rather than convergence, this view predicts a negatively-sloped labor supply profile for immigrant women relative to natives, a finding that has been observed for Canada (Baker and Benjamin 1997) but not for the United States; Blau, Kahn, Moriarty and Souza (2003) find US immigrant women's labor supply profiles to be upward sloping, much like those of immigrant men. Here we further probe this question to determine whether the predictions of the family migration model are observed for women coming from countries with a traditional division of labor by gender. If this is the case, women from more traditional source countries will fall further behind natives and immigrants from less traditional source countries as their time in the United States increases.

Even if women from both traditional and nontraditional source countries have upward sloping profiles, it is unclear a priori which group is likely to assimilate more rapidly. Some considerations suggest that assimilation profiles of women from less traditional source countries will be steeper. This steepening may occur via wages if women from countries with higher participation rates are more career-oriented and hence invest more in labor market skills. Moreover, even controlling for wages, they may be better able to search for and learn about

market opportunities. An additional scenario predicting a more rapid assimilation of labor supply for such women is one where, upon arrival in the United States, all immigrants experience major disruptions in their labor market activity, regardless of their source country characteristics. For example, married immigrant women from both types of source countries may be "tied movers" (Mincer 1978), reducing their initial labor market activity. However, women arriving from countries with higher female labor supply may ultimately be planning on higher labor supply in the United States, thus steepening their assimilation profiles relative to women from lower female labor supply countries. On the other hand, women from countries with more traditional gender roles may have higher rates of assimilation in that they may be acculturating to US norms as well as accumulating information about US labor market opportunities. In this latter case, any initial differences in labor supply between women from more and less traditional source countries will diminish over time, whereas in the former case, initial differences will be magnified.

Studying the impact of source country characteristics on immigrant women's labor supply in the United States can also yield insights into the issue of cultural assimilation. Higher female labor force participation rates in the United States than in many immigrant source countries may ultimately be due to tastes and beliefs about women's appropriate roles in society, although they may also be due to different economic incentives in the United States and the countries of origin. For example, women in the United States may have higher relative wages than in some source countries, providing incentives for higher labor force participation and greater investments in human capital. If differences in labor supply behavior between immigrant women from high and low participation source countries tend to persist over time in the United States, it suggests that cultural factors are indeed important. If, however, the labor supply of women from both groups tends to converge as both assimilate to the US native levels, one might conclude that the hold of home country beliefs on women's appropriate roles is relatively weak in the face of US work incentives and possibly a US market work-oriented culture. (Of course, it is also possible that immigration from both types of countries is selective of women who planned

to assimilate toward native labor supply levels.) Because immigrants are likely to differ from natives in significant unmeasured ways, comparing labor supply assimilation paths of immigrants from more and less traditional source countries may shed additional light on the impact of cultural factors.

To examine the impact of source country characteristics on immigrant women's assimilation into the US labor market, we use the 1980-2000 US censuses, which we augment with an extensive set of source country characteristics data, as described in the Appendix. These include two indicators of the extent of traditional gender roles in the source country: (i) female relative to male labor force participation and (ii) women's completed fertility. . In addition, we control for other source country characteristics that may affect immigrants' labor supply behavior in the United States, including income (GDP per capita in constant US dollars), primary and secondary school enrollment rates, the fraction of immigrants to the United States from the country who were refugees, whether the country is English speaking and whether English is an official language of the country, and the distance from the source country to the United States. Conceptually important features of our analyses are that we measure these characteristics at the time each immigrant came to the United States and interact each of them with years since the immigrant migrated. This is appropriate, since we would like a measure of the tastes or economic incentives one left behind in deciding to migrate and changes in the strength of their effect over time in the United States.

Some recent papers have studied the impact of source country characteristics on the labor supply and fertility of immigrants or their descendants and have informed our study. A study by Blau (1992), using the 1970 and 1980 Censuses, found a positive effect of source country fertility rates at the time of immigrants' arrival in the United States on immigrant women's fertility compared to otherwise similar natives, suggesting an impact of gender roles in source countries on the behavior of immigrant women in the United States. Antecol (2000) provided further evidence of such a relationship. Using the 1990 Census, she found that source country female labor force participation rates (measured as of 1990) were positively correlated with US

labor force participation, even controlling for human capital characteristics. Also of interest is Antecol's finding of a positive, though weaker, correlation between US and source country participation for "second and higher generation" immigrants, defined by their answer to the Census question on ancestry. A paper by Fernández and Fogli (2006) also suggests an impact of source country characteristics on the second generation. Using 1970 Census data on US-born women with foreign-born parents, they found that source country female labor supply and fertility each had a positive effect on the corresponding outcome of second generation women in the United States.

We build on these studies in several ways. Most importantly, we investigate the impact of source country characteristics on the labor supply *assimilation profiles* of immigrant women in addition to their levels of labor supply. Thus, in contrast to earlier work, we will be able to disentangle the routes through which source country characteristics ultimately affect labor supply in the United States, i.e., the impact on initial levels and on assimilation paths. Moreover, contrasting the assimilation profiles of women from more and less traditional source countries is a useful way to uncover the possible impact of long-term cultural factors, and also allows us to determine whether the family migration model works better for immigrants from more traditional source countries. In addition, as in Blau (1992), we measure these characteristics as of the time each immigrant came to the United States. This is a potentially important innovation, particularly if indicators such as GDP, fertility or female labor force participation change over time within countries. Finally, earlier work tended to focus on one or two features of the source country such as female labor supply (Antecol 2000) or labor supply and fertility (Fernández and Fogli 2006). As in Blau (1992), we use a broader set of variables to characterize home countries, increasing the likelihood that our models estimate the true effect of source country female labor supply and fertility rather than the impact of omitted factors that are correlated with these variables.

II. Data and Descriptive Patterns

Our basic data source is the 1980, 1990 and 2000 US Census of Population public use micro-samples. In addition, as described in detail in the Appendix, we have assembled a time-series, cross-sectional database on source country characteristics, which we have merged into the Census microdata for immigrants based on their country of origin and the date they arrived in the United States. Because of changes in the list of countries across censuses, we have had in some cases to aggregate countries and compute appropriately weighted country characteristics. We also performed some imputations for missing data. (See the Appendix for further details.) Note that the measure of source country female labor supply we employ is women's labor force participation relative to men's (female LFP/male LFP). This relative measure is appropriate in that it captures the gender division of labor explicitly. A further advantage is that it implicitly adjusts for problems in measuring the labor force, particularly at different levels of economic development, at least to the extent that such problems affect men's and women's measured participation rates similarly.

We focus on individuals aged 18-65 who are married to someone aged 18-65 and restrict the immigrant sample (respondents and spouses) to those who migrated as adults—age 18 or over. We follow this procedure because our empirical approach relies on within immigrant arrival cohort changes to estimate assimilation effects. If child immigrants are included, some immigrants who recently arrived in the United States as children will be excluded from our sample of those aged 18-65 in an initial Census but will have attained age 18, and therefore eligibility for our sample, in subsequent Censuses. Thus, the composition of the sample would automatically change with time in the United States as those arriving as children comprise a higher share of those with longer duration of residence (Friedberg 1993). This is likely to bias the results because those migrating to the United States as children may be less affected by home country characteristics and more similar to native-born Americans when they reach adulthood than those migrating as adults. This also implies that adult immigrants, who are the large majority of immigrants, are the more appropriate samples on which to observe the assimilation

process in any case. We use all immigrants for whom we can match source country characteristics and, for tractability, we take a 4% sample of natives, whom we appropriately weight in all analyses.[1] Overall, we were able to match over 99% of immigrants who had valid, non-allocated values for country of birth and year entered the United States to source countries for which we were able to compute the country variables.

Tables 1 and 2 contain descriptive information on labor market outcomes and personal characteristics for our sample of married individuals. Means are presented separately for all (adult) immigrants, recent (adult) immigrants (defined as those who migrated within the last five years), and natives in each of the three Censuses, for women (Table 1) and men (Table 2). Overall, immigrant women exhibit more traditional patterns than US-born women. For example, Table 1 shows that immigrant women have lower labor supply (measured by average annual work hours, including those with zero hours) and have more children than US women, even though they are about the same age. Moreover, while immigrant and native women both increased their labor supply between 1980 and 2000, the native-immigrant gap grew considerably: in 1980, natives worked 65 hours (8%) more than immigrants; by 2000, the gap was 319 hours (32%). Recent immigrant women are less comparable because they are 5-7 years younger than the other two groups. However, it is notable that they work less than immigrant women overall and their hours gap with natives grew even more steeply; in 1980, recent immigrant women's hours were 72% of natives' but fell to only one half by 2000.

Wage and education gaps between immigrant and native women increased as well. Among employed wage and salary workers, immigrant and native women earned the same hourly wages in 1980; but by 2000, natives outearned immigrants by 11%. Similarly, immigrants tend to have lower educational attainment, with higher concentrations of high school dropouts and lower concentrations of high school graduates and those with some college. And, while educational attainment rose for both immigrant and native women, it rose by more for natives. However, in each year, immigrant women were slightly more likely than natives to be

[1] Borjas (1995) followed a similar procedure.

college graduates, reflecting a substantial upper tail in the educational distribution of immigrants. Finally, while natives became slightly less likely to be white, non-Hispanic over the period (the incidence of white, non-Hispanics fell from 89% to 87%), the likelihood of being white, non-Hispanic decreased by much more among immigrants—from 42% in 1980 to 23% in 2000. Thus, compared to natives, the stock of immigrant women became less skilled and more dominated by low wage ethnic groups over the period.

In contrast to women, immigrant men worked only 8% fewer hours than native men in 1980, a gap that increased only slightly (to 11%) by 2000. Thus the gender gap in labor supply fell much more for natives than for immigrants. As in the case of women, immigrant men's wages declined relative to those of natives: an 8.0% native advantage in 1980 rose to 18.1% by 2000, a comparable change to that for women. There were also similar changes in relative education and ethnicity for men as for women.

The finding of a growing immigrant-native labor supply gap among women in the United States raises the question of whether there are similar trends when female labor supply in immigrant source countries is compared to that in the United States. To the extent that source country labor supply patterns mirror the growing native-immigrant gap in labor supply, we may also ask whether this is associated with a shift in the composition of countries from which immigrants originate versus differential time trends within sending countries and the United States. These questions are addressed in Tables 3 and 4, which are based on our sample of 106 countries. (Illustrative values for the 25 top immigrant source countries for activity ratios and fertility rates are shown in Table A-1.)

Table 3 shows the mean characteristics of source countries for immigrant women, with source country characteristics measured at the time immigrants migrated to the United States. (We omit a corresponding table for men, since the source countries of immigrant men and women tend to be quite similar.) The table also shows the corresponding means for the United States, similarly weighted by the number of immigrants in each arrival period cell. Panel A shows means for the stock of all immigrants. The largest weights in this panel will come from

countries and time periods for which there were a lot of immigrants to the United States. Panel B shows means for recent immigrants, thus removing the time of arrival as a weighting factor and focusing on recent inflows.

Table 3, Panel A indicates that, in each year, the average immigrant woman came from a country which, at the time of her arrival in the United States, had lower relative female labor force participation and higher fertility than the United States had at the same time. These patterns are also true for recent immigrants (Panel B). Thus, throughout this period, immigrants tended to come from countries with a more traditional division of labor by gender than the United States. Moreover, although average home country relative female labor supply at the time of arrival increased over the period, the corresponding US value increased by considerably more, resulting in a growing gap between US and source country relative female labor force participation. In 1980, for example, the average ratio of female to male participation rates was 0.45 for immigrant source countries compared to 0.51 for the United States over the same time period; by 2000 the comparable figures were 0.57 for immigrant source countries and 0.72 for the United States. A similar pattern held for recent immigrants: in 1980, average relative female participation was 0.51 for immigrant source countries compared to 0.59 for the United States; by 2000 the comparable figures were 0.60 for immigrant source countries and 0.78 for the United States.

The average immigrant woman also came from a country with much lower per capita income than the United States and, whether one measures the income gap by raw (real) dollars or in relative terms, the difference between US and home country income grew both for immigrants overall and for recent immigrants between 1980 and 2000. Furthermore, immigrants and recent immigrants were less likely to have come from English-speaking countries in 2000 than 1980, although a larger share of immigrants and recent immigrants as of 2000 came from countries which used English as an official language (but were not English-speaking). On the other hand, primary and secondary enrollment gaps between the United States and immigrant source countries have narrowed, and the (small) primary enrollment gap has been entirely eliminated.

However, the secondary enrollment gap remains quite large. Thus, most of these indicators suggest that both the 2000 stock and 2000 flow of immigrant women came from countries likely to have imparted fewer skills relevant for US labor market participation and success relative to native women than their 1980 counterparts.

Home country fertility, another potentially important factor affecting cultural and economic assimilation, behaved differently for the stock vs. the flow of immigrants between 1980 and 2000. On the one hand, home country fertility at time of arrival fell for the stock of immigrants from 1980-2000, but by less than the corresponding US fertility decline. Corresponding US fertility was 53% of the immigrant home country level in 2000, compared to 63% in 1980. In contrast, home country fertility for recent immigrants decreased substantially relative to US fertility and was only 44% above the US level for recent immigrants in 2000, compared to 2.3 times the US level in 1980.[2] Thus although origin countries have higher fertility than the United States, the gap is closing at the margin.

Table 4 investigates the degree to which these changes in the source country characteristics of immigrants are due to changes in the mix of source countries versus within-country changes over time by showing results for fixed country weights.[3] For the stock of immigrants (Panel A), had the distribution of origin countries stayed the same, source country fertility would have decreased by much more while GDP per capita would have risen. However, the relative female participation rate—the key variable for our study—would have increased by about the same amount as when source country mix is allowed to vary. A more focused look at the impact of changing source country composition is shown in Panel B for recent arrivals. For this group, home country relative female participation would have risen by 10.8-11.3 percentage points from 1980 to 2000 with constant country weights, in contrast to its actual rise of 8.4 percentage points. Thus, at the margin, source countries are shifting somewhat toward those

[2] Using recent arrival weights, US fertility fell between 1980 and 1990 and then rose back to its 1980 level by 2000.

[3] The English speaking, English official and distance variables are not included in the table since they are of course constant when fixed country weights are employed. Thus the changes for the English speaking and English official variables noted above are entirely due to shifting composition.

with lower relative female participation. In contrast, the changing country mix for new immigrants does not seem to have affected fertility at the margin, as the home country fertility rate fell by 1.8-1.9 births, both controlling and not controlling for source country composition. In addition, at the margin, source countries are shifting toward lower income countries, although, within these countries, income per capita is rising.

In sum, on average, the annual work hours of both the stock of female immigrants and the flow are lower than those of native women and declined relative to native women's over the 1980-2000 period. The native-immigrant hours gap was considerably smaller for men and increased only slightly over the period. Thus, the gender division of labor became increasingly more traditional among immigrants compared to natives. At the same time, on average, immigrant women come from countries with considerably lower relative female labor force participation than prevailed in the United States at their time of arrival. Moreover, this US-source country gap in relative female participation increased considerably over time, primarily due to faster female participation increases in the United States than within immigrant source countries, rather than to a shift in the mix of source countries. Source countries also have considerably higher fertility rates than the United States, although these differences are declining among recent arrivals. Low and declining source country GDP per capita (relative to the United States), a decreasing fraction of source countries that are English speaking and the persistent US-source country gap in secondary school enrollments may also affect the market preparedness of immigrant women, although the rising share of immigrants coming from countries using English as an official language and increasing secondary school enrollment rates in source countries are potentially countervailing factors.

The importance of source country characteristics for immigrant women's behavior in the United States is broadly suggested by Figures 1a and 1b, which examine the simple relationship between immigrant women's annual hours relative to natives and activity rate ratios and total fertility rates in their countries of origin. The annual hours of immigrant women relative to natives are measured by the coefficients on country fixed effects from a first-stage regression

estimated on pooled 1980, 1990 and 2000 Census data of annual hours on age, age squared, two year dummies, and country fixed effects (for all 106 countries in our data). Source country variables are measured at the time of immigrant arrival and are averaged across Censuses for each immigrant source country. The trend lines plotted in the figures are estimated across all 106 countries and indicate a positive and significant relationship between immigrants' annual hours relative to natives and source country activity rate ratios and a negative and significant relationship between immigrants' annual hours relative to natives and source country total fertility rates.[4] The data points in each figure are included to illustrate the estimated relationship and (to keep the figure legible) include only the top 25 source countries (countries are ranked by their weighted share of the sample of married women across all years, with only adult immigrants included). In what follows we more closely examine the impact of these and other source country characteristics on the labor supply behavior of immigrant women.

III. Empirical Procedures

Our goal is to estimate the impact of source country characteristics on married immigrant women's and men's labor supply assimilation into the US labor market. We use pooled 1980, 1990 and 2000 Census microdata to examine this issue. In each case, we compare immigrants to natives with the same observable characteristics. Thus, assimilation here refers to the degree to which immigrants' labor supply patterns converge to those of comparable natives. As noted, we restrict our analyses to married individuals in order to study assimilation in a family context among the group most likely to reflect the impact of more traditional source country norms.

To analyze labor supply, we estimate equations of the following form on the pooled sample of married adult immigrants and natives separately for men and women:

[4] The trend line shown in each figure is estimated weighting observations by the inverse of the standard errors from the first-stage regression.

$$(1)\quad H_{it} = \mathbf{B}'\mathbf{X}_{it} + \Sigma_c a_c Aown_{cit} + \Sigma_s b_s Yown_{sit} + \Sigma_s\Sigma_o d_{so} Yown_{sit} Zown_{oit} + \Sigma_c e_c Aspouse_{cit} + \Sigma_s f_s Yspouse_{sit} + \Sigma_s\Sigma_o g_{so} Yspouse_{sit} Zspouse_{oit} + k_{90} T_{90it} + k_{00} T_{00it} + u_{it},$$

where for individual i in year t (t=1980, 1990 or 2000), H is annual hours worked in the previous year (usual weekly hours * weeks worked, including those with 0 hours), X is a vector of controls, $Aown_c$ and $Aspouse_c$ are a series of own and spouse immigrant cohort-of-arrival dummy variables, $Yown_s$ and $Yspouse_s$ are a series of dummy variables referring to own and spouse's years since migration (YSM), $Zown_o$ and $Zspouse_o$ are a series of country of origin characteristics for the individual and his/her spouse, T_{90} and T_{00} are year dummies referring to 1990 and 2000, and u is an error term. We cluster the standard errors at the respondent's country of origin level, treating the US as an origin country for natives. After creating sampling weights to reflect the random sample of natives and taking into account Census sampling weights for 1990 and 2000, we adjust each year's weights so that the total weight of each year's observations is the same.

