Retention Trends Within Arkansas’ WBL-to-Workforce Pipeline

Nagaraj Bettadapura, ADWS/TANF
Sam Keathley, KYSTATS
Eric Schroer, LAHSA
Serpil Tokdemir, Arkansas DMS
Team Lead: Nishav Mainali, ARDATA
Motivation: Why does the project matter?

Prospective Employers and employees, or, apprenticeship enrollees may both benefit from evaluating how to get staff to complete apprenticeship programs, however that is not our focus.

Our focus is to understand the relationship between post-apprenticeship retention and employer and employee benefit.

We believe this matters because it enables us to begin assessing the value both employers and employees derive from completion of WBL programs, comparing those who stay in their industry and those who leave their industry.
Presentation Roadmap

1. Research Question and Research Methods
2. Literature Review
3. Data Analysis
4. Missingness and Data Quality
5. Recommendations
Research Question

What are the retention trends within Arkansas’ work-based learning to workforce pipeline, exclusively for those who complete work based learning apprenticeships?

Additional fields of study:

● How does employer-level retention compare to industry retention?
● How does retention relate to wages?
● How does retention differ by demographic group, particularly geographic groups?
### Research Methods

#### Literature Review
- Employer/Firm Benefits
- Employee or Apprenticeship Completer Benefits

#### Apprenticeship Data Analytics
- Registered Apprenticeship Sponsor Information Database (RAPIDS) Client Level Data (federal)
- Unemployment Insurance Quarterly Wage Data
- Quarterly Census of Employment and Wages (QCEW)

#### Additional Methods & Considerations
- Timeframe: Completers from 2012-2018 (Pre-Covid)
- Inflation Adjustment (Normalizing Wage Gains Across Years)
- NAICS crosswalk from QCEW (Retention by Employer and Industry)
Literature Review: Overview

Existing literature demonstrated a focus on retention and attrition among apprenticeship participants, *prior to or regardless of apprenticeship program completers.*

While Employers benefit from better understanding if the employees they invest in will stay, our question and literature review focus on post-apprenticeship completion.
Literature Review: Employer Benefits

- Various Types of Benefits (US Department of Commerce, 2016):
  - New England Physician Apprenticeship:
    - Ancillary retention benefits
    - Statistically significant increase in performance or output
  - a CVS Programs for Pharmacy Technicians and Store Managers in Michigan, South Carolina, and Georgia,
    - Retention benefits (turnover halved)

- Industry Type Matters:
  - (Morenweiser et al., 2008):
    - Apprenticeships in unskilled or semi-skilled occupations serve as a substitute for traditional labor in those fields, yielding a profit over the course of the apprenticeship itself
    - Apprenticeships in more skilled fields may take longer to ‘pay off’ the costs to the employer
Literature Review: Apprentice Benefits

- **Earnings & Employment**
  - In 2012, Mathematica Policy Research found:
    - In the ninth year following program enrollment, RA participants earned an average of $5,839 more than similar nonparticipants.
  - In 2006, Hollenbeck et al. found:
    - Average Quarterly Wage Increased ~$3,500 9-12 Quarters After Completion
    - Average Employment Rate Increased ~ 10% 9-12 Quarters After Completion

- **Other Benefits - Outreach**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>WIA Title I-B Adults</td>
<td>10.8</td>
<td>766</td>
</tr>
<tr>
<td>WIA I-B Dislocated Workers</td>
<td>4.7</td>
<td>850</td>
</tr>
<tr>
<td>WIA I-B Youth</td>
<td>4.3</td>
<td>343</td>
</tr>
<tr>
<td>Comm. and Tech. College Job Prep</td>
<td>10.1</td>
<td>1,572</td>
</tr>
<tr>
<td>Comm. and Tech. College Worker Retraining</td>
<td>7.5</td>
<td>959</td>
</tr>
<tr>
<td>Comm. and Tech. College ABE</td>
<td>-3.9</td>
<td>90</td>
</tr>
<tr>
<td>Private Career Schools</td>
<td>3.4</td>
<td>394</td>
</tr>
<tr>
<td><strong>Apprenticeships</strong></td>
<td><strong>9.8</strong></td>
<td><strong>3,611</strong></td>
</tr>
<tr>
<td>Secondary Career Technical Ed.</td>
<td>10.4</td>
<td>574</td>
</tr>
<tr>
<td>Vocational Rehabilitation</td>
<td>10.2</td>
<td>257</td>
</tr>
</tbody>
</table>

*Note: Specific estimation techniques are described in later chapters.

