



How High is Hispanic/Mexican Fertility in the United States? Immigration and Tempo Considerations

Author(s): Emilio A. Parrado

Source: *Demography*, Vol. 48, No. 3 (August 2011), pp. 1059-1080

Published by: Springer on behalf of the Population Association of America

Stable URL: <http://www.jstor.org/stable/41237824>

Accessed: 06-06-2018 17:51 UTC

REFERENCES

Linked references are available on JSTOR for this article:

http://www.jstor.org/stable/41237824?seq=1&cid=pdf-reference#references_tab_contents

You may need to log in to JSTOR to access the linked references.

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at <http://about.jstor.org/terms>



JSTOR

Population Association of America, Springer are collaborating with JSTOR to digitize, preserve and extend access to *Demography*

How High is Hispanic/Mexican Fertility in the United States? Immigration and Tempo Considerations

Emilio A. Parrado

Published online: 22 June 2011
© Population Association of America 2011

Abstract In this article, I demonstrate that the apparently much higher fertility of Hispanic/Mexican women in the United States is almost exclusively the product of period estimates obtained for immigrant women and that period measures of immigrant fertility suffer from three serious sources of bias that together significantly overstate fertility levels: difficulties in estimating the size of immigrant groups; the tendency for migration to occur at a particular stage in life; and, most importantly, the tendency for women to have a birth soon after migration. When these sources of bias are taken into consideration, the fertility of native Hispanic/Mexican women is very close to replacement level. In addition, the completed fertility of immigrant women in the United States is dramatically lower than the level obtained from period calculations. Findings are consistent with classical theories of immigrant assimilation but are a striking departure from the patterns found in previous studies and published statistics. The main implication is that without a significant change in immigration levels, current projections based on the premise of high Hispanic fertility are likely to considerably exaggerate Hispanic population growth, its impact on the ethno-racial profile of the country, and its potential to counteract population aging.

Keywords Hispanics · Fertility · Immigration · Assimilation · Projections

Introduction

The rapid growth of the U.S. Hispanic population in recent decades, fueled largely by immigration, has increased awareness of its impact on the United States. One such area of both research and public attention is the fertility of Hispanic-origin groups. Estimates of Hispanic fertility are persistently higher than those of non-Hispanic whites and blacks and do not seem to fall across immigrant generations to

E. A. Parrado (✉)
Population Studies Center, University of Pennsylvania, 244 McNeil Building, 3718 Locust Walk,
Philadelphia, PA 19104-6298, USA
e-mail: eparrado@sas.upenn.edu

the same extent as prior immigrant groups. The implications of these patterns have been viewed as potentially beneficial in some arenas and deeply problematic in others. On the one hand, fertility levels are a major determinant of populations' growth rate and age composition (Preston and Hartnett 2011). Thus, the unusually high levels of Hispanic fertility could potentially mitigate population aging and help extend the solvency of the Social Security system (Jonsson and Rendall 2004; Sevak and Schmidt 2008). On the other hand, differential fertility rates across groups are important determinants of relative group size. Hispanics have already replaced non-Hispanic blacks as the largest minority group in the country. If their apparently significantly higher fertility levels were to persist, Hispanics would comprise an ever larger share of the U.S. population in the future, even if Latin American immigration were to end abruptly. In tandem with the projected substantial decline in the white population over time, these changes have been portrayed as dramatically altering the racial and ethnic order of the United States (Chavez 2008). Moreover, the persistence of high Hispanic fertility has been portrayed as a larger failure of Hispanics to assimilate into the U.S. mainstream that could contribute to the fragmentation of society across racial and ethnic lines (Huntington 2004).

Given the centrality of Hispanic fertility to projections regarding the age and ethno-racial composition of the future United States, it is essential to ensure that the high Hispanic fertility rates on which they are based are accurate. In this article, I examine and compare numerous data sources for Hispanic fertility and critically evaluate the reliability of the period fertility estimates produced from them. I argue that the apparently much higher Hispanic/Mexican fertility is almost exclusively the product of the behavior of the immigrant population and that period fertility estimates for immigrant women suffer from three serious sources of bias and error. The first is the difficulty in estimating the size of immigrant groups, which serves as the denominator in the computation of fertility rates. The second is the tendency for migration to occur at a particular stage in life that distorts the age and marital composition of immigrant groups. Finally and most importantly, the timing of migration and family formation are often tightly linked, with a marked tendency for women to have a birth soon after migration. Because period measures of fertility cannot adequately distinguish between changes in the timing and quantity of births, period fertility estimates are dramatically overstated.

I demonstrate the impact of each of these sources of bias on estimates of Hispanic fertility, including a detailed comparison of period and completed fertility measures. I show that when these sources of bias are accounted for, the fertility of native Hispanic/Mexican women is very close to replacement level, contradicting the perception that Hispanics maintain high fertility in the United States. In addition, I show that the completed fertility of U.S. immigrant women is dramatically lower than the level obtained from period estimates. In fact, the completed fertility of U.S. immigrant Hispanic women is considerably lower than that of women in Latin America and has been declining steadily over time. These findings are consistent with classical theories of immigrant assimilation but are a striking departure from the patterns found in previous studies and published statistics. The main implication is that, absent a significant change in immigration levels, current projections based on the premise of high Hispanic fertility are likely to considerably exaggerate the growth of the Hispanic population, its impact on the ethno-racial profile of the country, and its potential to counteract population aging.

Background: Hispanic Fertility Estimates and Population Projections

Most discussions about Hispanic/Mexican fertility in the United States rely on period estimates of the number of children born to women. The most commonly used measure is the total fertility rate (TFR), which is defined as the number of children a woman would have if she were to live throughout her reproductive years (typically ages 15–44) and give birth according to the prevailing age-specific fertility rates (ASFRs). The TFR is calculated by aggregating ASFRs observed in a particular year, which are obtained by dividing the number of births to women of a given age range, typically for five-year age groups, by the total population of women of that age in that year.¹ As an estimate of completed fertility, the TFR is a hypothetical measure; no group of women actually experienced or will experience the ASFRs observed in a particular year. Rather, period rates are treated as if they characterize the lifetime trajectories of birth cohorts. The actual childbearing experience of cohorts is given by the completed fertility rate (CFR), which measures the average number of births that women actually had by the end of their reproductive lives, ideally after age 50.

Each of these fertility measures has unique advantages and disadvantages. The main advantage of CFR is that it is a direct measure of the true childbearing experience of actual cohorts, rather than a hypothetical estimate. The main disadvantage of the CFR is that it reflects past experiences, since older women bore most of their children during their 20s and 30s, and thus does not necessarily capture current behaviors. Because women must be toward the end of their reproductive careers to ascertain CFR, it cannot be used to measure the fertility of younger cohorts of women. The main advantage of the TFR is that it estimates the level of fertility implied by childbearing behaviors observed in a particular year and thus provides insight into contemporary fertility levels and trends. This information can be readily included in population projections, which together with assumptions about mortality and immigration, predict the future growth, age composition, and ethno-racial profile of the U.S. population. The main disadvantage of the TFR is that it reflects the interplay of two components: the tempo (timing) and quantum (level) of fertility. The TFR is an accurate estimate of the eventual completed fertility of young cohorts when the timing of childbearing is not changing. However, TFR estimates can differ significantly from actual CFR when women accelerate or delay births. Under such circumstances, changes in birth timing affect the ASFRs on which TFR is based, even if actual CFR ultimately remains the same (Bongaarts 1998; Schoen 2004). In years when births are accelerated, the TFR overestimates the CFR; when births are delayed, the TFR underestimates the CFR.

Using the TFR as a measure for 2006, the National Center for Health Statistics (NCHS) reported that Hispanic/Mexican women have an average of 2.95/3.11 children throughout their lifetime, which is considerably higher than the 1.85 average for non-Hispanic white women (Martin et al. 2009). In their most recent 50-year projection, the U.S. Census Bureau (2008) assumed a TFR of 2.73 for Hispanic women in 2001. It also expected Hispanic “fertility schedules . . . to converge to the fertility levels of the

¹ Formally, the TFR for year t can be written as $TFR(t) = \sum_x f(x, t) = \sum_x (B(x, t)/N(x, t))$, where $B(x, t)$ equals the number of births to women aged x at time t , and $N(x, t)$ is the number of women aged x at time t . The index of summation x ranges over all childbearing years.

non-Hispanic, [nonblack] population in the year 2100,” with the TFR declining slowly to 2.70, 2.53, and 2.29 in 2010, 2025, and 2050, respectively. The fertility level for non-Hispanic, nonblack groups was assumed to remain almost constant at around 1.9 for the period. As a result of these fertility differences and assumptions about immigration,² the Census Bureau projects that the Hispanic population will nearly triple between 2008 and 2050, when nearly one-third of U.S. residents will be Hispanic, representing a dramatic change in the ethno-racial profile of the country.

