LEHD New Product Development: Veteran Employment Outcomes

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Motivation

▶ How do military service members perform in the labor market following separation from military service?

▶ Household survey samples of veterans are often too small for detailed analysis

▶ Military does produce statistics on service members, but these are limited in their ability to document outcomes following separation from service

Goal of the VEO Project

We want to provide answers to some really basic questions:

1. Where do veterans find employment? In what sectors? Which states?

2. What are the demographic characteristics of these workers?

3. What did they do in the Army and how does that experience translate into civilian employment and earnings?

4. How do outcomes for these service members compare to similar civilian workers?

Data Partner

Department of the Army Office of Economic and Manpower Analysis

- ▶ All Army veterans that left service between 1990-2017
- ▶ Service members demographic and service characteristics (pay grade, years of service, AFQT score)
- ▶ Yes, even Army occupations

Methodology

Similar methodology to the Post-Secondary Education Outcomes (PSEO) project

- ▶ Annual earnings from all jobs;
- ▶ Subject to two labor force attachment requirements:
  - ▸ 3+ quarters of positive earnings
  - ▸ Earnings > FTE at minimum wage
- ▶ State and NAICS sector of the employer with highest earnings

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How are Earnings Tabulated?

Earnings Percentiles (25th, 50th, 75th) of Army enlisted service members 1, 5, and 10 years after separation from active-duty service

- ▶ By demographics (age, sex, race, ethnicity) and cohort
- ▶ AFQT tercile, education status at enlistment
- ▶ Pay grade at separation, years of service
- ▶ Military occupation, occupation*pay grade, occupation*sector
- ▶ state*sector, state*cohort, state*occupation

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How are Employment Counts Tabulated?

Count of service members and flows into states and industries by strength of labor force attachment

- ▶ By demographics (age, sex, race, ethnicity) and cohort
- ▶ AFQT tercile, education status at enlistment
- ▶ Pay grade at separation, years of service
- ▶ Military occupation, occupation*pay grade, occupation*sector
- ▶ state*sector, state*cohort, state*occupation

# How are Veterans' Earnings Compared to the Civilian Population?

In order to evaluate the transferability of skills accumulated during Army service to civilian employment, we develop a civilian comparison group

- ▶ Civilian group is made of industry "switchers" that have been reweighted along their demographic observables to resemble those of Army veterans.

- ▶ Calculate earnings percentiles by demographics (age, sex, race, ethnicity), state*sector, state*cohort
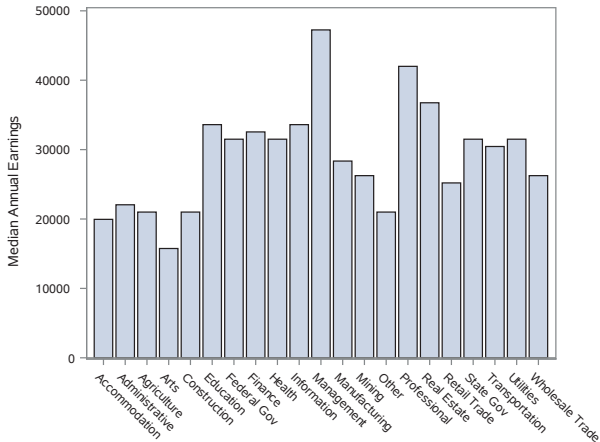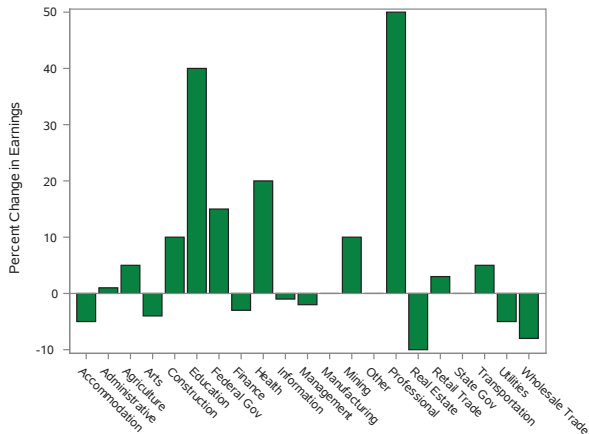
Example Figure: Median Earnings and Outcomes by Age
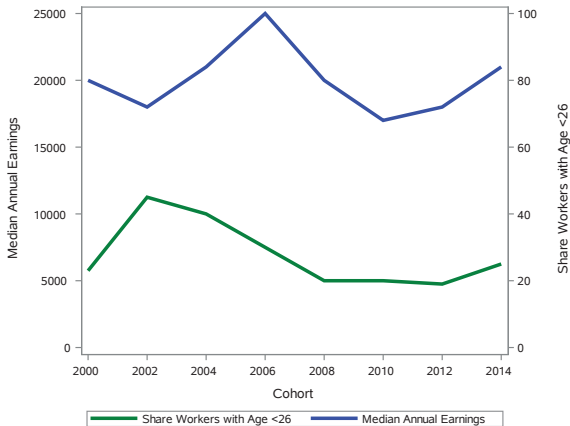
All data examples use simulated data.