*Defined as average over quarters 9-12 after exit.
Data Analysis: Specific Methods

- Inflation Adjustment
- Rural / Urban Designations
- NAICS Crosswalk from QCEW

- Qualifying Employment
- Apprenticeship employer matching
Apprenticeship Completers that Remain With their Apprenticeship Employer vs. Completers who Change Employers
Non-Retained Apprenticeship Completers that Remain in the Same Industry vs. Completers who Change Industries
Median Weekly Wages of Completers that Remain With their Apprenticeship Employer vs. Completers who Change Employers
## Missingness and Data Quality

<table>
<thead>
<tr>
<th>Gender</th>
<th>Race</th>
<th>Rural / Urban</th>
<th># of Completers w/ Wage Records</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>American Indian or Alaska Native</td>
<td>Urban</td>
<td>REDACTED</td>
</tr>
<tr>
<td>F</td>
<td>Asian</td>
<td>Urban</td>
<td>REDACTED</td>
</tr>
<tr>
<td>F</td>
<td>Black or African American</td>
<td>Urban</td>
<td>REDACTED</td>
</tr>
<tr>
<td>F</td>
<td>Do not wish to answer</td>
<td>Urban</td>
<td>REDACTED</td>
</tr>
<tr>
<td>F</td>
<td>White</td>
<td>Urban</td>
<td>10</td>
</tr>
<tr>
<td>M</td>
<td>American Indian or Alaska Native</td>
<td>Rural or Semi-Rural</td>
<td>REDACTED</td>
</tr>
<tr>
<td>M</td>
<td>American Indian or Alaska Native</td>
<td>Urban</td>
<td>REDACTED</td>
</tr>
<tr>
<td>M</td>
<td>Asian</td>
<td>Rural or Semi-Rural</td>
<td>REDACTED</td>
</tr>
<tr>
<td>M</td>
<td>Asian</td>
<td>Urban</td>
<td>REDACTED</td>
</tr>
<tr>
<td>M</td>
<td>Black or African American</td>
<td>Rural or Semi-Rural</td>
<td>REDACTED</td>
</tr>
<tr>
<td>M</td>
<td>Black or African American</td>
<td>Urban</td>
<td>40</td>
</tr>
<tr>
<td>M</td>
<td>Do not wish to answer</td>
<td>Urban</td>
<td>20</td>
</tr>
<tr>
<td>M</td>
<td>Multiple-Race Selected</td>
<td>Urban</td>
<td>REDACTED</td>
</tr>
<tr>
<td>M</td>
<td>Native Hawaiian or Other Pacific Islander</td>
<td>Rural or Semi-Rural</td>
<td>REDACTED</td>
</tr>
<tr>
<td>M</td>
<td>Native Hawaiian or Other Pacific Islander</td>
<td>Urban</td>
<td>REDACTED</td>
</tr>
<tr>
<td>M</td>
<td>White</td>
<td>Rural or Semi-Rural</td>
<td>230</td>
</tr>
<tr>
<td>M</td>
<td>White</td>
<td>Urban</td>
<td>740</td>
</tr>
</tbody>
</table>
Recommendations

- Program Expansion
- Normalization of outcome data (Cost of Living)
- Supplement with qualitative data from employers
- Completer retention vs. program retention - if you build it they will come?
Conclusion

When businesses retain employees they trained via apprenticeships, both parties benefit. In Arkansas, three years out from the completion of an apprenticeship program, completers are more likely to stay employed with their apprenticeship employer than not. Completers who stay with their apprenticeship employers commonly earn ~$100 more per week than those who do not. Specialty Trade Contracting companies are a particular success story, retaining nearly 70% of their apprentices two years after completion. There are also geographic differences in the rate at which apprentices are retained by their employers post-completion, with completers in rural parts of Arkansas’ Delta Region the most likely to remain with their apprenticeship employers.