The expectation of rapid Hispanic population growth, fueled in large part by high fertility, is not constrained to Census Bureau projections. Jonsson and Rendall (2004), for instance, evaluated different methodologies for assessing the fertility contribution of Mexican immigration to U.S. population growth and its potential for mitigating population aging. All four methods summarized in their analysis assumed a TFR for immigrant Hispanic women in 1994 of at least 3.0, with one method assuming it was as high as 3.9. In their own calculations, Jonsson and Rendall assumed a TFR for second- and third-generation Mexican women in 1994 of 3.18 and 2.46, respectively; these were derived as a proportion of the 3.9 TFR assumed for immigrant Mexican women. Given these high-fertility assumptions, they not surprisingly concluded that the fertility contribution of Mexican migration to the U.S. population will be dramatic. In fact, they criticized Census Bureau estimates for averaging Hispanic fertility across immigrant generations, which, they argued, reduces fertility rates and underpredicts Mexican births.

Passel and Cohn (2008) assumed a Hispanic TFR of 2.5 in 2001, which they expected to decline to 2.1 by 2050. Similar to census estimates, their conclusion was that Hispanics will comprise 29% of the U.S. population and that whites will become a minority (47%) by 2050. Such projections, especially the Census Bureau calculations, have received considerable attention in public debates about U.S. population trends and the rapidly declining representation of the non-Hispanic white population. However, the volatility in the rates and projections of Hispanic fertility reported above highlights potential biases in the computation of Hispanic fertility.

Data and Analytic Strategy

In this article, I critically evaluate the validity of TFR estimates of Hispanic/Mexican fertility. My overall focus is on anomalies in period calculations, including disparities between TFR and CFR measures. I explain these disparities as the product of three main sources that specifically affect TFR estimates for immigrant women—namely, the size of the denominator in the computation of rates, the age and marital composition of immigrant groups, and most importantly, disruptions in the timing of childbearing associated with migration.

The first part of the article uses published vital statistics reports as well as information from countries of origin to document anomalies in TFR estimates. I also use birth data from the vital registration system to produce my own TFR estimates of Hispanic/Mexican fertility separately by nativity to stress that these distortions

² Net immigration from Latin America, including Mexico, was assumed to increase from 627,000 to 1,040,000 between 2001 and 2050.

primarily affect immigrant fertility estimates. I argue that difficulties in estimating the size of the Hispanic immigrant population are central to these distortions.

The second part of the article compares TFR and CFR estimates of Hispanic/Mexican fertility obtained from the 2000 and 2008 American Community Survey (ACS), the 2002 National Survey of Family Growth (NSFG), and the 2006 and 2008 June Supplement of the Current Population Survey (CPS) to document that anomalies in fertility estimates are also present in survey results of immigrant fertility, even though they do not suffer from under-enumeration. I use NSFG data to document two main processes affecting immigrant period fertility estimates: differences in the age and marital composition of immigrant and native groups and, more importantly, changes in the timing of childbearing associated with migration. I highlight the salience of timing distortions in TFR estimates for immigrant women by reporting trends in first-birth rates obtained from the vital registration system by nativity. I also elaborate on the implications of the immigrant effect for understanding regional disparities in Hispanic/Mexican fertility by plotting fertility estimates obtained from vital statistics reports against the proportion of the Hispanic population that is recently arrived, by state.

The final part of the analysis uses data from the 1995, 1998, 2000, 2002, 2004, 2006, and 2008 CPS June Supplement to construct trends in CFR estimates of Hispanic/Mexican fertility for native and immigrant women and compares them to period results. I document the much lower completed fertility obtained from the actual experience of Hispanic/Mexican women in the United States, including immigrants, relative to the period estimates that are commonly used in population projections.

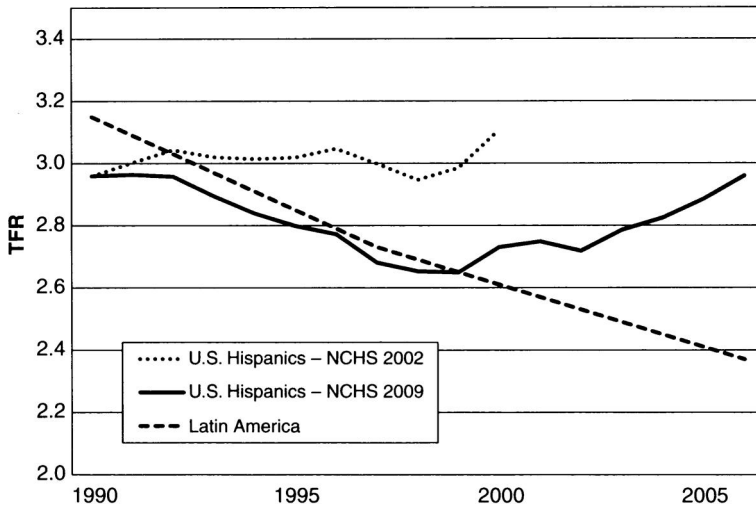
Results

Anomalies in Vital Registration Estimates of Hispanic Fertility

Despite the importance of fertility estimates for population projections, a careful consideration of estimates derived from vital registration data reveals important anomalies that should be taken into consideration before assessing the contribution of Hispanic fertility to U.S. population growth. These anomalies, which have largely been overlooked, call into question the precision of available estimates of Hispanic fertility. Figure 1 plots the TFR for Hispanic/Mexican women in the United States and in Latin America/Mexico. Fertility estimates for the United States were obtained from National Center for Health Statistics (NCHS) reports published at two points in time: 2002 (Martin et al. 2002) and 2009 (Martin et al. 2009). Fertility estimates for Latin America and Mexico were obtained from the U.S. Census Bureau International Database for Latin America (<http://www.census.gov/ipc/www/idb>) and the Consejo Nacional de Población (Conapo <http://www.conapo.gob.mx>), respectively.

At least since the 1970s, Latin America and Mexico in particular have experienced very rapid, substantial, and nearly linear declines in fertility that occurred in conjunction with educational expansion, increased female labor force participation, and the diffusion of family planning (Brea 2003; Guzman et al. 1996; Lindstrom 1998; Parrado 2000). Figure 1 shows that between 1990 and

a. Hispanics in the United States and in countries of origin



b. Mexicans in the United States and in Mexico

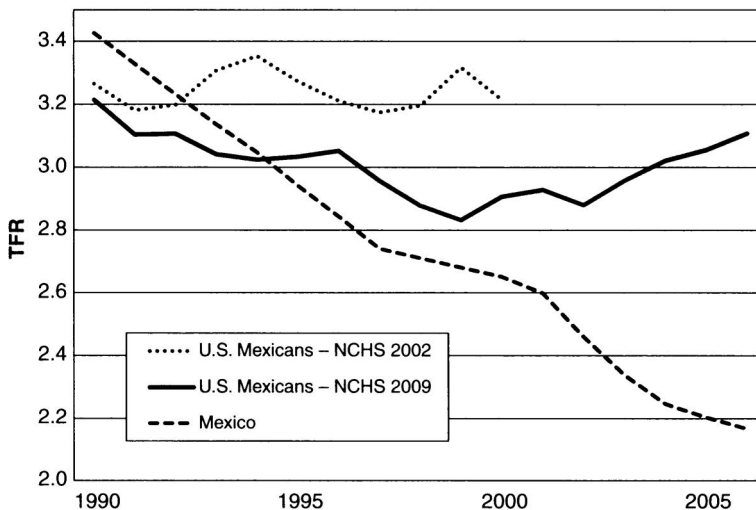


Fig. 1 Vital statistics estimates of the total fertility rate for Hispanics in the United States and in countries of origin, and for Mexicans in the United States and in Mexico

2006, TFR declined steadily in Latin America/Mexico from 3.2/3.5 to 2.4/2.2 children per woman.