We define the cohort of arrival and years since migration variables for immigrants and their spouses as follows. First, note that the immigrant arrival period is defined in interval form in the 1980 and 1990 Censuses. Hence, we define sets of cohort of arrival and years since migration dummy variables that are consistent across the three Censuses. We specify the years since migration variables as dummies, rather than forming a continuous variable (say by evaluating the intervals at their midpoints), in order to capture all the available information in the most flexible form. The cohort of arrival dummies include all but one possible arrival cohort: 1995-2000, 1991-94, 1985-90, 1980-84, 1975-79, 1970-74, 1965-69, and 1960-64 (these are the $Aown_c$ and $Aspouse_c$ dummies). The full set of years since migration dummies is included: 0-5, 6-10, 11-15, 16-20, and 21-30 years in the US (these are the $Yown_s$ and $Yspouse_s$ dummies). The sum of these years since arrival dummy variables for the respondent would be identical to an immigrant dummy variable, and the sum of the spouse years since arrival dummies would be identical to a spouse immigrant dummy variable; therefore, such indicators are not separately

included in equation (1). Using the full set of years since migration dummies requires us to omit one of the possible cohort dummy variable categories; we have omitted the 1950-59 cohort for both the respondent and spouse. Pooling the sample across three Census years and assuming common period effects for immigrants and natives together allow us to separately identify immigrant cohort and assimilation effects (Borjas 1985).

The interval form of the arrival period in the 1980 and 1990 Censuses affects our restriction of the sample to adult immigrants and to adult immigrant spouses.[5] For each interval, we only include immigrants who we can definitely conclude were at least 18 years old on arrival in the US.[6] For comparability, similar procedures are followed for the 2000 Census data. This also requires us to exclude individuals in the open-ended arrival category in those years (i.e., pre-1950), since we cannot ascertain whether such individuals migrated as children or adults; we also exclude spouses of such individuals. The resulting maximum years since migration is thus 30 for 1980, and, for comparability, a maximum of 30 years since migration is also set for 1990 and 2000. This explains why the above years since migration dummies exhaust the sample of adult immigrants.

The origin country characteristics $Zown_o$ and $Zspouse_o$ are measured for the time the individual migrated to the United States and are set equal to zero for natives. Thus, they are in effect interactions between an immigrant dummy variable and the country characteristics. Because the years since migration dummies ($Yown_s$ or $Yspouse_s$) add up to one for each immigrant respondent or immigrant spouse, for each country characteristic, the sum of its interactions with the years since migration variables equals the country characteristic itself. Therefore we do not include main country characteristics effects ($Zown_o$ or $Zspouse_o$).[7] The

[5] As in the case of own characteristics, we expect spouse home country characteristics to be less salient for those who migrated as children than for those who migrated as adults.

[6] That is, if the immigrant arrived between A_0 and A_1, we take only individuals for whom $(A_0 - BY) \geq 18$, where BY is birth year as calculated from the individual's reported age. An alternative would have been to evaluate the arrival intervals at the midpoint and calculate age of arrival accordingly. We follow former procedure due to its greater accuracy in excluding child immigrants (see Bleakley and Chin 2004).

[7] Our formulation is mathematically equivalent to including main $Zown_o$ and $Zspouse_o$ effects but omitting the interactions between $Zown_o$ or $Zspouse_o$ and one YSM dummy.

specification in equation (1) allows the source country variables to affect both the level of labor supply and the impact of time in the United States on labor supply.

Source country variables were selected to serve as indicators of the degree to which the home country has a traditional division of labor by gender, the extent of labor market preparedness of men and women, and to address possible issues of selective migration. They include: the female labor force participation rate/male labor force participation rate; the total fertility rate (an estimate of completed female fertility); GDP per capita in 2000 US dollars; the proportion of immigrants arriving in the period who were refugees; the female (female regression) or male (male regression) enrollment rates in primary school and secondary school; a dummy variable for whether the country is English speaking; a dummy variable for countries that are not English speaking but in which English is an official language;[8] and the distance between the source country and the United States.

Female relative labor supply and fertility rates in the source country are indicators of traditional gender roles in the country of origin which may, or may not, be replicated in the United States. Moreover, both home country female relative labor supply and fertility, as well as income, education, and use of English are all likely to be related to preparedness for work in the US labor market. In addition, migration likely involves a disruption of work patterns due to housing and job search in the United States. Refugees and those who came a long distance may suffer the largest disruption, likely affecting their work assimilation profiles. In addition, because of the fixed costs of migration, those who come from a greater distance are likely to have higher labor market returns to migration than those coming from shorter distances, all else equal (Chiswick 1978). This potential selectivity can also be reflected in work assimilation patterns. For example, migrants moving from a longer distance may be more likely to have jobs lined up in the United States (contributing to their higher rate of return to migration), thus raising their work hours at entry and flattening their assimilation profiles (i.e., the opposite predictions

[8] The English speaking and English official variables are from Bleakley and Chin (2004).

from the disruption mechanism). Thus, the impact of distance on assimilation profiles is theoretically ambiguous.

The combination of the cohort dummies and the assimilation effects allows us to completely characterize immigrant labor supply over time relative to that of natives, starting with arrival in the United States of each arrival cohort, controlling for the X variables and year effects. We implement three specifications for the X variables.

First, we control only for a vector R which includes the following variables for respondent and spouse: age, age squared, three education dummies (high school degree, some college, and college degree, with less than high school as the omitted category), interactions between an immigrant dummy and the three education dummies, and three race/Hispanic origin dummy variables (black non-Hispanic, other non-Hispanic, and Hispanic, with white non-Hispanic the omitted category). R also includes eight Census region dummies, and dummy variables for each of California, Texas, New York, Florida, Illinois and New Jersey, the states with the largest immigrant populations. Of special note in our controls is the inclusion of immigrant-education and spouse immigrant-education interaction terms.[9] These variables allow the impact of education on labor supply to be affected by whether the education was obtained in the United States and further allow an immigrant (or immigrant spouse's) level of education to affect the assimilation process. In addition, because we have included home country enrollment levels, these interactions in effect transform the immigrant and spouse immigrant education impacts into effects relative to home country schooling. Implicitly then, these variables control for self-selection of immigrants by education, as well as for the substantive effect of education. Immigrants who are higher up in the educational distribution of their country of origin may differ in their unmeasured characteristics from those with an equal level of education who place lower in their home country's educational distribution. To the extent this type of selection is controlled

[9] Recall that since the own and spouse cohort YSM dummies add up to an own and a spouse immigrant dummy respectively, we do not include main effects for immigrant and spouse immigrant.

for by our specification, we expect to obtain estimates of the effects of other explanatory variables that are less biased by selectivity.

Second, to account explicitly for the role of wages and other income in the assimilation process, we augment R with log of own and spouse wages and family nonwage income, where these variables are allowed to have separate effects in 1980, 1990 and 2000—that is, we fully interact log wages and own nonwage income with three year dummy variables referring to the 1980, 1990 and 2000 Censuses. As described in detail in the Appendix, hourly wages are defined as annual earnings divided by annual work hours for wage and salary workers. We consider hourly wage observations as invalid if they are less than $1 or greater than $200 per hour in 2000 dollars using the Personal Consumption Expenditures price index from the National Income and Product Market Accounts (see http://www.bea.gov). For nonworkers, the self-employed and those with invalid wage observations or allocated earnings, wages are imputed using a regression approach. A separate wage regression is run for each combination of year (1980, 1990 or 2000), gender and weeks worked category (less than 20 or 20 and higher).[10] Nonworkers are assigned predicted wages based on the regression using the under 20 weeks per year sample. The other categories of workers whose wages are imputed (i.e., the self-employed and those with invalid wage observations or allocated earnings) are given imputations using the regression corresponding to the weeks they worked (i.e., less than 20 or 20 and higher). This imputation is similar in spirit to that proposed by Juhn (1992) and Juhn and Murphy (1997).

Because the denominators of the wage variables and the annual hours dependent variable are the same, ordinary least squares (OLS) would likely suffer from measurement error bias. We account for this by constructing instruments for the wage variables. Once we have an actual or simulated wage for everyone, we construct wage deciles for every person where the deciles are

[10] The regressors used were own and spouse variables for age, age squared, 3 education categories, education interacted with an immigrant dummy, and 3 race/Hispanic categories, plus 8 region categories and dummy variables for the six states with the largest immigrant populations (California, Florida, Illinois, New Jersey, New York and Texas), as well as the own and spouse years since migration and years since migration*source country variables specified above. Since the regressions were run separately by Census year, we cannot also include own or spouse arrival cohort dummy variables.

year-gender specific. We compute predicted wages for each person based on wage equations using all of that year's exogenous variables plus nine own wage decile dummy variables and nine spouse wage decile dummy variables. These predicted wages are then interacted with year dummy variables, yielding six predicted wage variables (own and spouse wages for each of the three Census years). In principle, these variables should be less contaminated with measurement error than the actual wage variables (Juhn 1992; Juhn and Murphy 1997; Baker and Benjamin 1997). We then use these predicted wage variables as instruments for actual wages. As discussed by Wooldridge (2002, pp. 116-117), this strategy is an example of the method of generated instruments, and the usual instrumental variables results for coefficient consistency and asymptotic standard errors hold, as long as the wage deciles are not correlated with the error term of the labor supply function.

Third, we augment the model just described with a vector of variables specifying the number of children in the following age categories: 0, 1, 2, 3-5, 6-11 and 12-17 years old. Children are counted if they are present in the household and are the own children of the woman or her spouse. The purpose of this specification is to account for fertility in the labor supply assimilation process. Because children of different ages are likely to have different effects on parents' labor supply, a detailed specification of the child variables is warranted.

Results from these three specifications can be compared to reach some conclusions about the routes through which source country characteristics affect labor supply. For example, it is possible that source country female labor supply positively affects immigrant women's wage offers in the United States, and that this indirectly raises their labor supply. Our models will be able to provide evidence on such mechanisms.

We restrict our sample to married individuals aged 18-65 with spouse aged 18-65, so that both members of the couple are of working age, and, as mentioned earlier, we include only adult immigrants.

IV. Results

A. Baseline Results for Assimilation

We begin by briefly considering, as a benchmark, the results for the basic specification in the conventional model excluding source country characteristics (see Table A-2). Of particular interest are the results for the years since migration dummy variables which show the general pattern of assimilation. We focus on the results for married adult immigrants, although the findings for all adult immigrants were very similar. We add the own and spouse years since migration coefficients in order to assess the assimilation profile for a married couple moving to the United States at the same time. The results of this simulation show a rising profile of work hours with time in the United States for both men and women. Further, the rate of increase is similar for men and women. Among married adult immigrant women, work hours increase by 357 hours for those with 21-30 years in the US compared to recent arrivals, an increase of 38% at the mean for immigrants; for married adult immigrant men, the increase is 670 hours or 36%. These differences are highly significant.

The cohort coefficients must be taken into account to make a comparison of immigrants' labor supply to natives'. This is done in Figure A-1, which shows simulated assimilation profiles for adult immigrant women married to adult immigrant men who came to the United States at the same time; the cohort arrival dummies are evaluated at the sample averages. As may be seen in the figure, married immigrant women are estimated to work 392 hours less than comparable native women upon arrival in the United States (35.9% of the mean for all women of 1093) and fairly rapidly assimilate to native levels, working only 56 hours less after 6-10 years and remaining at approximately the native levels thereafter. Immigrant males' hours are 410 hours less than comparable native upon arrival (20.5% of the mean for all men of 1999 hours) and also rapidly assimilate to native levels by 6-10 years. However, males then surpass natives, working 260 hours more after 21-30 years in the United States (13.0% of the mean). As may be seen in Figure A-1, results are virtually identical when we estimate equation (1), which includes

source country interactions, and evaluate those interactions at the sample means. Results are also the same when we include only source country main effects (results not shown). Thus, in the baseline, work hours of men and women increase by similar relative amounts with time in the United States. In the following sections, we will look explicitly at the role of source country characteristics in influencing this baseline pattern.

B. Average Effects of Source Country Characteristics on the Labor Supply of Immigrants

Table 5 shows selected regression results for annual hours for married adult immigrants relative to comparable natives. In these models, we do not interact country characteristics with the years since migration dummies, in order to show the average effects of these characteristics for adult immigrants' work hours. (Additional regression results are shown in Appendix Tables A-3 and A-4). We include both own and spouse source country characteristics. The most useful results are those in the last two columns, where we show the sum of the own and spouse coefficients and the significance level of the sum. The sum corresponds to an experiment in which we compare a married couple migrating together from one country to an otherwise similar couple who migrated together from a different country. Coming from a country with a high level of relative female labor force participation significantly raises immigrant women's labor supply in the United States in each specification. In the basic specification (Model 1), the effect is 549 hours. The effect is somewhat smaller, at 511 hours, when we include controls for own and spouse log wages and nonwage income (Model 2), suggesting that a portion of the home country female participation effect on annual hours operates through wages and income, though the bulk of it (over 90%) is present even controlling for wages and income. However, the effect in Model 3 is 544 hours, roughly the same as in Model 1, implying that the indirect effect of home country female participation does not operate through children, at least in the specification without interaction effects.

To assess the magnitude of these effects, we note that across the sample of married adult immigrant women, the 75th percentile of the home country female relative activity rate is 0.636, while the 25th percentile is 0.368. This calculation uses individual immigrants, not individual source countries, as the unit of analysis, thereby giving countries sending larger numbers of immigrants larger weight in computing the percentiles. The 75th percentile figure corresponds roughly to the Austrian value for the relative female activity rate for 1996, while the 25th percentile is roughly the level for Pakistan in 1994.[11] Moving from the 25th to the 75th percentile with respect to home country female labor supply raises married adult immigrants' work hours in the United States by 137-147 hours per year, a noticeable effect that is 15-16% of their average annual work hours of 939.

A further indicator of a traditional home country division of labor is its fertility rate. Table 5a shows that coming from a higher fertility country significantly lowers married immigrants' work hours in the basic specification or when we control for own and spouse wages and nonlabor income. The 75th percentile for fertility is 5.63 children (roughly Iran's 1990 level), while the 25th percentile is 2.49 children (roughly Chile's 1996 value). Thus, changing home country fertility by the 75-25 gap (3.14 children) lowers married immigrants' US labor supply by 108-131 hours, or 12-14% of the mean, in either Model 1 or Model 2. However, when we control for the woman's own fertility (as well as wages and nonlabor income), the effect of home country fertility becomes very small and insignificant. Thus, higher home country fertility leads to lower US labor supply for married adult immigrants, but this effect operates virtually entirely through fertility decisions.

An additional important set of results for women concerns home country use of English. Specifically, migrating from an English-speaking country raises US labor supply by 82-88 hours per year, or about 9% at the mean, and moving from a country where English is an official language raises labor supply by 178-214 hours, or 19-23% of the mean. These effects are highly

[11] For these and other examples in the text of the countries corresponding to the percentiles, we sometimes refer to interpolated data.

significant in each case. The estimated effect of an English-speaking country is very similar whether or not we control for own and spouse wages, nonlabor income and fertility; moreover, while the impact of English as an official language on women's annual hours declines across Models 1, 2 and 3, most (over 80%) of this effect holds up even when we control for US wage offers and fertility.

In terms of other source country characteristics, GDP per capita has significant negative effects (suggesting an income effect to the extent that measured nonwage income does not completely capture permanent income); moving from the 25th to the 75th percentile in GDP per capita lowers immigrant women's labor supply by 85-127 hours, or 9-14% of the mean.[12] Coming from a country with a higher refugee proportion lowers women's labor supply, with significant or marginally significant coefficients. The distribution of refugee percentage is very skewed, with the 75th percentile at 2% but the 90th percentile at 94.7% refugees. But, even increasing the refugee proportion from the 10th (0 refugees) to the 90th percentile (0.947, roughly Cuba's 1974 level) still lowers hours by only 46-87 hours (5-9% of the mean). Also, while raising the home country primary school enrollment rate significantly raises women's work hours, the effect of a 25th to 75th percentile increase in primary school enrollment only increases annual work hours by 29-31 (3% of the mean). Finally, on average, coming from a longer distance from the United States significantly reduces women's labor supply, lowering their annual hours by 66-75 (7-8% of mean hours) at the mean of the distance variable, 4137 miles.

Table 5 also shows some significant source country effects for men's labor supply. For example, men coming from an English-official country work 149-157 more hours than those coming from a non-English-official country; these effects are about 8-9% of their average work hours of 1839. A higher refugee percentage lowers work hours significantly, and moving from the 10th to the 90th percentile lowers men's hours by 298-300, or about 16%, per year. This effect suggests considerable disruption for refugees and below we will provide additional

[12] The 25th percentile in GDP per capita ($838) corresponds roughly to Afghanistan in 1996, while the 75th percentile ($5078) roughly to Uruguay's 1991 level.

evidence on this issue by studying the impact of refugee proportion on the assimilation profile. Finally, home country fertility has negative and significant effects on men's labor supply; the absolute effect is similar in Models 1 and 2 to those for women but of course is about half as large relative to the men's mean work hours as for women. However, in Model 3, home country fertility continues to have a similar effect for men as in Models 1 and 2, unlike for women. It thus appears that for men, coming from a country with high fertility is associated with less preparedness for work in the United States. This interpretation could also characterize the results for women. However, the small and insignificant effect of home country fertility on women's labor supply in Model 3 (which controls for children), suggests that, in the case of women, it is indeed larger family size that lowers the labor supply of women from high fertility source countries. Nonetheless, it is possible that it is lack of labor market preparedness rather than cultural factors associated with the source country that causes this larger family size. Thus, the results for men suggest some caution in our interpretation of the findings for women and illustrate the value of comparing effects of source country characteristics across men and women. It is interesting that there is no symmetric negative effect of female/male participation rate on *male* annual hours (the coefficient for this variable is insignificantly positive and small in magnitude in the male regressions). This strengthens our confidence that source country labor supply patterns do indeed have a gender-specific effect on female immigrants that is suggestive of a cultural effect.

