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Migrations to the Thirteen British North American Colonies, 1700-1775: New Estimates

Mainstream historians have finally begun to study the long-neglected, yet extremely important topic of eighteenth-century immigration. Bailyn and DeWolfe's study, *Voyagers to the West*, and other monographs and articles on this subject appeared with increasing frequency during the 1980s.¹ Accurate statistics for immigration during the eighteenth century as a whole are lacking, however, and this gap has forced historians to rely on approximations which are sometimes sketchy and do not reveal much about the varied and complex nature of immigration during that century.

Although it is difficult to compile immigration statistics for the eighteenth century, it is still possible to update the work of previous historians, and for many reasons it is important to do so. With better information on immigration available, historians can compare the relative effects of immigration and natural increase in causing the phenomenal population growth of the colonies in the eighteenth century and of the United States during the early national period. Also, if one simply wants to know approximately how many people of each ethnic or racial group arrived and helped to shape early American society, a single reference with this information would be valuable. In this article, I review some recent estimates of eighteenth-century immigration, showing their accomplishments and problems, and then present an alternative method which corroborates some earlier estimates and provides more information for reference purposes than was heretofore available.

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1 See Bernard Bailyn, with the assistance of Barbara DeWolfe, *Voyagers to the West: A Passage in the Peopling of America on the Eve of the Revolution* (New York, 1986). This book, along with Bailyn's companion volume, *The Peopling of British North America: An Introduction* (New York, 1986), provide important bibliographic material on the subject.

It is impossible to establish definitively the volume of eighteenth-century immigration to America. The only records kept over a long period of time for any ethnic group are the ship lists maintained in Philadelphia for German-speaking passengers arriving from 1727 to 1808.² Still, there is enough demographic and other data available for eighteenth-century America to allow historians cautiously to estimate the levels of immigration (and other demographic measures)—not crude, “ballpark” guesses, but cautious estimates which can illuminate a great deal about life in early America. Historians will continually correct and hopefully improve these estimates as they rework old data, discover new data, and develop new methods. But what we have now is suggestive.

Whereas in the past historians relied on rough guesses of the levels of eighteenth-century immigration, they have recently begun to use sophisticated residual methods which may be more accurate. Twenty-five years ago, Potter estimated that 350,000 whites immigrated from 1700 to 1790—an estimate which was, in his own words, “little more than a shot in the dark.” About ten years later, Henretta concluded that “nearly 400,000” whites arrived between 1700 and 1775. Higham suggested that about 450,000 came in the eighteenth century, over half of whom were Irish. More recently, Fogel and several of his colleagues used a simulation model of generational progression and an estimated set of mortality, net reproduction, and gross reproduction rates to measure net migration as a residual, concluding that 822,000 more whites arrived in the colony-states from 1607 to 1790 than migrated out of this region. For the period 1700 to 1790 their figure was 663,000 whites. Yet in 1981 Galenson, using a different residual method, in which he took into account the high mortality of immigrants shortly after their arrival, as they adjusted to the new disease environment, concluded that a net migration of 435,694 whites and 220,839 blacks took place between 1650 and

2 The most comprehensive and best-edited publication of these lists is Ralph B. Strassburger and William J. Hinke (eds.), *Pennsylvania German Pioneers. A Publication of the Original Lists of Arrivals in the Port of Philadelphia from 1727–1808*, (Norristown, Pa., 1934), 3 v. They list all males sixteen years and older (and some women and children) well enough to disembark upon arrival and sign oaths of loyalty to the British king. Because the large majority of Germans landed in Philadelphia after 1726, these lists are the starting point for any estimation of German immigration into all ports during the colonial period.

1780, and that 346,099 whites and 196,411 blacks arrived from 1700 to 1780, a figure close to Potter's.³

Still more recently, Gemery has provided the best summation of all these estimates, as well as many older ones, and pointed out some problems with their sources and methodologies. Given the scarcity of appropriate statistics for the eighteenth century, it is not surprising that the range for net migration calculated by the previously mentioned historians is fairly substantial—from 350,000 to 663,000 for 1700 to 1790. Realizing that estimates of early mortality and fertility rates were tenuous at best, Gemery opted to present a set of plausible immigration estimates from 1700 to 1820, rather than making a single estimate. Using a scale of annual rates of natural increase based on various estimates by historians measuring fertility and mortality, along with his own estimates for mortality during the overseas passage and the period of adjustment by migrants thereafter, Gemery concludes that the “New England pattern” was the most favorable for demographic growth and all other regions were moving in that direction during the eighteenth century. He calculates net migration as a residual, with the results being a plausible range of 765,000 to 1,300,000 white immigrants for the period 1700 to 1820 and a more precise one of 278,400 to 485,300 for the period 1700 to 1780. Allowing for the fact that this estimate does not cover the decade 1780 to 1790, his range runs only somewhat below that established by previous estimates. Gemery understands the difficulties in measuring and generalizing from mortality and fertility rates in early America. He concludes his article with a call for more research—more precise demographic data—so that the range of migration estimates can be narrowed.⁴

This note suggests an alternative method for measuring eighteenth-century migration—one that avoids the impasse created by

3 See James Potter, “The Growth of Population in America, 1700–1860,” in David V. Glass and D.E.C. Eversley (eds.), *Population in History: Essays in Historical Demography* (London, 1965), 645; James A. Henretta, *The Evolution of American Society, 1700–1815: An Interdisciplinary Analysis* (Lexington, Mass., 1973), 11; John Higham, *Send These to Me. Immigrants in Urban America* (Baltimore, 1984; rev. ed.), 18; Robert W. Fogel et al., “The Economics of Mortality in North America, 1650–1910: A Description of a Research Project,” *Historical Methods*, XI (1978), 100; David W. Galenson, *White Servitude in Colonial America: An Economic Analysis* (Cambridge, 1981), 212–218.

