A Faulty Demographic Road Map to the Future

by B. Meredith Burke

By the year 2100 the U.S. current 275 million population will most likely be a) 275 million; b) 571 million; c) 1.2 billion; d) somewhere in between. Welcome to the exercise of assessing the Census Bureau's newly-revised projections to the year 2100. The Bureau first generated a "middle" level set of projections for each category, then tied "low" and "high" projections to this. The authors expressly state that they do not consider the extreme projections likely.

Projections are only as good as their assumptions. The Bureau's assumptions of the course of future fertility and migrations certainly invite criticism.

Consider fertility. National projections incor-porate a starting level (easily attainable from the NCHS, the National Center for Health Statistics), assumptions about how many children women in a given group will bear in the future, and about possibly changing proportions of total births contributed by various ethnic or national origin groups. Projections generally measure fertility by the TFR or total fertility rate, the number of births a woman can expect by the end of childbearing given the rates prevailing in the specified year. The Bureau defined its "low" and "high" levels as 15 percent divergence from the year 2025 middle level, and 25 percent divergence by the year 2100.

The Bureau's tables start by projecting to 1999 the actual 1998 TPRs of non-Hispanic whites (hereafter referred to as "whites"), blacks, American Indians, Asians, and Hispanics (nearly all of whom are white though they may be of any race). The white TFR has hovered at the 1999 level of 1.8 all decade long (National Center for Health Statistics data). Yet the report's authors contend that this was "near 2.0 and 2.1,"

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throughout the decade, or 10-15 percent higher than their own table accurately uses.

Which of the "low," "medium," or "high" projections has the most probable white fertility assumptions? Since 1972 white women have consistently shown fertility not just below the replacement level of 2.1 but well below. The Bureau's "lowest" projections posit that the TFR for this group will gradually decline to 1.55 by 2100, which seems consistent with the current very low fertility in a number of Western European nations. The "middle" projections posit a slight increase to 2.07 by 2100. This 15 percent gain, a certainly possible fluctuation, seems less than likely given the century's probable increasing environmental stress, rising housing costs, and near-universal labor force participation by this group.

We can dismiss out of hand the "high" projection's assumed white fertility path, rising to 2.6 by century's end. This level was last seen in the early 1960s as we were emerging from the postwar baby boom under socioeconomic circumstances unlikely to be duplicated.

Blacks show higher fertility than whites under age 25 and lower thereafter. Since 1980 their TFR has varied between 20-40 percent higher than the white TFR, partly reflecting the different age distribution among childbearing-age black women. As this differential has narrowed (black teenage fertility is falling — though still two-and-a-half times the level for non-Hispanic whites), the low series' assumption that black fertility will drop to 1.8 by 2025 and 1.6 by 2100 is plausible. Here the middle series' assumption of reaching, then hovering around replacement-level fertility does seem the most realistic. The "high" series assumption that the black TFR will rebound to 2.6 by 2100 seems highly unlikely.

Since 1993 Hispanic births have outnumbered black. It is the course of Hispanic fertility, already the second largest ethnic category and possibly by the year 2200 if not before the largest, that is the most contentious — and the most influential in determining the 21st century path of total U.S. fertility. Its seeming stability at the 3.0 level throughout the 1990s (two-thirds higher than that of non-

Hispanic whites) masks the changing ethnic composition of Hispanic women giving birth and the different fertility levels and trends of these subgroups. Mexican and Central and South American-origin women are now 70 and 14 percent of Hispanic mothers, followed distantly by Puerto Rican-origin women (bearing 7.8 percent of Hispanic births), and by Cuban-origin women (1.8 percent).