C. Source Country Characteristics and Assimilation Profiles for Labor Supply

We now present results for the impact of source country characteristics on men's and women's labor supply assimilation profiles. The basic findings are summarized in Tables 6 and 7. One motivation for studying the impact of source country characteristics on the assimilation of immigrants' labor supply is to gain insight into the decisions made by immigrant families. Do immigrant families migrating from countries with a traditional division of labor by gender

reproduce that division of labor in the United States, or do they (at least eventually) conform to US patterns? If the latter, how quickly does such assimilation occur? Tables 6 and 7 address such questions by showing the results of estimating equation (1).

Looking first at the results for relative female labor supply in the female regressions, several important findings emerge. First, and most importantly, in each of the three specifications, the source country relative activity rate has a positive, significant effect on annual hours in each YSM category. Thus, as suggested by the results for models including only source country main effects, source country female labor supply is strongly positively associated with immigrant women's labor supply behavior in the United States. We are now able to see that this effect is roughly stable across YSM categories; the effect of the activity rate ratio on labor supply at 6-10 through 21-30 years since migration is not significantly different from its effect at arrival (0-5 years).[13] Thus, the factors mentioned earlier that might potentially cause the gap between women from high and low activity rate source countries to intensify or decay over time in the United States appear to roughly cancel out. Finally, as was the case in models including source country variables without interaction effects, wages and presence of children do not appear to account for very much of the observed relationship between female activity rate and labor supply in the basic specification. The coefficients on the interactions are reduced only slightly when wages are included in Model 2 and then usually increase to roughly their original levels when the child dummies are additionally added in Model 3.

These effects and the relationship of immigrant women's labor supply to the native-born reference group are illustrated in Figure 2 for the basic specification. The figure shows simulated assimilation profiles for adult immigrant women married to adult immigrant men who came to the United States from the same country and at the same time, assuming the couple migrates from a country with (i) a high female relative activity rate, at the 75th percentile of our sample, or (ii) a low female activity rate, at the 25th percentile. In order to construct the profiles,

[13] This conclusion is of course made taking into account both the married woman's years since migration-female activity rate interactions and the interactions of her spouse's variables.

we assume the sample averages for the cohort arrival dummies and the source country characteristics apart from the female relative activity rate.

As may be seen in the figure, there is a substantial and persistent gap between the annual hours of women from high and low activity rate countries: an unweighted average of 136 hours across YSM categories, corresponding to 14% of immigrant women's mean hours of 939. Both groups of women work less than comparable natives upon arrival; 279 hours less for women coming from a high female activity rate country and 403 hours less for those migrating from a low female activity rate country. These are sizable deficits of 26 to 37% relative to the sample average work hours (including natives) of 1093. Work hours for women from both types of countries assimilate dramatically over time relative to comparable natives. Women from high female labor supply countries work roughly the same number of hours as natives after 6-10 years and work at or above the native levels thereafter. Women in families migrating from low female labor supply countries continue to work less than natives throughout their residence in the United States, but by the 21-30 year mark they have reduced their deficit to 126 hours (12%). These upward sloping assimilation profiles for women from both high and low female labor supply source countries are inconsistent with the family migration model.

The assimilation results for married adult immigrant women can be compared to those for married men, as shown in Table 7 and Figure 3 for the basic specification. (The findings for Models 2 and 3 are virtually identical and are thus not shown.) The activity rate ratio interactions are not significant and, in the figure, the profiles for men born in high and low female labor supply countries are virtually identical. Thus, source country female labor supply clearly has much more important effects on immigrant women's than immigrant men's labor supply, as expected given that men's labor supply is in general less sensitive to their environment than women's (Blau and Kahn 2007). The gender difference in findings is suggestive of an impact of culture and norms of the source country, though the finding could also reflect the effect of differences between the two types of countries in the labor market preparation of women.

Additional information about gender roles and family migration patterns can be obtained by examining the impact of source country fertility on labor supply assimilation profiles for married immigrant women and men (Tables 6 and 7). The results for the basic specification for men and women show the reduced form or full effects of home country fertility on labor supply profiles. In this specification, for each YSM category, work hours are negatively related to source country fertility; these differences are significant for men in each case and for women in three of the five cases (at 11-15, 16-20 and 21-30 years since migration). Evaluating these effects at the 25th and 75th percentiles of the source country fertility rates yields an impact of between 80 and 185 hours for women (9-20% of the immigrant mean) and 101 and 204 hours for men (5-11% of the immigrant mean). There is no evidence in the basic specification that the effect of source country fertility differs with time in the United States for men; for women the effect of fertility is significantly more negative at 11-15 years since migration than at arrival. Thus, as in the case of the activity rate, we find substantial and persistent differences in the labor supply behavior of women from high and low fertility source countries, and, as in the fertility specification excluding source country interactions, we find similar evidence for men as well.

The relationship of immigrant women's labor supply to the native-born reference group in the basic specification is illustrated in Figure 4a. Women from both high and low fertility source countries work less than their native counterparts upon arrival in the United States (the point estimates of the difference are 294-374 or 27-34% of the mean for all women) and assimilate towards native labor supply with time in the United States. Women from low fertility source countries slightly exceed comparable natives by 6-10 years in the United States; their labor supply remains at or slightly above native levels thereafter. The labor supply of women from high fertility source countries remains below that of comparable natives, but by 21-30 years since migration they have narrowed the hours deficit to 112 hours, or 10 % less. The assimilation profile rises more steeply between arrival and 11-15 years since migration for women from a low fertility source country (349 hours, or 37% of the mean) than for women from a high fertility source country (244 hours, or 26%), a difference that is significant. But for

no other YSM category is the coefficient on the fertility variable significantly different from its coefficient at 0-5 years, and, indeed, after 21-30 years since migration, the hours gap for high versus low fertility origin countries is 117 hours, only marginally more that the arrival gap of 80 hours. For immigrant men, a 309-440 hour deficit relative to comparable natives upon arrival becomes a 191-318 hour advantage by 21-30 years of residence, as labor supply increases fairly steadily and by similar amounts over time in the United States for men from both high and low fertility source countries (Figure 5).

Results in Table 6 enable us to ascertain the role of wages and presence of children in accounting for the differences in the labor supply behavior of women from high and low fertility source countries.[14] Results additionally controlling for wage and nonwage income (Model 2) are fairly similar to those from the basic specification, although the coefficient on the interaction with 11-15 years is now no longer significantly different from 0-5 years. However, when we further add controls for children in the full specification (Model 3), patterns look markedly different, as illustrated in Figure 4b. Hours on arrival are actually higher for women in couples migrating from high fertility countries, although this difference is not significant, and, interestingly, labor supply of women from high and low fertility source countries converges after 6-10 years at about the level for comparable natives. This suggests, perhaps not surprisingly, that the differences between women from these two types of source countries in Models 1 and 2 are associated with differences in family formation patterns. However, after 6-10 years, the profiles diverge with women from low fertility source countries hovering at around the native levels, while the annual hours of women from high fertility source countries progressively decrease relative to both immigrants from low fertility source countries and comparable natives. While the hours differences between immigrants from high and low fertility countries for given YSM categories are not statistically significant for YSM categories less than 21-30, the difference at 21-30 years is large (144 hours) and statistically significant.

[14] As was the case for source country female labor supply, the results for men in Table 7 and Figure 5 are virtually unchanged when we control for wages and nonlabor income (Model 2) or additionally for children (Model 3).

The pattern of labor supply with years since migration for women from high fertility source countries provides some limited evidence in favor of the family migration model in Model 3, which controls for current fertility (as well as wages and nonlabor income). It suggests that, after assisting with family income and their husbands' job-related investments, women from high fertility source countries may take advantage of their families' growing financial stability to scale back more in line with traditional patterns. That this pattern should emerge only after controlling for the presence of children may reflect offsetting effects of source country fertility. On the one hand, higher source country fertility raises the number of children and thus lowers hours worked when children are not controlled for. On the other hand, it may be indicative of more traditional gender roles that make adherence to the family migration model more likely, but this adherence can only be observed once we control for the presence and ages of children.

Even focusing on the results for Model 3, however, the evidence in support of the family migration model is mixed. The profile initially slopes upward even for women migrating from high fertility countries, a finding counter to the strong version of the family migration model, although perhaps reflecting the impact of initial disruption that lowers labor supply for women from both high and low fertility source countries. In addition, even though work hours of women from high fertility source countries decline after 6-10 years of residence, the immigrant-native hours gap for this group always remains smaller than it was upon arrival in the United States. Moreover, the family investment model postulates that childbearing would be postponed to accommodate the need for wives' financial contributions and that does not seem the case here. Further, the male profiles are virtually the same whether or not we control for the children variables (results not shown). Thus, there is no evidence that men's investment behavior is affected by home country fertility. Rather, as in the case of the models with source country interactions excluded, men coming from low fertility source countries work more than those coming from high fertility source countries, whether or not we control for wages, nonlabor income and number of children. As mentioned earlier, low home country fertility may also be a proxy for work orientation in addition to its potential value as an indicator of gender roles. Our

findings for males suggest some caution in interpreting the results for women as indicators of traditional gender roles in the source country.

In addition to the effect of traditional gender roles (i.e. relative female activity rates and fertility), Tables 6 and 7 show some interesting effects of other source country characteristics on immigrants' labor supply assimilation profiles. We focus our discussion on the basic specification (Model 1). First, coming from a country where English is an official language has large, statistically significant positive effects on both women's and men's labor supply on arrival: 244 hours for women (26% of the immigrant mean) and 370 hours for men (39% of the immigrant mean). For both men and women, this difference falls dramatically. For men, the interactions with YSM are no longer significant after 10 years in the United States; for women the interactions remain significant until the 21-30 years YSM category. The impact of coming from an English speaking country also shows a pattern of positive effects on men's and women's labor supply that decline with time in the United States, although coefficients are smaller and less often significant.

Second, for both men and women, coming from a longer distance significantly reduces work hours at arrival. For example, increasing the distance by 5000 miles (roughly the difference between Canada's distance and Japan's distance to the United States) reduces women's work hours at arrival by 145 and men's by 175. However, for both men and women, the interactions of distance with YSM category are no longer significant after 0-5 years and are smaller in absolute value than the effect at arrival. Thus, coming from a long distance appears to produce an initial disruption for both men and women that is made up after a relatively short time in the United States. Since distance does not affect long-run work hours for either men or women (or, from Table 5, the average work hours of immigrant men or women), it does not appear to be an indicator of positive or negative selection with regard to work behavior. It is also worth noting that refugee proportion has a negative effect on labor supply that is substantial and significant for men. The effect for males falls in magnitude from -431 at arrival to -215 after 21-30 years, suggesting the disruptive effects of leaving as a refugee (as argued earlier);

however, this difference (between the effect at arrival and at 21-30 years) is not statistically significant.

Third, the assimilation profiles differ in interesting ways by level of schooling. For both men and women, the immigrant-native gap in work hours at arrival (i.e. immigrant hours minus native hours, all else equal) is much more negative for immigrants with at least a high school degree than it is for high school dropouts, and these differences are large and highly significant. Moreover, the gap increases in magnitude with level of education and is largest for college graduates. For each education category, these effects relative to high school dropouts diminish in magnitude with time in the United States, indicating steeper assimilation profiles relative to natives for the more highly educated.[15] It is possible that the labor market is more specialized for those with higher levels of schooling and that it therefore takes a longer period of job search or a need for additional training for these workers to locate an acceptable job. Since these patterns hold up even after controlling for wages, these do not appear to be merely labor supply responses. Additionally, the more specialized labor markets for those with higher levels of schooling may require additional visas not needed in more menial jobs, again potentially explaining the lower relative work hours at arrival and steeper slopes for the more highly educated.

D. Controlling for Selective Return Migration and Other Robustness Checks

The foregoing figures and tables show important effects of source country characteristics on the time path of immigrants' labor supply. However, it is well known that the sample of immigrants is likely to change with time in the United States. On the one hand, if the least

[15] Differences relative to 0-5 years since migration are significant in all cases for men and for those with a college education (some college and graduates) for women. To calibrate the education effects in Tables 6a and 7 relative to natives, we may, as in Figure 2, evaluate the immigrant-native difference in work hours for high school dropouts for immigrant women married to immigrant men who came to the US from the same country and at the same time, assuming the sample averages for the cohort arrival dummies and the source country characteristics. These differences for women (men) are: 0-5: -146 (-136); 6-10: 57 (137); 11-15: 72 (180); 16-20: 48 (210); 21-30: .3 (297).

successful immigrants return to their native countries, then we may observe a spurious positive relationship between YSM and labor supply. On the other hand, the most successful immigrants may have a target income level and return home when they have reached the target, implying a spurious negative relationship between YSM and labor market success. In addition to the effect of labor market success on emigration, there may also be country-specific effects on the decision to emigrate (Jasso and Rosenzweig 1982), which could in principle further confound our attempt to estimate the effect of source country variables on immigrant assimilation. Furthermore, subsequent return migration to the United States on the part of some immigrants plausibly raises similar selection issues and also induces response error on the Census questions designed to ascertain how long immigrants have been in the United States (Redstone and Massey 2004). Using longitudinal data on individual immigrants, Lubotsky (2007) finds that earnings profiles estimated using independent cross sections, such as those presented here for labor supply, are steeper than those using longitudinal data. This suggests that the positive bias on Census-based profiles outweighs the negative bias. Such considerations could also affect our estimates of the impact of source country characteristics if there are systematic differences across source countries in the propensity for return migration.

We addressed the issue of the possible selection bias due to return migration by using available data on emigration rates by source country (see the Data Appendix). Specifically, we included the male and female 1980-1990 emigration rate in our labor supply models, where, for example, for women we include the female emigration rate to one's source country and the male emigration rate to one's spouse's source country. In such models, we now compare assimilation profiles for immigrants coming from different types of source countries but where the return migration propensity is the same. While the return migration rate can clearly be affected by actual labor supply behavior, these additional variables in principle allow us to compare comparably-selected samples of migrants. The basic results for source country labor supply and fertility were very similar to those reported above. Moreover, the return migration effect (i.e. the sum of the own and spouse coefficients) was always positive for both men and women and was

significant some of the time for women. These point estimates suggest that the least successful migrants are more likely to emigrate, consistent with Lubotsky's (2007) results. Thus, our results are robust with respect to this control for return migration selectivity.

Another issue concerns our focus on married individuals. This raises the possibility that our results may be affected by self-selection into marriage and, since the incidence of marriage was declining over this period, changes in this selectivity over time (Blau and Kahn 2007). In this respect it is reassuring that our basic conclusions about the impact of home country characteristics on women's labor supply assimilation profiles were similar when we used the sample of all immigrants (see results for the basic specification in Table A-5).[16] Using this larger sample addresses concerns about possible selection bias when we confine the analysis to married individuals.

In another robustness check, for comparison purposes, we examined results using current (rather than arrival) home country characteristics in some of our analyses. Our conclusions were very similar under either specification, suggesting that the relative values of the source country characteristics are fairly constant over time. Finally, results were also broadly similar when we performed separate pairwise analyses for 1980-90 and 1990-2000, rather than pooling all three years as we do in our main specifications.

V. Conclusions

In this paper, we began by describing the changing labor supply of the married immigrant population in comparison to natives over the 1980-2000 period. We found that a modest female immigrant shortfall in work hours (vs. natives) in 1980 grew substantially over the next twenty years. In contrast, among men, the small immigrant work hours deficit grew only slightly. Thus,

[16] There are some small differences worth mentioning. The coefficients on the source country fertility interactions in the sample of all immigrants are generally negative but smaller in magnitude than for the married sample, and never significant. In addition, the coefficients on the English speaking variable while positive for both groups are smaller and less often significant for married individuals.

while both immigrant and native women's labor supply both increased absolutely and relative to men's, the gender difference in work hours fell much more for natives than for immigrants.

We then described changes in the characteristics of immigrant source countries at the time of immigrants' arrival in the United States for the stock of immigrants present in the United States over the 1980-2000 period. On average, immigrant women came from countries with considerably lower relative female labor force participation than prevailed in the United States at the same time, and there was a sizable increase in the US-source country gap in relative female participation over the period. This was principally related to larger female participation increases in the United States than within immigrant source countries, rather than to a shift in the mix of source countries. Home country fertility rates were also substantially higher than in the United States and fell at a slower relative rate for the stock of immigrants, although they declined more sharply for recent arrivals. Immigrants also came from countries with considerably lower GDP per capita and secondary school enrollment, and shifts in the mix of source countries contributed to these differences. In addition, source countries were more likely to be English speaking in 1980 than in 2000, although immigrants in 2000 were more likely to come from countries that, while not English-speaking, used English as an official language, and secondary school enrollment rates rose in source countries relative to the United States. On most indicators, however, the US immigrant population is increasingly from countries where women are either less well prepared for, or have weaker preferences for, market work.

We then turned to a detailed examination of the assimilation of married immigrant women into the US labor market. We found that, controlling for personal characteristics, women from high female labor supply countries work more than those from low female labor supply source countries and that this gap is substantial and roughly constant with length of residence in the United States. The work hours of women from both types of source countries do however assimilate dramatically over time relative to comparable natives. Women from high female labor supply countries (at the 75th percentile of the distribution) work roughly the same number of hours as natives after 6-10 years and work at or above the native levels thereafter. Women

migrating from low female labor supply countries (at the 25th percentile of the distribution) have reduced their deficit to 126 hours (12%) by the 21-30 year mark. These findings suggest that growing up in a country with less traditional gender roles facilitates the labor market assimilation of women, perhaps by giving them higher (unmeasured) human capital levels or a stronger work orientation. Men's labor supply levels and profile slopes are unaffected by source country female labor supply, results that suggest that the female findings reflect notions of gender roles rather than overall work orientation.

