

# Demographic Dimensions of the New Republic

*American Interregional Migration,  
Vital Statistics, and Manumissions,  
1800 – 1860*

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and

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# 1

## Introduction and Summary

### 1.1 General

(a) The problem. Of all numerical series that document the progress of a nation, none is more fundamental than its population statistics. In the changing patterns of birth and death rates, population expansion and migration, can be found the quantitative strands indispensable to weaving any larger tapestry of the economic history of a people. Without them, the larger picture is incomplete. This study attempts the first comprehensive analysis of vital statistics and migration patterns within the United States between the Revolution and the Civil War. It is anchored in the one available source for nationwide estimates, the decennial censuses, and supplemented wherever possible by other relevant data. It attempts to provide, for black and white populations, a consistent set of estimates of birth and death rates, rates of natural increase, and net international and interregional flows. For the black population, it also estimates the changing pace of manumissions in the ante-bellum decades. In short, the goal of this work is to provide the demographic components too long absent from the historical and demographic analysis of the period. The results are twofold: a set of data and a set of questions suggested by the data that promise novel challenges for historians of the ante-bellum era.

In the most aggregate of demographic data, puzzling patterns are not difficult to find. As indicated in Table A-1, the North American rate of increase was unequalled on any other continent during the first half of the nineteenth century. But how much of this population growth could be attributed to the influx of immigrants? Was the high rate of natural increase of the domestic population - if it was high - more the result of exceptionally low death rates or high birth rates? The absolute level and secular trend of the death rate is a key numerical input to any study of the impact of early industrialization and modernization on the welfare of Americans. Of similar importance to studies of changing family structure is the level and trend of birth rates. These variables, combined with estimates of interregional migration and manumissions, should also provide valuable numerical inputs to the continuing debate concerning the lot of black men and women in the newly united states.

Three facts are striking. First, the only adequate data base to study such

problems at the national level is the census data. If the objective is to derive birth and death rates for the nation as a whole, parochial studies of plantation records or bills of mortality will not do. Second, the most obvious way to estimate net migration – the census survivor technique – blends naturally into a study of vital rates. Third, no consistent study of both migration and vital rates has been undertaken previously for the white and Negro populations of ante-bellum America, despite the importance of both and the logical connection between the two. These three considerations were the primary motivating force for this study.

Two problems had to be resolved at the outset. The first was methodological in nature, concerning the optimal way to deal with imperfections in historical data. The second was to choose a set of regions as a necessary first step for estimating interregional migration.

(b) The question of method. The basic problem is easy to state and difficult to solve: How should numerical estimates be corrected for imperfections in historical data, when the degree of imperfection remains largely unknown? Census data are merely a case in point. They are the indispensable ingredient for any study of vital statistics for the nation as a whole, but a flawed ingredient. Perhaps the most striking evidence of imperfections in the original data is the negative death rates they imply for certain age cohorts during various intercensal periods. Further confounding the accuracy of the estimates of this study is the complete absence of certain required data, such as slaves smuggled into America, overland migration from Canada, and the population in unenumerated territories. This absence of data can only be overcome by a variety of assumptions, some more tenuous than others.

How should the historian regard the numerical estimates generated by such procedures, anchored as they are in imperfect data and assumptions difficult to verify? Or to give the question a pragmatic twist, how useful are such numerical estimates likely to be to the historian who needs them to test a given hypothesis? The answer is perhaps best explored in the context of examples of specific imperfections and associated hypotheses.

The defects of early censuses are a familiar and frustrating topic: familiar because any study using these data must note that imperfections exist; frustrating because the magnitude of such imperfections generally remains unknown. So traditional caveats become that their very repetition may dull the reader's sense of how perilous numerical ventures can be when launched from this uncertain data base. Writing about collection procedures in the South in 1850, for example, Frederick Olmsted described the census marshals as 'generally excessively lazy, and neglectful of their duty, among that class which was most ignorant or indifferent on the subject. I have seen an advertisement of a deputy census marshal, in Alabama or Georgia, announcing that he would be at a certain tavern in his district, on a certain day, for

the purposes of receiving from the people of the vicinity - who were requested to call upon him - the information it was his duty to obtain from them.<sup>1</sup> From his vantage point as superintendent of the 1870 census Francis Walker noted pessimistically the implications of such procedures. 'I cannot but believe, upon full consideration of all the information which it has been possible to gather on the subject, that the two practices of "farming out" subdivisions, and of "taking the census" at elections and on court days, instead of through the visitation by the assistant marshal of each dwelling-house in his subdivision, in turn, were general throughout the Southern States in 1850 and 1860, and not infrequent elsewhere. . . Both are in the last degree destructive of all accuracy of enumeration.'<sup>2</sup>