4 Henry A. Gemery, “European Immigration to North America, 1700–1820: Numbers and Quasi-Numbers,” *Perspectives in American History*, I (1984), 318, 320.

relying too heavily on fertility and mortality rates, which are difficult to establish for the colonial period. My method is also somewhat simpler, yet corroborates the results of residual methods, especially Gemery's, while yielding more detailed information. The method relies on three sources of information for estimating the volume and timing of eighteenth-century immigration, all of which yield strong estimates for some ethnic groups and time periods, and somewhat weaker estimates for others. The first source is the work of ethnic-group historians who have produced plausible estimates of immigration for their respective groups. The second source (most important for the British and Irish immigration) is the more qualitative aspects of the ethnic-group historians' work on the timing, flow, and general conditions of the various migrations. The last source is an improved surname analysis of the first federal census in 1790, which, when used in conjunction with the above two sources, allows one to infer what the levels of migration may have been in previous decades, producing what Gemery calls "quasi-numbers."

The first source produces the strongest estimates. Ethnic-group historians have used information on ship departures and arrivals, as well as samples of how many immigrants could be carried by different kinds of ships, to arrive at reasonable estimates of total immigration of Germans, northern and southern Irish, Scots, African slaves, and others. Grouping the best of these estimates by decade and ethnic group into an estimate of overall immigration in the eighteenth century conveys a clear sense of how immigration varied over time and between ethnic groups, something other estimates have not done.

In the past, relying heavily on the estimates of ethnic-group historians would have been a risky enterprise. However, the recent trend among historians has been to lower the estimates of their perhaps more filiopietistic predecessors. Since Dunaway's calculation of at least 250,000 Scots-Irish immigrants in the eighteenth century, Leyburn estimated 200,000 from 1717 to 1775. Still later, Dickson found approximately 109,000 to 129,000 for the years 1718 to 1775. And very recently, Wokeck has found even Dickson's estimates to be too high. For Germans, older estimates of 200,000 to North America before 1800 by both Mönckmeier, along with 225,000 to 250,000 before 1770 by Clarence Ver Steeg, have been revised downward by Fenske (125,000

for the entire century) and Wokeck (about 100,000 in the years 1683 to 1776). Butler has drastically revised the immigration estimates for French Huguenots by Higonnet from 14,000 to about 1,500 (or at most 2,000)—all before 1700. On the other hand, Bailyn and DeWolfe conclude that 100,000 to 150,000 Scots-Irish came before 1760 and over 55,000 Protestant Irish arrived from 1760 to 1775. Furthermore, they raise Graham's estimate for Scots from less than 25,000 for 1763–1775 to approximately 40,000 for 1760–1775. And Doyle has recently emphasized that there was a large southern Irish immigration into the colonies, which Dickson may have overlooked. Extreme accuracy will never be possible, given the nature of eighteenth-century statistics, but given such recent work, we can make significantly better estimates of the volume of immigration of some ethnic groups than was previously possible.⁵

The second source of information for this method, the discussions by the ethnic-group historians of the more qualitative aspects of migration, helps give one a sense of when peaks and valleys in immigration occurred, even when no actual data on volume are available. Population pressure, famine, unemployment, rack-renting (the doubling or tripling of rents after the expiration of long-term leases in order to accelerate the removal of tenants from the land), and active recruitment by colonials were major causes of the British and Irish emigration to the colonies. Extended discussions of these developments throughout

5 Wayland F. Dunaway, *The Scotch-Irish of Colonial Pennsylvania* (Chapel Hill, 1944), 41; James G. Leyburn, *The Scotch-Irish: A Social History* (Chapel Hill, 1962), 180–181; R.J. Dickson, *Ulster Emigration to Colonial America, 1718–1775* (London, 1966), 20–64; Marianne Wokeck, "Irish Immigration to the Delaware Valley before the American Revolution," forthcoming in David B. Quinn (ed.), *Ireland and America, 1500–1800*; Wilhelm Mönckmeier, *Die deutsche überseeische Auswanderung. Ein Beitrag zur deutschen Wanderungsgeschichte* (Jena, 1912), 13; Clarence Ver Steeg, *The Formative Years, 1607–1763* (New York, 1964), 167; Hans Fenske, "International Migration: Germany in the Eighteenth Century," *Central European History*, (1980), 344; Marianne Wokeck, "German Immigration to Colonial America: Prototype of a Transatlantic Mass Migration," in Frank Trommler and Joseph McVeigh (eds.), *America and the Germans: An Assessment of a Three-Hundred-Year History* (Philadelphia, 1985), I, 12; Jon Butler, *The Huguenots in America: A Refugee People in New World Society* (Cambridge, Mass., 1983), 49; Patrice L. R. Higonnet, "French," in Stephan Thernstrom, Ann Orlov, and Oscar Handlin (eds.), *Harvard Encyclopedia of American Ethnic Groups* (Cambridge, Mass., 1980), 381; Bailyn and DeWolfe, *Voyagers to the West*, 25–26; Ian C.C. Graham, *Colonists from Scotland: Emigration to North America, 1707–1783* (Ithaca, 1956), 185–189; David N. Doyle, *Ireland, Irishmen and Revolutionary America, 1760–1820* (Dublin, 1981), 51–76.

the eighteenth century give a rough indication of how the total estimated immigration for each group should be distributed over the decades.