Findings for another indicator of traditional gender roles, source country fertility rates, are broadly similar, with substantial and persistent negative effects of source country fertility on the labor supply of female immigrants, except when we control for presence of children. When we do control for children, we obtain some partial support for the family migration model: labor supply of women from high and low fertility source countries converges after 6-10 years at about the level for comparable natives, but then diverges, with work hours of women from low fertility source countries hovering at around the native levels, while work hours of women from high fertility source countries progressively decrease relative to both immigrants from low fertility source countries and comparable natives. Despite this, women from high fertility countries continue to work more than they did on arrival, in contrast to a strong version of the family migration model which predicts maximum female work hours upon arrival in the United States.

The nature of gender roles in source countries for immigrants to the United States is changing in potentially offsetting ways. On the one hand, fertility rates are falling dramatically elsewhere relative to the United States, potentially raising immigrant women's labor supply here. On the other hand, while female labor force participation relative to men's grew around the world between 1980 and 2000, it grew even faster in the United States. These trends could potentially widen the relative gap in labor supply between native and immigrant women. However, more recently female participation rates in the United States have leveled off, suggestion that source country rates may begin to catch up to the US rate. Thus, the future

assimilation of immigrant women into the US labor market will depend on the strength of these opposing forces.

Data Appendix

Individual Variables

Data were obtained from the 1980, 1990 and 2000 five percent extracts of the US Census. Those people born in the United States or a US territory or possession, or born abroad to an American parent are classified as natives; others are classified as immigrants. All immigrants in the extracts are included, along with all natives who were married to immigrants. A 4% random sample was taken of the remaining observations, with the 1990 and 2000 Census person weights multiplied by 25; comparable weights were created for the 1980 Census for which no Census weights are provided. (Hence, we have a 1/500 sample of natives.) To ensure that each year was given equal weight, the adjusted weights were then divided by the sum of these weights over all observations in a given year.

For the married sample, husband and wife records were matched, with observations dropped if either spouse was not in the 18-65 age range, had zero weight, had allocated annual weeks worked, allocated hours worked per week, allocated birthplace or year of immigration, or had missing source country information. For the total sample, observations were dropped if a person was not in the 18-65 age range; had zero weight; had allocated annual weeks worked, allocated hours worked per week, allocated birthplace or year of immigration, or had missing source country information.

Since we focus on adult immigrants, the preceding samples were further restricted by excluding immigrants who arrived in the United States before age 18. Data on arrival period in the 1980 and 1990 Censuses is in interval form. For each interval, we only include immigrants for whom we can definitely conclude that they were at least 18 years old on arrival in the United States. That is, if the immigrant arrived between A_0 and A_1, we take only individuals for whom $(A_0 - BY) \geq 18$, where BY is birth year as calculated from the individual's reported age. For comparability, similar procedures were followed for the 2000 Census data. This also required us to exclude individuals in the open-ended arrival category for 1980 and 1990 (i.e., pre-1950), since we cannot ascertain whether such individuals migrated as children or adults. The resulting maximum years since migration is thus 30 for 1980, and, for comparability, a maximum of 30 years since migration is also set for 1990 and 2000. We define sets of cohort of arrival and years since migration variables dummies that are consistent across the three Censuses. The cohort of arrival dummies include all but one possible arrival cohort: 1995-2000, 1991-94, 1985-90, 1980-84, 1975-79, 1970-74, 1965-69, and 1960-64 (1950-59 is the omitted category). The full set of years since migration dummies is included: 0-5, 6-10, 11-15, 16-20, and 21-30 years in the US.

Values for the highest grade completed by husbands and wives in the 1990 and 2000 samples were assigned using Jaeger's (1997) suggested correspondence. Annual hours worked were defined as the product of the number of weeks worked (WKSWORK) in the previous year and the number of hours usually worked (UHRSWK) during those weeks; a respondent was considered to be in the workforce if UHRSWK>0.

All nominal earnings and income variables were converted into 2000 dollars using the National Income and Product Account price index for personal consumption expenditures. All top-coded values of total wage and salary earnings (INCWAGE) in each year were multiplied by 1.45. (Our correction factor was midway between the 1.4 value used by Card and DiNardo (2002) and Autor, Katz and Kearney's (2004) value of 1.5.) The Census top-coded value for INCWAGE was $75,000 in 1980, $140,000 in 1990 and $175,000 in 2000. lnw was equal to the log of the modified value of INCWAGE divided by the product of WKSWORK and HRSWK. All top- and bottom-coded values of the interest, divided and rental income variable (INCINVST) in each year were also multiplied by 1.45.

Flags were generated for any observation that had an allocated value for any variable used in creating lnw, non-zero self-employment income or an allocated value for self-employment income or a wage value less than $1 or greater than $200 (in 2000 dollars). An imputed wage variable was created, using actual wages unless the individual was not employed or the calculated wage value was not valid, in which case predicted values were used from separate log wage regressions for each combination of gender, Census year, and low/high work weeks (using a 20 week cut-off). The low work week regression was used for those who did not work, while actual weeks determined the weeks cutoff for those whose wage was not valid. The regressors used were age, age squared, 3 education categories and 3 race/Hispanic categories, 8 region categories and dummy variables for the six states with the largest immigrant populations (California, Florida, Illinois, New Jersey, New York and Texas), as well as the years since migration, and years since migration*source country variables specified in the text. Spouse values for these variables were also included as regressors in those specifications where we consider married men and women only.

Source Country Variables

The source country characteristics described below were collected at five-year intervals for the period 1950 to 2000. To form a consistent list of source countries, we combine some countries which were not available in some Census years (e.g. subsets of countries in Africa, the Pacific Islands, and the West Indies) and countries that split or combined between 1980 and 2000 (e.g. the former USSR countries, East and West Germany, former Czechoslovakia, and former Yugoslavia). Some countries were combined because data on source country characteristics were only available in a combined form. The data set includes 106 source countries in total. The characteristics for each composite group are the average values over constituent countries weighted by each country's population age 18 to 65 from the 2000 Census 1% extract. Due to missing values of source country variables in some years, we have, in cases, interpolated for intervening years, used earliest (most recent) values for preceding (subsequent) years, and imputed source country characteristics from neighboring countries. Source country characteristics were matched to arrival cohorts as follows: 1950-1959: 1955; 1960-1964: 1960; 1965-1969: 1965; 1970-1974: 1970; 1975-1979: 1975; 1980-1984: 1980; 1985-1990: 1985; 1991-1994: 1990; 1995-2000: 1995.

Source Country Characteristics: Definitions and Sources

Variable	Description
Fertility	Total fertility rate: the number of children that would be born per woman, assuming no female mortality at child bearing ages and the age-specific fertility rates of a specified country and reference period. The data are available between 1955 and 2000 at five year intervals. Source: United Nations Statistics Division, Series 13700 (2006).
GDP per Capita	GDP per capita (1995 US $): GDP is an aggregate measure of production equal to the sum of the gross values added of all resident institutional units engaged in production. The total population of a country may comprise either all usual residents of the country (de jure population) or all persons present in the country (de facto population) at the time of the census. The data are available annually between 1960 and 2000. Source: United Nations Statistics Division, Series 29918 and 13660 (2006), with supplemental data from U.S. Arms and Control Disarmament Agency and U.S. Department of State,*World Military Expenditures and Arms Transfers* (various issues).
Female/Male Activity Rate	Female LFP / Male LFP: Economically active population ("usually active" or "currently active" (currently active is also known as "the labor force")) comprises all persons who furnish the supply of labor for the production of economic goods and services (employed and unemployed, including those seeking work for the first time), as defined by the System of National Accounts (SNA). The rates are calculated for individuals age 15 and up. The data are available between 1950 and 2000 at ten year intervals and in 1995. Source: United Nations Statistics Division, Series 4270 and 4230 (2006).
Refugee Proportion	Refugees as a proportion of total immigrants. The data are available between 1950 and 2000 at five year intervals. Source: Statistical Yearbook of the Immigration and Naturalization Service, U.S. Department of Justice (various years)..
Primary School Enrollment Rate	Female or male primary school enrollment rate: Gross enrollment ratio is the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to that level of education in question. The World Bank data are available in 1970, 1975, 1980, 1985, and 1990-1998; Barro-Lee data are available between 1960 and 1985 at five year intervals. Source: World Bank World Development Indicators CD-Rom, Series SE.PRM.ENRR.FE (2002), with supplemental data from Barro and Lee (1994).
Secondary School Enrollment Rate	Female or male secondary school enrollment rate: Gross enrollment ratio is the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to that level of education in question. The World Bank data are available in 1970, 1975, 1980, 1985, and 1990-1998; Barro-Lee data are available between 1960 and 1985 at five year intervals. Source: World Bank World Development Indicators CD-Rom, Series SE.SEC.ENRR.FE (2002), with supplemental data from Barro and Lee (1994).
English-Speaking Country	English speaking country. Source: Bleakley and Chin (2004); their data were from the *World Almanac and Book of Facts* (1999).
English Official Language	English is an official language of the country (for non-English-Speaking countries). Source: Bleakley and Chin (2004); their data were from the *World Almanac and Book of Facts* (1999).
Emigration Rate	Annual emigration rate (overall and by sex): the annual number of emigrants divided by the average of the 1980 and 1990 immigrant populations. Source: Annual emigration estimates by country and sex from Ahmed and Robinson (1994).
Distance to US	Distance to the U.S. (miles): computed as the distance between the capital of the foreign country and the closest of three U.S. gateways – New York, Los Angeles or Miami. See http://www.indo.com/distance/ and http://www.cia.gov/cia/publications/factbook

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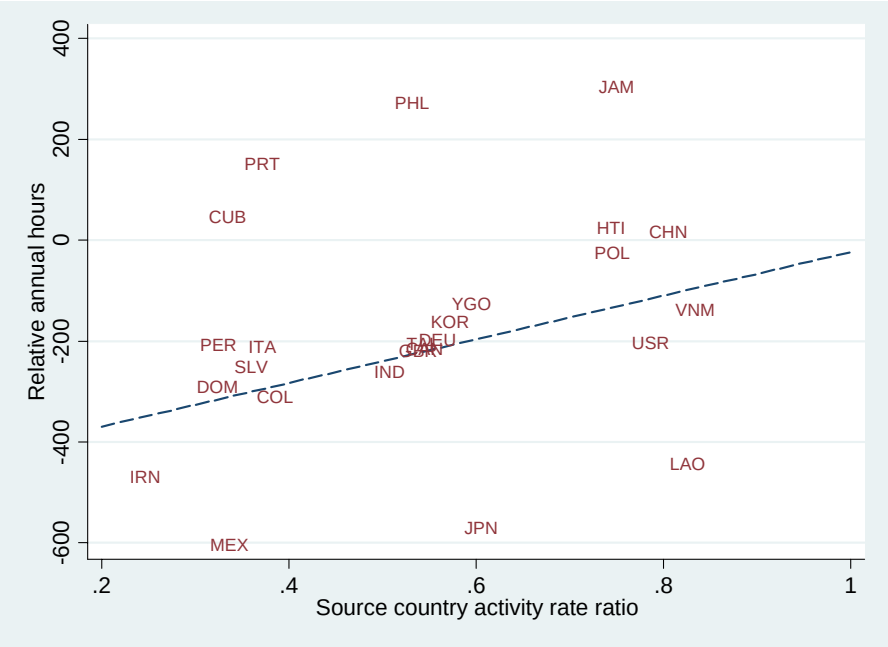
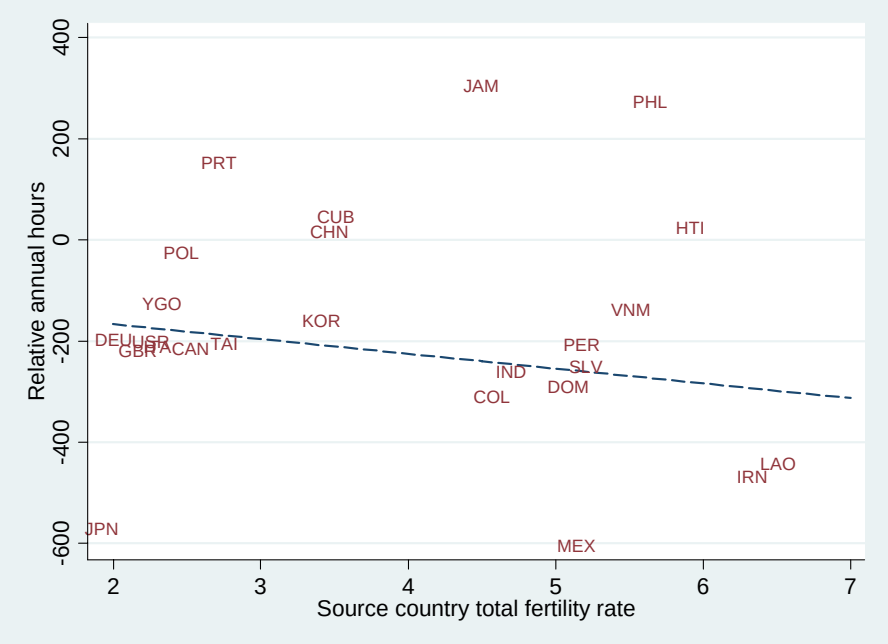
Figure 1a: Immigrant Annual Hours Relative to Natives by Source Country Activity Rate Ratio[a]



[a]The trend line has a slope of 432.64 with a standard error of 121.74.

Figure 1b: Immigrant Annual Hours Relative to Natives by Source Country Fertility Rate[a]



[a]The trend line has a slope of -29.22 with a standard error of 14.60.

Notes: The annual hours of immigrant women in the US relative to natives are measured by the coefficients on country fixed effects from a first-stage regression estimated on pooled 1980, 1990 and 2000 Census data of annual hours on age, age^2, two year dummies, and country fixed effects (for all 106 countries). The trend line shown in each figure is estimated weighting observations by the inverse of the standard errors from the first-stage regression. Source country variables are measured at the time of immigrant arrival and are averaged across Censuses for each immigrant source country. The data points in each figure illustrate the estimated relationship for the top 25 source countries (countries are ranked by their weighted share of the sample of married women across all years, with only adult immigrants included).

Figure 2: Assimilation Profiles, Annual Work Hours, Married Adult Immigrant Women, by Source Country Relative Female Activity Rate, Basic Specification (Model 1)

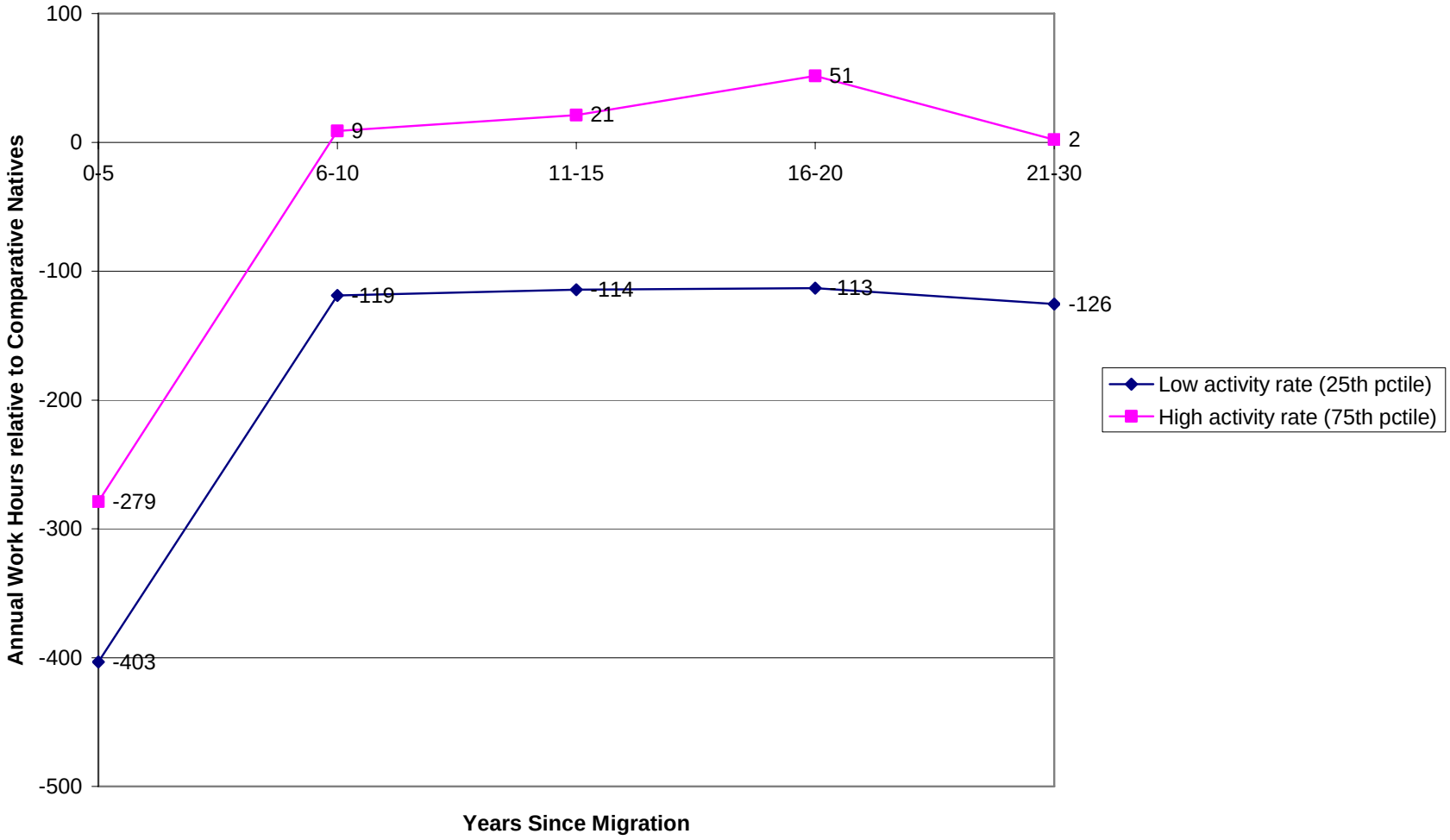


Figure 3: Assimilation Profiles, Annual Work Hours, Married Adult Immigrant Men, by Female Relative Activity Rate, Basic Specification (Model 1)

