

Employment Transitions in Washington State

An Examination of Job Flows Among Persons Employed in Growing and Declining Industries

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Research Questions

- 1) From where do industries associated with growing employment draw their workers?
- 2) Where do workers who are, or were employed in industries with declining employment end up?
- 3) Do workers who transition out of employment in industries with declining employment experience earnings growth, stability, or deterioration?
- 4) Are workers who transition out of employment in industries associated with declining employment more likely to enroll in training or educational programs?
- 5) Do workers who transition out of employment in industries with declining employment do better, or worse, than others in terms of annual earnings?

Step I – Define “Growing” and “Declining” Industries.

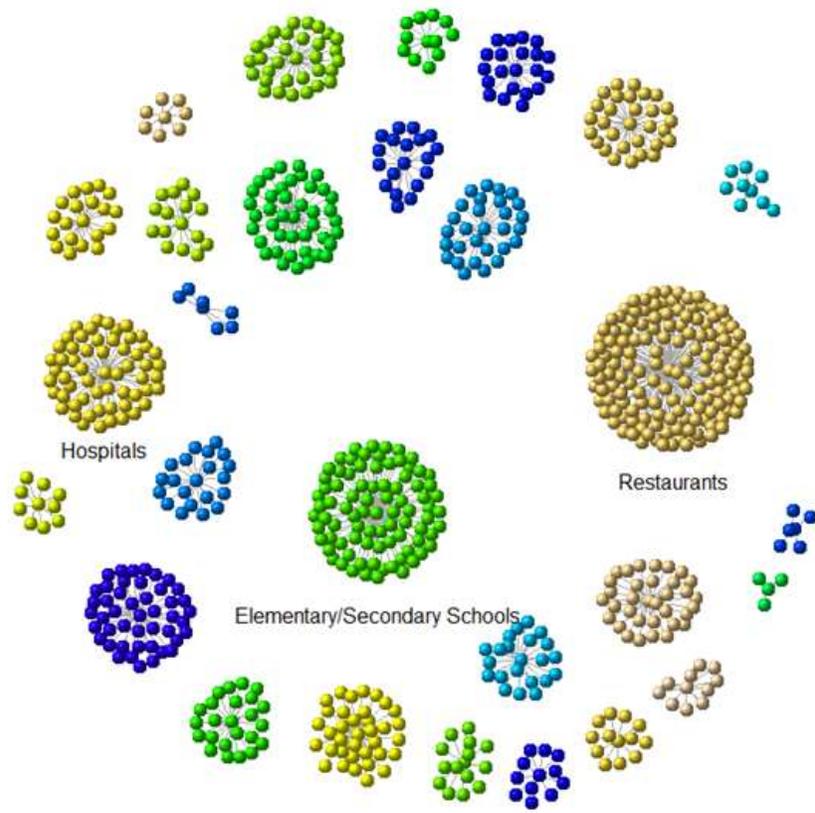
- Data: Enhanced Quarterly Unemployment Insurance Records.
- Houses monthly employment information from employers representing over 300 industries going back to January of 1990.