Figure 1 documents very different trends in fertility for Hispanic/Mexican women in the United States. Contrary to the relatively low and consistently declining fertility levels in countries of origin, vital registration estimates show recent TFR estimates of Hispanic/Mexican fertility in the United States as being both relatively high and rising. For 2006, vital registration estimates suggest that Hispanic/Mexican women in the United States were having close to one child more, on average, than women in Latin

America (3.0/3.1 among Hispanic/Mexican women in the United States compared with 2.3/2.2 in countries of origin). It is noteworthy that U.S. estimates are not only for immigrant women but for all U.S. Hispanic/Mexican women, including the U.S.-born.

In addition, Fig. 1 shows that the fertility decline of U.S. Hispanics/Mexicans appears to *reverse* over time. NCHS estimates published in 2009 report U.S. Hispanic/Mexican fertility declining between 1990 and 1999, from 2.9/3.2 to 2.6/2.8 children per woman, but then returning to 1990 levels by 2006 (Martin et al. 2009). The reversal in U.S. Hispanic/Mexican fertility is in direct contradiction to the consistent decline experienced in Latin America/Mexico. Interestingly, the upward trend reported since 2000 contradicts the Census Bureau's assumption of a long-term decline in Hispanic/Mexican fertility applied in their population projections.

Two tentative explanations can be suggested for these patterns.³ The first relates to population composition. If Hispanic/Mexican women in the United States are socioeconomically disadvantaged relative to women in their countries of origin, perhaps as a result of negative selectivity in the immigration flow, then fertility in the United States could be higher than in Latin America. However, there is little evidence supporting this interpretation. Social disparities between Latin America and the United States are still quite pronounced, and when native and immigrant women are considered together, Hispanic/Mexican women in the United States average markedly higher educational attainment and labor force participation than their counterparts abroad. For instance, only 34% of women aged 25–44 in Mexico had more than nine years of education in 2005 (estimates obtained from the “II Censo de Población y Vivienda—2005” INEGI)⁴ compared with 67% among Mexican-origin women in the United States in 2008 (estimates obtained from the 2008 ACS).

Even if we restrict the comparison to foreign-born women in the United States, there is little evidence of negative selection into migration. For instance, 47% of immigrant Mexican women in the United States aged 25–44 attained more than nine years of education in 2008 (ACS), compared with only 34% among their counterparts in Mexico in 2005 (INEGI, Censo de Población 2005). There is also no indication that migrants are becoming more negatively selected over time. With educational attainment rising steadily in Mexico and Latin America, recent immigrants to the United States are actually better-educated than their counterparts who entered the country in previous generations. For example, in Mexico, the proportion of women aged 15–44 with more than primary education increased from 50% to 71% between 1990 and 2005 (estimates obtained from INEGI).⁵ Moreover, fertility has been declining even within educational groups; the TFR for women in Mexico with less than elementary education fell from 4.6 in 1990–1991 to 3.1 in 2004–2005 (Welti forthcoming). Given the powerful relationship between education and fertility,⁶ these trends make it unlikely that compositional factors account for the higher fertility among U.S. Hispanics.

³ For a review of different perspectives, see Landale and Oropesa (2007).

⁴ Data are available online (<http://www.inegi.org.mx/est/contenidos/proyectos/ccpv/cpv2005/Default.aspx>).

⁵ Data for the 1990 Mexican Census can be obtained at INEGI (<http://www.inegi.org.mx/est/contenidos/proyectos/ccpv/cpv1990/default.aspx>).

⁶ The generally strong negative relationship between fertility and education is well established in the literature on fertility decline in developing countries (Jejeebhoy 1995). In Mexico in 2004–2005, the TFR for women with six or fewer years of education was 3.1, compared with 2.5 among those with six to nine years of education and 1.6 among those with more than nine years of schooling (Welti 2010).

The second potential explanation relates to segmented assimilation theories and the possibility that Hispanics/Mexicans in the United States could be reacting to their minority status by developing an oppositional culture that includes, among other things, the maintenance of high fertility. This perspective would view high Hispanic fertility as part of a general response to exclusion and lack of socioeconomic progress in the United States. However, there is little evidence of stagnation or dramatic deterioration in the socioeconomic position of Hispanic/Mexican women in the United States that could explain their much higher fertility levels than in their countries of origin. In fact, data from the 1990 census and 2008 ACS show considerable improvements in educational attainment for both U.S.-born and immigrant Hispanic women over time; average years of education for U.S.-born Hispanic/Mexican women increased from 10.9/10.6 in 1990 to 12.8/12.6 in 2008. A similar upward trend is evident for immigrant Hispanic/Mexican women in the United States, among whom years of education increased from 8.7/6.6 to 10.3/8.7 during those years. Again, the upward trend in educational attainment is inconsistent with the maintenance of high fertility.

Even if compositional differences or minority status explanations of fertility behavior could explain some of the differences between Hispanic/Mexican fertility in the United States and Latin America/Mexico, they cannot account for the initial decline and subsequent *reversal* of fertility trends reported after 2000. I argue that a more likely source of these counterintuitive findings is errors in estimating the size of the Hispanic/Mexican population between census years.

The estimates reported above were made by combining two pieces of information from different data sources: the number of births recorded in vital registration systems (numerator) and the size of the Hispanic population estimated by the U.S. Census Bureau (denominator). Since most births in the United States occur in hospitals, and since hospitals are extremely effective at registering births, vital statistics on the number of births are nearly perfectly complete. However, miscalculations in projecting the number of Hispanic/Mexican women are common and can seriously bias the denominator. In fact, the difficulties of estimating population size are well known, and errors in calculations are regularly reported and corrections promptly issued by NCHS.

The impact of these corrections on fertility estimates can be profound. In addition to the trends published in 2009 (Martin et al. 2009), Fig. 1 also reports the fertility trends published in 2002 (Martin et al. 2002). The 2002 trends depict fertility calculations produced by the NCHS based on estimates of the Hispanic/Mexican population derived from the 1990 census. The 2009 trends represent the corrected figures after actual population sizes from the 2000 census became available. The calculations made in 2002 estimated that rather than falling as in Latin America, Hispanic fertility in the United States rose between 1990 and 2000. The corrected calculations reported in the 2009 publication, in contrast, show that U.S. Hispanic/Mexican fertility actually fell consistently from 1990 to 2000. After 2000, fertility rates began to rise again. However, these calculations are once again based on projections of the denominator and are thus susceptible to errors.

Although difficulties in estimating population sizes affect all groups, they are particularly acute for immigrants, whose population size can change dramatically and unpredictably in response to economic and political forces. If the resulting

underestimate of immigrant population size is sufficiently large, it can affect fertility estimates for the entire group, immigrant and nonimmigrant alike. Figure 2 highlights this effect. The figure plots my own calculations of vital registration–based estimates of TFR for Hispanic/Mexican women by nativity between 1990 and 2005.⁷ Three trends are apparent. First, the fertility level for native Hispanic/Mexican women is stable throughout the period and hovers around replacement level (2.1). The estimate stands below the level registered in sending countries and contradicts the perception that U.S.-born Hispanic/Mexican women are maintaining high fertility. Second, fertility estimates for the foreign-born population are unreasonably high. For instance, estimates for 1990 suggest that U.S. immigrant women averaged nearly *two* more children than their counterparts in Latin America. Finally, while native fertility estimates remained flat, results show a reversal in fertility decline for immigrant women starting in 2000 similar to that registered for the Hispanic/Mexican population as a whole. Because the undercount of the foreign-born, especially between census years, can potentially be sizable,⁸ the underenumeration of immigrant Hispanics may contribute to the high fertility estimates produced with vital registration/census projection data.

Anomalies in Survey Estimates of Hispanic Fertility

If the unreasonably high fertility estimates of immigrant Hispanic/Mexican women were only the product of underestimating the size of the denominator in the computation of rates, then the problem would be corrected with the use of survey data. TFR estimates obtained from surveys have the advantage that they can be computed directly for the women included in the sample without the need to combine different data sources. In addition, if surveys include information on children ever born, then CFR measures of the actual number of children born by the end of women's reproductive life can also be computed, allowing us to compare TFR measures with CFR estimates for older women.