TFRs for the two largest categories, 3.3 and 2.6, are being buoyed by births to foreign-born women, 61 and 91 percent of their respective categories. Meanwhile, since 1994 the Puerto Rican TFR has fallen to just above replacement level due to a drop in below age-25 rates (it remains to be seen if this drop signifies postponement or the emergence of lower desired ultimate fertility). Conversely, Cuban fertility has risen from a very low 1.4-1.5 in a continuing drop to Mexican-American women. (The vast majority of Hispanics applying to legalize their status under IRCA resided in California and had entered since 1980.) By 1990 the Hispanic TFR had rebounded to 3.5, where it remained through 1993, the last available year. If we assume that the fertility of Mexican-American women in fact continued to decline during the 1980s to a TFR of 2.3 by 1990, Mexican nationals need have a TFR of 4.1 to yield an overall 3.5.

The Bureau states it bases its short-term (to year 2025) projections upon birth expectations data and demographic predicting convergence to the national level. However, should large-scale Mexican and Central American immigration (legal and illegal) continue, the largest fraction of Hispanic women giving birth in 2025 may never have expressed their birth expectations to an American researcher. Furthermore, as Hispanics play an ever-greater role in influencing national fertility levels, they may be converging toward their own level: a mathematical tautology.

The report's low series shows the Hispanic TFR declining from 2.9 in 1999 (the latest published data, for 1997, shows 3.0) to 2.3 by 2025 and 1.7 in 2100. Given the slow assimilation of a low fertility ideal by Americans of Mexican origin this rapid assimilation by a largely foreign-born group with initial median education of six years is improbable in the extreme.

The middle series assumes a drop to just under 2.7 by 2025 and to below 2.6 by 2050. For this to occur the at- or below-replacement TFRs for Puerto Rican and Cuban-origin and native-born Mexican-origin women would have to fall precipitously to balance the 3-to-4 TFR of the dominant group, Mexican nationals. Alternatively, immigration from Mexico and other Latin American countries would have to be sharply curtailed — which conflicts with the assumptions about immigration embodied in the projection.

The high series (recall, 25 percent above the middle series post-2025) supposes the Hispanic TFR to remain in the 2.9-3.1 interval. This is quite likely for the first quarter-century but arguably too high for the long-term.

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immigrants entering later on will show lower fertility than those of the recent past. Balanced against the 1.8-2.2 fertility range of the other Hispanic groups the blended fertility level may fall to 2.5-2.7. Without curtailing immigration the overall Hispanic TFR may most likely lie between the middle and high assumptions.

Total national fertility reflects both the rates and the weighting of the various ethnic groups. It will never near the level of the lowest group(s) as long as significant differences remain among the largest categories. Therefore, the low series is immediately seen as implausible. But the high series is equally implausible as it posits that whites return to a fertility level incongruous with the likely physical and social environment. The middle series may prove to be quite accurate because dubious assumptions cancel out. The higher fertility and greater weight we consider most likely for the Hispanic category will be offset nationally by the very low fertility and diminishing weight of the white category (we will assume that blacks and Asians will hover around replacement level). The middle set of projections posits a slight rise to a 2.2 TFR for most of the century.

Immigration has emerged as the major source of American population growth in the last decade of the 20th century, if natural increase (births less deaths among this group) is included. How plausible are the immigration assumptions of the different sets of projections?

The Bureau correctly notes that predicting immigration involves more uncertainty than projecting fertility or mortality. The first is highly and immediately responsive to policy shifts. The Bureau also says its "middle series" of projections should be considered the most likely.

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Presumably, then, this series should use the most likely assumptions about each of these variables.

As pertains to immigration, "most likely" is an ambiguous term. Does this arise from a constant net flow or from unchanged public policies? Note the two are incompatible.

In the 1990s legal immigration has been running on the order of 1 million plus a year. This does not correspond to the number of people who physically legally entered the country with an intention to settle permanently. INS terminology includes many already here who applied for a change in status, as well as excluding many who physically entered the country ineligible to apply for legal permanent resident status at this time but who qualify to do so later. Refugees and asylees (among others) are generally admitted above quota.