The third source of information, Purvis' recent surname analysis of the 1790 federal census, serves as a check and a supplement to estimates of immigration of each ethnic group by indicating to some extent the plausible proportions of the total immigration one could expect from various groups. Purvis calculated the percentage distribution of each white ethnic group (immigrants and their descendants) in the total population of 1790. His work contains some problems, but represents a marked improvement over Hansen and Barker, and the McDonalds, who did not include non-British ethnic groups.⁶

The method allows one to make use of the expertise of those who best understand the history of immigration. Using conser-

6 The oft-quoted figures from U.S. Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1970, Bicentennial Edition, Part 2* (Washington, D.C., 1975), Series Z 20-23, 1168 originate from a study conducted primarily by Howard F. Barker and Marcus L. Hansen, "Report of the Committee on Linguistic and National Stocks in the Population of the United States," American Historical Association, *Annual Report for the Year 1931*, (Washington, D.C., 1932), I, 107-441. Forrest McDonald and Ellen Shapiro McDonald recently revised these estimates, "The Ethnic Origins of the American People, 1790," *William and Mary Quarterly*, XXXVII (1980), 179-199. See Thomas L. Purvis, "The European Ancestry of the United States Population, 1790," *William and Mary Quarterly*, XLI (1984), 98. A symposium in that volume contains an enlightening discussion between Purvis, Donald H. Akensen, and the McDonalds on the problems and merits of the various estimates available for the 1790 population.

Purvis improves upon previous work by more carefully analyzing distinctive surnames known to be borne by a certain percentage of a European group and then calculating an arithmetical coefficient sufficiently accurate to allow computation of the proportion of people belonging to that nationality within the United States in 1790. The number of individuals with the same surnames, multiplied by the appropriate numerical constant, equals the approximate size of the group in the United States. The problem with this method is that the surnames from the base population with which Purvis initially worked was not always representative of the actual immigrant population. For immigrants from the European continent he found sufficient passenger lists and other information which adequately reflect the actual population of immigrants. For British and Irish immigrants, however, the dearth of seventeenth- and eighteenth-century passenger lists and censuses forced Purvis to rely on nineteenth-century surname lists from Britain and Ireland, rather than surname lists from the actual immigrant population. Another problem with Purvis' method is that he was unable to distinguish between Scots-Irish and Scottish surnames, which forced him to assume that the number of Scots-Irish was twice the number of Scots in 1790.

In spite of these problems, Purvis' work is the best available, and significantly better than the much older research on which historians have often relied. He completed it diligently and without any apparent bias.

vative estimates for each group tends to correct any bias toward inflation of numbers for filiopietistic or other reasons. This method essentially represents a trade-off: instead of the residual methods using decennial population figures from *Historical Statistics* and the sketchy fertility and mortality data compiled by other historians, my method relies on an improved surname analysis of the 1790 census as a check for the increasing expertise of ethnic-group historians who, in turn, rely on actual data regarding immigrants—ship and passenger lists. The results are presented in Tables 1, 2, and 3.

The quality of the estimates varies by time and ethnic group, but the tables as a whole are useful. The “most accurate” estimates are based on solid information produced by the ethnic-group historians. The “less accurate” estimates should be used with care, but the sum totals for these ethnic groups, especially Africans, Germans, northern and southern Irish, and to some extent the Scots, and Welsh, are plausible and the distribution by decade probably reflects a small margin of error in most cases. It is only the “least accurate” estimates that are dubious, and for this reason they should be used with the greatest care, if at all.

In spite of the problem with filling in the gaps which ethnic-group historians have not yet thoroughly covered, this method as a whole produces enlightening results for most ethnic groups during most of the period in question. The sum total of 585,800 immigrants—278,400 blacks and 307,400 whites—is consistent with Gemery’s findings (from 278,400 to 485,300 whites). Indeed, the two methods, one using fertility and mortality data calculating immigration as a residual, and the other relying on actual estimates of immigration by the ethnic-group historians, tend to provide a check for each other. Yet the second method provides much more reference information, listing immigration by decade and ethnic group instead of merely the sum total.

Further study of individual ethnic groups will surely require that adjustments be made to the tables below, but they do reflect in a simpler and more usable way the approximate magnitude of colonial immigration in the eighteenth century. I do not mean to evoke the old, filiopietistic practice of inflating numbers (I have used conservative estimates for each ethnic group), but it is ironic that the work of ethnic-group historians, once looked upon with disdain by many, may have provided the beginning of a meth-

Table 1 Estimated Decennial Immigration by Ethnic Group into the Thirteen Colonies, 1700-1775

