

U.S. Metro Economies

SPECIAL REPORT
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Technology and the Future Labor Market

Prepared for:



**The United States
Conference of Mayors
and The Council on
Metro Economies and
the New American City**

Prepared by:



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EXECUTIVE SUMMARY

The national unemployment rate has dipped below 4 percent for the first time in almost 20 years. While various sectors and regions of the country are confronting significant labor shortages, a longer-term issue may cause severe labor dislocations— a mismatch between required job skills in the context of disruptive technological changes and the available supply of those skills. This could cause unemployment rates to rise across broad classes of workers and lead to increased wage inequality over the next couple of decades.

The attached review of the literature does not provide an unambiguous profile of the nature of technological change and what changes the economy will confront in the future. The major issue relates to the nature of technology and its effect on the labor market. Some technologies—enabling technologies—will augment different types of labor, thus increasing the demand for labor and resulting in higher wages. However, other technologies—replacing technologies—can reduce the demand for labor, particularly low skill labor, and lead to reductions in wages. Those who have skills in high demand will benefit in terms of wage growth, while others will not.

While some economists point to market forces that have worked to reallocate resources and labor into occupations that require high skill capabilities, there is the risk that segments of the population will be left behind. This risk may increase if changes in technology outpace the availability of required skills in the labor force needed to accommodate these changes. What may happen, and this is specifically emphasized by economists, is heightened income inequality, as those with the necessary skill sets are able to command premium wages relative to those in the middle and lower income tiers. New technologies with job displacing impacts may even occur for occupations such as law, financial services, and medicine. However, it is also important to note that thanks to technological advancements, jobs such as Uber driver, data scientist, cloud services specialist, Youtube content creator, Twitter developer, Airbnb host, Instagram influencer, and social media managers have now come into existence. During the transition period, where the economy adjusts to the demise of one industry that gives rise to another, there are winners and losers. Policymakers need to be aware of this, and be prepared to offer viable solutions to displaced workers so that they acquire the necessary tools and training to adapt to new occupations and new industries.

There is an array of estimates in terms of labor replacements across various industries. For example, the Pew Research Center has estimated that at the high end, 42 percent of jobs in the hospitality sector will be replaced and 41 percent of restaurant jobs will be replaced. McKinsey has estimated that 45 percent of US workers are at risk of losing their jobs due to automation. Robotics in selected manufacturing sectors have been in place for decades and has clearly resulted in labor saving and a corresponding reduction in jobs. A prime example is in the automotive sector. One researcher from MIT has estimated that every new robot will place three workers. However, no forecast of additional robots in the workplace has been generated to date.



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