For the demographer and the historian, Walker has overstated the case. The relevant issue is not whether census data are completely accurate. They never are. Or to put the matter more cautiously, they can never be known to be completely free of error. As will be argued repeatedly below, the likely degree of accuracy must always be kept in mind in gauging whether or not the results of numerical manipulation can be accepted as a reasonable confirmation or disproof of a particular hypothesis. To ascertain the secular decline in white birth rates, for example, or the broad patterns of inter-regional migration, requires only the roughest accuracy in the data base. Accordingly, estimates of such general trends can be viewed with considerable confidence. (Put another way, sensitivity analysis would reveal that our conclusions are robust with respect to likely values for the data.)

Other estimates, however, require a high degree of accuracy in the underlying data. A case in point is the miscegenation estimate of Fogel and Engerman.<sup>3</sup> Their calculation depends critically upon the estimated mulatto population in 1850 and 1860. The probable degree of accuracy of the final result is difficult to gauge, in part because (a) free mulattoes were concentrated in urban centers and subject to serious underenumeration,<sup>4</sup> (b) the term 'mulatto' was never defined by the Census Office at this time, and (c) no specific instructions were given in 1860 to record mulattoes at all.<sup>5</sup> Without a reasonably accurate count of the population concerned, any estimate of miscegenation becomes highly conjectural.

The general problem is thus a tension between hypothesis testing and data accuracy; between the probable degree of accuracy of numerical estimates on the one hand, and, on the other, the degree of accuracy needed in those numbers if they are to be used to test a given hypothesis. What the historian therefore needs when confronted with any numerical series is some means of gauging how accurate that series is likely to be. This is a tall order. Those who generate numerical estimates can aid this gauging process, albeit imperfectly, in five predictable ways.

First, and most predictable of all, the reader can be alerted to the tenuous nature of the numbers before him. Without a vigorous warning, too many are

inclined to accept as demonstrated fact what is, at best, an approximation to the truth. Or as Alexis de Tocqueville preferred to put the matter, 'The mind is easily imposed upon by the affection of exactitude which marks even the misstatements of statistics; and it adopts with confidence the errors which are appared in the forms of mathematical truth.'<sup>6</sup>

Second, the assumptions, procedures, and evidence that underlie the numerical estimates can be made explicit. This documentation, where possible, should be accompanied by an assessment of how well founded or precarious the assumption or procedure or evidence appears to be.

Third, sensitivity analysis can be used to indicate the impact upon numerical estimates of modifications in initial assumptions. Moreover, estimates can be reported contingent upon different values for estimated variables. Procedures such as these are particularly crucial for those assumptions that appear to be most tenuous.

Fourth, and perhaps most controversial, modifications in initial data can, in some sense, be kept to a minimum. The lurking problem is most easily seen by considering the alternative strategy. A data series of population age cohorts, for example, that is relatively unsmooth in its original form can always be converted into a smooth series by repeated modifications. The difficulty is that, as modifications multiply, the reader is hard pressed to evaluate the probable accuracy of the final product. And it is this evaluation that is central to the use of those data to test historical hypotheses.

Fifth, last, and most difficult of all, the authors can attempt to make summary judgments concerning the probable degree of accuracy of the numbers that they have generated. If steps two through four outlined above have been followed with considerable care and candor, readers will be better placed to undertake a similar assessment for themselves. The end product can hardly be exact. Neither author nor reader can expect to generate for each numerical estimate a range, or a confidence interval, in which the 'true' number is likely to lie with a precisely specified probability. But some sense of likely accuracy - be it as vague as 'high' or 'low' - is preferable to no sense whatsoever. Equally important, the effort to cultivate this sense should instill a degree of caution that is perhaps the best guardian against the mechanistic or unthinking use of numerical estimates for subsequent hypothesis testing.

Before any of these assignments can be broached, the one remaining task is to define the regions that will be the focus of much of this inquiry.

