Where are we?  
Where are we going?

- Recognize Jobs/Employers may Matter  
  - Specific HC – Employer, Industry, Occupation  
  - Match Quality – Employer, Occupation  
  - Self-Employment  
  - Job-Search

Exercise # 2 Job Durations

Tuesday and Thursday I will present a discussion of the major theories relating job duration and wages and I will present the NLSY data and the econometric model from the Lillard ANNALS 99 paper from the web.

You then have the weekend to prepare a statement of the interpretation on the empirical results, in the contest of the econometric model, focusing on the implications for the various theories. On the next Tuesday I will present empirical results while we discuss the interpretations in class; and you turn in your written discussion. The purpose of the exercise for you learn to critically relate theory, econometrics, data and empirical results.

Any Questions?
Major Theories of Job Duration, Job Turnover and Wages

- Employer Specific HC – Shared Investment
- Employer Match Quality and Learning
- Industry/Occup HC & Learning of Skill Match
- Job Search and Job Turnover
- Self-Employment Jobs
- Empirical testing
  - Abraham and Farber
  - Altonji and Shakotko
  - Topel and Ward, Topel
  - Altonji and Williams
  - Lillard (Exercise 2)

Employer Specific Human Capital

Becker, Mincer, Hashimoto, Parsons, Neal, Rosen

- Investment or learning by doing at the firm
  - Examples?
- Who pays for specific HC investment? Who benefits?
- Wages adjusted for enhanced productivity?
  - Shared returns between worker and employer
  - Wages rise with tenure
  - Job turnover declines with tenure
  - Turnover only when worker gets a better offer outside
- Employment contracts to retain employees with specific HC and/or reward effort in hard to monitor work situations
  - “Back-loading” wages toward greater tenure
  - Pension with mandatory retirement age as a ‘bond’
- HC may be specific to Industry or Occupation, too
Employer Match Quality and Learning

Jovanovic (1979 a,b), Mincer and Jovanovic (1981)

- Worker productivity not observed, but revealed over time
- Stable distribution of worker productivities across firms
- Pay worker expected productivity, and “let go” workers with revealed low productivity
  - Wages rise with tenure
  - Job turnover rises with tenure, then declines with tenure
  - Job turnover declines with experience as workers are sorted

Job Search and Job Turnover


- Workers face stable distribution of wages on job offers
- Offers arrive at fixed rate or one based on search choices
- Workers can search while on the current job
- Fixed costs of job switching
- Worker sets “reservation wage” to be bid away from a firm
  - Wages rise with job changes, number of jobs
  - Job turnover declines with experience as best alternative found
Occupation Match Quality and Learning
Neal (1999)

- Worker productivity and/or utility in an occupation or industry not observed, but revealed by job “shopping”
- Worker productivity/utility varies across job types
- Pay worker expected productivity, and “let go” workers with revealed low productivity
  - Early career job “thrashing”
  - Wages rise with experience and job changes
  - Job turnover declines with tenure
  - Job turnover declines with experience as workers are sorted

Entry into and Exit from Self-Employment

- Workers may be self-employed with unknown productivity
- Self-employment may generate direct utility for some
- Workers learn of productivity and utility by trying it
  - SE exit declines with tenure
  - Wages of survivors rise with tenure
  - Industry-specific experience should pay off
- Job market “Losers” may be pushed into SE
  - Low wages and high wage variability
- Job market “Winners” may be drawn SE
  - High wages but high variability
Empirical Models and Evidence

Wages and “Return to Tenure”

\[ W_{yt} = \beta_0 t + \beta_1 X_{yt} + \beta_2 T_{yt} + \epsilon_{yt} \]

\[ \epsilon_{yt} = \mu_i + \phi_{yt} + \eta_{yt} + \nu_{yt} \]

- Individual
- Fixed job-match specific
- Time-varying job-match specific

- Altonji and Shakotko (1987)
  - OLS Bias upward due to tenure correlated with person, job or match specific factors
  - PSID within job variation
  - Much smaller estimate (.007 vs. .02)

- Abraham and Farber (1987)
  - OLS Bias same reason
  - Use COMPLETED job duration as an IV for Bias
  - Effect of tenure conditional on completed duration
  - Residual of regression of Tenure of Completed Duration
  - Much smaller estimate, ~ same

- Topel (1991)
  - Endogeneity of Tenure Bias
  - 2-stage estimation procedure
  - Ave. within job wage growth to estimate tenure effect assuming job exit not related to growth on the job since residual is random walk
  - Regress residual on Educ Exp, upward bias est. (search model)
  - Larger estimate (.025)

- Altonji and Williams (1997)
  - Revisit Topel
  - Timing of secular trends removed
  - Measurement error in tenure
  - Specification – Use of lagged wages with current tenure
  - Much smaller estimate (.011)
Empirical Models and Evidence
Employer Exit Hazard and Tenure

• Long-term employment relationships are common
  – 39% in jobs lasting 10 years or more, 23% for 20 years or more

• Most new jobs end early
  – Mincer and Jovanovic (1981) NLS Young Men, Older Men
  – ½ of workers in jobs < 1 year change within 2 years
  – Farber (1994) NLSY 1979-91 for full-time jobs (young workers)
  – Farber (1998) CPS 28%, 18% on job < 1 year 1973-93, 19 79-96

• Hazard of job exit declines with tenure
  – McCall (1990) Farber (1994) NLSY detailed start/end dates
  – Hazard increases, then declines with tenure
  – Heterogeneity vs. state dependence (tenure)