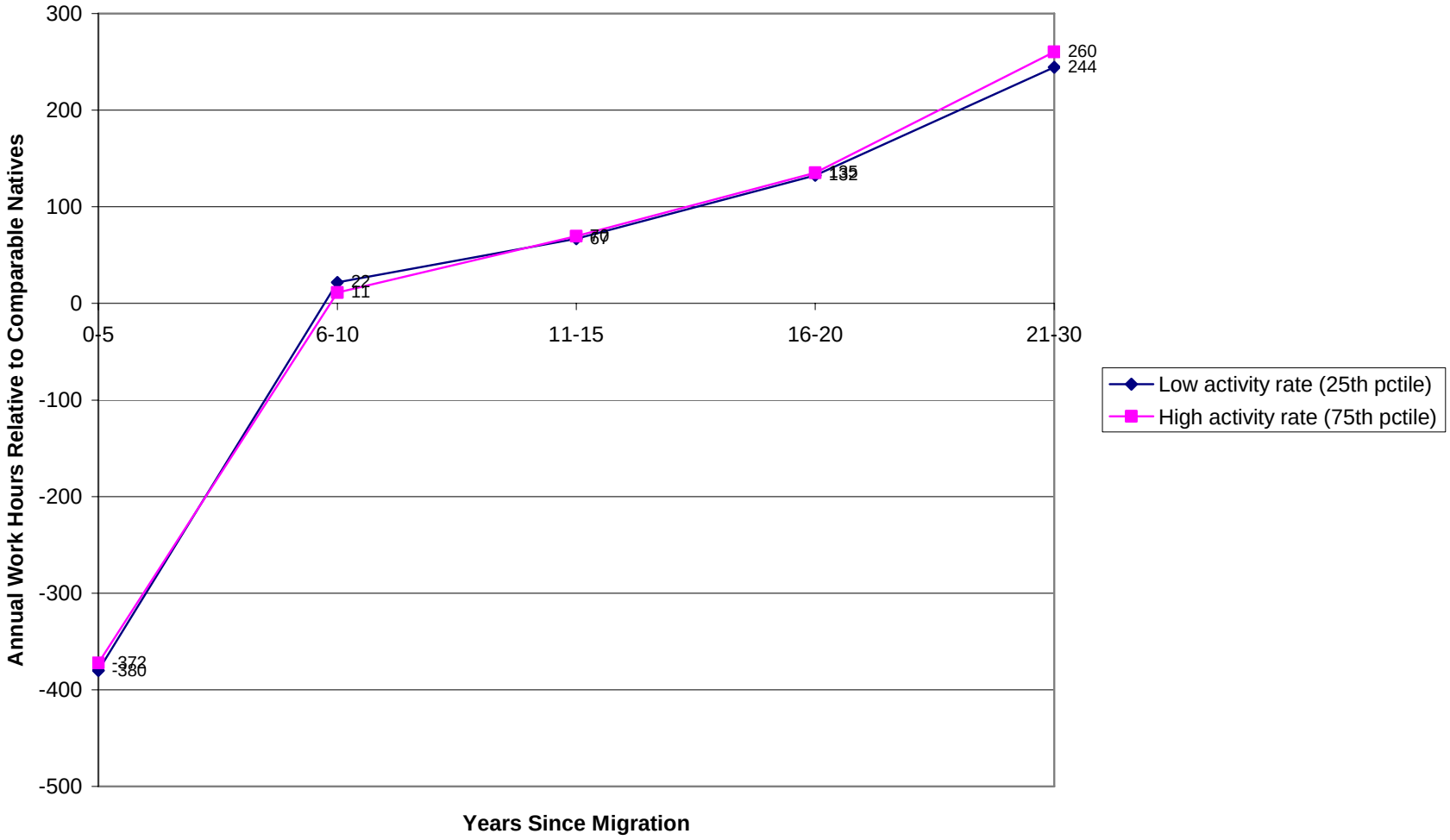


Figure 4a: Assimilation Profiles, Annual Work Hours, Married Adult Immigrant Women, by Source Country Fertility Rate, Basic Specification (Model 1)

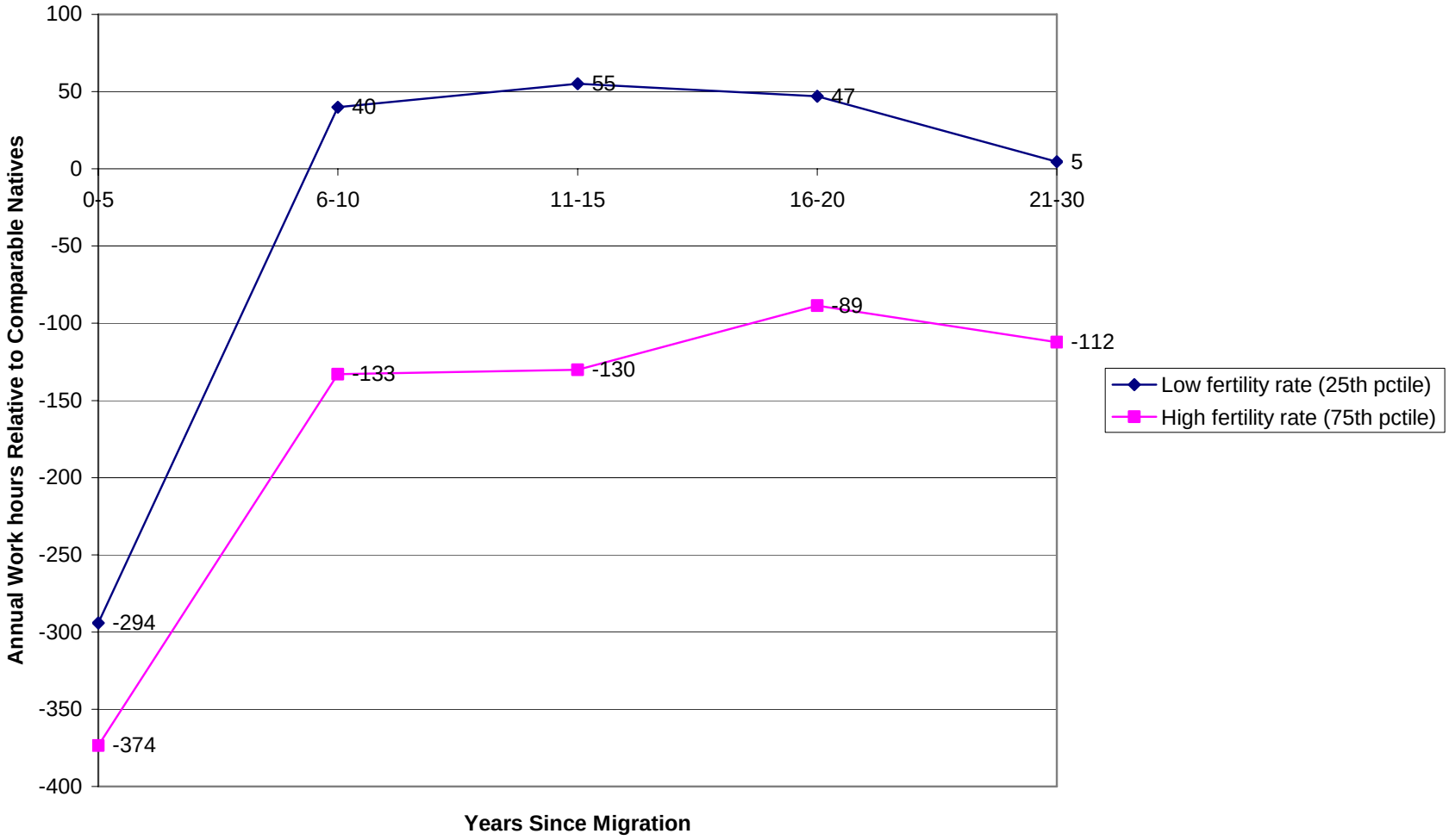


Figure 4b: Assimilation Profiles, Annual Work Hours, Married Adult Immigrant Women, by Source Country Fertility Rate, Full Specification (Model 3)

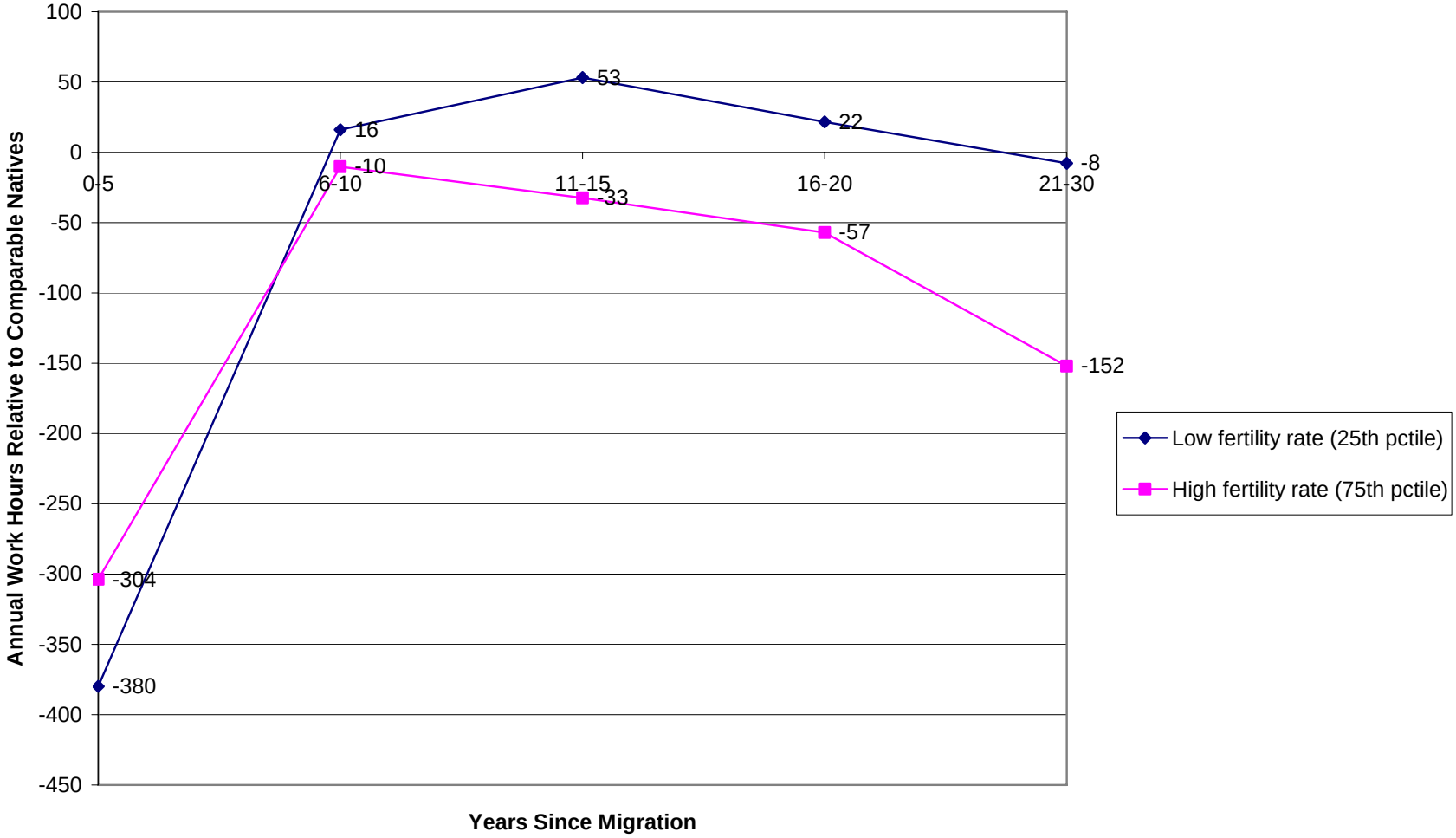


Figure 5: Assimilation Profiles, Annual Work Hours, Married Adult Immigrant Men, by Source Country Fertility Rate, Basic Specification (Model 1)

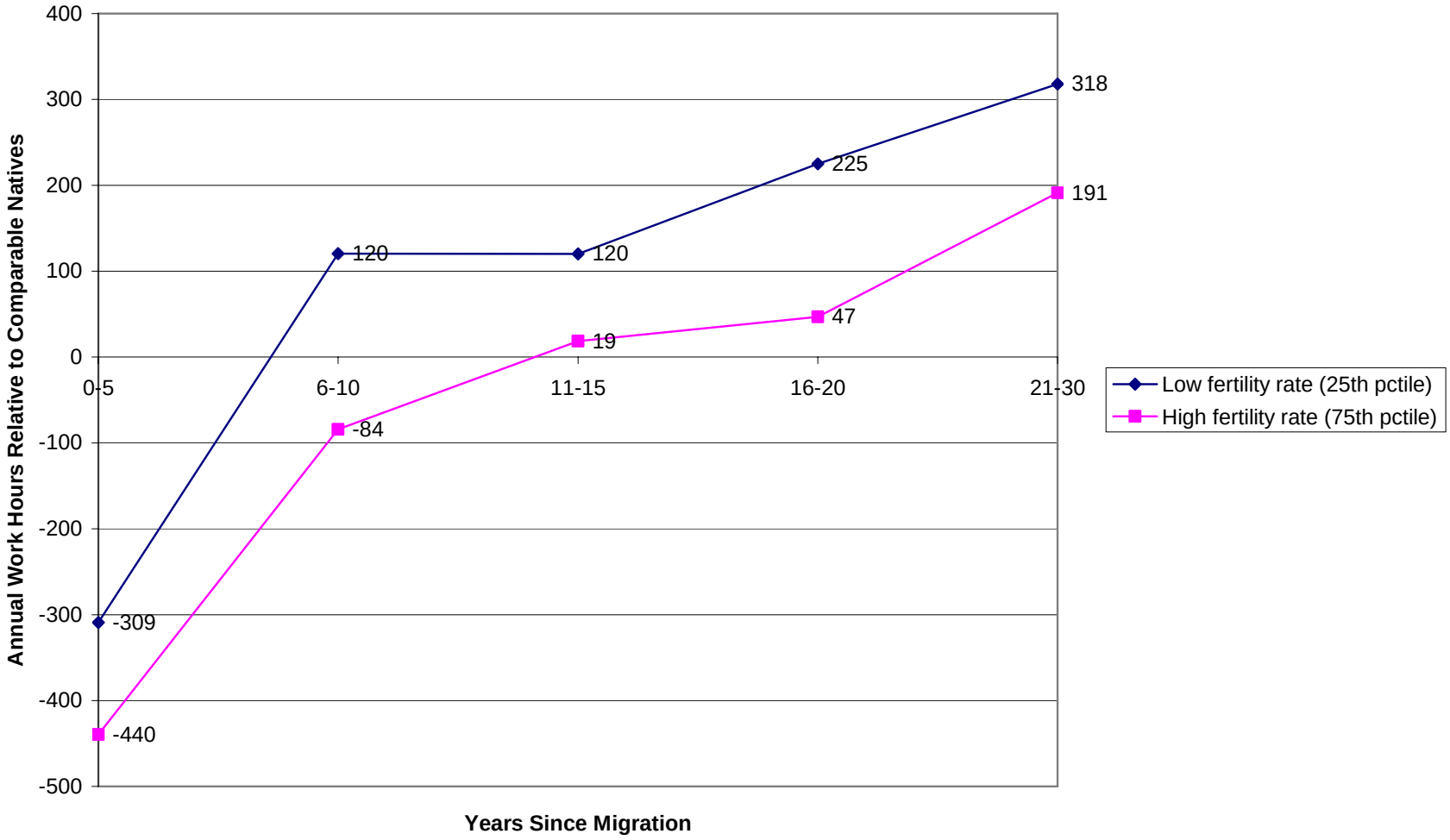


Table 1: Mean Values, Selected Variables for Married Immigrant Women, Recent Immigrant Women and US Native Women[a]

	1980			1990			2000		
Variables	All Immigrant Women	Recent Immigrant Women	US-Born Women	All Immigrant Women	Recent Immigrant Women	US-Born Women	All Immigrant Women	Recent Immigrant Women	US-Born Women
Annual Work Hours	822.51	636.91	887.13	975.75	660.07	1170.09	983.06	650.89	1301.98
Participated in Labor Market	0.542	0.460	0.608	0.590	0.459	0.729	0.578	0.435	0.758
Number of Children Under 18	1.401	1.495	1.157	1.296	1.258	1.039	1.220	1.136	1.043
Speaks English Well	0.697	0.583	0.996	0.671	0.569	0.995	0.652	0.578	0.995
Ln Hourly Earnings	2.255	2.126	2.257	2.330	2.172	2.366	2.454	2.313	2.566
Age	40.814	34.268	39.231	40.857	34.745	39.899	40.942	35.200	41.574
High School Dropout	0.395	0.382	0.221	0.305	0.272	0.113	0.249	0.221	0.061
Exactly High School Degree	0.286	0.257	0.470	0.269	0.265	0.389	0.247	0.236	0.312
Some College	0.148	0.157	0.177	0.191	0.191	0.297	0.184	0.175	0.340
College Graduate	0.171	0.204	0.133	0.235	0.272	0.201	0.320	0.368	0.287
White, Nonhispanic	0.418	0.310	0.891	0.268	0.259	0.886	0.229	0.258	0.867
Black, Nonhispanic	0.037	0.037	0.066	0.046	0.040	0.064	0.051	0.045	0.065
Hispanic	0.277	0.251	0.032	0.301	0.294	0.038	0.316	0.324	0.046
Other Ethnicity	0.268	0.402	0.010	0.386	0.408	0.013	0.404	0.373	0.022
New England	0.061	0.048	0.053	0.050	0.052	0.052	0.045	0.049	0.050
Middle Atlantic	0.236	0.197	0.152	0.195	0.193	0.138	0.190	0.168	0.129
East North Central	0.122	0.113	0.196	0.089	0.086	0.184	0.095	0.114	0.176
West North Central	0.024	0.028	0.086	0.020	0.024	0.082	0.027	0.036	0.083
South Atlantic	0.135	0.119	0.164	0.150	0.148	0.180	0.170	0.193	0.184
East South Central	0.013	0.016	0.071	0.011	0.012	0.070	0.015	0.020	0.074
West South Central	0.077	0.098	0.105	0.090	0.081	0.109	0.104	0.111	0.113
Mountain	0.036	0.038	0.054	0.036	0.039	0.058	0.054	0.066	0.070
Pacific	0.295	0.343	0.120	0.359	0.365	0.126	0.301	0.242	0.121
California	0.254	0.297	0.083	0.320	0.325	0.086	0.258	0.199	0.078
Florida	0.072	0.050	0.038	0.078	0.069	0.045	0.080	0.085	0.046
Texas	0.063	0.079	0.061	0.078	0.070	0.067	0.093	0.100	0.071
New York	0.151	0.129	0.064	0.123	0.124	0.056	0.114	0.096	0.052
Illinois	0.059	0.059	0.048	0.048	0.044	0.044	0.050	0.054	0.039
New Jersey	0.061	0.045	0.031	0.053	0.052	0.029	0.056	0.052	0.026
Sample Size	69431	20815	76940	85810	25293	76277	111283	34499	71198

[a] Immigrants include only adult immigrants.

