

# Changes in the U.S. occupational mix from 1860 to 2015

*Demetrio Scopelliti*

Business innovation often determines the rate of change in the nature of the work that we do. When businesses adopt new technology, develop new products, or alter their business model, the occupational mix or structure in that business also changes. As an example, factory automation typically reduces the number of product-assembly workers and increases management or quality control personnel.

In his article “[Changes in the occupational structure of the United States: 1860 to 2015](#)” (*Economic Commentary*, Federal Reserve Bank of Cleveland, June 2019), Joel A. Elvery argues that after rapid technological change associated with the agricultural and industrial revolutions of the late 19th and early 20th centuries the rate of change in the occupational mix in the United States has stabilized since 1970. The author further asserts that the rate of change in the occupational structure in recent years is less than half of that in the 1900s and 1940s, in which the rate of change in the occupational mix was at its highest level. As a result of the recent stabilization in the occupational mix, the author indicates that career disruptions have been minimized while the nation’s economy has become less dynamic.

In analyzing national occupational data from 1860 to 2015, the author identifies five major shifts in the share of total employment across major occupational groups over that period:

1. A decrease in the share of agricultural employment from 1870 to 1970
2. An increase in the share of office work from 1870 to 1970
3. A drop in the share of manual labor from 1940 to 1970
4. A decline in the share of production work from 1950 to 2010
5. An increase in the share of management from 1880 to 1950, followed by a more rapid rise from 1970 to 2005

To compare these occupational changes over time, the author uses an index that represents the percentage of employed people who would need to change to a different major occupational group for the occupational mix to be the same as it was 10 years prior. In doing so, he notes that the index rose from 4.4 percent in 1900 to 8.0 percent in 1970. Since 1970, the index steadily declined to 4.3 percent in 2015, reflecting a decrease in the rate of change in the occupational mix over that period. The index also shows that between 2005 and 2015, occupational groups with the largest declines in share of employment were office administration, construction and extraction, and production. In contrast, the groups with the largest increases in share of employment, were healthcare professional, healthcare support, and food preparation and serving related occupations.

The author also shows how the index can be used to measure the change in the occupational mix for individual states and the District of Columbia. In examining state-level data since 1970, the author points out that some states departed from the national trend over that period. Of note, the rate of change in the occupational mix for Pennsylvania increased from 1970 to 1990. He also discovered that, between 2005 and 2015, the western United States experienced higher rates of change in the occupational mix than did the eastern half of the nation.

The author concludes that the decreased rate of change in occupational structure in the United States since 1970 has both positive and negative implications. On the positive front, careers are more stable as a result of the lower likelihood of sudden structural change. On the negative side, the lower rate of change in the occupational structure limits the transfer to higher wage occupations and therefore tempers income growth.