Table 1 reports period TFR and CFR⁹ for cohorts aged 35–39 and 40–44 for Hispanic/Mexican women by immigrant status, obtained from the 2000 and 2008 American Community Survey (ACS), the 2002 National Survey of Family Growth (NSFG), and the combined 2006–2008 June CPS, which includes a fertility

⁷ In addition to ethnicity, birth certificates collect information on mother's place of birth. Similar to standard estimates, rates were obtained by combining birth data (http://www.cdc.gov/nchs/data_access/Vitalstatsonline.htm) with population estimates for native and foreign-born Hispanics/Mexicans from the 1990 and 2000 censuses and the 2005 American Community Survey.

⁸ For instance, estimates of the size of the undocumented population, including those conducted by the Department of Homeland Security, typically assume some level of undercount, usually around 10%, for the foreign-born population (Hoefler et al. 2009). A similar undercount was assumed in a recent report assessing the effect of underrepresentation of the foreign-born on labor statistics (GAO 2009).

⁹ One limitation of CFR is uncertainty about the age at which women have completed their reproductive lives. We report estimates for two age groups: 35–39 and 40–44. Older ages are generally preferable since they increase the likelihood of women not having additional children. Childbearing, however, is already relatively unlikely after age 35, as evidenced by the similarity in reported estimates across age groups in Table 1. In 2006, for instance, only 8% and 2% of Hispanic births occurred to mothers aged 35–39 and 40–44, respectively; 94% of births occurred to mothers younger than 37.5 years (Martin et al. 2009). Including the 35–39 age group in this analysis contributes to the robustness of my findings by adding an additional cohort to the comparison.

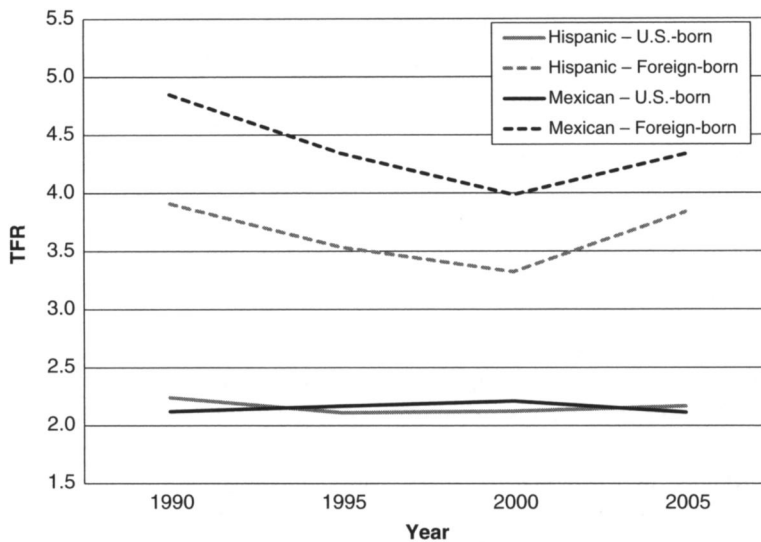


Fig. 2 Vital statistics estimates of the total fertility rate for Hispanics/Mexicans in the United States, by nativity. Birth data are from vital statistics (http://www.cdc.gov/nchs/data_access/Vitalstatsonline.htm). Population estimates are from the 1990 and 2000 censuses and the 2005 American Community Survey

supplement. In addition, I report the TFR and CFR in Mexico, obtained from the 2006 Encuesta Nacional de la Dinámica Demográfica (ENADID; Welte forthcoming). Columns 1–5 report period TFR estimates, and columns 6–11 report cohort CFR. Overall, results are remarkably consistent across data sets.

As expected, survey-based TFR estimates in the United States are significantly lower than those based on vital registration data. The estimated TFR for Hispanic/Mexican women for the year prior to the 2000 and 2008 ACS (columns 1 and 2) is, in both cases, 2.5/2.7. For the two-year period prior to the 2002 NSFG (column 3), the TFR for Hispanic/Mexican women is 2.4/2.6; for the year prior to the CPS (column 4), it is 2.5/2.6. In all samples, the estimate is around 0.5 children lower than the 3.0/3.1 TFR reported in vital statistics for the year 2006 (Martin et al. 2009).

However, some of the same anomalies that plagued vital registration estimates are also present in survey data even though they do not suffer from under-enumeration of the denominator. Specifically, the TFR of U.S. Hispanics/Mexicans (columns 1–4) is higher than that of women in their countries of origin (column 5) and this is driven by the much higher fertility estimates for immigrant Hispanic women. In addition, results show considerable disparities between TFR and CFR measures, particularly among immigrant women.

Among Hispanic/Mexican women born in the United States, fertility rates are uniformly low (generally 2.0/2.1) across data sources. Moreover, there are practically no differences between TFR (columns 1–4 of Table 1) and CFR (columns 6–7 and 9–10) estimates, independent of the data source under consideration. The correspondence between period and cohort rates supports the utility of the TFR as a measure of completed fertility among native Hispanic/Mexican women.

For immigrant women, on the other hand, there are dramatic disparities between TFR and CFR measures. Results show that TFR estimates for immigrants consistently exceed CFR by a wide margin across the multiple sources of data.

Table 1 Period and cohort estimates of completed fertility

	Period TFR Estimates					Cohort CFR Estimates					
	ACS					Age Cohort: 35–39			Age Cohort: 40–44		
	2000 (1)	2008 (2)	NSFG 2002 (3)	CPS 2006–2008 (4)	ENADID 2006 (5)	NSFG 2002 (6)	CPS 2006–2008 (7)	ENADID 2006 (8)	NSFG 2002 (9)	CPS 2006–2008 (10)	ENADID 2006 (11)
U.S. Hispanics	2.5	2.5	2.4	2.5		2.2	2.2		2.2	2.2	
Native	2.1	2.2	2.0	2.1		2.0	2.1		2.1	2.0	
Immigrant	2.9	2.8	3.3	3.0		2.3	2.3		2.4	2.4	
U.S. Mexicans	2.7	2.7	2.6	2.6		2.3	2.4		2.4	2.4	
Native	2.1	2.3	2.1	2.1		2.1	2.2		2.1	2.2	
Immigrant	3.3	3.0	3.6	3.2		2.4	2.5		2.7	2.6	
Mexico					2.2			2.8			3.2

Sources: ACS=American Community Survey (does not contain information on children ever born); NSFG=National Survey of Family Growth; CPS=Current Population Survey – June Supplement; ENADID=Encuesta Nacional de la Dinámica Demográfica (National Survey of Demographic Dynamics).

For instance, the 3.3/3.6 TFR estimate for Hispanic/Mexican immigrant women obtained from the NSFG (column 3) is more than 1 child higher than the 2.3/2.4 and 2.4/2.7 CFR estimate obtained for the cohorts aged 35–39 and 40–44, respectively, using the same data source (columns 6 and 9). Similar dramatic disparities become apparent when we compare the TFR and CFR estimates for immigrant women obtained using the CPS, column 4 against columns 7 and 10 in Table 1. The uncharacteristically high period fertility estimate for immigrant women is the reason the TFR is higher than the CFR for U.S. Hispanics/Mexicans overall.

It is important to note that women aged 35–39 and 40–44 in the NSFG (2002) and CPS (2006–2008) correspond to cohorts born in the 1960s. For foreign-born women, this implies a context of relatively high fertility in countries of origin, so we would expect their fertility to be higher than among the more recent cohorts captured in period estimates. This is not what period estimates of fertility show, however. The last line in Table 1 (columns 5, 8, and 11) reports TFR and CFR estimates for comparable years and cohorts in Mexico. Results show the TFR for women in contemporary Mexico to be around 2.2, which is higher than the TFR of Mexican women born in the United States (2.1) estimated across data sources, as we would expect. However, the Mexican TFR is *lower* than the TFR of immigrant Mexican women in the United States, which ranges from 3.0 in the 2008 ACS (column 2) to 3.6 in the 2002 NSFG (column 3). In fact, these estimates imply that immigrant women average one whole child more than their counterparts who remained in Mexico.