DECADE	NORTHERN						SOUTHERN			TOTAL	
	AFRICANS	GERMANS	IRISH	SCOTS	ENGLISH	WELSH	OTHER	IRISH	SCOTS		ENGLISH
1700-09	9,000	(100)	(600)	(800)	(200)	<300>	<100>	(800)	(200)	<400>	(11,500)
1710-19	10,800	(3,700)	(1,200)	(1,700)	(500)	<900>	<200>	(1,700)	(500)	<1,300>	(20,300)
1720-29	9,900	(2,300)	(2,100)	(3,000)	(800)	<1,500>	<200>	(3,000)	(800)	<2,200>	(22,000)
1730-39	40,500	13,000	4,400	7,400	(2,000)	<3,200>	<800>	7,400	(2,000)	<4,900>	(76,200)
1740-49	58,500	16,600	9,200	9,100	(3,100)	<4,900>	<1,100>	9,100	(3,100)	<7,500>	(110,000)
1750-59	49,600	29,100	14,200	8,100	(3,700)	<5,800>	<1,200>	8,100	(3,700)	<8,800>	(120,500)
1760-69	82,300	14,500	21,200	8,500	10,000	<7,800>	<1,600>	8,500	10,000	<11,900>	157,800
1770-75	17,800	5,200	13,200	3,900	15,000	<4,600>	<700>	3,900	15,000	7,100	67,500
Total	278,400	84,500	66,100	42,500	35,300	<29,000>	<5,900>	42,500	35,300	<44,100>	(585,800)

NOTE Figures were rounded to the nearest 100 immigrants. Estimates are divided into three categories: most accurate—no demarcation, less accurate—(), and least accurate—< >.

SOURCES See Appendix.

Table 2 Estimated Proportional Distribution of Ethnic-Group Immigrants in the Thirteen Colonies by Decade, 1700–1775

DECADE	AFRICANS	GERMANS	NORTHERN		SOUTHERN		ENGLISH	WELSH	OTHER	TOTAL
			IRISH	IRISH	SCOTS	SCOTS				
1700–09	.03	(.00)	(.01)	(.02)	(.01)	<.01>	<.01>	<.02>	(.02)	
1710–19	.04	(.04)	(.02)	(.04)	(.01)	<.03>	<.03>	<.03>	(.03)	
1720–29	.04	(.03)	(.03)	(.07)	(.02)	<.05>	<.05>	<.03>	(.04)	
1730–39	.14	.15	.07	.17	(.06)	<.11>	<.11>	<.14>	(.13)	
1740–49	.21	.20	.14	.22	(.09)	<.17>	<.17>	<.19>	(.19)	
1750–59	.18	.35	.21	.19	(.11)	<.20>	<.20>	<.20>	(.20)	
1760–69	.30	.17	.32	.20	.28	(.27)	<.27>	<.27>	.27	
1770–75	.06	.06	.20	.09	.42	.16	<.16>	<.12>	.12	
Total	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

NOTE The estimates are divided into three categories: most accurate—no demarkation, less accurate—(), and least accurate—< >. Slight adjustments were made to account for rounding errors.

SOURCE From Table 1.

Table 3 Estimated Proportional Distribution of Immigration per Decade in the Thirteen Colonies by Ethnic Group, 1700–1775

	1700–09	1710–19	1720–29	1730–39	1740–49	1750–59	1760–69	1770–75	TOTAL 1700–75
Africans	.78	.53	.45	.53	.53	.41	.52	.26	.48
Germans	(.01)	(.18)	(.10)	.17	.15	.24	.09	.08	.14
Northern Irish	(.05)	(.06)	(.09)	.06	.08	.12	.14	.20	.11
Southern Irish	(.07)	(.08)	(.14)	.10	.08	.07	.05	.06	.07
Scots	(.02)	(.03)	(.04)	(.03)	(.03)	(.03)	.06	.22	(.06)
English	<.03>	<.06>	<.10>	<.06>	<.07>	<.07>	(.08)	.10	<.08>
Welsh	<.03>	<.05>	<.07>	<.04>	<.05>	<.05>	<.05>	<.07>	<.05>
Other	<.01>	<.01>	<.01>	<.01>	<.01>	<.01>	<.01>	<.01>	<.01>
Total	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

NOTE The estimates are divided into three categories: most accurate—no demarkation, less accurate—(), and least accurate—< >. Slight adjustments were made to account for rounding errors.

SOURCE From Table 1.

odology which yields important and usable results that corroborate the work of more sophisticated techniques.

APPENDIX

AFRICANS If immigrants are people who voluntarily leave their homeland to find a better life elsewhere, then African slaves are not immigrants. But in strictly demographic terms immigrants are people who came from somewhere else, as opposed to being a product of the natural increase in the indigenous population. In this sense everyone who came from elsewhere was an immigrant, including slaves, transported convicts, and so forth. I have included Africans in these tables of immigration by “ethnic” group because they contributed to early American demographic growth in the same ways as the other groups in the tables. The Africans actually came from a variety of different ethnic backgrounds, but taken together, their numbers more than triple those of the largest European group, the Germans. (On the importance of ethnicity among African slaves in the American colonies see, for example, Ira Berlin, “Time, Space, and the Evolution of Afro-American Society,” *American Historical Review*, LXXXV [1980], 44–78.)

Since the appearance of Philip D. Curtin, *The Atlantic Slave Trade, A Census* (Madison, 1969), a bitter debate has arisen on the volume of the Atlantic slave trade and Curtin’s figures are no longer acceptable without qualification. (For a good summary of the debate see David Henige, “Measuring the Immeasurable: The Atlantic Slave Trade, West African Population and the Pyrrhonian Critic,” *Journal of African History*, XXVII [1986], 295–313.) I have used Curtin’s figures for North America (137) as modified by Paul E. Lovejoy in “The Volume of the Atlantic Slave Trade: A Synthesis,” *Journal of African History*, XXIII (1982), 487.

