Discussion of:
Careers in Firm & Occupational Labor Markets

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Data

- Matched worker-firm personnel data for Swedish private sector from 1970-90
  - Collected and compiled by the Swedish Employers' Confederation (SAF)
  - Blue-collar and white collar
    - » Focus on white collar
    - » Most occupations (except C-level)
  - All non-banking private sector within SAF domain (40% of all employees)

Key Findings

1. Terrific data with wide coverage. Demotions rare.
2. #Promotions ≈ #ΔFirm ≈ #ΔOccupation
3. …in both cumulative transitions and annual hazards
4. $\Delta W_{\Delta Occupation} > \Delta W_{\Delta Firm}$
   $\Delta W_{Promotion} > \Delta W_{\Delta Firm} > \Delta W_{Demotion}$
   …and interaction effects are larger still
5. Wage growth and promotions are not random walks (nor are occupation and firm changes)
6. Patterns of occupation and firm change are not dramatically different by age
7. Nor by gender

[8,9: Same holds for patterns of promotion and firm changes]

Interpretation

- Workers are attached to:
  - Internal labor markets: Doeringer and Piore
    - » *The internal labor market is defined by an enterprise, or part of an enterprise… Entry into such markets is limited to particular jobs or ports of entry. The pricing of labor, and its allocation from the point of entry to other work positions is governed by administrative rules and customs. These rules and customs differentiate members of the internal labor market from outsiders and accord them rights and privileges which would not otherwise be available.*
  - Occupational labor markets: Gibbs Ierulli and Meyersson-Milgrom
    - » *If a typical worker first tends to gain attachment to an occupation and then stay with it while searching across firms, then many of the observations about internal labor markets may apply as well to occupational labor markets.*

Swedish Occupational System

- Four digits
  - First digit = similarity of function
    - » Secretary and data entry are similar
    - » 10 codes: Used in this paper
  - Second and third digit = occupation families (55 3 digit codes)
    - » 160: "Administration or production and management within logging, floating and measuring timber"
  - Fourth digit ≈ rank of occupation
    - » Responsibility & degree of difficulty of tasks
    - » Not designed to be compared across 3-digit occupations
    - » But perhaps this is OK(?)
- Centralized wage bargaining: Sets wage bands for employees within 4-digit codes.

The Concept of a Job (or Occupation)

- The Concept of a Job (Lazear 1992)
- Applied to the Concept of an Occupation
  - Tournament: Occupations are rankings
  - Hedonics: Bundles of attributes
  - Human capital: Opportunities for investment
  - Technology: Collection of tasks
  - Hierarchy: Span of control
  - Less relevant to occupations:
    - » Property right (temporary layoffs, worksharing, insurance)
- What are the relevant concepts from a theory of OLM?
- In the Swedish data:
  - Occupation ≈ collection of tasks (related to industry?)
  - Rank ≈ span of control

Job Allocation

- How are jobs allocated?
  ("Job"=Occupation and rank)
  - Model 1: Assignment of workers to tasks
  - Model 2: Assignment of workers to wages

- Stanford

Assistant	$80k	
Associate	$100k	
Professor	$150k	

- Stockholm

Assistant	$80k	
Associate	$100k	
Professor	$150k	

Assistant	$80k	
Associate	$125k	
Professor	$150k	

Assistant	$80k		
Associate	$100k		p=½
Professor	$150k		p=½

Worker Transitions

- Worker transitions (Firm x Occupation)
  - About 88½ % say in their firm-occupation
  - 4½% change firm, same occupation
  - 4½% keep firm, change occupation
  - 1½% change firm and occupation
- Worker transitions (Firm x Rank)
  - 89½% stay in their firm-level
  - 5½% promoted
  - 4% change firm
  - 1% change firms for a promotion

Transitions and Wage Growth

- Two sets of regressions:
  - Firm and occupation changes jointly considered
    - » +1.3%: Occupation switch
    - » +1.9%: Firm switch
    - » +3.8%: Firm and occupation switch
  - Firm and rank changes jointly considered
    - » +3.4%: Promotion
    - » -1.0%: Demotion
    - » +1.1%: Firm switch
    - » +7.4%: Promotion and firm switch
    - » ???: Demotion and firm switch
- Conclude:
  - All mobility (except demotions) generates wage gains
  - Interaction effects matter