(c) Defining the regions. The word 'region' suggests a discrete geographic entity, defined according to specific objectives.<sup>7</sup> For the economist, a region can frequently be distinguished by the homogeneity of productive activities within given geographical boundaries. Few regions, however, produce a single good, and most goods were produced by many regions in nineteenth-century

America. The result is a distressing lack of tidiness in geographical boundaries, with any preliminary pattern based upon similarities in productive activities resembling 'an irregular layer of pieces of slate, carelessly flung down'.<sup>8</sup>

Several considerations dictated the flinging down process adopted for this study. The dominant priority was to assure that the resulting interregional migration estimates prove valuable for any subsequent analysis of American development in the ante-bellum years. The number of regions was kept to a minimum so that broad patterns could be more easily discerned.<sup>9</sup> The main criteria for choosing specific regional boundaries were (a) the location of the frontier at the start of the nineteenth century, and (b) the rough homogeneity of productive activities within a region.

The six geographic regions chosen for this study are (1) New England, (2) Mid-Atlantic, (3) Northwest, (4) Old South, (5) New South, and (6) Far West. Five of these regions are outlined on Map 1. The sixth region, the Far West, consists of the area west of the Mississippi minus the tier of states running from Louisiana in the south to Minnesota in the north. The Far West is comprised of residual territory judged to be of negligible economic significance before 1850, and of limited significance in the next decade. The remaining territory was divided along the Appalachian fall line, a division requiring the separation of New York, Pennsylvania, and West Virginia into eastern and western segments. Eastern states were then apportioned along traditional lines, New England and the Old South requiring little explanation,<sup>10</sup> with the intervening states labeled Mid-Atlantic. Territory west of the fall line was split along the cotton belt, Tennessee being the northernmost state of the New South and Kentucky the southernmost state of the Northwest.

This study proceeds in three stages. Principal numerical findings are outlined in sections 1.2 through 1.7. These are then reviewed in section 1.8, in which the authors attempt to indicate their summary judgments concerning the probable degree of accuracy of each. The remainder of the work then details the evidence, procedures, and assumptions used to generate each series.

## 1.2 Migration

(a) General. In the era between the Revolution and the Civil War, a key determinant of American economic development was the westward migration of its people. The importance assigned to this phenomenon by most economic historians makes all the more remarkable the comparative scarcity of migration estimates for this period.<sup>11</sup> Part of the explanation is the complexity of that task. As will be documented at length below, even a method as relatively uncomplicated as the census survivor estimation technique requires a host of adjustments, assumptions, and estimates that no historian would attempt before the advent of computers, and few would welcome even with such sophisticated mechanical assistance. Lurking in the previous sentence is a

warning for those who would interpret the numerical estimates of this study. All migration estimates should be viewed as approximations. Further, *net* migration estimates – the only kind possible for this period given the nature of surviving data – invariably understate the total movement of people. The word ‘net’ indicates the exclusion of those whose arrival into a region has been offset by others leaving. Net migration estimates also fail to count the movement of a given migrant who enters and leaves a region within a given decade. The net migration estimates attempted here therefore do not measure total movement. They represent only the net difference between those who left and those who entered between two census dates. They are nevertheless indicative of important national trends, given the dominant direction of the flows. Even with a generous allowance for possible error and crosshauling, the data suggest a number of conclusions, some unsurprising and others startling.

(b) White population 1800–60. The dominant pattern of movement, as anticipated, was from East to West, but within this broader flow a number of unexpected developments were found. In the North, by far the most important supplier of population to the Northwest was the Mid-Atlantic region: New Jersey plus those portions of New York and Pennsylvania to the east of the Appalachian fall line. West of that fall line, the North towers over the South in importance. The total influx of people into the New South was less than 15 percent of the inflow into the Northwest in the years 1800–60. As for changing patterns across decades in the North, the influx into the Northwest rises sharply in every decade with one curious exception. In the 1820s, despite the completion of the Erie Canal (and despite the inclusion of western New York in the Northwest region), net in-migration was roughly one third less than it had been in the previous decade. New England patterns raise fewer questions. The region’s decade of greatest loss encompassed the War of 1812. The smallest exodus (actually a slight influx) was recorded in the 1840s, when railroad building and early industrialization are commonly viewed as producing a booming economy in that region.

