

Bureau of Labor Statistics Report to the
Committees on Appropriations of the House of Representatives and the Senate
on Measuring the Effects of New Technologies on the American Workforce

Introduction

The following report outlines the steps the Bureau of Labor Statistics (BLS) of the U.S. Department of Labor (DOL) will undertake in Fiscal Year (FY) 2019 to develop a strategy for measuring the impact of new technologies, including automation, digitization, and artificial intelligence (AI), on the American workforce. This report is in response to the following language included in the Senate Committee on Appropriations Report (S. Rept. 115-289) that accompanied the Department of Defense and Labor Health and Human Services and Education Appropriations Act, 2019 and Continuing Appropriations Act, 2019 (Pub. L. 115-245):

The Committee is concerned that there continues to be insufficient data on the impact technology is having on the American workforce. The Committee encourages BLS to develop a strategy to better understand how automation, digitization, and artificial intelligence are changing the employment landscape. BLS is directed to submit a report to the Committees on Appropriations of the House of Representatives and the Senate no later than 90 days after enactment of this act detailing the steps taken to develop the data strategy as directed. (S. Rept. 115-289, p. 38)

Background

BLS is the principal federal statistical agency responsible for measuring labor market activity, working conditions, and price changes in the economy. Its mission is to collect, analyze, and disseminate essential economic information to support public and private decision-making that forms the basis of our democratic, free-enterprise system. Like all federal statistical agencies, BLS executes its statistical mission with independence, serving its users by providing products and services that are accurate, objective, relevant, timely, and accessible.

BLS is continually seeking to better meet stakeholder needs by developing new, relevant and comprehensive measures on the nature of employment. One area of research that has been identified to meet this objective is developing outputs that can be used to assess the impact of new technologies (including automation, digitization and artificial intelligence (AI)) on the workforce.

The scope of new technologies is far broader than AI research. For example, there are multiple ongoing initiatives to evaluate the impacts of autonomous vehicles (AV) on labor markets in transportation. In July 2018, Department of Transportation (DOT) published a Comprehensive Management Plan for Automated Vehicles Initiatives that provides a description of its recent and upcoming activities related to automation (<https://www.transportation.gov/AV>). Such automation-related initiatives articulate a need for careful, data-driven analysis of how technology is likely to affect the workforce. BLS and other DOL agencies are coordinating with DOT on this research.

BLS currently collects occupation-specific data on pay, benefits, employment, and job requirements from employers. BLS generates statistics on labor force characteristics from households via the Current Population Survey (and its supplements, including the Displaced Worker Supplement), and measures of a variety of capital inputs, including several categories of IT and communications capital using Census data. In addition, BLS produces the Occupational Outlook Handbook, which contains qualitative information on jobs, and Employment Projections, which models future employment. These products provide some, but not all, of the information required to assess the impact of automation on the workforce.

FY 2019 Work Plan

BLS plans to work with a contractor in FY 2019, concluding in the first quarter of FY 2020, to produce the following reports:

- a. A literature review that summarizes and synthesizes economic theory on the interaction between labor and capital in the workplace and how this is affected by new technologies such as automation, digitization, and AI. This review will be the basis for developing a comprehensive list of constructs that need to be measured to allow researchers to assess the impact of these new technologies on the workforce.
- b. An analysis that identifies how the key constructs are currently captured by federal statistical agencies in the U.S. and internationally and proposes ways to supplement the data that BLS currently collects with additional information on automation, digitization, and AI to reach the desired set of constructs.
- c. A final report that recommends data collection options to fill those gaps (as well as methodologies for leveraging existing BLS data to the fullest extent). These data collection options must include a qualitative analysis of the trade-off between collection cost and variable quality, be properly documented, and reflect modern survey methodology. The data collection must span all jobs in the private sector. Alternative data sources should also be evaluated, both in terms of coverage of the key concept, quality and availability to BLS.

In the first quarter of FY 2020, BLS will identify pilot projects to test feasibility of collecting a subset of the data elements recommended in the final report. BLS expects these projects to begin in FY 2020, resources permitting.