Note: Recent immigrants are defined as those who arrived in the US within the last five years. Earnings are measured for wage and salary workers only, and annual work hours include those with zero hours. Immigrant samples include only those from countries with observations in each Census year.

Table 2: Mean Values, Selected Variables for Married Immigrant Men, Recent Immigrant Men and US Native Men[a]

	1980			1990			2000		
Variable	All Immigrant Men	Recent Immigrant Men	US-Born Men	All Immigrant Men	Recent Immigrant Men	US-Born Men	All Immigrant Men	Recent Immigrant Men	US-Born Men
Annual Work Hours	1823.52	1557.99	1969.47	1829.00	1530.06	2011.46	1855.07	1635.87	2052.51
Participated in Labor Market	0.905	0.840	0.922	0.888	0.812	0.921	0.889	0.847	0.912
Speaks English Well	0.731	0.664	0.996	0.719	0.645	0.996	0.704	0.655	0.996
Ln Hourly Earnings	2.712	2.525	2.792	2.692	2.534	2.824	2.754	2.703	2.935
Age	43.617	37.520	41.755	43.336	37.947	42.218	43.521	37.936	43.658
High School Dropout	0.383	0.325	0.248	0.290	0.241	0.133	0.238	0.185	0.081
Exactly High School Degree	0.191	0.180	0.366	0.199	0.202	0.327	0.211	0.210	0.300
Some College	0.130	0.152	0.174	0.174	0.170	0.282	0.159	0.138	0.306
College Graduate	0.296	0.343	0.212	0.338	0.387	0.258	0.392	0.466	0.314
White, Nonhispanic	0.407	0.337	0.891	0.274	0.295	0.884	0.240	0.299	0.867
Black, Nonhispanic	0.050	0.048	0.067	0.058	0.049	0.067	0.061	0.047	0.069
Hispanic	0.307	0.250	0.031	0.319	0.283	0.036	0.327	0.307	0.044
Other Ethnicity	0.236	0.365	0.011	0.348	0.373	0.012	0.372	0.347	0.020
New England	0.063	0.052	0.053	0.053	0.057	0.052	0.047	0.052	0.049
Middle Atlantic	0.264	0.208	0.151	0.210	0.210	0.138	0.201	0.171	0.128
East North Central	0.129	0.113	0.195	0.093	0.088	0.184	0.099	0.118	0.175
West North Central	0.020	0.028	0.085	0.018	0.023	0.082	0.026	0.037	0.083
South Atlantic	0.124	0.113	0.164	0.144	0.148	0.180	0.166	0.197	0.185
East South Central	0.008	0.013	0.071	0.008	0.011	0.070	0.014	0.021	0.074
West South Central	0.070	0.100	0.106	0.089	0.073	0.110	0.104	0.110	0.113
Mountain	0.030	0.034	0.054	0.032	0.036	0.059	0.051	0.065	0.070
Pacific	0.293	0.339	0.121	0.353	0.355	0.127	0.292	0.229	0.122
California	0.262	0.301	0.083	0.321	0.322	0.087	0.256	0.189	0.079
Florida	0.073	0.054	0.039	0.080	0.070	0.045	0.080	0.089	0.046
Texas	0.060	0.081	0.061	0.079	0.064	0.067	0.094	0.099	0.071
New York	0.173	0.137	0.064	0.134	0.135	0.056	0.122	0.096	0.052
Illinois	0.067	0.060	0.048	0.052	0.043	0.044	0.053	0.053	0.039
New Jersey	0.067	0.046	0.031	0.057	0.055	0.029	0.060	0.053	0.026
Sample Size	60259	17184	86112	78441	19872	83646	104866	26829	77615

[a] Immigrants include only adult immigrants.

Note: Recent immigrants are defined as those who arrived in the US within the last five years. Earnings are measured for wage and salary workers only, and annual work hours include those with zero hours. Immigrant samples include only those from countries with observations in each Census year.

Table 3: Mean Values, Selected Source Country Characteristics[a]

	1980		1990		2000	
Variables	Source Countries	United States	Source Countries	United States	Source Countries	United States
A. All Married Immigrant Women						
Total Fertility Rate	4.473	2.817	4.332	2.167	3.663	1.957
GDP per capita (1995 US $)	4768.349	16807.340	4557.314	20900.160	4705.619	25786.900
Female LFP/Male LFP	0.445	0.513	0.509	0.617	0.566	0.716
Percentage Refugees	0.061	0.000	0.097	0.000	0.117	0.000
Primary School Enrollment Rate	98.734	100.045	99.599	99.483	100.594	100.400
Secondary School Enrollment Rate	41.565	89.421	49.560	92.612	58.775	94.920
English Speaking Country	0.157	1.000	0.112	1.000	0.091	1.000
English Official Language (non-English Speaking)	0.105	0.000	0.148	0.000	0.169	0.000
Miles from Country	3834.490	0.000	4234.575	0.000	4247.687	0.000
B. Married Recent Immigrant Women						
Total Fertility Rate	4.683	2.020	3.613	1.830	2.922	2.030
GDP per capita (1995 US $)	4749.055	19425.880	5724.865	24730.970	5900.415	29572.390
Female LFP/Male LFP	0.513	0.592	0.559	0.704	0.597	0.782
Percentage Refugees	0.061	0.000	0.119	0.000	0.112	0.000
Primary School Enrollment Rate	98.333	100.045	101.149	98.948	101.560	101.121
Secondary School Enrollment Rate	48.568	90.510	61.189	97.376	68.439	97.248
English Speaking Country	0.123	1.000	0.101	1.000	0.085	1.000
English Official Language (non-English Speaking)	0.141	0.000	0.148	0.000	0.172	0.000
Miles from Country	4523.229	0.000	4376.068	0.000	4159.227	0.000

[a] Immigrants include only adult immigrants.

Note: Source country and US characteristics are measured as of each immigrant's arrival period and averaged across immigrants. For source countries, this yields means weighted by the number of immigrants in each source country-arrival period cell. For US characteristics, this yields means weighted by the number of immigrants in each arrival period cell. Census sampling weights are taken into account. Immigrant samples include only those from countries with observations in each Census year.

Table 4: Mean Values, Selected Source Country Characteristics for Married Immigrant Women, Fixed Country Weights[a]

	1980 Origin Country Weights			1990 Origin Country Weights			2000 Origin Country Weights		
Variables	1980	1990	2000	1980	1990	2000	1980	1990	2000
A. All Married Immigrant Women									
Total Fertility Rate	4.473	3.836	3.055	5.058	4.332	3.515	5.301	4.524	3.663
GDP per capita (1995 US $)	4768.349	6017.644	7919.322	3590.832	4557.314	5915.472	3012.368	3801.015	4705.619
Female LFP/Male LFP	0.445	0.502	0.572	0.457	0.509	0.566	0.464	0.515	0.566
Percentage Refugees	0.061	0.086	0.105	0.054	0.097	0.110	0.057	0.106	0.117
Primary School Enrollment Rate	98.734	101.364	102.551	96.091	99.599	101.514	94.002	98.123	100.594
Secondary School Enrollment Rate	41.565	54.593	70.121	36.691	49.560	62.744	34.683	46.989	58.775
B. Married Recent Immigrant Women									
Total Fertility Rate	4.683	3.548	2.834	4.760	3.613	2.906	4.815	3.636	2.922
GDP per capita (1995 US $)	4749.055	5784.506	7266.150	4662.534	5724.865	7250.200	4197.147	5065.300	5900.415
Female LFP/Male LFP	0.513	0.574	0.621	0.498	0.559	0.606	0.494	0.552	0.597
Percentage Refugees	0.061	0.147	0.118	0.064	0.119	0.086	0.088	0.126	0.112
Primary School Enrollment Rate	98.333	101.251	103.340	97.650	101.149	103.200	95.963	100.182	101.560
Secondary School Enrollment Rate	48.568	62.239	75.192	47.067	61.189	73.549	44.973	58.296	68.439

[a] Immigrants include only adult immigrants.

Note: Source country characteristics are measured as of each immigrant's arrival date and averaged across immigrants. Country weights are fixed by giving each immigrant a weight for her source country corresponding to the indicated year's frequency of immigrants from that source country. Census sampling weights are taken into account. Immigrant samples include only those from countries with observations in each Census year.

Table 5a: Selected Annual Hours Results Excluding Source Country Interactions, Married Women[a]

Source Country Variables	Own Source Country Effects		Spouse Source Country Effects		Sum of Own and Spouse Source Country Effects	
	coef	(a)se	coef	(a)se	Sum	Significance
1. Basic Specification (OLS)						
Fertility	8.406	18.937	-42.725	15.902	-34.319	0.0962
GDP per Capita	-0.013	0.004	-0.017	0.004	-0.030	0.0000
Female/Male Activity Rate	383.192	74.186	165.891	46.182	549.083	0.0000
Refugee Proportion	53.817	46.578	-143.213	42.257	-89.396	0.0567
Primary School Enrollment Rate	2.434	1.123	0.161	0.631	2.595	0.0390
Secondary School Enrollment Rate	2.227	1.307	-1.042	1.014	1.185	0.3370
English-Speaking Country	66.587	32.468	18.426	27.193	85.013	0.0273
English Official Language, Non-Eng. Speaking	192.843	40.987	21.103	85.784	213.946	0.0211
Miles from Country	-0.011	0.008	-0.007	0.005	-0.018	0.0269
2. Basic Plus Own and Spouse Log Wages and Nonwage Income (IV)						
Fertility	0.094	16.239	-41.785	15.366	-41.691	0.0290
GDP per Capita	-0.013	0.003	-0.012	0.003	-0.025	0.0000
Female/Male Activity Rate	330.814	68.349	179.752	43.886	510.566	0.0000
Refugee Proportion	39.285	44.748	-131.183	37.714	-91.898	0.0505
Primary School Enrollment Rate	2.114	1.003	0.290	0.586	2.404	0.0385
Secondary School Enrollment Rate	1.534	1.118	-1.169	0.886	0.365	0.7290
English-Speaking Country	67.879	29.633	19.870	22.286	87.749	0.0108
English Official Language, Non-Eng. Speaking	174.518	35.272	25.560	68.482	200.078	0.0091
Miles from Country	-0.010	0.007	-0.008	0.004	-0.018	0.0246
3. Basic Plus Own and Spouse Log Wages and Nonwage Income and Children Variables (IV)						
Fertility	18.770	14.572	-22.960	11.344	-4.190	0.8218
GDP per Capita	-0.010	0.003	-0.010	0.003	-0.020	0.0000
Female/Male Activity Rate	326.824	58.083	216.721	34.532	543.545	0.0000
Refugee Proportion	49.239	40.979	-97.775	33.148	-48.536	0.1893
Primary School Enrollment Rate	2.124	0.931	0.285	0.552	2.409	0.0115
Secondary School Enrollment Rate	1.565	1.107	-0.767	0.780	0.798	0.4489
English-Speaking Country	81.466	27.933	0.582	22.422	82.048	0.0095
English Official Language, Non-Eng. Speaking	170.105	35.023	7.548	77.580	177.653	0.0328
Miles from Country	-0.010	0.006	-0.006	0.004	-0.016	0.0162

[a] Immigrants are restricted to adult immigrants only.

Basic Spec. includes own and spouse levels for: cohort dummies, years since migration dummies, 3 educ. dummies, 3 educ. dummies interacted with immigrant status, 3 race/Hispanic origin dummies, age and age squared; 8 region, 6 state and 2 year dummies. Instruments include own and spouse wage decile dummies.

Table 5b: Selected Annual Hours Results Excluding Source Country Interactions, Married Men[a]

Source Country Variables	Own Source Country Effects		Spouse Source Country Effects		Sum of Own and Spouse Source Country Effects	
	coef	(a)se	coef	(a)se	Sum	Significance
1. Basic Specification (OLS)						
Fertility	-24.758	12.435	-17.474	9.250	-42.232	0.0020
GDP per Capita	0.005	0.003	0.002	0.002	0.007	0.0541
Female/Male Activity Rate	56.372	73.822	-3.181	36.970	53.191	0.4834
Refugee %	-163.212	69.689	-151.436	49.466	-314.648	0.0021
Primary School Enrollment Rate	0.850	0.803	0.374	0.568	1.224	0.0925
Secondary School Enrollment Rate	-0.615	0.803	-0.828	0.567	-1.443	0.1193
English-Speaking Country	11.364	29.039	28.045	20.331	39.409	0.2866
English Official Language, Non-Eng. Speaking	103.925	46.448	45.253	35.801	149.178	0.0006
Miles from Country	-0.010	0.007	0.001	0.008	-0.009	0.3076
2. Basic Plus Own and Spouse Log Wages and Nonwage Income (IV)						
Fertility	-18.255	9.290	-26.618	12.956	-44.873	0.0018
GDP per Capita	0.003	0.002	0.006	0.003	0.009	0.0157
Female/Male Activity Rate	-9.348	37.987	63.888	72.843	54.540	0.4635
Refugee %	-165.886	72.260	-152.416	49.256	-318.302	0.0022
Primary School Enrollment Rate	0.272	0.599	0.827	0.770	1.099	0.1231
Secondary School Enrollment Rate	-0.995	0.636	-0.625	0.812	-1.620	0.0923
English-Speaking Country	40.123	21.960	21.277	30.119	61.400	0.1153
English Official Language, Non-Eng. Speaking	44.910	36.173	112.020	49.924	156.930	0.0012
Miles from Country	0.001	0.008	-0.010	0.007	-0.009	0.3664
3. Basic Plus Own and Spouse Log Wages and Nonwage Income and Children Variables (IV)						
Fertility	-18.480	9.333	-27.038	13.000	-45.518	0.0015
GDP per Capita	0.003	0.002	0.006	0.003	0.009	0.0180
Female/Male Activity Rate	-9.388	38.314	63.023	72.995	53.635	0.4718
Refugee %	-165.944	72.078	-151.517	49.318	-317.461	0.0022
Primary School Enrollment Rate	0.277	0.599	0.831	0.772	1.108	0.1207
Secondary School Enrollment Rate	-0.985	0.636	-0.630	0.813	-1.615	0.0933
English-Speaking Country	40.103	22.153	21.417	30.213	61.520	0.1158
English Official Language, Non-Eng. Speaking	44.744	36.249	112.700	50.194	157.444	0.0012
Miles from Country	0.001	0.008	-0.010	0.007	-0.009	0.3671

[a] Immigrants are restricted to adult immigrants only.

Basic Spec. includes own and spouse levels for: cohort dummies, years since migration dummies, 3 educ. dummies, 3 educ. dummies interacted with immigrant status, 3 race/Hispanic origin dummies, age and age squared; 8 region, 6 state and 2 year dummies. Instruments include own and spouse wage decile dummies.

Table 6a: Sum of Own and Spouse Effects on Annual Work Hours for Models Including Source Country Interactions, Married Women, Selected Variables from Basic Specification (Model 1)[a]

Variable	Model 1				
	0-5 years	6-10 years	11-15 years	16-20 years	21-30 years
Fertility rate	-25.304	-55.094	-59.015** †	-43.161*	-37.180*
	(22.885)	(28.913)	(22.251)	(17.860)	(16.456)
GDP per capita	-0.023**	-0.037** ††	-0.050** ††	-0.037** †	-0.026**
	(0.003)	(0.003)	(0.005)	(0.005)	(0.005)
Activity rate ratio	464.656**	476.427**	506.396**	614.289**	476.716**
	(101.376)	(135.245)	(104.232)	(97.070)	(74.214)
Refugee proportion	-122.953	-95.503	-60.999	-58.982	-162.381*
	(79.215)	(107.731)	(70.726)	(55.077)	(65.574)
Primary enrollment rate	1.215	1.474	3.572*	3.850**	3.253**
	(1.619)	(1.576)	(1.374)	(1.221)	(0.971)
Secondary enrollment rate	1.064	1.523	1.095	-0.010	-0.953 †
	(1.622)	(1.869)	(1.285)	(1.058)	(0.915)
English speaking country	145.288*	104.985	78.503	68.430	114.505**
	(59.855)	(53.440)	(44.929)	(42.490)	(26.079)
English official country	244.429*	233.019*	234.421*	156.219*	85.371 ††
	(95.519)	(98.321)	(89.924)	(74.576)	(84.639)
Miles from home country	-0.029**	-0.013 †	-0.017	-0.009 †	0.007 ††
	(0.008)	(0.011)	(0.011)	(0.009)	(0.007)
Immigrant × high school	-137.091**	-133.062**	-125.533**	-86.181*	-98.029**
	(35.078)	(45.883)	(32.783)	(36.473)	(32.893)
Immigrant × some college	-259.760**	-181.136** †	-180.449** †	-92.290* ††	-104.491* ††
	(48.883)	(53.320)	(36.503)	(40.143)	(40.830)
Immigrant × college	-338.209**	-111.660 ††	-139.472** ††	-94.509* ††	-24.270 ††
	(52.404)	(66.698)	(45.391)	(41.807)	(37.817)
Own and sp wage and non-wage income × year	No				
Child dummies	No				
Observations	490939				
R-squared	0.09				

[a] Immigrants are restricted to adult immigrants only.