Estimates of net illegal entrants range from 300,000 to 500,000 annually. The Census Bureau stubbornly adheres to the figure 225,000 for annual increases to the illegal population, even as the INS has used 275,000. Considering that the number of entrants applying to legalize their status under 1986 IRCA legislation was

twice that originally estimated, a strong case can be made for a higher number. Each revised official estimate is higher, and the Bureau's own Current Population Surveys — which are widely assumed to undercount those here illegally — suggested that in 1990-94 Mexico alone generated 250,000 illegal entrants annually. The Center for Immigration Studies suggested 400,000 a more plausible estimate of annual illegal entrants from all sources.

Currently, there has been growth in foot traffic from Central America and southern Mexico headed to the U.S. border; the Canada/U.S. border is emerging as an entry point targeted by smugglers of illegal entrants from Asia and the Middle East. Recent news stories about the use of containers intended for ocean freight being employed as "cages" for transporting aspiring entrants to the U.S. suggest that the ingenuity of smugglers has yet to be fully tested.

The report estimates in-migrants, out-migrants, and net migrants. It uses absolute numbers for the first, rates for the second, and numbers for the last variable. The Bureau ties its "low" and "high" estimates not to U.S. internal policies or increased outside demographic pressures but to arithmetic assumptions about the ratios of high estimates to middle, and middle to low. In 2050, yearly intake under the high assumption is 75 percent higher than the middle; in 2100 150 percent higher. Under the low assumption intake in 2050 is 57 percent of the middle; in 2100 it is 40 percent.

For the period 2000-2030 the "middle series" assumes "a modest rise in in-migration from 1,234,000 in 1998 to 1,272,000 in 2002, a decline to 1,036,000 by 2010, followed by a gradual rise to 1,090,000 by 2020. The Bureau assumes that IRCA-related family reunification will decline without any counter-balancing increase from other recent entrants, and that refugee admissions from Yugoslavia will decline, again without any new surge of refugees. Legal migration from Mexico is assumed to return to the levels of the early 1990s by 2010. Illegal entrants from Mexico and Central American are assumed constant at the levels assumed for the 1990s base series.

From 2020 to 2030 in-migration would increase from

1,090,000 to 1,450,000. Henceforth, for the rest of the century, migration into the U.S. would remain numerically constant at 1,450,000. By admitting that projecting a large increase in entrants "would tend to overlook the possibility of restrictive policies" intended to limit such a shift, the Bureau tacitly acknowledges that its mid-level set of estimates assigns a high probability of movement toward more restrictive legislation. This is nowhere stated as a precondition for a stable intake of 1.4 million.

The "low series" assumes an influx of 1.1 million in 1999, 628,000 in 2025, 643,000 in 2050, and 580,000 in 2100. Though the report's authors do not state this, such a decline would require both far more restrictive legislation *and* far more effective border patrol enforcement along with willingness to deport illegal aliens. Note that the authors did not calculate a series that (given low domestic fertility) would stabilize population by year 2050 if not before. That level would not exceed 200,000.

Finally, the high series assumes in-migration as 1.4 million in 1999, 2.6 million in 2025, 3.3 million in 2050, and 3.6 million in 2100.

As for the numbers of emigrants: the Bureau assumes the annual foreign-born emigration rate (returnees) will be constant throughout the middle series at 12.1 per thousand (1.2 percent). As the base foreign-born population increases, this will result in larger numbers of out-migrants. [Note: the Bureau concedes that since the middle series posits a constant number of in-migrants, this implies a decline in annual net immigration and "an even greater decline in the impact of (immigrants) relative to the overall population size."]

Inexplicably, the "high" and "low" series' emigrants were not assumed to vary with the base population (which would be correspondingly higher or lower than that in the middle series) at a steady rate of 1.2 percent. Rather, the *rate* of emigration was assumed to vary in inverse proportion to the change in the projected numbers of entrants. The result is to assign a 0.9 percent exit rate to the high series base population in 2000 and a 1.5 percent exit rate to the low series base population. By the year 2100 the exit rate for the high population is down to 0.49 percent while that for the low series is 3.0. The result is to exaggerate the extreme net immigration estimates: the high is larger due to fewer leavers; the low is smaller, due to a very high rate of out-migration. Note that the emigration assumptions result in 463,000 out-migrants for the low series in 2100, 524,000 for the middle series, and 586,000 out-migrants for the high.