GERMANS I have used my own method to calculate the volume and distribution of colonial German immigration. The large majority of Germans came through the port of Philadelphia, for which there are good records (passenger lists), especially for the period after 1726. The greatest difficulty occurs when one tries to measure the volume and distribution for other ports. To do this I divided the ethnic-German population of 1790 into two geographical groups—one settled overwhelmingly by immigrants through the port of Philadelphia, the other settled by immigrants through all other ports. Next, a ratio of immigrants to 1790 population was calculated for the first, or Philadelphia, group which was then extended to the second group to estimate the number of immigrants necessary to produce the known 1790 population for that group.

Using Purvis' surname analysis of the ethnic-German population in 1790 ("European Ancestry," 98), the following two geographical groups were created. The German population of some states had to be divided because its roots were in the immigration through Philadelphia and other ports:

GROUP 1

State	1790 white population	% German	Total Germans
Tennessee	31,913	6.6	2,106
Kentucky	61,913	4.9	2,996
New Jersey	169,954	6.5	11,047
Pennsylvania	424,049	38.0	161,139
Delaware	46,310	2.6	1,204
2/3 Maryland	139,099	12.7	17,666
2/3 Virginia	294,745	4.5	13,264
7/8 North Carolina	252,179	5.1	12,861
TOTAL	1,420,162	15.7	222,283

GROUP 2

State	1790 white population	% German	Total Germans
Maine	96,002	1.2	1,152
New Hampshire	141,097	0.1	141
Vermont	85,268	0.2	171
Massachusetts	373,324	0.3	1,120
Rhode Island	64,470	0.1	64
Connecticut	232,374	0.4	929
New York	314,142	9.1	28,587
1/3 Maryland	69,550	12.7	8,833
1/3 Virginia	147,372	4.5	6,632
South Carolina	140,178	5.5	7,710
1/8 North Carolina	36,025	5.1	1,837
Georgia	52,886	3.5	1,851
TOTAL	1,752,688	3.4	59,027

To measure the immigration through Philadelphia I used a variety of sources. For the early period (1700–1726) these included the text from Strassburger and Hinke, *Pennsylvania German Pioneers*; Julius F. Sachse, *The German Pietists of Provincial Pennsylvania* (Philadelphia, 1895), 1–10; Martin G. Brumbaugh, *A History of the German Baptist Brethren in Europe and America* (Morris, Ill., 1899), 54–70. Also, I estimated that approximately 500 Germans, who were part of the large migration to New York beginning in 1709, eventually moved to Pennsylvania and contributed to the growth of the population in Group 1—see Walter A. Knittle, *Early Eighteenth Century Palatine Emigration* (Philadelphia, 1937); Henry Z. Jones, *The Palatine Families of New York* (Universal City, Calif., 1985).

For the period 1727–1775 I used the passenger lists in Strassburger and Hinke, which are not entirely comprehensive, but do represent the best collection of immigrant lists for any ethnic group in the eighteenth century. They include all male passengers sixteen years and older well enough to disembark at Philadelphia and sign an oath of allegiance to the king. Further, many of the more than 300 ship lists for this period also contain lists of women and children, or list a total number of passengers and/or “freights” (children were counted as half freights or not at all). This allows one to calculate the ratio of total passengers to adult males, a figure that changed over the decades. After controlling for these changes, the difference between “passengers” and “freights,” and adding the Moravian immigrants, who settled in Pennsylvania but immigrated primarily through New York (see John W. Jordan, “Moravian Immigration to Pennsylvania, 1734–1765,” *Pennsylvania Magazine of History and Biography*, III [1909], 228–248; *idem*, “Moravian Immigration to America, 1734–1800,” unpub. ms. [Historical Society of Pennsylvania, Philadelphia, n.d.]), a fairly complete picture of German immigration through Philadelphia for the years 1700–1775 can be compiled.

Records for other ports are incomplete, although historians and genealogists constantly make new discoveries. I have reproduced data from several sources here to give an idea of the distribution through other ports which produced the ethnic-German population for Group 2 in 1790. These sources include Knittle, *Early Eighteenth Century Palatine Emigration*; Jones, *Palatine Families in New York*; Daniel I. Rupp, *Thirty Thousand Names of German, Swiss, Dutch, French, and Other Immigrants in Pennsylvania from 1727 to 1776* (Philadelphia, 1875); newspaper and other accounts located in the research files of the Museum of Early Southern Decorative Arts in Winston-Salem, N.C.; Jane Revill, (ed.), *A Compilation of the Original Lists of Protestant Immigrants to South Carolina, 1763–1773* (Columbia, 1939).

The following is the estimated distribution by decade for all known immigrants by port of entry (Group 1—Philadelphia, Group 2—other ports). Group 1 is fairly complete, but Group 2 is incomplete:

	GROUP 1		GROUP 2	
	N	%	N	%
1700–09	0	0	50	0
1710–19	1,000	2	2,548	41
1720–29	2,161	3	0	0
1730–39	12,477	19	138	2
1740–49	14,201	21	594	9
1750–59	24,971	37	1,033	16
1760–69	7,712	12	1,690	27
1770–75	4,211	6	242	4
TOTAL:	66,733	100%	6,295	100%

Because the data in Group 2 is so incomplete, I have extended the ratio of immigrants-to-1790 population for Group 1 to Group 2, for whom the 1790 population is known. The following results were achieved:

$$\begin{array}{rcccl} & \text{GROUP 1} & & \text{GROUP 2} & \\ 1700-75 \text{ immigration:} & \frac{66,700}{222,300} & = & \frac{x}{59,000} & x \approx 17,700 \\ 1790 \text{ population:} & & & & \end{array}$$

Total immigration through 1770-75: $66,700 + 17,700 = 84,400$. (All figures were rounded to the nearest 100 persons.)