Notes: Robust standard errors in parentheses. * and ** denote significance from zero at 5% and 1%, respectively. † and †† denote significance from the 0-5 years coefficient at 5% and 1%, respectively. All models also include 8 regional dummies, 6 high immigrant proportion state dummies and own and spouse variables for the following: age, age squared, 3 education dummies, 3 race and Hispanic origin dummies, 5 years-since-migration dummies and 2 year dummies.

Table 6b: Sum of Own and Spouse Effects on Annual Work Hours for Models Including Source Country Interactions, Married Women, Selected Variables from Specification Including Ln Wage and Nonlabor Income (Model 2)[a]

Variable	Years Since Migration				
	0-5 years	6-10 years	11-15 years	16-20 years	21-30 years
Fertility rate	-35.761	-63.228*	-62.173**	-49.897**	-45.891**
	(20.428)	(27.457)	(20.405)	(16.673)	(16.190)
GDP per capita	-0.017**	-0.033** ††	-0.044** ††	-0.033** ††	-0.023**
	(0.002)	(0.003)	(0.004)	(0.005)	(0.005)
Activity rate ratio	382.872**	434.811**	488.943**	576.307**	462.908**
	(85.348)	(129.602)	(97.040)	(96.748)	(73.407)
Refugee proportion	-115.827	-105.183	-66.250	-24.960	-182.389**
	(77.937)	(104.370)	(60.329)	(57.632)	(55.252)
Primary enrollment rate	1.403	1.318	3.186*	3.381**	3.086**
	(1.553)	(1.499)	(1.292)	(1.081)	(0.854)
Secondary enrollment rate	-0.016	0.502	0.286	-0.351	-1.383
	(1.416)	(1.653)	(1.184)	(1.040)	(0.880)
English speaking country	153.699**	110.657*	80.749	71.177	119.713**
	(48.878)	(51.406)	(41.264)	(41.805)	(27.107)
English official country	242.523**	217.199*	211.911*	129.932* †	57.265 ††
	(74.690)	(88.488)	(82.342)	(59.916)	(69.343)
Miles from home country	-0.028**	-0.015	-0.018	-0.011	0.011 ††
	(0.008)	(0.011)	(0.010)	(0.008)	(0.006)
Immigrant × high school	-134.454**	-163.600**	-144.245**	-110.461**	-64.986
	(34.906)	(43.707)	(30.672)	(36.154)	(34.427)
Immigrant × some college	-211.607**	-190.188**	-194.923**	-95.992* ††	-73.796 ††
	(47.695)	(50.757)	(34.710)	(39.568)	(38.947)
Immigrant × college	-224.862**	-61.819 ††	-107.613* ††	-51.142 ††	97.271* ††
	(49.916)	(61.285)	(42.240)	(41.172)	(38.680)
Own and sp wage and non-wage income × year			Yes		
Child dummies			No		
Observations			490939		
R-squared			0.13		

[a] Immigrants are restricted to adult immigrants only.

Notes: Robust standard errors in parentheses. * and ** denote significance from zero at 5% and 1%, respectively. † and †† denote significance from the 0-5 years coefficient at 5% and 1%, respectively. All models also include 8 regional dummies, 6 high immigrant proportion state dummies and own and spouse variables for the following: age, age squared, 3 education dummies, 3 race and Hispanic origin dummies, 5 years-since-migration dummies and 2 year dummies. Own and spouse wage instruments are generated using decile dummies in each year.

Table 6c: Sum of Own and Spouse Effects on Annual Work Hours for Models Including Source Country Interactions, Married Women, Selected Variables from Full Specification (Model 3)[a]

Variable	Years Since Migration				
	0-5 years	6-10 years	11-15 years	16-20 years	21-30 years
Fertility rate	24.244	-8.418	-27.284 ††	-25.071 ††	-45.907** ††
	(21.843)	(24.991)	(20.002)	(14.737)	(16.904)
GDP per capita	-0.013**	-0.025** ††	-0.036** ††	-0.027** ††	-0.023**
	(0.003)	(0.003)	(0.004)	(0.004)	(0.005)
Activity rate ratio	494.066**	488.855**	515.064**	570.524**	470.393**
	(95.096)	(107.651)	(93.492)	(107.441)	(80.135)
Refugee proportion	-5.201	-83.322	-64.760	-30.872	-155.511**
	(74.279)	(76.278)	(57.791)	(59.915)	(55.386)
Primary enrollment rate	1.610	1.626	3.310**	3.176**	2.943**
	(1.482)	(1.184)	(1.175)	(1.057)	(0.932)
Secondary enrollment rate	0.877	1.065	0.423	-0.002	-1.410
	(1.426)	(1.434)	(1.149)	(1.035)	(0.958)
English speaking country	145.600**	80.023	59.519	70.285	134.380**
	(42.913)	(44.381)	(33.593)	(36.798)	(28.264)
English official country	187.603*	194.272*	210.447*	116.876	52.160 ††
	(80.637)	(89.067)	(85.362)	(64.831)	(76.184)
Miles from home country	-0.026**	-0.016	-0.016	-0.007 †	0.014 ††
	(0.006)	(0.009)	(0.009)	(0.009)	(0.007)
Immigrant × high school	-190.997**	-188.997**	-154.322**	-119.752** †	-60.369 ††
	(32.743)	(37.724)	(28.404)	(36.154)	(34.215)
Immigrant × some college	-309.471**	-218.956** ††	-187.095** ††	-88.578* ††	-73.307 ††
	(46.743)	(44.721)	(30.094)	(38.365)	(37.382)
Immigrant × college	-349.183**	-134.963* ††	-111.877** ††	-38.713 ††	75.419 ††
	(50.038)	(52.241)	(35.912)	(41.639)	(39.078)
Own and sp wage and non-wage income × year			Yes		
Child dummies			Yes		
Observations			490939		
R-squared			0.19		

[a] Immigrants are restricted to adult immigrants only.

Notes: Robust standard errors in parentheses. * and ** denote significance from zero at 5% and 1%, respectively. † and †† denote significance from the 0-5 years coefficient at 5% and 1%, respectively. All models also include 8 regional dummies, 6 high immigrant proportion state dummies and own and spouse variables for the following: age, age squared, 3 education dummies, 3 race and Hispanic origin dummies, 5 years-since-migration dummies and 2 year dummies. Own and spouse wage instruments are generated using decile dummies in each year.

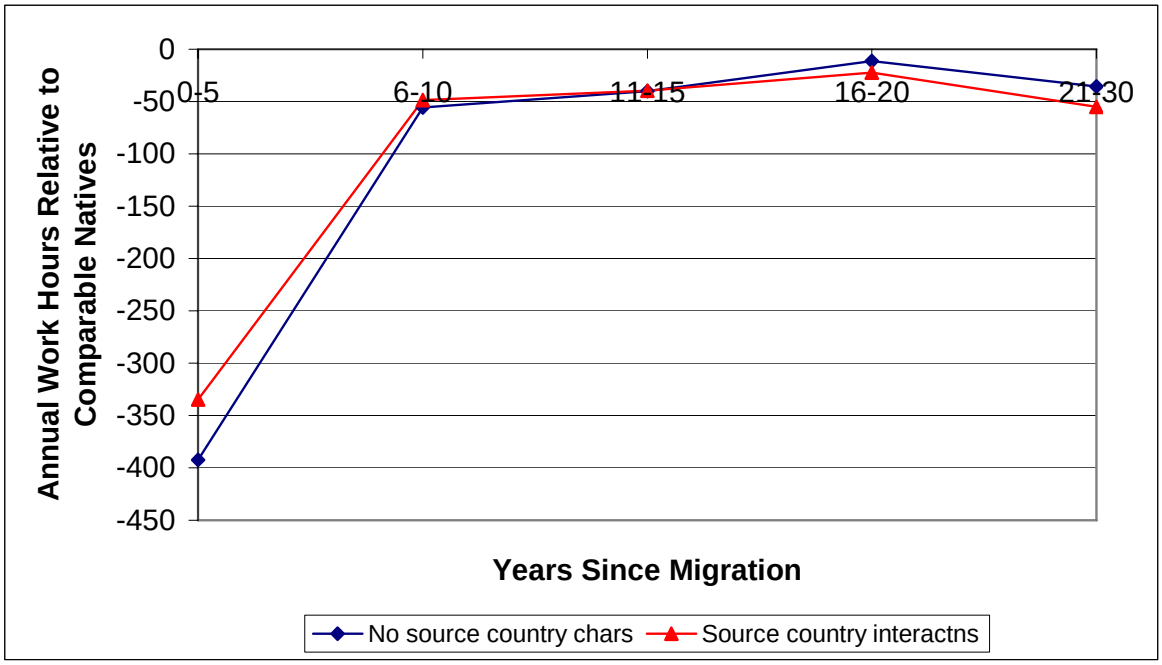
Table 7: Sum of Own and Spouse Effects on Annual Work Hours for Models Including Source Country Interactions, Married Men, Selected Variables from Basic Specification (Model 1)[a]

Variable	Model 1				
	0-5 years	6-10 years	11-15 years	16-20 years	21-30 years
Fertility rate	-41.517**	-65.100**	-32.310*	-56.701**	-40.331**
	(15.511)	(17.631)	(14.077)	(21.117)	(15.322)
GDP per capita	0.017**	-0.002 ††	-0.001 ††	-0.006 ††	-0.002 ††
	(0.004)	(0.003)	(0.004)	(0.005)	(0.005)
Activity rate ratio	28.845	-39.190	10.258	10.513	59.368
	(133.550)	(104.164)	(82.093)	(97.882)	(81.506)
Refugee proportion	-430.768**	-309.112**	-273.005*	-175.966	-215.118*
	(96.511)	(106.509)	(119.761)	(142.268)	(82.156)
Primary enrollment rate	1.931	0.240	0.458	1.336	1.069
	(1.129)	(0.836)	(0.930)	(0.975)	(0.926)
Secondary enrollment rate	-2.834	-0.585	0.062	-2.322*	-2.319*
	(1.589)	(0.992)	(1.187)	(0.979)	(0.887)
English speaking country	120.359	52.887	16.392	62.106	2.552
	(74.271)	(36.079)	(33.498)	(39.044)	(37.102)
English official country	370.358**	118.107** ††	18.505 ††	-18.639 ††	-72.810 ††
	(68.274)	(41.726)	(46.357)	(66.990)	(64.951)
Miles from home country	-0.035**	-0.008 †	0.006 ††	0.014 ††	0.004 ††
	(0.012)	(0.009)	(0.010)	(0.013)	(0.010)
Immigrant × high school	-219.416**	-111.804** ††	-112.898** ††	-119.238** ††	-105.256** ††
	(34.132)	(41.113)	(28.473)	(28.136)	(25.070)
Immigrant × some college	-345.472**	-176.690** ††	-157.331** ††	-116.512** ††	-92.634** ††
	(46.347)	(37.950)	(29.509)	(33.944)	(28.968)
Immigrant × college	-376.920**	-188.083** ††	-165.535** ††	-66.687 ††	12.613 ††
	(55.072)	(56.867)	(38.486)	(36.829)	(32.554)
Own and sp wage and non-wage income × year	No				
Child dummies	No				
Observations	490939				
R-squared	0.15				

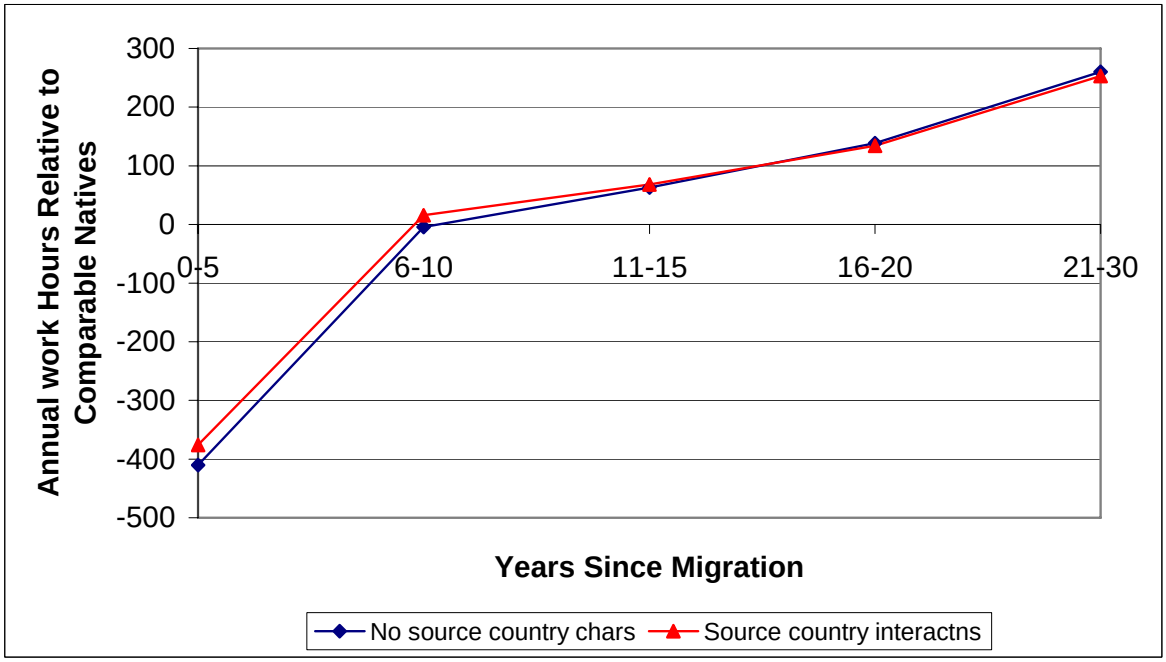
[a] Immigrants are restricted to adult immigrants only.

Notes: Robust standard errors in parentheses. * and ** denote significance from zero at 5% and 1%, respectively. † and †† denote significance from the 0-5 years coefficient at 5% and 1%, respectively. All models also include 8 regional dummies, 6 high immigrant proportion state dummies and own and spouse variables for the following: age, age squared, 3 education dummies, 3 race and Hispanic origin dummies, 5 years-since-migration dummies and 2 year dummies.

Figure A-1: Assimilation Profiles, Annual Work Hours, Married Adult Immigrants, Basic Specification (Model 1)



a. Women



b. Men

Table A-1: Activity Ratios and Fertility Rates in the 25 Top Immigrant Source Countries for Married Women

Country	Weighted fraction of immigrant	Activity ratio at arrival			Fertility rate at arrival			Observations in sample		
		1980	1990	2000	1980	1990	2000	1980	1990	2000
United States	NA	0.513	0.617	0.716	2.817	2.167	1.957	76940	76277	71198
Mexico	15.59%	0.233	0.316	0.393	6.764	5.657	4.120	8644	13053	21350
Philippines	6.70%	0.501	0.527	0.553	6.454	5.761	5.068	4014	6709	7405
India	5.29%	0.534	0.520	0.493	5.591	5.017	4.273	2246	3860	7605
Korea	5.19%	0.490	0.575	0.618	4.688	3.440	2.610	3141	5329	5231
China	4.54%	0.742	0.790	0.837	5.523	3.720	2.581	2216	3581	6136
United Kingdom	3.70%	0.464	0.543	0.642	2.396	2.135	1.864	4036	3249	2801
Vietnam	3.47%	0.812	0.816	0.855	6.794	5.958	4.713	1557	3272	4439
Germany	3.40%	0.530	0.562	0.629	2.213	1.970	1.501	4630	2760	1887
Canada	3.31%	0.404	0.548	0.720	3.247	2.390	1.743	3515	2631	2916
Cuba	3.29%	0.251	0.324	0.524	4.191	3.522	2.052	4009	2948	1987
USSR	2.98%	0.763	0.794	0.790	2.623	2.335	2.127	1307	1573	4954
Japan	2.91%	0.595	0.597	0.627	2.201	1.886	1.655	2639	2717	2352
Taiwan	2.05%	0.521	0.534	0.555	3.850	2.770	2.314	843	2401	2249
Poland	1.83%	0.699	0.754	0.770	3.022	2.377	2.169	1351	1325	2155
Colombia	1.64%	0.282	0.338	0.469	6.084	4.853	3.637	943	1400	1956
Italy	1.60%	0.346	0.380	0.472	2.411	2.301	1.802	2499	1229	554
El Salvador	1.57%	0.270	0.344	0.393	6.472	5.492	4.694	454	1586	2134
Jamaica	1.15%	0.663	0.756	0.812	5.415	4.557	3.704	947	1029	1130
Dominican Republic	1.15%	0.229	0.313	0.380	6.734	5.273	4.090	717	850	1333
Portugal	1.15%	0.297	0.398	0.505	2.911	2.680	2.313	1396	1153	628
Iran	1.09%	0.228	0.241	0.263	6.514	6.552	5.978	619	1194	1072
Yugoslavia	1.03%	0.507	0.552	0.671	2.883	2.516	1.887	889	507	1241
Haiti	0.90%	0.793	0.750	0.720	6.052	6.015	5.783	476	692	1110
Peru	0.90%	0.277	0.310	0.351	6.477	5.441	4.540	413	762	1190
Laos	0.86%	0.824	0.826	0.827	6.150	6.585	6.522	270	1052	847
Other countries	22.71%	0.429	0.487	0.534	4.398	4.515	4.156	15660	18948	24621
Immigrant average	100.00%	0.445	0.509	0.566	4.473	4.332	3.663	69431	85810	111283

Notes: Countries are ranked by their weighted share of the sample of married women across all years, with only adult immigrants included. U.S. values are weighted by the share of immigrants arriving in each year.