The southern flows suggested by the data raise a range of new and challenging questions for the ante-bellum historian. The anticipated movement from East to West, as noted previously, is readily confirmed. The greatest net influx into the New South, however, occurred during the decade 1810–20, well before the cotton boom of the 1830s, and even somewhat antedating the full development of steamboats on western rivers. Even more startling is the difference between eastern losses and western gains. In the first four decades of the century, the net loss of the Old South was almost three and a half times the net gain of the New South. Even allowing for the addition of Texas in the 1840s (included in the Far West region), this imbalance remains. In the 1840–60 period, the New South became a region of major exodus. If

the net losses in these two decades of both southern regions (Old South and New South) are combined with the net gains of the Far West (which includes California), this three-region unit still loses a total of some 200,000 white persons in the twenty years before Lincoln's election. In short, to the common view of an East-West flow must now be added the uncommon view of a *major South-North flow throughout the entire 60-year period*. This raises in bold relief the question of motivation. Was this southern exodus a flight from slavery or a rush towards economic opportunity? If the latter was the dominant consideration, the loss of population suggests that throughout the antebellum years, the South was continually viewed by its own inhabitants - or at least by those who left - as promising less economic opportunity than did the North. This in turn raises doubts about those accounts that portray in glowing terms the southern economic performance in the 1840s and 1850s.<sup>12</sup>

Both the age and the sex composition of the South-North migrants appear to be in marked contrast to those of their northern counterparts. Among the migrants moving out of New England and the Mid-Atlantic states, males predominated over females (often by as much as 6:4 or 2:1), with the dominant age group those who were between 20 and 40 at the end of the decade of their exodus. The age and sex composition of those entering the Northwest, not surprisingly, were markedly similar. The population abandoning the South was noticeably different. From regions of out-migration - the Old South throughout the entire period and the New South after 1840 - came a migrant population in which the ratio of males to females was almost equal, with a far larger percentage of total migrants in the age group 10-20 at the end of the decade of their migration. This suggests the possibility that the South-North movement was dominated by entire family units. To be sure, these contrasts in migrant composition would be lessened if, within the South, death rates were actually much higher for a particular sex or age cohort than estimated for this study. It is hardly credible, however, that such a possibility could restructure the composition of South-North migrants to match closely that of East-West migrants within the North. Whatever the explanation, future studies of ante-bellum development must now address a new set of questions whose answers may reshape our views concerning the economic and demographic experience of Americans.

Last, and probably least from an American perspective, is the curious change in migration patterns from Canada into the northern states. In the period 1840-60, the willingness of Canadians to move south declined sharply. Once again, this numerical trend raises both economic and non-economic questions. Did the Canadian economy surge forward relative to that of the United States during these decades, or did the intensification of sectional strife temper the willingness of Canadians to migrate into states progressively less united? Here too are fresh topics for research.

(c) Negro population 1800-60. Migration flows conform to the expected pattern: from East to West, mainly in the slave states, reaching a peak during the cotton boom of the 1830s, and declining thereafter. (This contrasts sharply with white migration, where movement into the New South reached a peak two decades earlier.) Two features of the Negro migration are particularly striking. The first is the rough equality between the sexes in that net migration. Females often slightly outnumbered males, but given imperfections in the data and the smallness of the differential, it is difficult to say whether this tendency is significant. The second striking feature is the dominance of youth. Almost half of those who moved were in the age cohort 10-20 at the end of the decade of their migration. This suggests that many of the slaves subjected to forced interregional migration were younger than eighteen, the traditional age of a 'prime field hand'. A further 25-30 percent were in the 20-30 age cohort. The magnitude of the two figures combined raises the question of the impact of this forced migration upon the slave family.<sup>13</sup> Could such preponderance of youth be consistent, for example, with Fogel and Engerman's claim 'that about 84 percent of the slaves engaged in the westward movement migrated with their owners'?<sup>14</sup> If the age distribution of migrants was so much more heavily concentrated among the young than was the Negro population as a whole, does this imply that masters who moved had a disproportionate share of young before moving? A third possibility is that the estimate of 84 percent is incorrect, as Richard Sutch has documented at great length.<sup>15</sup> Whatever the subsequent structure of the debate concerning the interaction of slave migration and the slave family, the striking demographic fact that all arguments must now encompass is the preponderance of the young among the migrants.<sup>16</sup>

### **1.3 From migration estimates to vital statistics and manumissions**

The logical connections between migration estimates and vital statistics estimates are at the heart of this study. The standard method for calculating migration, the census survivor technique, requires the estimation of a death rate for each age cohort for the ten-year period between American census dates. These different cohort rates can then be combined into a single rate for the entire population. The result is the first set of national crude death rates<sup>17</sup> for both the white and Negro population for the 1800-60 period that are based upon census data and refined international migration estimates.