About 17,700 Germans (21 percent of the total) immigrated through ports other than Philadelphia, and 84,400 immigrated through all ports of the thirteen colonies during the period 1700-1775. (The final estimate in Table 1 was adjusted to account for rounding errors.)

The validity of this calculation rests on two assumptions (in addition to the assumption that Purvis' surname analysis is reasonably accurate). The first is that the fertility/mortality experience, or rate of natural increase, was the same for both groups. The second is that the time pattern of arrival was the same for both groups, or that the differences were such that the net effect was the same.

To deal with the first assumption, the work of Gemery must be addressed ("European Immigration to North America"). He found that the widest discrepancies in the rate of natural increase during the colonial period occurred between northern and southern colonies in the seventeenth century. By the eighteenth century the fertility/mortality experience for whites in all regions was becoming similar. This, along with the fact that both Group 1 and Group 2 contain inhabitants from northern and southern colonies, tends to make this assumption reasonable, although there is some error introduced in the final estimates because of it.

The second assumption is more difficult to make, since the above table clearly shows a discrepancy in the distribution of known immigrants in the two groups. There are many factors which could have contributed to the same number of immigrants from 1700 to 1775 producing differing numbers of inhabitants in 1790. These include when they arrived, their age, and to what degree they came as families (early or late in the reproductive period), or single individuals. Group 2 contains more earlier immigrants, which means they had time to produce more descendants by 1790 than their counterparts in Group 1. On the other hand, there were also more immigrants in Group 2 in the 1760s and 1770s (relative to the middle decades of the century) than were in Group 1, which means that more of Group 2 had relatively less time to reproduce by 1790 than was true for Group 1. These two characteristics tend to cancel one another out, at least to a degree. There is no doubt

some error was introduced by assuming equal growth rates and timing of immigration for both groups, but the reasons outlined above and the fact that a large majority clearly emigrated to Philadelphia tends to indicate that the margin of error in the final estimates of Tables 1–3 is small.

Lastly, German immigration from 1775 to 1790 did have some effect on the population of 1790, but it was very slight. During the war years, 1775–1783, German immigration ceased almost completely, except for some 3,000 “Hessian” deserters (see Rodney Atwood, *The Hessians: Mercenaries from Hessen-Kassel in the American Revolution* [Cambridge, 1980], 254). Immigration into Philadelphia resumed in 1785, and by 1790 only 1,467 persons had arrived (calculated from Strassburger and Hinke, III, 3–44).

The final estimate in Table 1—84,500—is lower than Wokeck’s generally accepted figure of 100,000 German-speaking persons immigrating through all ports before 1776 (see “German Immigration to Colonial America,” 12). I distributed the final total, including the “unknown” immigrant figure arrived at by the above calculation, according to that of the known immigrants listed above. Some adjustments were made for the early decades, however, because there are fairly complete records for the large emigration from 1709 to 1714 to New York and North Carolina (represented in Group 2). Therefore few “unknown” immigrants in Group 2 were added to the period before 1720.

NORTHERN AND SOUTHERN IRISH Estimates of the volume of northern Irish, which includes primarily people of Scottish descent (“Scots-Irish”), but also native Irish from the northern counties, have fluctuated wildly through the years. Dunaway estimated 250,000 Scots-Irish arrived in the eighteenth century (*The Scotch-Irish of Colonial Pennsylvania*, 41) and Maldwyn A. Jones calculated the same number for the entire colonial period (“Scotch-Irish,” in Thernstrom, *Harvard Encyclopedia of American Ethnic Groups*, 896). Further, Leyburn concluded that 200,000 Scots-Irish immigrants arrived from 1717 to 1775 (*The Scotch-Irish*, 180–181). Until recently, Dickson was the only historian to present some quantitative evidence justifying his calculations, and to show how the flow of immigration varied over time. He concluded that 109,000 to 129,000 Ulster Irish immigrated into the colonies from 1718 to 1775.

On the other hand, the immigration of Catholic, “southern,” or non-Ulster Irish was largely ignored until the work of Audrey Lockhart, *Some Aspects of Emigration from Ireland to the North American Colonies between 1660 and 1775* (New York, 1976) and David N. Doyle, *Ireland, Irishmen and Revolutionary America, 1760–1820* (Dublin, 1981) appeared. Although Lockhart does not attempt to estimate the numbers of immigrants arriving, she does present important evidence on the volume of immigrant-carrying ships, which, when used with other evidence, allows one to make an estimate of the total number of immigrants

arriving and to show how this migration varied over time. Doyle's work has helped alert historians to this large immigration. He also showed with qualitative evidence how southern Irish emigration varied over the decades, paralleling to a large degree Ulster Irish emigration.

But Doyle has overestimated the numbers of this emigrant group. He states that about 90,000 southern Catholic Irish came before 1776 (almost all in the eighteenth century), up to 30,000 native (that is, Catholic) Ulster Irish, and 10,000 southern Anglo-Irish (Protestant), even though there were only 156,000 to 166,000 inhabitants in the United States in 1790 who descended from all these groups. He attributes their slow natural growth rate to the large number of single men emigrating, who had to marry non-Irish women in America (51-76, especially 61 and 70-71). They did marry and have children, however, and even if all "Irish" found by surname analysis in the 1790 census were not really "100 percent" Irish (due to marriage migration), the number of immigrants from which they descended must have been much lower than Doyle indicates.