The cross-national pattern described by the TFR stands in stark contrast to that evidenced for CFR. The final column of Table 1 shows that CFR for women aged 40–44 is lowest for U.S.-born Mexican women (2.2), intermediate for immigrant Mexican women in the United States (2.6), and highest for women in Mexico (3.2). The same pattern holds if we compare CFR estimates among the 35- to 39-year age group (column 7). Thus, the pattern for CFR aligns with major theories of immigrant assimilation and the experience of previous generations of immigrants; the social behavior of immigrant Hispanic/Mexican women falls between that of the U.S.-born and those who remained in their countries of origin (Parrado and Morgan 2008). The hypothetical level described by the TFR seems to be the anomaly. Most previous studies have concluded that an anomalously high TFR among Hispanics indicates either a failure to assimilate or changing socioeconomic composition. I argue that it reflects well-known limitations in period fertility measures.

Demographic Processes Undergirding the High TFR of Hispanic Immigrant Women

Age and Marital Composition of the Foreign-Born Population

At least two processes affect the estimation of period fertility rates for immigrant women. The first relates to differences between immigrant and native Hispanic women in age and marital composition. Using information from the 2002 NSFG, Fig. 3 documents these differences for all Hispanics. Migration is not a random event but rather is closely tied to other life-course transitions. In particular, migration is most likely in early adulthood, as men and women enter the labor market and form families. In the case of women's migration from Latin America (especially Mexico) to the United States, migration is often motivated by a desire to reunite with a

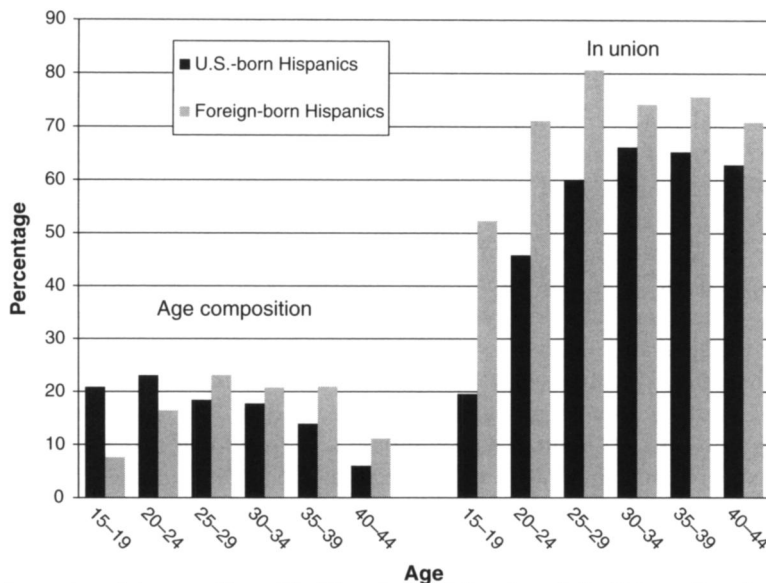


Fig. 3 Age and marital composition of the Hispanic population, by nativity. Data are from the National Survey of Family Growth, 2002

husband who migrated earlier (Cerrutti and Massey 2001). Even when an unmarried woman migrates, she tends to form a union rapidly after entering the United States (Parrado and Flippen 2005). As a result, as illustrated in Fig. 3, a disproportionate share of immigrants is both in their prime childbearing ages and married. For instance, more than half of 15- to 19-year-old immigrant women are in a union, compared with less than 20% among U.S.-born Hispanics. In fact, the share in a union is higher for immigrant relative to native women at all ages. Compositional differences between U.S. and foreign-born women are even more pronounced among the U.S.-born Mexican population (not reported). The close association between migration and union formation contributes to higher period fertility estimates. Standardizing the marital distribution of immigrant women in the 2002 NSFG according to the distributions observed for the U.S.-born reduces the TFR of Hispanic/Mexican immigrants by more than 10%, from 3.3/3.7 to 2.9/3.2. Such compositional differences need to be taken into consideration when comparing fertility levels across groups and even in population projections, since assumptions about immigration will also affect assumptions about the age and marital composition of the Hispanic population.

Migration and Birth Timing

Even after correcting for marital composition, period estimates of immigrant fertility remain unreasonably higher than those observed for U.S.-born Hispanic/Mexican women, women residing in countries of origin, and cohort estimates of CFR. Arguably, the main factor distorting period fertility estimates for immigrants is changes in the timing of childbearing associated with migration.

Demographers have long been aware of the inability of period TFRs to distinguish between changes in the timing and overall number of births. For

instance, if a young generation of women begins to significantly delay childbearing, the ASFRs for younger ages will be lower than those of older cohorts of women, resulting in a lower TFR even if completed fertility is ultimately the same. This phenomenon has received renewed attention in recent years in the literature on below-replacement fertility in Europe, where studies have found that delays in the timing of childbearing lead to TFRs that are biased downward (Bongaarts and Feeney 1998; Kohler and Ortega 2002; Schoen 2004).

In the context of migration, timing changes have the opposite effect of biasing TFRs upward. In his analysis of childbearing behavior among foreign women in Sweden, Andersson (2004) showed that immigrants tend to display higher levels of childbearing soon after migration. He concluded that “migration and family building . . . are interrelated processes and that it is always important to account for time since migration when fertility of immigrants is studied” (2004:747). In the Mexican-U.S. case, Lindstrom and Giorguli Saucedo (2007) also found that first births accelerate after Mexican women migrate to the United States. Similar findings are reported by Toulemon (2004) in France. Relying on longitudinal data, he showed that the fertility of immigrant women is lower before migration but accelerates rapidly in the years shortly after arriving in France.

Thus, ASFRs computed in the receiving country can significantly distort the period TFR if migration accelerates the *timing* of childbearing without changing the ultimate number of children born.¹⁰ Direct evidence of temporal distortions has generally been assessed by disaggregating the TFR into its birth-order components, especially first births. First-birth order TFR (TFR_1) is defined as the sum of age-specific first-birth rates and provides an estimate of the number of first births women would have by the end of their reproductive lives. By definition, TFR_1 cannot exceed unity because it is impossible for women to have more than one first birth. A TFR_1 higher than unity was observed in the United States during the baby boom years in the late 1940s and early 1950s, when women entered into childbearing at significantly younger ages than their predecessors (Bongaarts and Feeney 1998). This acceleration of childbearing produced TFRs higher than the actual number of children that women ultimately bore.

Figure 4 reports TFR_1 calculated from vital registration for Hispanic/Mexican women by nativity between 1990 and 2005. Once again, results document dramatic anomalies for immigrants. For U.S.-born Hispanic/Mexican women, TFR_1 is close to constant over the period and hovers around 0.8, a rate very similar to that observed among non-Hispanic white women (not reported). The TFR_1 for immigrant Hispanic/Mexican women, on the other hand, is above 1 for the entire period of 1990–2005, which is literally impossible. The shape of the curve, which declines

¹⁰ It is also possible for migration to delay childbearing. Such an association would reduce period fertility estimates. How migration and childbearing are related is likely to vary across groups and contexts. In a comparison of fertility levels across immigrant groups in the United States, Camarota (2005) found that the fertility of people from China, Canada, and the United Kingdom in the United States is higher than in their home countries. The opposite applies to immigrants from the Philippines and Vietnam. Bledsoe and colleagues (2007) also found considerable variation in differences in fertility levels between sending and receiving contexts across immigrant groups in Spain. In both cases, the authors did not discuss problems in the computation and interpretation of period fertility rates for immigrant groups. In my case, given the much higher fertility obtained for Hispanic immigrant women, I concentrate on its accelerating effects.