To appreciate how extreme these rate assumptions are, consider the base foreign-born populations the Bureau has calculated for the year 2100. By dividing the number of emigrants by the applicable rate we see the Bureau has somehow calculated a total foreign-born population in 2100 of 15.4 million for the low series (most peculiar as the number of net immigrants this model allows for in the preceding 60 years is roughly 10.5 million, a likely estimate of those alive in 2100). The middle series yields a total foreign-born population in 2100 of 43.7 million; the high series 119.6 million (again, the model allows for 172 million net immigrants total during 2040-2100, so the mortality assumptions must be quite high). The emigration assumptions would have us believe that base populations ranging from 15 million to 120 million would produce an emigrant flow that varies only by 125,000 per year!

There may well be a change in the rate of out-migration over the course of the next century — but a more defensible assumption is that this will vary over time and be caused by world conditions rather than by the size of the resident foreign-born population.

The middle series permits net immigration to fluctuate between 912,000 and 984,00 during the century, ending at 926,000. The low series claims a net of 739,000 for 1999; 183,000 for 2025, and a mere 117,000 by 2100. The high series begins with an arguably realistic net flow of 1.2 million in 1999; a near-doubling to 2.3 million in 2025; a continuing rise to 2.8 million in 2040; and to 3.0 million by 2100.

To assess the policies that would result in the "low," "medium," or "high" net immigration estimates, consider the demographic context of these projections. U.S. officials optimistically project that today's 6 billion world population will add "only" 3 billion by year 2050 and perhaps another 1.5 billion by 2100. Mexico, by far the largest source of U.S. immigrants legal and especially, illegal, may see its current near-100 million rise to 250 million or more. For the past three decades Congress has maintained an expansive view towards entrants, adopting

the world's most generous family reunification policy.

The Bureau contends that with static numbers of entrants, the numbers from the Western Hemisphere and Europe will diminish and be just offset by growing numbers from the Middle East, South and Southeast Asia, China, and sub-Saharan Africa. The critical reader will wonder how a continuing sharp increase in the number of Mexicans age 15-30, the ages most likely to emigrate, will result in a diminished number of entrants, and how a grossly-enlarged world population will generate only a tiny increment to those attempting to enter the U.S.

Is it realistic to think that in this context a constant net flow will result from unchanged policies and enforcement?

By opting for a constant intake the "middle series" in fact presupposes a more restrictive policy.

If the Census Bureau really wanted to emphasize the fact that immigration is policy-generated and not a "given," it could present its immigration estimates in terms of national policy. The Bureau could starkly inform its audience that, first, the public and our policymakers need to decide: do we want a constant population, a constant immigration flow, or a constant policy? Then it could present its analysis of what each course of action would entail.

The middle estimate could be described as that resulting from "unchanged policy which tends to peg entries to the numbers striving to enter"; lower estimates resulting from "constant or declining numbers of entrants which implies a more restrictive policy"; or higher estimates as those resulting from "liberalized policy which expands quotas faster than the number of entrants applying."

By describing its immigration estimates in terms of

"likelihood," the Bureau reinforces in the mind of the naive reader the false impression that projections are self-fulfilling prophecies that cannot be readily changed.

Demographers understand projections are merely road maps to the future. They depict where a certain path will deliver us. If we don't like the destination, we can change our path. Unlike what many of the lay public, including politicians may think, projections are mutable. Indeed, if we know our desired destination, we can seek

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out paths that take us there.

Unlike cartographers, demographers offer more than one road map or set of assumptions as demographic behavior is less fixed that a road system.

Usually they offer a "low," "medium," and "high" set of projections corresponding to the assumed course of future fertility, mortality, and migration. The "medium" level is often regarded as the most likely and tends to assume present behavior will continue.

Unfortunately, the Census Bureau's new projections seem founded more upon wishful or politically-placating assumptions than upon a disinterested assessment of recent behavior and the forces likely to affect it over the course of the next century.   €