

# How BLS is Working to Understand the Future Of Work

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# Goals

- Illustrate how existing BLS survey data can be used to consider the potential labor market impacts of technological changes
- Highlight on-going work to assess data gaps and strategies for filling them



# Caveats

- The **Bureau of Labor Statistics (BLS)** of the U.S. Department of Labor is the principal federal agency responsible for measuring labor market activity, working conditions, and price changes in the economy.



# Using existing BLS data to inform questions about changing technology



# Occupational Employment Statistics

- Employment (and wages) by geography
- National Employment Matrix
  - ▶ <https://data.bls.gov/projections/nationalMatrixHome?ioType=o>



# Occupational Requirements Survey

- Collected under agreement with SSA
- Detailed information on work requirements including
  - ▶ Physical requirements
  - ▶ Environmental conditions
  - ▶ Education/training requirements
  - ▶ Mental/cognitive requirements
- Untapped potential: Critical job function and job tasks



# NLSY Job Tasks

- NLSY79 and NLSY97 contain employment histories from respondents' teens up to their current interviews.
- Task data (rounds 27, 28 of NLSY79 and rounds 18,19 of NLSY97)
  - ▶ Managing others
  - ▶ Short, repetitive tasks
  - ▶ Physical tasks
  - ▶ Cognitive tasks (reading, problem solving)



# What Other BLS Data Provides Context?

- Workplace injury and illnesses
  - ▶ Census of Fatal Occupational Injuries
  - ▶ Survey of Occupational Injuries and Illnesses
- Productivity Statistics
  - ▶ State-level productivity measures
- CPS, ATUS, CE, and more





# Identifying Gaps



# FY 2019 Congressional Report

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)



# FY 2019 Congressional Report

- <https://www.bls.gov/bls/congressional-reports/bls-reports-directed-by-congress.htm>
- “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 on the workforce.”



# Key Definitions

- Automation: substitution of non-human value for human production value
- AI: automation of cognitive tasks; “activity devoted to making machines intelligent”
- Digitization: translation of information into a form that can be understood by computer software and transmitted via the internet



# Key Constructs

- Productivity growth
- Diffusion of technology
- Industry measures (“advanced industries”)
- Labor demand
- Skill demand
- Tasks

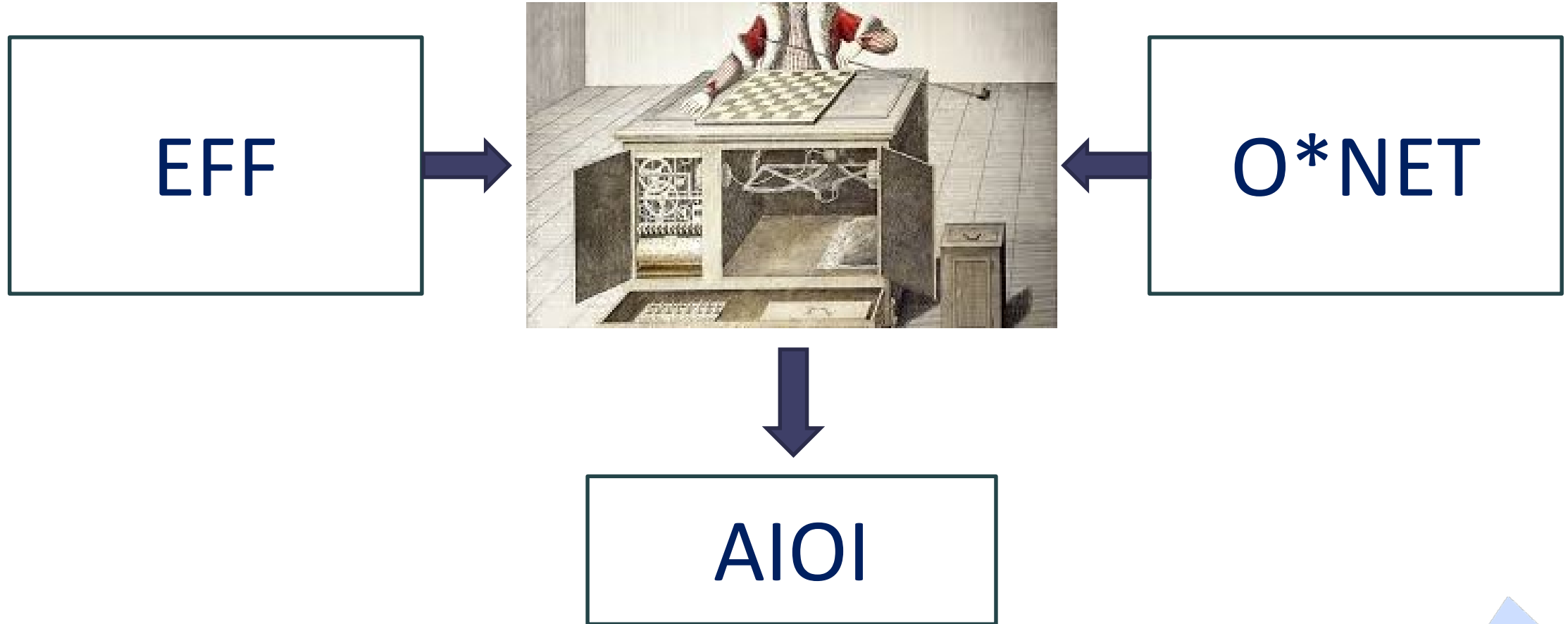


# Data Gaps

- Linking adoption of technologies to labor used
- Aligning US data collection on innovation measures with international measures
  - ▶ Ex: tasks performed by robots
- Skill and labor demand
  - ▶ Comprehensive and trackable over time



# A Brief Digression – Felten et al



# Recommendations

- More JOLTS data
- New NLSY cohort with focus on tasks
- Cataloging tasks
  - ▶ Classifying tasks
  - ▶ Who/what performs the tasks
- Data matching with agencies that collect related constructs
  - ▶ Joint outputs





# Other Activities

- Inventory of existing products that measure skills, training, automation
  - Statistical agencies
  - Will next move to CDO for input
  - NSF has also offered input from case studies and other research
- Evaluation/discussion of establishment PIAAC
- Leveraging technology (BLS/OSHA)

# Ideal Attributes (for a statistical agency)

- Utility across user groups
- Utility across domains of interest
- Align with existing efforts of other agencies



# Contact Information

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