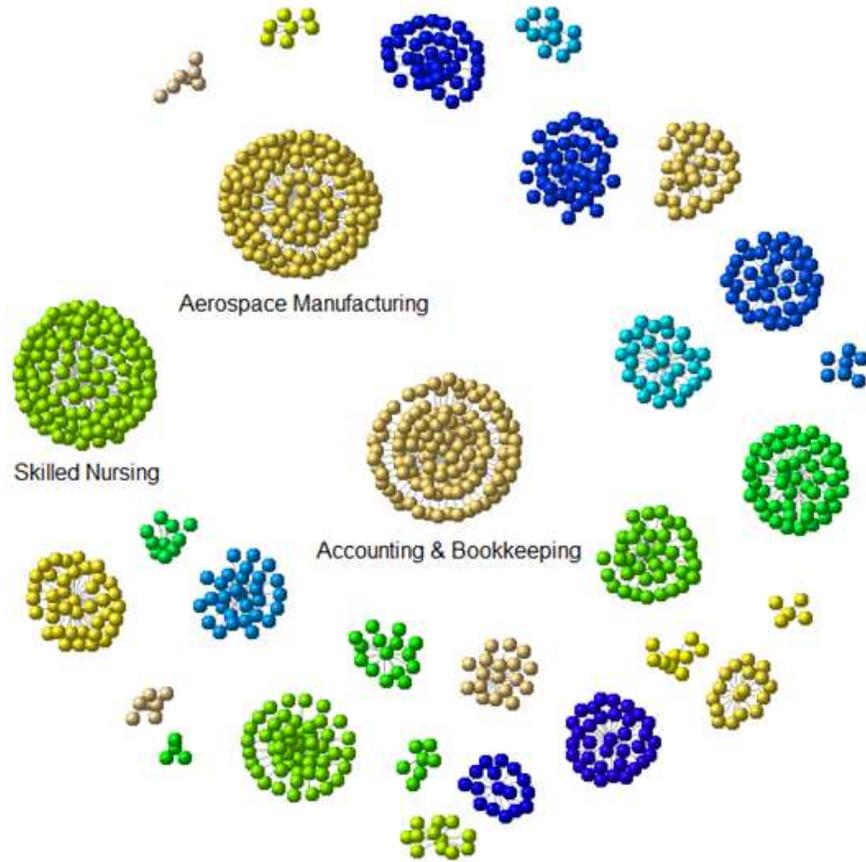
Which industries experienced growth/decline?

NAICS Code	Growing Industry	Linear Regression Coefficient
7225	Restaurants and Other Eating Places	221.4
6111	Elementary and Secondary Schools	214.9
5112	Software Publishers	178.5
6221	General Medical and Surgical Hospitals	171.9
6241	Individual and Family Services	169.4
8141	Private Households	122.6
5415	Computer Systems Design and Related Services	116.3
7132	Gambling Industries	86.4
6211	Offices of Physicians	82.1
5613	Employment Services	73
6233	Continuing Care Retirement Communities and Assisted Living Facilities for the Elderly	71.7
6113	Colleges, Universities, and Professional Schools	66.9
9211	Executive, Legislative, and Other General Government Support	62.3
5617	Services to Buildings and Dwellings	62.2
4541	Electronic Shopping and Mail Order Houses	60.2
5413	Architectural, Engineering, and Related Services	59
2382	Building Equipment Contractors	53.7
5416	Management, Scientific, and Technical Consulting Services	49.4
6213	Offices of Other Health Practitioners	49.4
4251	Wholesale Electronic Markets and Agents and Brokers	49.2
1151	Support Activities for Crop Production	45.6
7139	Other Amusement and Recreation Industries	45.5
9221	Justice, Public Order, and Safety Activities	43.3
5511	Management of Companies and Enterprises	38.9
5614	Business Support Services	38.2
6212	Offices of Dentists	36.9
5417	Scientific Research and Development Services	36.4
1113	Fruit and Tree Nut Farming	35.4

Which industries experienced growth/decline?

NAICS Code	Declining Industry	Linear Regression Coefficient
3364	Aerospace Product and Parts Manufacturing	-81.4
3221	Pulp, Paper, and Paperboard Mills	-28.2
3313	Alumina and Aluminum Production and Processing	-27.0
3231	Printing and Related Support Activities	-26.0
3219	Other Wood Product Manufacturing	-23.7
3341	Computer and Peripheral Equipment Manufacturing	-19.4
1133	Logging	-17.9
5111	Newspaper, Periodical, Book, and Directory Publishers	-15.0
3152	Cut and Sew Apparel Manufacturing	-13.6
9281	National Security and International Affairs	-12.0
6231	Nursing Care Facilities (Skilled)	-11.9
3345	Navigational, Measuring, Electro-medical, and Control Instruments Manufacturing	-10.8
4811	Scheduled Air Transportation	-9.7
3114	Fruit and Vegetable Preserving and Specialty Food Manufacturing	-9.2
7111	Performing Arts Companies	-8.8
3117	Seafood Product Preparation and Packaging	-8.4
3211	Sawmills and Wood Preservation	-8.0
5629	Remediation and Other Waste Management Services	-7.8
4471	Gasoline Stations	-7.4
4512	Bookstores and News Dealers	-7.3
5322	Consumer Goods Rental	-7.3
3118	Bakeries and Tortilla Manufacturing	-7.2
3212	Veneer, Plywood, and Engineered Wood Product Manufacturing	-6.9
3332	Industrial Machinery Manufacturing	-6.8
4531	Florists	-6.4
5412	Accounting, Tax Preparation, Bookkeeping, and Payroll Services	-5.7
1141	Fishing	-5.7
9241	Administration of Environmental Quality Programs	-5.0