My estimates of 66,100 northern and 42,500 southern Irish in Table 1 are based upon Lockhart, Dickson, and the very recent work of Wokeck, who has found passenger lists for the Delaware ports which allowed her to calculate approximate passenger-per-ship ratios for both northern and southern Irish and extend them to the number of ships arriving from 1729 to 1774. See "Irish Immigration to the Delaware Valley." Wokeck calculated 17,296 southern Irish and 35,399 northern Irish arriving in the Delaware ports from 1729 to 1774. I have grouped them by decade as follows:

DECADE	SOUTHERN	NORTHERN	TOTAL
1729	723	296	1,019
1730-39	3,328	2,510	5,838
1740-49	4,106	5,225	9,331
1750-59	3,639	8,099	11,738
1760-69	3,811	12,067	15,878
1770-74	<u>1,689</u>	<u>7,202</u>	<u>8,891</u>
TOTAL	17,296	35,399	52,695

According to Lockhart's tables, 45 percent of all the immigrant-carrying ships went to the Delaware ports during this same time period (calculated from Appendix C, 175-208). From Dickson's tables (Appendix E, 282-287) one can calculate that 57 percent of immigrant-carrying ships from northern Ireland went to Delaware Valley ports, although this data only reflects the situation in the years 1750 to 1775. If one extends Dickson's figure to the entire period 1729-1774, the following calculations can be made for total Irish immigration into all ports of the thirteen colonies in the years 1729 to 1774:

SOUTHERN IRISH

		TOTAL
1729	723 ÷ .45 =	1,607
1730-39	3,328 ÷ .45 =	7,396
1740-49	4,106 ÷ .45 =	9,124
1750-59	3,639 ÷ .45 =	8,087
1760-69	3,811 ÷ .45 =	8,469
1770-74	<u>1,689</u> ÷ .45 =	<u>3,753</u>
TOTAL	17,296 ÷ .45 =	38,436

NORTHERN IRISH

		TOTAL
1729	296 ÷ .57 =	519
1730-39	2,510 ÷ .57 =	4,404
1740-49	5,225 ÷ .57 =	9,167
1750-59	8,099 ÷ .57 =	14,209
1760-69	12,067 ÷ .57 =	21,170
1770-74	<u>7,202</u> ÷ .57 =	<u>12,635</u>
TOTAL	35,399 ÷ .57 =	62,104

To estimate immigration for the remaining years, 1700-1728 and 1775, the following steps were taken. According to Lockhart's tables, 13 percent of all immigrant-carrying ships from southern Ireland from 1700 to 1775 arrived in the first three decades of the eighteenth century—2 percent from 1700 to 1709, 4 percent from 1710 to 1719, and 7 percent from 1720 to 1729. Thus 87 percent arrived in the years 1730 to 1775. Subtracting the 1,903 that Wokeck found for 1729, and extending her passenger-per-ship ratio for 1770-1774 to the nine ships Lockhart found arriving in the colonies in 1775, one can calculate total southern Irish immigration from 1700 to 1775 as follows:

$$38,436 - 1,903 + 180 = .87x$$

$$x = 42,199 \text{ immigrants}$$

This total number is distributed as follows for 1700-1729:

1700-09	.02 × 42,199 =	844
1710-19	.04 × 42,199 =	1,688
1720-29	.07 × 42,199 =	2,954

In Table 1, I inflated the figure for the 1720s to 3,500 because of the higher passenger-per-ship ratio prevalent for that decade in the few instances in Lockhart's tables where this information was given.

Since Dickson's tables do not include the number of ships arriving before 1750, and since Wokeck has shown that Dickson's method consistently overestimated the number of immigrants per ship, the only option remaining for calculating northern Irish immigration from 1700

to 1728 is to make use of the proportion of southern Irish to total Irish for the period closest to 1700–1728. From 1729 to 1739 southern Irish immigration equaled 58 percent of the total. Thus one can calculate:

	SOUTHERN	TOTAL	NORTHERN
1700–09	$844 \div .58 = 1,455$	1,455	$1,455 - 844 = 611$
1710–19	$1,688 \div .58 = 2,910$	2,910	$2,910 - 1,688 = 1,222$
1720–29	$2,954 \div .58 = 5,093$	5,093	$5,093 - 2,954 = 2,139$

All these calculations can be summarized as follows:

Total Irish Immigration Through All Ports, 1700–1775

DECADE	SOUTHERN	NORTHERN	TOTAL
1700–09	844	611	1,455
1710–19	1,688	1,222	2,910
1720–29	2,954	2,139	5,093
1730–39	7,396	4,404	11,800
1740–49	9,124	9,167	18,291
1750–59	8,087	14,209	22,296
1760–69	8,469	21,170	29,639
1770–75	<u>3,933</u>	<u>13,185</u>	<u>17,118</u>
TOTAL	42,495	66,107	108,602

In Table 1 all figures were rounded to the nearest 100 immigrants. Purvis found 16.3 percent (c. 520,000 persons) of the white population in 1790 to be of Scots-Irish and Irish descent, or northern and southern Irish (see “European Ancestry,” 98). The ratio of immigrants 1700–1775 to the total population in 1790 was thus .21 ($108,600 \div 520,000$), a factor which will be used to help calculate immigration for other ethnic groups with less quantitative evidence available than the Irish.

