

U.S. Department of Labor Roundtable on Assessing Workforce Skill and Competency Change Over Time

Background

In the upcoming years, new jobs will be added, some existing jobs will be lost, and the nature of work in other jobs will change, due to factors such as 1) increase in remote work, 2) the role of gig work, and 3) future adoption of automation, and the impacts of artificial intelligence on work.

The potential impacts of these developments on workforce skill and training needs in the future are important to the nationwide workforce system and to the Department of Labor, as well as other agencies. Identifying the needed data and variables to monitor the impact of these developments over time is a challenging research topic, with particular implications for the Bureau of Labor Statistics and the Employment and Training Administration's labor market information programs with states, and the collection and dissemination of data through the Occupational Information Network (O*NET) system on the characteristics and requirements of over 900 occupations.

Obtaining timely intelligence on these labor market impacts could help inform individuals, education and training providers, and the workforce system by identifying which workers might need reskilling for different pathways—flagging which tasks, skills, and competencies might become obsolete and what new skills workers will need to acquire for various career paths. ETA would gain value from learning about feasible and optimal ways to assess skill and competency change over time, as various technological, social, and environmental factors impact jobs. It is no longer human curatable to capture skill and competency levels **solely** through surveys and focus groups, real-time data from online and administrative data bases also need to be leveraged. Listed below are four overarching goals for a research roundtable on this topic and background work pertaining to future of work.

Goals

1. Learn from researchers in the field various perspectives on the feasibility of analyzing skill and competency change over time
2. Explore needed data elements to assess skill and competency changes for occupations
3. Explore various methods or approaches, such as AI and ML, to assess skills and competency demand and trends over time, as certain occupations increase or decrease in size or as task composition of occupations changes.
4. Identify options to support such analytical capabilities either through government or public-private partnerships to build capacity for capturing and assessing such information.

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October 21, 2022
3:00 to 4:30 Eastern Time

Agenda

3:00 – 3:10

Introductions

- Welcome from the Department of Labor
Monica Mean, Chief Evaluation Office
- Background and context for this panel
Pam Frugoli, Employment and Training Administration

3:10 – 4:10

Panelist Remarks

- Use of occupational/skills datasets in their research
- New and potential data sources and methods to assess changes in skills over time
- What are the pros and cons of new approaches
- Recommendations for the role of the federal government and public-private partnerships in tackling challenges

[Each panelist will speak for 15 minutes]

4:10 – 4:25

Discussion

- Questions from the Department of Labor
- Moderated Q&A

4:25– 4:30

Conclusion and Next Steps

Marilia Mochel, Manhattan Strategy Group

Attendance to this virtual roundtable is by invitation only. The Department of Labor invited internal staff, counterparts from select Federal agencies and members of the Workforce Information Advisory Council, which includes state agency leaders.

Biographical Sketch of Experts in the Panel (in alphabetical order)

Prof. **Ina Ganguli** is an Associate Professor of Economics at the University of Massachusetts Amherst and Associate Director of the UMass Computational Social Science Institute. Her research areas are labor economics, the economics of science and innovation, international development, and economic history. She works on topics related to how individuals acquire and use their skills, particularly on science and innovation, immigration, and gender issues. Much of my work is focused on the behavior of high-skilled "knowledge" workers - scientists and engineers.

Prof. **Daniel Rock** an Assistant Professor of Operations, Information, and Decisions at the Wharton School of the University of Pennsylvania. His research focuses on the economic effects of digital technologies, with a particular emphasis on the economics of artificial intelligence. He has recently worked on studies addressing the types of occupations that are most exposed to machine learning, measuring the value of AI skillsets to employer firms, and adjusting productivity measurement to include investments in intangible assets.

Prof. **Robert Seamans** is an Associate Professor of New York University's Stern School of Business. His research focuses on how firms use technology in their strategic interactions with each other, and also focuses on the economic consequences of AI, robotics and other advanced technologies. Prof. Seamans and collaborators developed the AI Occupational Exposure (AIOE) measure that uses data on AI progress and O*NET data to assess potential impact of AI on occupations. Prof. Seamans served as the Senior Economist for technology and innovation on President Obama's Council of Economic Advisers.

Dr. **Ben Zweig** is the CEO of Revelio Labs, a market intelligence company that derives competitive insights based on unstructured human capital data. Revelio Labs leverages the latest advances in AI research methods to create structured and accurate representations of raw labor data contained in millions of resumes, online profiles, and job postings. Revelio Labs' mission is to provide unique insights and uncover trends in human capital, empowering businesses and investors. Dr. Zweig is also an Adjunct Professor at NYU's Stern School of Business.