Career Paths

- Individual wages are not a random walk
  - Divide sample into promoted, stayers and demoted
  - Examine career path over preceding 3 years

Preceding 3 years

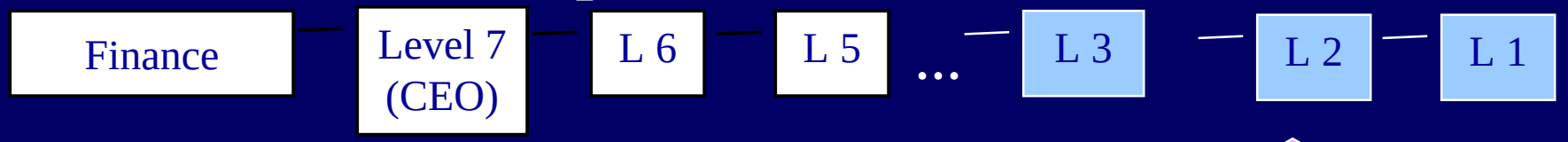
This year	Wage growth	#Promotions	#Demotions
Promoted	2.6%	0.10	0.06
Stayers	1.0%	0.25	0.03
Demoted	0.2%	0.14	0.03

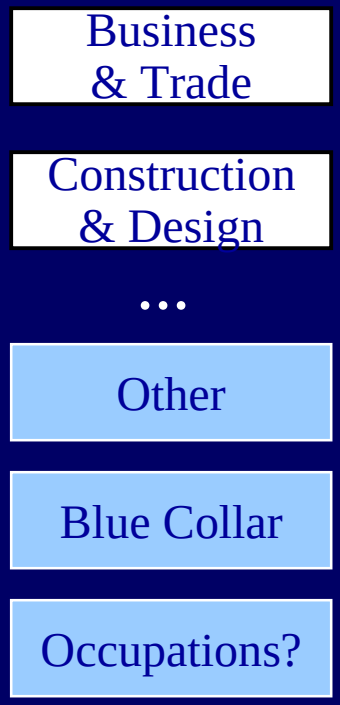
Theory

- What models do these data falsify?
  - Pure learning model:
    - » Changes in efficient estimates of worker ability are unforecastable
    - » But the evolution of wages is forecastable in the data
  - General human capital model
    - » All human capital is general
    - » Occupation of next job unrelated to prior occupation
    - » Occupational "stickiness" is observed in the data
  - Add job-specific learning-by-doing, and these strong predictions disappear
    - » Just an example: Many other theories are also consistent (Baker, Gibbs and Holmstrom; Gibbons etc.)

The Case of the Missing Blue Collar Workers

Is collar-color correlated with (determined by) occupation or rank?





Rank
- Fail to see demotions
- Truncates distribution of $\Delta W_{Demotion}$

Occupation
$\Rightarrow$Truncates distribution of $\Delta W_{\Delta Occupation}$

Are firm changes correlated with ∆occupation or ∆rank?

Model-Lite: Interpreting Results

- What do we learn about the Swedish labor market?
- Matching model with on-the-job search
  - Poisson arrival of job offers (can depend on employment status)
  - Accept new job if wage offer > current wage
    - » On-the-job search:
      ⇒ E[Wage|Accept offer]>Current wage
    - » Unemployed: Wage=*b* (unemployment benefits)
      ⇒ Accept a job offer if wage>b
      ⇒ E[Wage|Accept offer]>b and E[Wage|Accept offer]≤Wage on last job
    - » Results imply restrictions on relationship between the firing rate, and the relative arrival rate of job offers when employed and unemployed
  - Variation in job amenities
    - » If no variation in job amenities, previous analysis is sufficient
    - » If amenities show substantial variation
      ⇒ (Wages+amenities) drives job changes
      ⇒ OTJ search yields both wage increases and wage decreases