Example Figure: Median Earnings by NAICS Sector

All data examples use simulated data.
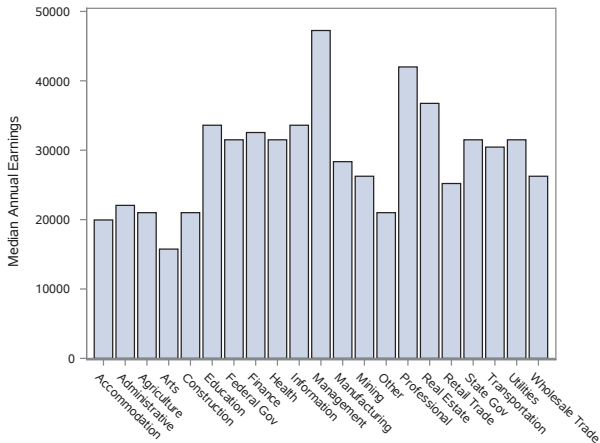
Example Figure: Median Earnings by NAICS Sector (Civilian Comparison Group)

All data examples use simulated data.

Example Figure: Army and Civilian Comparison of Median Earnings

All data examples use simulated data.

Example Figure: Army and Civilian Comparison by State

Percent Change in Earnings   ☐ <-25%   ☐ -25-0%   ■ 0-25%   ■ >25%

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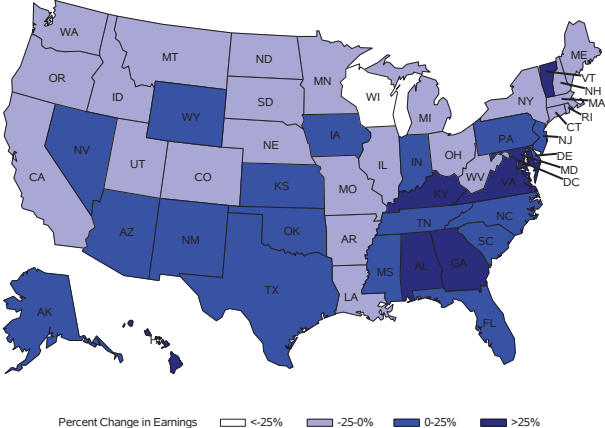
Army Occupations

We have Army occupation data. Army defines occupations by a MOC code, but:

- ▶ MOC codes change over time
- ▶ Sparsely-populated cells

Use a 2-digit DOD Occupation Coversion Index. For our enlisted Army population there are 10 sub groups:

- ▶ Example: DOD Code 10 ("Infantry, Gun Crews, and Seamanship Specialists")
  - ▶ Infantry (MOC:11B,11C,11Z,18B,18C,18D,18E,18F,18Z)
  - ▶ Armor and Amphibious (MOC:19K,19Z)
  - ▶ Combat Engineering (MOC:12A,12B,12C,12Z)
  - ▶

Occupation Codes

DOD Code	Title
10	Infantry, Gun Crews, and Seamanship Specialists
11	Electronic Equipment Repairers
12	Communications and Intelligence Specialists
13	Health Care Specialists
14	Other Technical and Allied Specialists
15	Functional Support and Administration
16	Electrical/Mechanical Equipment Repairers
17	Craftsworkers
18	Service and Supply Handlers
19	Non-Occupational

Example Figure: Median Earnings by Occupation

Tables: occupation, occupation*state, occupation*sector

All data examples use simulated data.
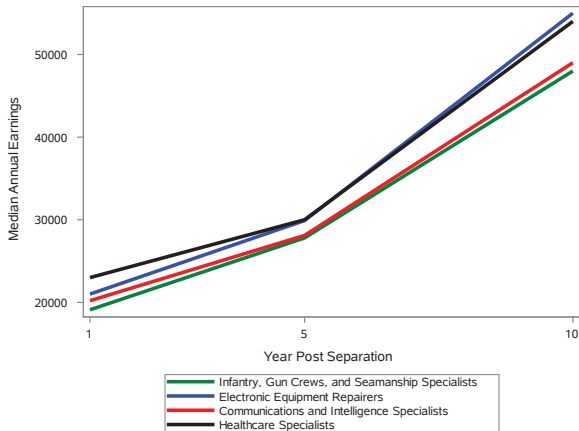
Disclosure Protections

Apply differential privacy protections used in Post-Secondary Education Outcomes (PSEO) project

- ▶ Laplacian noise infusion to counts data
- ▶ Histogram approach to calculating percentiles

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Timeline for Release

- ▶ Most raw tabulations complete; we are now working on applying disclosure protections

- ▶ Planning to release end of 2019 or shortly thereafter

- ▶ After an initial release, we will determine a production cycle based on demand by public, data availability, and disclosure protection requirements

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Other Research

Beyond the public data release, we are also excited about the applications of these data for additional research. Here are some ideas we're currently investigating:

- ▶ Better civilian comparison groups that account for unobservable differences between veterans and non-veterans (e.g. looking at twins).

- ▶ Analysis of BLS's O*NET "Military Crosswalk Search" for quality of occupational matches using ACS data.

- ▶ Study of the effects of military service on intergenerational mobility.

Feedback Welcome

If you have comments or questions, please contact me at:

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