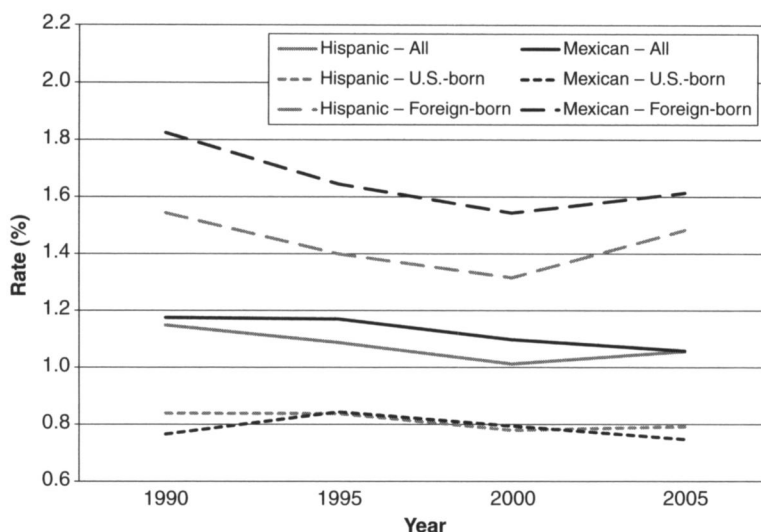


Fig. 4 First-birth rate for Hispanics/Mexicans in the United States, by nativity. Birth data are from vital statistics (http://www.cdc.gov/nchs/data_access/Vitalstatsonline.htm). Population estimates are from the 1990 and 2000 censuses and the 2005 American Community Survey

from 1990 to 2000 and then rises again, is similar to the overall trend in TFR and likely also reflects errors in estimating the size of the foreign-born population. Regardless, TFR_1 for immigrant women is so far above unity (1.8 and 1.6 for Mexican women in 1990 and 2000, respectively) that the average for Hispanics as a whole (including U.S.-born women) is also above unity throughout the period.

The main mechanism undergirding the disruption in period TFR_1 , and consequently overall TFR estimates, is the close association between migration and family formation. Figure 5 documents this association. The figure uses retrospective fertility information from the 2002 NSFG to construct fertility rates by age cohort according to time in the United States. The x-axis represents time since arrival, with 0 indexing rates before and after migration. In a pattern consistent with the one observed in Europe, fertility rates among immigrant Hispanics are low before migration but rise dramatically after arrival, peaking during the first five years in the United States and subsequently declining rapidly, *independent of age*. As a result, timing issues among immigrant women, combined with rapid immigration, are in large part responsible for the inflation of period fertility estimated for the Hispanic/Mexican population.

As a corollary, the finding implies that the regional differences in Hispanic fertility observed across the United States are in large part the product of the relative size of the immigrant population and its recency of arrival. Regional disparities in fertility behavior have garnered increased attention in recent years as the Hispanic population has dispersed to new destinations across the United States. One concern is that Hispanics' high fertility will rapidly alter the racial/ethnic makeup of local communities. Figure 6 plots estimates from vital registration reports (Sutton and Mathews 2006) of TFR and TFR_1 according to the share of Hispanic immigrants who arrived recently (i.e., during the previous five years) according to estimates from the 2000 census. Results show that state-level variation in fertility rates is

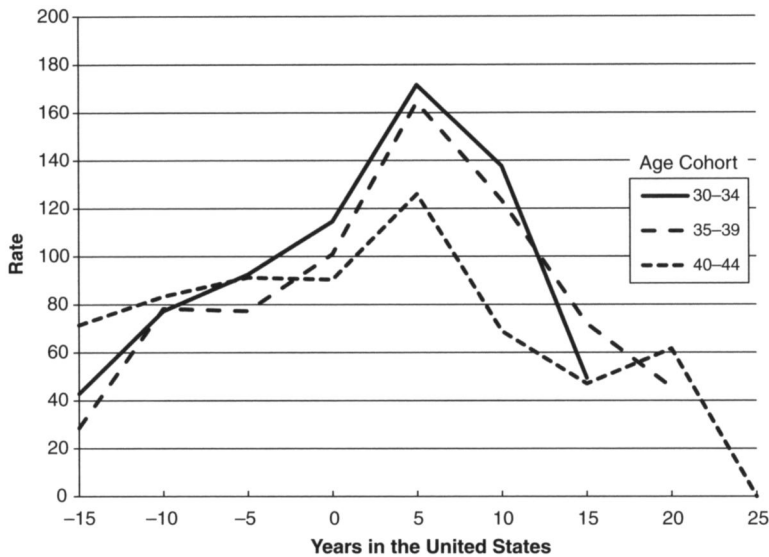


Fig. 5 Fertility rates for Hispanic women before and after migration, by age cohort. Data are from the National Survey of Family Growth, 2002

positively associated with the size of the recently arrived immigrant population. Moreover, the association is very close to linear. To illustrate, New Mexico has the smallest share of recently arrived immigrants, 6.4%, and the TFR for the Hispanic/Mexican population is around 2.3 for both groups. At the other extreme, in North Carolina, 51.1% of Hispanic immigrants arrived recently, and the Hispanic/Mexican TFRs are estimated at 3.7 and 4.4, respectively.

Moreover, first-birth estimates show that while rates above unity are registered across almost all states, they increase in conjunction with the share of the immigrant

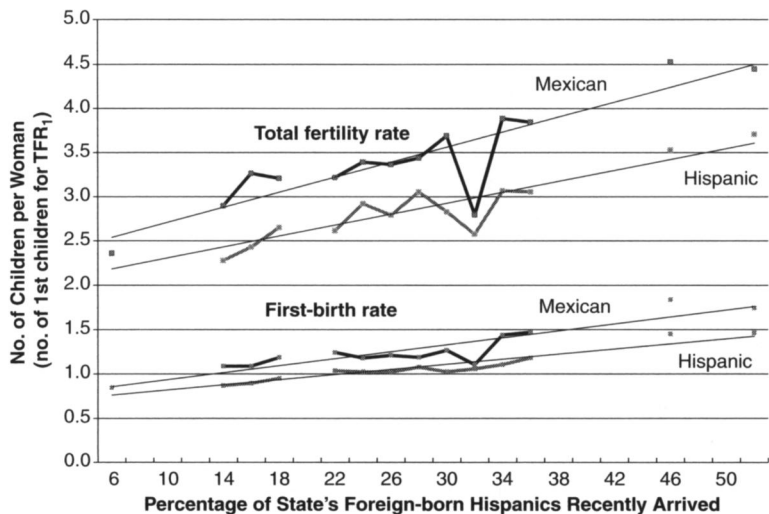


Fig. 6 Vital statistics estimates of total and first-birth rates according to percentage of foreign-born Hispanics who are recently arrived, by state in 2000. Data are from Sutton and Mathews (2006)

population that arrived recently. To illustrate, in New Mexico, TFR_1 for Hispanic/Mexican women is 0.8; in North Carolina, the rate is 1.5 and 1.7 for Hispanics and Mexicans, respectively. The main implication is that these distortions in fertility estimates are even more pronounced within local areas, and studies elaborating on the fertility behavior of Hispanic/Mexican women in particular areas of destination need to pay explicit attention to how immigration affects their estimates.

Cohort Estimates of Hispanic/Mexican Fertility

A straightforward way to avoid tempo distortions is to rely on measures of completed fertility (Schoen 2004). As discussed earlier, CFR captures the actual childbearing of cohorts of women who have completed their reproductive lives, rather than the hypothetical estimate obtained from period TFR. Although CFRs are not meaningful for younger cohorts of women, who have yet to complete their reproductive careers, in this case they provide the most robust test for assessing how high Hispanic/Mexican fertility actually is. Moreover, examining their trends over time can provide meaningful insights about fertility differences across groups and the potential impact of Hispanic/Mexican fertility on U.S. population growth.

Figure 7 uses data from the June fertility supplement to the CPS at seven time points (1995, 1998, 2000, 2002, 2004, 2006, and 2008) to trace CFR for Hispanic women aged 35–39 and 40–44 by nativity status. Similar findings are obtained for Mexican women, for whom estimates are reported in the appendix. To make CFR estimates comparable to period fertility, the x-axis reports the year when the different cohorts were approximately age 25.¹¹ In addition, to facilitate the interpretation, the figure plots a three-year moving average trend applied to CFR estimates as well as the TFR obtained from published vital statistics reports already reported in Fig. 1 (Martin et al. 2009).

Even going as far back as 1978, the completed fertility of Hispanic/Mexican women was never as high as the TFR reported in vital reports after 1990. In 1989, the most recent year when cohort and period estimates overlap, the cohorts of Hispanic women averaged 2.3 children per woman. The period TFR counterpart was 2.9. Moreover, between 1978 and 1996, observed levels of CFR closely conform to a pattern of linear decline over time. The observed fertility level for all Hispanic women declined from 2.5 to 2.3 between 1978 and 1996.