SCOTS It is difficult to get a sense of the overall number of Scottish immigrants in eighteenth-century America. Graham estimates that emigration to America was “sporadic” from 1707 to 1763. From 1763 to 1775 less than 25,000 departed. Emigration was truly massive only in the years 1768 to 1775, when 20,245 left Scotland for America, see *Colonists from Scotland*, 185–189. Graham’s figures, however, are probably too low. Using the same ratio of immigrants to 1790 population as existed for the northern and southern Irish (.21), combined with Purvis’ finding that 5.3 percent (or c. 168,000) of the white population in 1790 was of Scottish descent (“European Ancestry,” 98) allows an estimate of 35,300 Scottish immigrants from 1700 to 1775.

The lack of good data for pre-1760 immigration prohibits the labeling of these estimates as “most accurate.” Nevertheless, because of the similarities between the Scottish and Irish emigration experience to America—both began in the early eighteenth century, and were caused by population pressure, rack-renting, and agricultural dislocations which

occurred in both places at about the same time—I have opted to distribute the total immigration for the period 1700–60 in the same manner as the Irish (both northern and southern combined). It is only in the late 1760s and 1770s that Scottish emigration to the North American colonies noticeably differs from the Irish. The Irish emigration was larger in real numbers, but the Scottish emigration became relatively more intense (compared to the earlier Scottish migrations) as Graham has shown. For these reasons I have labeled the pre-1760 estimates as “less accurate” and the post-1760 estimates, based on Graham’s work, as “most accurate.”

ENGLISH Estimates of English immigrants are even scarcer than those for Scottish. Furthermore, the English are the only ethnic group for which significant immigration occurred in both the seventeenth and eighteenth centuries, which makes it impossible to use Purvis’ surname analysis of the 1790 census to assist in calculating eighteenth-century immigration. E. Anthony Wrigley and Roger S. Schofield, *Population History of England, 1541–1871: A Reconstruction* (Cambridge, Mass., 1981) found net migration in England from 1701 to 1775 to be 423,162 (calculated from Table 7.11, 219), but the only period for which there are statistics available for arrivals in the thirteen colonies is the 1770s. Here Bailyn and DeWolfe found about 4,500 English emigrants bound for America during the years 1773–1776 in the Register maintained in London, as opposed to 3,600 Scottish emigrants (*Voyagers to the West*, 92). In the absence of any other data I have made the assumption that the ratio of English to Scottish emigrants in the 1770s extended back to 1700, which would mean about 44,100 English immigrants arrived in the colonies during the period in question. This is not to say that the emigration history of Scotland and England are exactly parallel and there is little reason to accept this figure as being very accurate, but it does compare well with Richard S. Dunn’s estimate of 25,000 English servants arriving in the colonies during these years, see “Servants and Slaves: The Recruitment and Employment of Labor,” in Jack P. Greene and J.R. Pole (eds.), *Colonial British America: Essays in the New History of the Early Modern Era* (Baltimore, 1984), 159. Similar to the Scottish and Irish emigrants, the English, too, were plagued by population pressure and agricultural dislocations that coincided with these developments elsewhere in the realm. Thus I have distributed the total figure throughout the decades in the same manner as the southern and northern Irish. My figures for English immigrants are no doubt the weakest in Table 1 and for this reason I have labeled them “least accurate.”

WELSH There is little literature on Welsh immigration in eighteenth-century America and quantitative estimates are virtually nonexistent. Rowland Berthoff found the first “sizable” Welsh immigration to have taken place in the years 1680 to 1720, when a few hundred arrived in Pennsylvania. But he does not discuss any other Welsh immigration before the nineteenth century. See “Welsh,” in Thernstrom,

Harvard Encyclopedia, 1011–1012. Yet Arthur H. Dodd did find Welsh settlements in Maryland (1703), North Carolina (1733), South Carolina (1737 and 1780), and Virginia (1740 and 1762), although he made no estimate of their numbers. See *The Character of Early Welsh Emigration to the United States* (Cardiff, 1953), 2. In contrast to the English, most Welsh emigration to the colonies appears to have taken place in the eighteenth century, making it possible to use Purvis' work in this calculation. My estimate of 29,000 Welsh immigrants is based upon his estimate of 4.3 percent of the white population being of Welsh descent in 1790 (Purvis, 98), or about 138,000 people, and the same ratio of immigrants to 1790 population used for the Irish (.21). The 29,000 figure is distributed over the decades in the same manner as the Irish. The advantage of being able to use Purvis' work is offset, however, by the lack of discussion in the literature of the causes, conditions, and timing of the Welsh emigration in the eighteenth century, which has led me to label all these estimates "least accurate."

OTHERS Purvis ("European Ancestry," 98) gives the following percentages for white ethnic distribution in 1790: Dutch 3.1, French 2.1, and Swedish 0.3. Most of these groups arrived before 1700, but there were occasional immigrations of these and other groups during the eighteenth century. For example, over 200 French-speaking passengers arrived in Charleston from 1763 to 1773 (calculated from Revill, *Protestant Immigrants to South Carolina*, [Columbia, 1939], 18, 112, 127). I have placed "other" immigration at a minimal 1 percent of the total per decade to cover this and other such scattered examples during this period and labeled them "least accurate."