Immigration, Science, and Invention. Evidence from the Quota Acts

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RÉSUMÉ

The United States first adopted immigration quotas for “undesirable” nationalities in 1921 and 1924 to stem the inflow of low-skilled Eastern and Southern Europeans (ESE). This paper investigates whether these quotas inadvertently hurt American science and invention. Detailed biographic data on the birth place, as well as immigration, education, and employment histories of more than 80,000 American scientists reveal a dramatic decline in the arrival of ESE-born scientists after 1924. An estimated 1,170 ESE-born scientists were missing from US science by the 1950s. To examine the effects of this change on invention, we compare changes in patenting by US scientists in the pre-quota fields of ESE-born scientists with changes in other fields in which US scientists were active inventors. Methodologically, we apply k-means clustering to scientist-level data on research topics to assign each scientist to a research field, and then compare changes in patenting for the pre-quota fields of ESE-born US scientists with the pre-quota fields of other US scientists. Baseline estimates indicate that the quotas led to 68 percent decline in US invention in ESE fields. Decomposing this effect, we find that the quotas reduced not only the number of US scientists working in ESE fields, but also the number of patents per scientist. Firms that had employed ESE-born immigrants before the quotas experienced a 53 percent decline in invention. The quotas damaging effects on US invention persisted into the 1960s.

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