Step II - Construct Transition Matrices

- A job-to-job transition matrix details how workers move from employer-to-employer over some specified period of time.
- There are two main types of transition matrices:
 - 1) Inflow Matrices: From which origins do present incumbents arrive from?
 - ? -> X
 - 2) Outflow Matrices: Which destinations do transitioners arrive at?
 - X -> ?
- Building transition matrices over the period 1990-2015 is not really a tractable problem... at least in the short/medium-term.

The Primary Job

- I define a person's primary job to be the job associated with the year/quarter combination for which the worker worked the most hours.
- This definition is consistent with that used by the U.S. Census in their Longitudinal Employer-Household Dynamics program.

Other “Primary” Activities

- In addition to job-to-job movement, I also examine:
 - A) Migration (WRIS2)
 - B) Enrollment/Exit from a Washington 2- or 4-year institution of higher learning (ERDC)
 - C) Entrance/Exit from the labor force.

1) Completely Aggregated

Mobility Status	Frequency
Mobile	77,189
Immobile	236,001
Total	313,190

Disaggregated by Origin

Declining Industry	Total Outflow
Logging	1,400
Fishing	1,287
Fruit and Vegetable Preserving and Spec. Food. Mfg.	4,220
Seafood Product Preparation and Packaging	3,936
Bakeries and Tortilla Manufacturing	2,501
Cut and Sew Apparel Manufacturing	340
Sawmills and Wood Preservation	1,984
Veneer, Plywood and Engineered Wood Product Mfg.	1,019
Other Wood Product Manufacturing	1,678
Pulp, Paper, and Paperboard Mills	1,296
Printing and Related Support Activities	1,969
Alumina and Aluminum Production and Processing	291
Industrial Machinery Manufacturing	689
Computer and Peripheral Equipment Manufacturing	648
Nav., Measuring, Electromedical, and Control Equip. Mfg.	1,674
Aerospace Product and Parts Manufacturing	10,328
Gasoline Stations	7,086
Bookstores and News Dealers	990
Florists	636
Scheduled Air Transportation	1,511
Newspaper, Periodical, Book, and Directory Publishers	2,241
Consumer Goods Rental	1,142
Acct., Tax Preparation, Bookkeeping, and Payroll Services	7,350
Remediation and Other Waste Management Services	2,749
Nursing Care Facilities (Skilled)	10,004
Performing Arts Companies	1,541
Administration of Environmental Quality Programs	1,332
National Security and International Affairs	5,347
Total Outflow From Declining Industries	77,189

Disaggregated by Destination

Destination	Outflow From Declining Industries
To Growing Industries	15,224
To Declining Industries	10,759
To Other Industries	17,376
Intra-Industry Mobility	8,137
Labor Force Exits	26,577
Out-Migration	5,501
Enrolled in Full-Time Education	1,752

Disaggregated by Origin and Destination Simultaneously

- Shiny web apps (Data Table)

Wage Flows

- As noted at the outset of this presentation, I also am interested in examining the wage trajectories of persons who transition out of employment in a declining industry?
- Are such persons better off due to their transition?

Summary of Findings

- 1) Over the period 2014-2015, employment transitions were more common among workers employed in growing industries than workers employed in declining industries.
- 2) Mobile workers who were employed in a declining industry in 2014 were more likely to transition to a growing industry than to another declining industry.
- 3) Immobile workers in declining industries, on average, earn substantially more than do their mobile counterparts.
- 4) Mobile workers who transition to primary employment in a declining industry (or make an intra-industry) transition benefit from this transition. Nevertheless, such transitions do not compensate for these workers disadvantage relative to their immobile counterparts.
- 5) Mobile workers who transition to primary employment in a growing (or other) industry appear to, on the aggregate, be harmed by their transition.