In addition, the declining pattern obtains for both U.S.-born and immigrant Hispanics, although it is much more pronounced among the latter. The CFRs for foreign-born Hispanics fell from 2.7 in 1978 to 2.3 in 1996. Once again, this is below the fertility levels in the countries of origin documented in panel a of Fig. 1, but higher than the fertility of women born in the United States. The CFR of U.S.-born Hispanic women was already close to replacement levels in 1978—2.3 children per woman—and declined slightly during the period, reaching 2.2 in 1996. While the level and trends in CFR are sharply at odds with current representations and projections of Hispanic fertility, they are consistent with the fertility levels registered in countries of origin and among U.S.-born Hispanic women.

¹¹ For instance, in the 1995 CPS, women aged 40–44 were born between 1951 and 1955. Taking the midpoint, 1953, and adding 25, which approximately corresponds to the mean age at childbearing, yields 1978—the year when cohort and period measures can be compared.

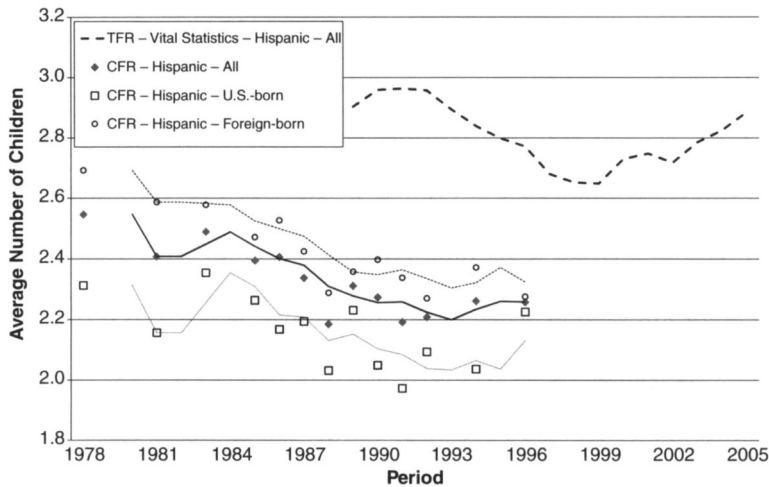


Fig. 7 CFRs for Hispanic women (ages 35–39 and 40–44) and reported TFRs

Given the levels of CFR observed in the early 1990s and the clear and continuous downward trend in fertility since 1978 among both foreign- and U.S.-born Hispanic/Mexican women, how reasonable are current estimates of TFR and assumptions in population projections? Even if we assume no change in fertility levels, the 2.25 CFR observed for Hispanics in 1996 is *half a child lower* than the 2.73 assumed 5 years later, in 2001, by the Census Bureau in its population projections. By 2005, vital registration estimates report TFR for Hispanic women at 2.9.

I have provided robust evidence that current fertility of U.S.-born Hispanics is near replacement levels with no sign of an upward trend in any data source. The CFRs reported in Fig. 7 show the actual completed fertility for U.S.-born Hispanics already fluctuating around 2.3 and 2.0 between 1978 and 1996. Continuing this trend, the TFR estimates obtained from vital registration statistics (Fig. 2) as well as from the 2000 and 2008 ACS, the 2002 NSFG, and the 2006–2008 CPS (Table 1) show recent fertility levels to be around 2.0 or 2.1 among U.S.-born Hispanics. Such levels of U.S.-born Hispanic fertility imply that to reach 2.73 for all Hispanics in 2001, as assumed in Census Bureau's population projections, immigrant fertility would have to increase by 0.9 children in five years, from 2.3 in 1996 to 3.2 in 2001. Moreover, to achieve the 2.9 level in estimated TFR in 2005, immigrant fertility would have to increase by 1.2 children, reaching 3.5 children per woman in nine years. For comparative purposes, between the bust and peak of the U.S. baby boom, fertility increased by 0.9 children over the course of 21 years, from 2.3 in 1937 to 3.2 in 1958 (Schoen 2004).

Given the lack of obvious change in the composition or minority group status of Hispanics after 1996, care must be taken in all analyses based on TFR to ensure that the assumptions embedded in period measures do not produce biased results. If researchers are to argue that the fertility of the most recent cohorts of women is so dramatically higher than what would obtain from trends in CFR, they must explain the social, economic, or political mechanisms that are producing this dramatic and unprecedented change in behavior, including the social processes accounting for the 0.5 child disparity between CFR and TFR estimates between 1989 and 1996, as well as TFR_1 being well above unity.

Discussion

In this article, I argue that current and commonly cited estimates considerably overstate the level of U.S. Hispanic fertility. The distortion arises almost exclusively from problems in estimating period fertility measures for the immigrant population. Three main processes distort period estimates of immigrant fertility. The first stems from difficulties in estimating the size of the immigrant population used as the denominator in calculating fertility rates based on vital registration systems. Second, even in survey data, the composition of the foreign-born with respect to age and marital status influences period estimates. The third and most dramatic distortion is produced by the acceleration in the timing of childbearing associated with migration. Together, these three factors lead to large overestimates of Hispanic immigrant fertility, particularly in years that are further away from the decennial census. Because a relatively large share of Hispanics in the United States are foreign-born (roughly 40%), these overestimates of immigrant Hispanic fertility also bias upward the fertility estimates for Hispanics as a whole.

I do not dispute that the U.S. Hispanic population is growing in both absolute and relative terms. In fact, the share of births attributable to Hispanic women increased from 15% to 25% between 1990 and 2006, even though they accounted for only 16% of women of childbearing age in 2006. The increase was even more pronounced for the Mexican population in the United States, whose share of births nearly doubled from 9% to 17%, even though they accounted for only 11% of women of childbearing age in 2006 (Martin et al. 2009).¹² Continued immigration from Latin America, combined with the youthful age structure of the immigrant population, will no doubt increase Hispanics' share of the U.S. population in future generations. However, most of the overrepresentation of Hispanics in the number of U.S. births stems from the contribution of immigrant women and the close association between migration and childbearing, *not* from the maintenance of high fertility rates over the reproductive life.

The distinction is of substantial importance to assessing both the impact of Hispanic immigration on the United States and the potential for Hispanic assimilation. First, assumptions of very high Hispanic fertility overstate the increase in Hispanic and decline in non-Hispanic white populations central to projections of the future racial and ethnic makeup of the United States. These assumptions imply that even if immigration from Latin America were to stop completely, the Hispanic population would continue to grow in relative size due to their higher fertility rates. Biased fertility estimates also misrepresent the behavior of U.S.-born Hispanic women, leading to the erroneous conclusion that Hispanic fertility is persistently high and does not follow the pattern of assimilation described by prior waves of immigrants. Taken together, these two misperceptions are often used to add fuel to anti-immigrant rhetoric. To provide one illustration, Mac Donald (2006) wrote the following in *City Journal*, a publication by the influential Manhattan Institute:

¹² However, when I disaggregate by nativity, U.S.-born Hispanic/Mexican women contributed 9%/6% of all births while representing 7%/5% of all women of reproductive age. Foreign-born Hispanic/Mexican women, in turn, contributed 15%/11% of all births while representing a much smaller 6%/4% of women of reproductive age. The difference again underscores the significance of immigrants for understanding Hispanic fertility.

Hispanic population over the next couple of decades does not bode well for American social stability. Hispanic immigrants bring near-Third World levels of fertility to America. . . . The dimensions of the Hispanic baby boom are startling. The Hispanic birthrate is twice as high as that of the rest of the American population. That high fertility rate—even more than unbounded levels of immigration—will fuel the rapid Hispanic population boom in the coming decades. By 2050, the Latino population will have tripled, the Census Bureau projects. One in four Americans will be Hispanic by mid-century, twice the current ratio.

While this may sound like an extremist position, distorted representations are prevalent among the general public. Alba and colleagues (2005) documented that in 2000, roughly half of Americans believed that whites had already become a numerical minority and that, among whites, overestimates of the size of racial and ethnic minorities were positively associated with negative attitudes toward immigrants, blacks, and Hispanics. Similarly, in a detailed examination of media representations, Chavez (2008) concluded that the perception of abnormally high Hispanic fertility is increasingly being framed as a threat to the social fabric of the United States.

These distorted representations can be fueled by official statistics. As such, subsequent analyses should pay explicit attention to the applicability of standard demographic measures to immigrant populations. Separating the behavior of U.S.-born and immigrant women is a required first step for producing population estimates among subpopulations with large immigrant representations. To the extent that birth certificates collect information on mothers' place of birth, this distinction could also be included in vital statistics reports. A careful consideration of the interplay between the timing of major life-course domains, such as marriage and migration, is also in order in studies of immigrant family behavior.

