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Modeling the age and age composition of late 19th century U.S. immigrants from Europe ☆

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Abstract

Using panel data on 12 European source countries that are followed for 26 years (1873–1898), this paper studies age-specific emigration rates and the age composition of U.S. immigration. Two age groups are the focus of attention, 15–40 and over 40. Emigration-rate models and compositional models that satisfy adding-up conditions are estimated by the Hausman–Taylor Instrumental Variable approach. Younger migrants responded more strongly to job opportunities than to wage differentials, whereas older migrants responded more strongly to wage differentials. Both age groups tended to follow recent past migrants to the U.S. Relatively many younger (and relatively fewer older) migrants came from countries with higher percentages of their work forces in agriculture. Higher source-country birthrates discouraged younger migrants, presumably by raising the cost of family migration.
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1. Introduction

Much research has concerned the volume and/or rate of migration from Europe to the U.S. during the late 19th and early 20th centuries when institutional impediments to

international migration from Europe were low or non-existent and movement costs had fallen substantially due to the availability of the steamship (Gould, 1979; Hatton and Williamson, 1998). Hatton and Williamson (p. 11) ask a much less studied question: "Who were the emigrants?" "Who" could refer to sex, age, skills, and numerous other migrant characteristics. This paper focuses specifically on the age of late 19th century U.S. immigrants from Europe and essentially asks in the context of an econometric model "why were the emigrants who they were?"

The age composition of 19th century immigration from Europe varied considerably across source countries and by source country over time, where age composition refers to the fraction of immigrants in various age classes. Why were U.S. immigrants from certain source countries younger, whereas those from others were older, and why did the age composition of the flows from the various source countries change in systematic ways? The goal of this paper is to use panel data and a model that satisfies adding-up conditions to address such questions. The panels consist of 12 source countries that are followed annually from 1873 to 1898. Age refers to three classes: under 15, 15–40, and over 40, with primary focus on the latter two groups.

Age at entry of U.S. immigrants was potentially important for both the U.S. and the immigrants' source countries. Younger migrants have more years to contribute to the U.S. economy. Studies of contemporary U.S. immigration suggest that age at migration importantly shapes how well the immigrants perform upon entering the U.S. labor force (Friedberg, 1991). Other studies show similar results for Canada (Schaafsma and Sweetman, 2001). Younger immigrants assimilate more rapidly, in part because they learn English more quickly, which in turn augments their labor productivity and earnings and facilitates their social and cultural assimilation. The same process of assimilation appears to have characterized 19th century immigrants (Hatton and Williamson, 1998).

Immigrant age in combination with sex potentially shapes the rate of increase of the second generation immigrant population. Birth rates are highest for the same ages for which migration propensities are highest, and young female immigrants in their peak child-bearing years contribute to the population potential of the receiving country. Through the marriage market, even young male migrants may influence subsequent population growth.

Both personal and societal costs of migration are tied to the age of the migrant. Education, skills, and experience are all functions of age. Specific occupational skills accrue to more experienced workers and thus with age. Eichengreen and Gemery (1986) show that during the 1890s skilled immigrants were about 2 years older than unskilled immigrants. If such education, skills, and experience accumulate in a non-English language environment, they are less readily transferred to the U.S. Although associated losses of human capital may be overcome with investments like learning English, the losses are real, and they are tied in part to the age of the migrants. Moreover, younger immigrants impose costs on public education that are not recovered for some years. Older immigrants who do not participate in the labor force may constitute a burden, though this type of transfer was unlikely to be as important during the 19th century as it is today.

The earliest detailed descriptive analysis of migration is Ravenstein (1885), who focuses on such topics as sex and distance moved, but completely ignores age. Yet 50 years later Dorothy Swaine Thomas in her famous Research Memorandum on Migration Differentials (1938) could claim that "one generalization about migration differentials which can be considered definitely established…is the following: there is an excess of adolescents