Table A-2: Selected Annual hours Regression Results Excluding Country Characteristics, Basic Specification[a]

Variable	All Women	All Men	Married Women		Married Men	
			Own	Spouse	Own	Spouse
Immigrant arrived between 1960 and 1964	26.944	48.305*	-14.514	-35.555	4.543	50.701*
	(17.990)	(22.354)	(26.288)	(35.924)	(19.971)	(24.670)
Immigrant arrived between 1965 and 1969	89.530**	65.866**	58.123*	-17.970	-2.895	58.761**
	(29.228)	(21.743)	(25.538)	(25.716)	(18.914)	(14.069)
Immigrant arrived between 1970 and 1974	85.138*	73.144	47.726	-69.202	-22.294	94.916**
	(38.907)	(38.223)	(39.215)	(48.827)	(30.531)	(33.217)
Immigrant arrived between 1975 and 1979	67.072	81.880*	77.220	-79.726	-4.968	77.574*
	(48.587)	(32.171)	(44.881)	(54.028)	(27.852)	(32.785)
Immigrant arrived between 1980 and 1984	38.085	58.158	-6.362	-124.017	-59.149	95.237
	(38.500)	(44.892)	(56.022)	(83.546)	(43.528)	(54.294)
Immigrant arrived between 1985 and 1990	-55.514	122.940**	-56.463	-153.050	-36.827	104.653*
	(60.928)	(40.022)	(66.542)	(81.296)	(41.943)	(48.417)
Immigrant arrived between 1991 and 1994	-116.298	72.984	-142.242	-137.014	-102.280*	112.794*
	(67.450)	(47.426)	(72.286)	(89.877)	(49.522)	(50.541)
Immigrant arrived between 1995 and 2000	-176.472**	179.781**	-170.262**	-194.460*	-19.591	145.805**
	(53.601)	(54.259)	(64.221)	(86.589)	(42.818)	(40.132)
0-5 years in U.S.	-192.654**	-270.898**	-336.120**	155.071	-308.123**	-63.805
	(44.291)	(76.685)	(61.125)	(86.705)	(62.155)	(36.615)
6-10 years in U.S.	56.763	137.132**	-20.652	176.434	69.896	-36.076
	(45.383)	(39.565)	(79.002)	(107.398)	(40.991)	(41.608)
11-15 years in U.S.	109.388**	150.762**	56.947	114.198	106.128**	-4.861
	(38.099)	(27.531)	(69.610)	(98.094)	(34.276)	(34.428)
16-20 years in U.S.	124.967*	214.375**	129.600	70.381	166.851**	10.308
	(48.576)	(23.771)	(69.438)	(87.682)	(34.566)	(40.952)
21-30 years in U.S.	183.397**	343.542**	137.280**	38.436	214.479**	84.071**
	(41.485)	(24.115)	(42.216)	(42.570)	(25.513)	(19.396)
Wage and non-wage income × year	No	No	No		No	
Child and marriage dummies	No	No	No		No	
Observations	984908	967005	490939		490939	
R-squared	0.10	0.19	0.09		0.15	

[a] Immigrants are restricted to adult immigrants only.

Notes: Robust standard errors in parentheses. * and ** denote significance at 5% and 1%, respectively. All models also include own (and for married couples spouse) variables for the following: age, age squared, 3 educ. dummies, 3 educ. dummies interacted with immigrant status, 3 race and Hispanic origin dummies, 8 regional dummies, 6 high immigrant proportion state dummies and 2 year dummies.

Table A-3: Selected Annual Hours Regression Results Excluding Source Country Interactions, Married Women[a]

Variable	Model 1		Model 2		Model 3	
	Own	Spouse	Own	Spouse	Own	Spouse
Immigrant arrived between 1960 and 1964	-9.651	-16.480	1.573	-21.494	-13.077	-38.832
	(26.253)	(29.021)	(25.675)	(24.323)	(23.288)	(24.770)
Immigrant arrived between 1965 and 1969	29.513	-7.174	32.070	-2.328	-2.343	-20.555
	(21.578)	(20.071)	(19.733)	(17.412)	(19.470)	(19.723)
Immigrant arrived between 1970 and 1974	8.900	-29.859	4.547	-27.382	-22.442	-54.129
	(29.301)	(35.216)	(24.550)	(26.958)	(26.793)	(29.482)
Immigrant arrived between 1975 and 1979	-6.021	-53.368	0.264	-70.925	-24.496	-90.324*
	(48.922)	(43.343)	(40.963)	(35.966)	(43.753)	(40.119)
Immigrant arrived between 1980 and 1984	-112.697	-99.357	-68.484	-125.565*	-88.883	-159.449**
	(60.071)	(69.733)	(47.131)	(54.117)	(50.608)	(53.751)
Immigrant arrived between 1985 and 1990	-174.651*	-151.133*	-118.470	-165.225**	-144.170*	-187.488**
	(77.947)	(73.384)	(64.011)	(61.925)	(66.316)	(63.582)
Immigrant arrived between 1991 and 1994	-270.555**	-157.413	-211.832**	-178.651*	-237.903**	-219.499**
	(86.296)	(88.639)	(74.270)	(81.661)	(74.385)	(77.487)
Immigrant arrived between 1995 and 2000	-320.270**	-211.825*	-246.764**	-205.252*	-293.104**	-222.635*
	(84.973)	(82.619)	(75.395)	(79.652)	(78.665)	(86.355)
0-5 years in U.S.	-733.061**	410.467	-595.629**	320.678	-660.106**	234.764
	(239.347)	(230.179)	(206.227)	(214.606)	(211.199)	(211.926)
6-10 years in U.S.	-436.080	409.678	-325.577	331.629	-337.717	270.871
	(239.948)	(244.511)	(209.051)	(223.996)	(198.348)	(195.217)
11-15 years in U.S.	-357.515	360.008	-268.151	312.767	-303.876	255.648
	(235.131)	(236.906)	(204.664)	(220.919)	(189.972)	(184.567)
16-20 years in U.S.	-290.467	313.075	-211.720	281.812	-306.645	224.196
	(229.342)	(228.518)	(198.860)	(208.140)	(184.588)	(170.692)
21-30 years in U.S.	-281.009	290.433	-201.727	257.065	-304.976	162.891
	(212.828)	(187.670)	(181.276)	(171.251)	(173.798)	(147.975)
Immigrant × Exactly High School Degree	-149.971**	30.547*	-129.045**	0.333	-137.366**	-16.129
	(20.101)	(14.160)	(19.682)	(13.547)	(18.017)	(11.329)
Immigrant × Some College	-204.426**	25.761	-163.795**	-2.169	-174.010**	-25.146
	(23.437)	(23.036)	(23.002)	(21.441)	(19.830)	(18.463)
Immigrant × College Graduate	-195.001**	15.517	-112.421**	10.089	-138.000**	-28.459
	(28.254)	(31.050)	(25.133)	(28.250)	(23.261)	(26.083)
Total Fertility Rate	8.406	-42.725**	0.094	-41.785**	18.770	-22.960*
	(18.937)	(15.902)	(16.239)	(15.366)	(14.572)	(11.344)
GDP per capita (1995 US $)	-0.013**	-0.017**	-0.013**	-0.012**	-0.010**	-0.010**
	(0.004)	(0.004)	(0.003)	(0.003)	(0.003)	(0.003)
Female LFP/Male LFP	383.192**	165.891**	330.814**	179.752**	326.824**	216.721**
	(74.186)	(46.182)	(68.349)	(43.886)	(58.083)	(34.532)
Percentage Refugees	53.817	-143.213**	39.285	-131.183**	49.239	-97.775**
	(46.578)	(42.257)	(44.748)	(37.714)	(40.979)	(33.148)
Primary School Enrollment Rate	2.434*	0.161	2.114*	0.290	2.124*	0.285
	(1.123)	(0.631)	(1.003)	(0.586)	(0.931)	(0.552)
Secondary School Enrollment Rate	2.227	-1.042	1.534	-1.169	1.565	-0.767
	(1.307)	(1.014)	(1.118)	(0.886)	(1.107)	(0.780)
English Speaking Country	66.587*	18.426	67.879*	19.870	81.466**	0.582
	(32.468)	(27.193)	(29.633)	(22.286)	(27.933)	(22.422)
English Official Language (non-English Speaking)	192.843**	21.103	174.518**	25.560	170.105**	7.548
	(40.987)	(85.784)	(35.272)	(68.482)	(35.023)	(77.580)
Miles from Country	-0.011	-0.007	-0.010	-0.008*	-0.010	-0.006
	(0.008)	(0.005)	(0.007)	(0.004)	(0.006)	(0.004)
Own and sp wage and non-wage income × year	No		Yes		Yes	
Child dummies	No		No		Yes	
Observations	490939		490939		490939	
R-squared	0.09		0.13		0.19	

[a] Immigrants are restricted to adult immigrants only.

Notes: Robust standard errors in parentheses. * and ** denote significance at 5% and 1%, respectively. All models also include age, age squared, 3 education dummies, 3 race and Hispanic origin dummies, 8 regional dummies, 6 high immigrant proportion state dummies, 5 years-since-migration dummies and 2 year dummies. In Models 2 and 3, the wage is instrumented by its decile in each year.

Table A-4: Selected Annual Hours Regression Results Excluding Source Country Interactions, Married Men[a]

Variable	Model 1		Model 2		Model 3	
	Own	Spouse	Own	Spouse	Own	Spouse
Immigrant arrived between 1960 and 1964	6.601	50.447*	8.076	48.832*	8.762	49.729*
	(20.163)	(21.337)	(20.535)	(19.280)	(20.493)	(19.359)
Immigrant arrived between 1965 and 1969	-10.134	65.245**	-11.194	64.107**	-10.782	66.325**
	(26.342)	(16.218)	(26.854)	(16.638)	(26.920)	(16.593)
Immigrant arrived between 1970 and 1974	-21.782	119.361**	-31.587	120.940**	-30.808	122.770**
	(35.285)	(24.978)	(33.321)	(24.383)	(33.379)	(24.371)
Immigrant arrived between 1975 and 1979	1.442	115.219**	-13.231	110.415**	-12.377	112.095**
	(31.750)	(21.079)	(30.082)	(20.803)	(30.070)	(20.821)
Immigrant arrived between 1980 and 1984	-56.933	145.203**	-70.886	152.639**	-69.968	154.400**
	(44.283)	(31.773)	(38.197)	(28.300)	(38.093)	(28.108)
Immigrant arrived between 1985 and 1990	-59.176	145.892**	-68.784	157.325**	-67.649	159.395**
	(49.598)	(29.712)	(44.058)	(28.302)	(43.926)	(28.182)
Immigrant arrived between 1991 and 1994	-128.536*	148.217**	-143.712**	157.669**	-141.400**	157.828**
	(53.699)	(32.132)	(47.280)	(29.907)	(47.321)	(29.955)
Immigrant arrived between 1995 and 2000	-66.790	181.219**	-69.368	206.238**	-67.553	208.447**
	(57.437)	(32.531)	(52.100)	(34.859)	(52.010)	(35.086)
0-5 years in U.S.	-257.677	-13.277	-281.994	-16.473	-280.097	-20.616
	(159.430)	(114.888)	(155.093)	(117.664)	(155.053)	(118.560)
6-10 years in U.S.	126.986	24.051	126.448	28.044	125.750	24.919
	(148.252)	(119.977)	(143.462)	(119.291)	(143.847)	(120.472)
11-15 years in U.S.	157.630	53.478	161.190	63.616	160.890	63.656
	(139.503)	(115.249)	(135.482)	(115.106)	(135.977)	(116.154)
16-20 years in U.S.	219.820	71.706	228.299	82.109	229.469	82.355
	(144.089)	(122.471)	(139.087)	(120.236)	(139.508)	(120.967)
21-30 years in U.S.	266.120	143.499	274.559*	163.630	276.364*	162.515
	(137.372)	(103.524)	(134.175)	(105.128)	(134.577)	(105.850)
Immigrant × Exactly High School Degree	-71.583**	-64.254**	-83.558**	-72.563**	-83.935**	-73.203**
	(16.552)	(14.125)	(16.432)	(14.179)	(16.413)	(14.138)
Immigrant × Some College	-86.877**	-104.177**	-93.900**	-107.362**	-93.974**	-107.675**
	(21.348)	(12.894)	(20.776)	(12.213)	(20.694)	(12.144)
Immigrant × College Graduate	-64.388*	-135.060**	-65.075*	-138.102**	-64.140*	-137.593**
	(27.067)	(20.155)	(25.592)	(18.900)	(25.546)	(18.864)
Total Fertility Rate	-24.758*	-17.474	-26.618*	-18.255	-27.038*	-18.480
	(12.435)	(9.250)	(12.956)	(9.290)	(13.000)	(9.333)
GDP per capita (1995 US $)	0.005	0.002	0.006*	0.003	0.006*	0.003
	(0.003)	(0.002)	(0.003)	(0.002)	(0.003)	(0.002)
Female LFP/Male LFP	56.372	-3.181	63.888	-9.348	63.023	-9.388
	(73.822)	(36.970)	(72.843)	(37.987)	(72.995)	(38.314)
Percentage Refugees	-163.212*	-151.436**	-165.886*	-152.416**	-165.944*	-151.517**
	(69.689)	(49.466)	(72.260)	(49.256)	(72.078)	(49.318)
Primary School Enrollment Rate	0.850	0.374	0.827	0.272	0.831	0.277
	(0.803)	(0.568)	(0.770)	(0.599)	(0.772)	(0.599)
Secondary School Enrollment Rate	-0.615	-0.828	-0.625	-0.995	-0.630	-0.985
	(0.803)	(0.567)	(0.812)	(0.636)	(0.813)	(0.636)
English Speaking Country	11.364	28.045	21.277	40.123	21.417	40.103
	(29.039)	(20.331)	(30.119)	(21.960)	(30.213)	(22.153)
English Official Language (non-English Speaking)	103.925*	45.253	112.020*	44.910	112.700*	44.744
	(46.448)	(35.801)	(49.924)	(36.173)	(50.194)	(36.249)
Miles from Country	-0.010	0.001	-0.010	0.001	-0.010	0.001
	(0.007)	(0.008)	(0.007)	(0.008)	(0.007)	(0.008)
Own and sp wage and non-wage income × year	No		Yes		Yes	
Child dummies	No		No		Yes	
Observations	490939		490939		490939	
R-squared	0.15		0.16		0.16	

[a] Immigrants are restricted to adult immigrants only.

Notes: Robust standard errors in parentheses. * and ** denote significance at 5% and 1%, respectively. All models also include age, age squared, 3 education dummies, 3 race and Hispanic origin dummies, 8 regional dummies, 6 high immigrant proportion state dummies, 5 years-since-migration dummies and 2 year dummies. In Models 2 and 3, wage instruments are generated using decile dummies in each year.

Table A5: Source Country Variable Coefficients for Models Including Source Country Interactions, All Women[a]

Variable	Model 1				
	0-5 years	6-10 years	11-15 years	16-20 years	21-30 years
Fertility rate	1.350	-5.668	-21.665	-4.966	-16.855
	(19.737)	(24.214)	(21.104)	(16.949)	(15.839)
GDP per capita	-0.016**	-0.026**	-0.033** †	-0.027**	-0.024**
	(0.003)	(0.005)	(0.007)	(0.006)	(0.006)
Activity rate ratio	527.750**	658.794**	656.664**	582.171**	446.772**
	(87.866)	(108.937)	(95.619)	(88.762)	(67.142)
Refugee proportion	-117.007	-127.809	-113.877*	-91.318*	-102.569*
	(74.930)	(98.691)	(51.986)	(44.478)	(46.974)
Primary enrollment rate	1.868	1.306	2.212	3.018**	2.086*
	(1.473)	(1.622)	(1.431)	(1.090)	(0.895)
Secondary enrollment rate	1.400	2.242	1.351	0.884	0.153
	(1.424)	(1.630)	(1.206)	(1.096)	(0.831)
English speaking country	187.980**	157.126*	164.723**	123.505**	138.262**
	(49.735)	(61.793)	(56.452)	(43.482)	(29.761)
English official country	273.045**	233.919*	234.184**	172.339** †	164.511* ††
	(81.506)	(91.039)	(83.657)	(59.425)	(72.958)
Miles from home country	-0.036**	-0.022* †	-0.023*	-0.013 ††	-0.011 ††
	(0.007)	(0.010)	(0.009)	(0.007)	(0.006)
Immigrant × high school	-248.498**	-218.568**	-212.800** †	-160.355** ††	-181.704** †
	(20.853)	(27.314)	(23.173)	(24.235)	(24.367)
Immigrant × some college	-353.118**	-250.994** ††	-244.310** ††	-161.128** ††	-144.210** ††
	(31.874)	(33.161)	(29.401)	(27.891)	(26.256)
Immigrant × college	-431.454**	-230.778** ††	-230.756** ††	-177.849** ††	-121.414** ††
	(43.032)	(41.168)	(34.562)	(34.077)	(30.833)
Own wage and non-wage income × year			No		
Marriage and child dummies			No		
Observations			984908		
R-squared			0.10		

[a] Immigrants are restricted to adult immigrants only.

Notes: Robust standard errors in parentheses. * and ** denote significance from zero at 5% and 1%, respectively. † and †† denote significance from the 0-5 years coefficient at 5% and 1%, respectively. All models also include 8 regional dummies, 6 high immigrant proportion state dummies and own variables for the following: age, age squared, 3 education dummies, 3 race and Hispanic origin dummies, 5 years-since-migration dummies and 2 year dummies.