Acknowledgments I would like to thank S. Philip Morgan for the insights and ideas provided during many lengthy conversations about Hispanic fertility, and Joyce Martin for lending me her expertise with vital statistics data. I would also like to acknowledge the helpful comments and suggestions provided by Sam Preston, Chenoa Flippen, Michel Guillot, Nancy Landale, Doug Ewbank, and anonymous *Demography* reviewers.

Appendix

Table 2 Completed fertility rate for Hispanics/Mexicans

Period	Hispanics				Mexicans			
	Age Group: 40–44		Age Group: 35–39		Age Group: 40–44		Age Group: 35–39	
	U.S.- All born	Foreign- born	U.S.- All born	Foreign- born	U.S.- All born	Foreign- born	U.S.- All born	Foreign- born
1978	2.5	2.3	2.7		2.8	2.4	3.2	
1979								
1980								
1981	2.4	2.2	2.6		2.7	2.3	3.0	

Table 2 (continued)

Period	Hispanics						Mexicans					
	Age Group: 40–44			Age Group: 35–39			Age Group: 40–44			Age Group: 35–39		
	All	U.S.-born	Foreign-born	All	U.S.-born	Foreign-born	All	U.S.-born	Foreign-born	All	U.S.-born	Foreign-born
1982												
1983	2.5	2.4	2.6	2.5	2.3	2.6	2.7	2.4	2.9	2.7	2.4	3.0
1984												
1985	2.4	2.3	2.5				2.7	2.4	3.0			
1986				2.4	2.2	2.5				2.7	2.3	2.9
1987	2.3	2.2	2.4				2.5	2.3	2.7			
1988				2.2	2.0	2.3				2.3	2.1	2.5
1989	2.3	2.2	2.4				2.6	2.3	2.7			
1990				2.3	2.0	2.4				2.4	2.1	2.6
1991	2.2	2.0	2.3				2.3	1.8	2.5			
1992				2.2	2.1	2.3				2.4	2.2	2.4
1993												
1994				2.3	2.0	2.4				2.4	2.0	2.6
1995												
1996				2.3	2.2	2.3				2.4	2.3	2.5

Source: 1995, 1998, 2000, 2002, 2004, 2006, and 2008 Current Population Survey—June Supplement.

References

- Alba, R., Nee, R., & Nee, K. (2005). A distorted nation: Perceptions of racial/ethnic group sizes and attitudes toward immigrants and other minorities. *Social Forces*, *84*, 901–919.
- Andersson, G. (2004). Childbearing after migration: Fertility patterns of foreign-born women in Sweden. *International Migration Review*, *38*, 747–775.
- Bledsoe, C., Houle, R., & Sow, P. (2007). High fertility Gambians in low fertility Spain: The dynamics of child accumulation across transnational space. *Demographic Research*, *16*(article 12), 375–412. doi:10.4054/DemRes.2007.16.12
- Bongaarts, J., & Feeney, G. (1998). On the quantum and tempo of fertility. *Population and Development Review*, *24*, 271–291.
- Brea, J. A. (2003). Population dynamics in Latin America. *Population Bulletin*, *58*(1).
- Camarota, S. (2005). *Birth rates among immigrants in America*. Washington, DC: Center for Immigration Studies.
- Cerrutti, M., & Massey, D. S. (2001). On the auspices of female migration from Mexico to the United States. *Demography*, *38*, 187–200.
- Chavez, L. R. (2008). *The Latino threat: Constructing immigrants, citizens, and the nation*. Stanford, CA: Stanford University Press.
- Guzman, J. M., Singh, S., Rodriguez, G., & Pantelides, E. A. (Eds.). (1996). *The fertility transition in Latin America*. Oxford, UK: Clarendon Press.
- Hofer, M., Rytina, N., & Baker, B. C. (2009). *Estimates of the unauthorized immigrant population residing in the United States: January 2008 (Population estimates)*. Washington, DC: Department of Homeland Security, Office of Immigration Statistics.

- Huntington, S. (2004). The Hispanic challenge. *Foreign Policy*, March/April, 30–46.
- GAO. (2009). *Illustrative simulations of the likely effects of underrepresenting unauthorized residents*. U.S. Government Accountability Office. U.S. Labor Force Statistics. GAO-10-99.
- Jejeebhoy, S. J. (1995). *Women's education, autonomy, and reproductive behaviour: Experience from developing countries*. Oxford, UK: Clarendon Press.
- Jonsson, S. H., & Rendall, M. S. (2004). The fertility contribution of Mexican immigration to the United States. *Demography*, 41, 129–150.
- Kohler, H. P., & Ortega, J. A. (2002). Tempo-adjusted period parity progression measures, fertility postponement and completed cohort fertility. *Demographic Research*, 6(article 6), 91–144. doi:10.4054/DemRes.2002.6.6
- Landale, N. S., & Oropesa, R. S. (2007). Hispanic families: Stability and change. *Annual Review of Sociology*, 33, 381–405.
- Lindstrom, D. P. (1998). The role of contraceptive supply and demand in Mexican fertility decline: Evidence from a microdemographic study. *Population Studies*, 52, 255–274.
- Lindstrom, D. P., & Giorguli Saucedo, S. (2007). The interrelationship between fertility, family maintenance, and Mexico-US migration. *Demographic Research*, 17(article 28), 821–858. doi:10.4054/DemRes.2007.17.28
- Mac Donald, H. (2006). Hispanic family values? *City Journal*. Retrieved from http://www.city-journal.org/html/16_4_hispanic_family_values.html
- Martin, J. A., Hamilton, B. E., Ventura, S. J., Menacker, F., & Park, M. M. (2002). Births: Final data for 2000. *National Vital Statistics Reports*, 50(5). Hyattsville, MD: National Center for Health Statistics.
- Martin, J. A., Hamilton, B. E., Sutton, P. D., Ventura, S. J., Menacker, F., Kirmeyer, S., & Mathews, T. J. (2009). Births: Final data for 2006. *National Vital Statistics Reports*, 57(7). Hyattsville, MD: National Center for Health Statistics.
- Parrado, E. A. (2000). Social change, population policies, and fertility decline in Colombia and Venezuela. *Population Research and Policy Review*, 19, 421–457.
- Parrado, E. A., & Flippen, C. A. (2005). Migration and gender among Mexican women. *American Sociological Review*, 70, 606–632.
- Parrado, E. A., & Morgan, S. P. (2008). Intergenerational fertility patterns among Hispanic women: New evidence of immigrant assimilation. *Demography*, 45, 651–671.
- Passel, J. S., & Cohn, D. (2008). *U.S. population projections: 2005–2050*. Washington, DC: Pew Research Center.
- Preston, S. H., & Hartnett, C. S. (2011). The future of American fertility. In J. B. Shoven (Ed.), *Demography and the economy* (pp. 11–36). Chicago, IL: National Bureau of Economic Research, University of Chicago Press.
- Schoen, R. (2004). Timing effects and the interpretation of period fertility. *Demography*, 41, 801–819.
- Sevak, P., & Schmidt, L. (2008). *Immigrant-native fertility and mortality differentials in the United States* (WP2008-181). Ann Arbor: Michigan Retirement Research Center, University of Michigan.
- Sutton, P. D., & Mathews, T. J. (2006). Birth and fertility rates by Hispanic origin subgroups: United States, 1990 and 2000. *Vital Health Statistics* 21(57). Hyattsville, MD: National Center for Health Statistics.
- Toulemon, L. (2004). Fertility among immigrant women: New data, a new approach. *Population & Societies*, 400, 1–4.
- U.S. Census Bureau. (2008). U.S. population projections. Retrieved from <http://www.census.gov/population/www/projections/methodstatement.html>
- Walti, C. (Forthcoming). Estimaciones de la fecundidad con la ENADID—2006. [Fertility estimates from the 2006 ENADID]. In A. M. Chávez and C. Menkes (Coord.), *Procesos y tendencias poblacionales en el México Contemporáneo. Una mirada desde la ENADID 2006*; CRIM-UNAM, SECRETARÍA DE SALUD; México, D.F.