Immigrant Employment by State and Industry

Methodology

For the interactive data display "Immigrant Employment by State and Industry" and the accompanying analysis, The Pew Charitable Trusts constructed an employment distribution ratio that helps illustrate how foreign-born and U.S.-born workers are distributed across the economies of all 50 states and the District of Columbia. Pew researchers analyzed 13 major industry sectors, which together encompass the full range of economic activity in the nation. The share of a state's total employment and the share of total state gross domestic product (GDP) that is contributed by each industry are also provided for context.

Industry definitions. Industries are not confined within state boundaries. However, to provide meaningful information to policymakers, states are the primary unit of analysis. The industries are defined by North American Industry Classification System (NAICS) codes. Eleven "supersectors" encompass all industries in the economy:

- Agriculture and extraction (NAICS sectors 11 and 21).
- Construction (NAICS sector 23).
- Manufacturing (NAICS sectors 31-33).
- Trade, transportation, and utilities (NAICS sectors 22, 42, 44-45, and 48-49).
- Information (NAICS sector 51).
- Financial activities (NAICS sectors 52-53).
- Professional and business services (NAICS sectors 54-56).
- Education and health services (NAICS sectors 61-62).
- Leisure and hospitality (NAICS sectors 71-72).
- Other services (NAICS sector 81).
- Public administration (NAICS sector 92).

Pew further subdivided two of the supersectors to highlight important differences in the trends of their respective subsectors. The professional and business services supersector was examined in two parts: professional, scientific, technical, and management services (NAICS sectors 54-55) and administrative services (NAICS sector 56). At the national level, immigrant workers are more likely than U.S.-born workers to be employed in administrative services but less likely than U.S.-born workers to be employed at in the remaining segments of the professional and business services supersector. The education and health services supersector was also divided into two parts: education services (NAICS sector 61) and health care and social services (NAICS sector 62). In both subsectors, immigrant workers are less likely than U.S.-born workers to be employed in the industry at the national level, but several states show deviations from this pattern in one or both subsectors. Breaking out these two supersectors supports a better analysis of the role of immigrant workers within these industries.

Notably, this analysis focuses on industries—the types of businesses—and does not explore occupations—the tasks or functions performed by individual workers within a business.

The employment distribution ratio. This is a measure of the likelihood that an immigrant works in an industry, compared with a U.S.-born worker. Pew used the 2011–13 weighted estimates from the American Community Survey (ACS) to obtain data on the percentage of employed U.S.- and foreign-born people working in the 13 industries. In absolute terms, many more U.S.-born than foreign-born workers are employed in the economy.

For this comparison, Pew analyzed the share of each group's total employment in a given industry, rather than either the actual number of workers in the industry or the percentage of the industry's workforce that is foreign born. This approach helps to account for differences in the size of industries and populations across states. For a given geographic area (state or national level), the measure is calculated by dividing the share of total immigrant employment in an industry by the share of total U.S.-born employment in that industry:

$$\text{Employment distribution ratio} = \left(\frac{\text{Foreign-born}_{\text{industry X, state Y}}}{\text{Total foreign-born employment}_{\text{state Y}}}\right) / \left(\frac{\text{U.S.-born}_{\text{industry X, state Y}}}{\text{Total U.S.-born employment}_{\text{state Y}}}\right)$$

This calculation provides a glimpse of foreign-born employment compared with U.S.-born employment in each industry. A result of 1.0 indicates that immigrants and U.S.-born workers are equally likely to be employed in the industry. A result of less than 1.0 means that U.S.-born workers are more likely than immigrants to be employed in the industry, and a ratio of greater than 1.0 indicates that immigrants are more likely than U.S.-born workers to hold a job in the industry. For example, if the ratio of foreign-born to U.S.-born is 0.7, it means that immigrants are 0.7 times as likely as U.S.-born workers to be employed in the industry. A ratio of 1.5 would mean that immigrants are 1.5 times more likely to work in the industry than U.S.-born workers.

For purposes of comparison, the researchers repeated the calculations using the 2009–13 ACS five-year estimates and did not find substantial differences. The three-year estimates were used to increase reliability of the estimates compared with a one-year sample, while minimizing the inclusion of data collected during the Great Recession (December 2007 through June 2009).

Industry share of total state employment. This measure is calculated as the number of people (regardless of nativity) employed within an industry, divided by the total number of workers in the state:

$$\text{Industry share of state employment} = \frac{\text{Number of people employed in an industry}_{\text{state Y}}}{\text{Total number of employed people}_{\text{state Y}}}$$

These calculations drew from the same source data used to determine the employment distribution ratio.

Industry share of total state GDP. The GDP for a state is equal to the value of all goods and services produced within the state. An industry's share of state GDP is the value of all output from that industry, divided by total state GDP:

$$\text{Industry share of state GDP} = \frac{\text{Value of output generated by an industry}_{\text{state Y}}}{\text{Total GDP}_{\text{state Y}}}$$

These data come from the U.S. Bureau of Economic Analysis' Regional Economic Accounts. The estimates used are for 2013 output and are expressed in 2013 dollars.[1]

Endnote

1 U.S. Bureau of Economic Analysis, Real GDP by State (Millions of Current Dollars), accessed Sept. 18, 2015, http://bea.gov/iTable/index_regional.cfm.

Note: This issue brief was updated on March 14, 2016 to reflect the correct years of the U.S. Census Bureau's 2011-13 American Community Survey.

For further information, please visit:

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