

# Automation and the Labor Force: Data Collection Strategies

Enghin Atalay (Federal Reserve Bank of Philadelphia)<sup>1</sup>

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<sup>1</sup>Research results and conclusions expressed are those of the authors and do not necessarily reflect the views of the Federal Reserve Bank of Philadelphia, the Federal Reserve System, or the Federal Reserve Board of Governors.

# Overview

## Already identified data gaps

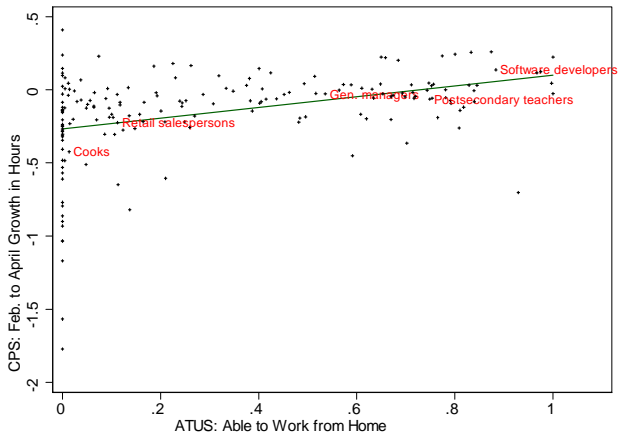
- ▶ Hiring and vacancy creation by occupation
- ▶ What tasks are performed by humans? And by capital?

## Suggestions

1. Could be useful to measure where and with whom tasks are performed
2. Add questions on technology usage to extension of the Occupational Requirements Survey (ORS)
  - ▶ Or, ask these questions directly to workers

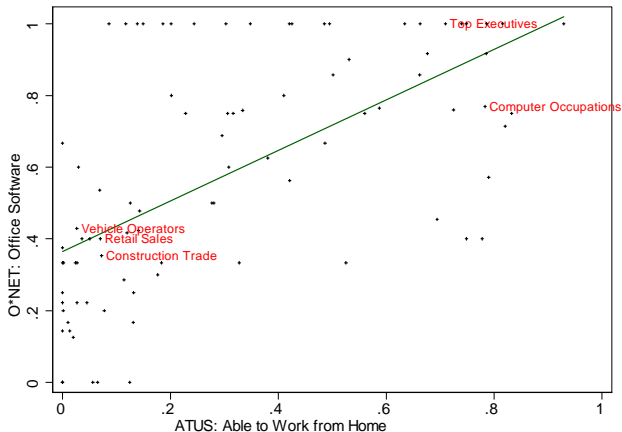
# Where is work conducted?

2017-18 ATUS Leave, Job Flexibilities Module



- Occupations without the ability to work from home had large hours reductions recently.

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- Availability to work from home correlated with application of certain technologies.

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**Two extra questions posed to workers: Are you able to work from home? How much time do you spend working near other people?**

# Margins of task displacement

## 1. Within worker/job

- ▶ CNC machines reduce time spent on setting up and inspecting machines, more time on relatively complex problem solving

## 2. Within establishment/firm

- ▶ Word processing software, adopted by executives, leads to a decline in the demand for typists
- ▶ ATM adoption leads bank tellers to focus on more sales-related tasks

## 3. Across establishments/firms

- ▶ Amazon Web Services may reduce demand for in-house IT technical support
- ▶ More generally, any technologies which alter competitors'/customers'/suppliers' scope

**Could be easy to directly measure (1) by adding questions about technology use to ORS**