Two problems complicated this conversion process, one associated with the youngest age cohort (0-9), and the other necessitated by the need to correct for the relative underenumeration of children apparent in the census data. Both problems, although of minor importance for migration estimates, had to be resolved if national death rates were to be estimated. The attempted



resolution, in turn, touched upon issues that were of the first importance for estimating national birth rates. At the national level, no adequate data exist on annual births for the ante-bellum years. The one possible method for estimating a crude birth rate is to convert those reported by the census in the youngest age cohort into an implied birth rate. This requires (a) the correction of census data for estimated relative underenumeration of children,<sup>18</sup> and (b) the conversion of observed children into implied births using estimates of death rates for children and the rate at which the number of births is changing. (A given distribution of surviving children might be the result of no change in the rate of births and a given death rate, or alternatively the product of a rising rate of births and a higher death rate.)

Estimates of birth and death rates normally lead to estimates of rates of natural increase. This was not the case in this study. Death rate estimates presented here exclude that portion of the population under 10 at the end of a given ten-year census period. The reasons for this exclusion are (a) the census survivor technique produces no death rates for this age cohort, and (b) alternative methods, with their attendant uncertainties, would threaten to undermine such conclusions as might be feasible concerning the secular trend of death rates for the rest of the population. Rates of natural increase were, however, a logical adjunct to our migration estimates. The latter required estimates of net international migration and population in unenumerated territories. With both of these estimates in hand, one can readily calculate the rate of natural increase for the domestic population in any intercensal period. The secular trend in these rates of natural increase can then be compared with secular trends in birth and death rates, both as a consistency check and as a means of detecting the proximate cause for declining rates of a natural increase in the ante-bellum period.

The final topic is manumissions. Until now, no serious attempt has been made to estimate the changing pace at which slaves were freed throughout the ante-bellum era. The stakes are high. Even an approximate estimate as to trend would have widespread implications for studies concerned with social values of the South, with the economics of Negro slavery, or with the economic structure of the region. To estimate the number of slaves freed in any ten-year period requires the following data: (a) the size of the domestic free and slave population at the beginning and end of the period, (b) the numbers of slaves smuggled into America each year, and (c) the death rates for both free and slave populations. The first two were available as the result of our migration estimates. Initially, we assumed equal death rates for free Negroes and slaves, allowing us to use the age cohort death rates produced by the census survivor technique. The resulting peculiarities – notably negative manumissions for certain age cohorts in certain decades – necessitated further refinements described in more detail in section 1.7.

#### 1.4 Death rates

(a) General. Little is known about the level and trend of mortality in the United States in the ante-bellum years.<sup>19</sup> Sporadic studies based upon sources such as plantation records or local bills of mortality leave uncertain the relevance of their conclusions for the country as a whole. The 1850 census did collect information on deaths throughout the nation, but even the superintendent of that census could not take the results seriously. So pervasive and blatant was underreporting that he was forced to conclude that, 'The tables . . . of Deaths . . . can be said to have but very little value.'<sup>20</sup> In a masterful understatement of the problem, Maris Vinovskis concluded that 'The study of mortality rates and trends in the United States before 1860 has been rather unsystematic to date.'<sup>21</sup>

The estimates presented here are therefore among the very few that attempt, for the nation as a whole, to assess both the level and trend of mortality among both whites and Negroes throughout the ante-bellum years. The results are, of course, no better than the data and assumptions from which they spring. The frailties of both will be closely scrutinized in the analysis that follows. The estimates themselves nevertheless constitute a starting point for future demographic work, both in terms of their use of the only national data base available, and in the emphasis given to the intimate connection between data imperfections, attempts to remedy those imperfections, and the strength or weakness of conclusions derived about apparent numerical trends.

(b) White population 1800-60. The inadequacy of estimates of vital rates for this period is apparent in the conflict of opinion over likely secular trends. Thompson and Whelpton, for example, believe that mortality declined throughout the nineteenth century, while the Taeubers suggest little improvement prior to 1850.<sup>22</sup> Both opinions reflect little more than outright guesses. Subject to all the caveats about data imperfections, the most striking feature in all the death rate estimates presented here (male, female, and combined) is the absence of any clear secular trend. Indeed, it would take data errors of an unlikely magnitude to convert this apparent stability into a pronounced trend.<sup>23</sup> The absence of secular trend suggests that forces making for a decline in death rates, such as economic growth, were apparently counteracted by such negative influences as increased urbanization. It is entirely probable that neither influence was particularly strong during the period under review. A second, somewhat more tenuous conclusion is that women enjoyed a consistently lower death rate than men throughout the ante-bellum era. Such a differential is by no means uncommon as a demographic characteristic of a people.