

Labor Market Fluidity and U.S. Economic Performance

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Based on Research with John Haltiwanger

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Preview of Main Themes

1. U.S. labor markets became much less fluid in recent decades

- Fluidity declines hold across states, industries, firm size and age categories, and demographic groups defined by age, gender and education.

2. Many contributing factors, including:

- Shift of activity to older firms and establishments
- Shift to larger firms and establishments in some sectors (e.g., Retail Trade)
- An aging workforce
- Policy developments that suppress reallocation (e.g., erosion of employment-at-will)

3. Reasons for Concern:

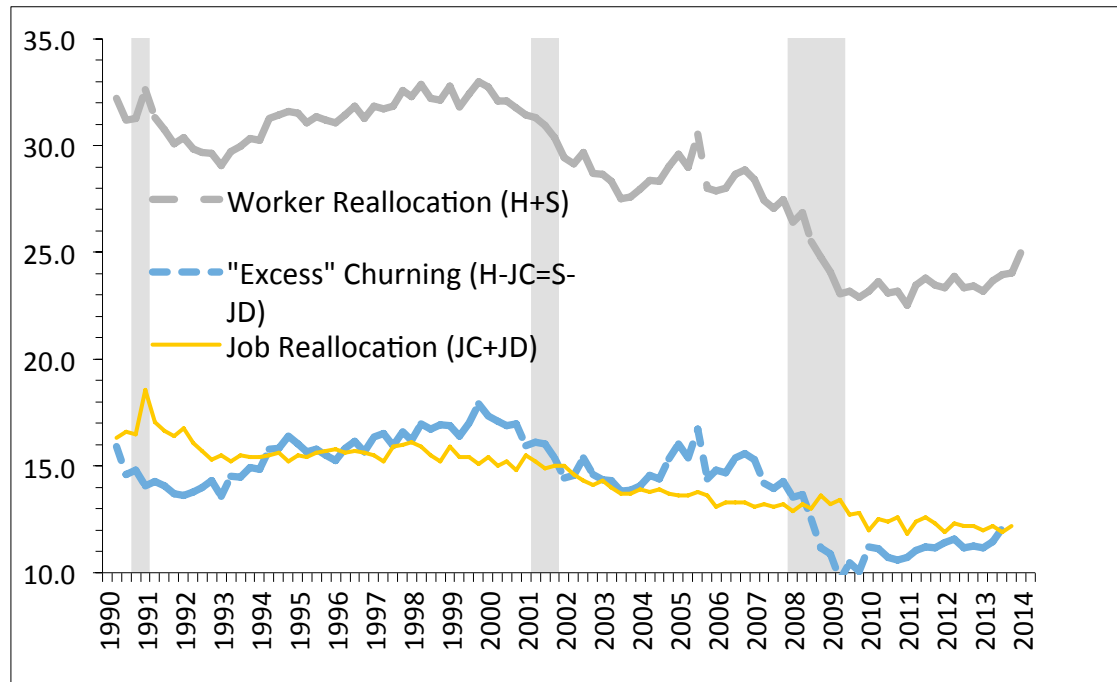
- Worker and job reallocation contribute to productivity and real wage growth
- Reduced fluidity negatively affects employment, especially for those with limited skills

4. Key Implication for U.S. economic outlook:

- U.S. faced serious impediments to high employment before the Great Recession. A return to sustained high employment unlikely without restoring labor market fluidity

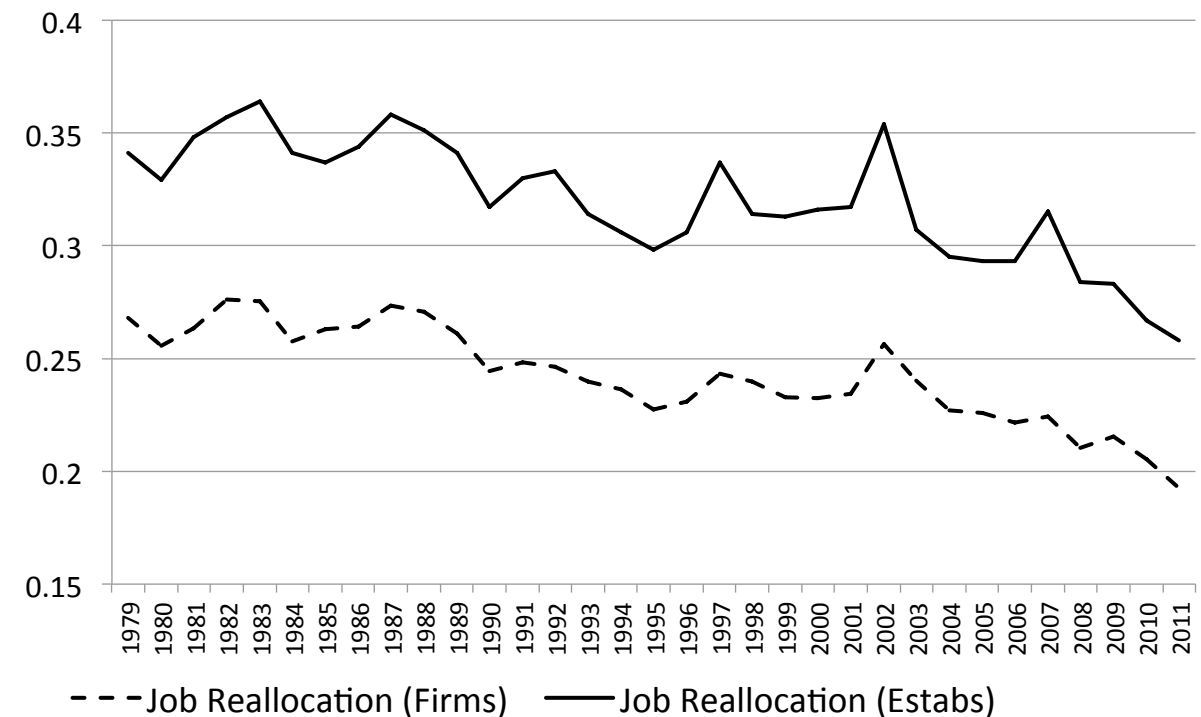
Quarterly Rates of Worker Reallocation, Job Reallocation & Churn, U.S.

Nonfarm Private Sector



Annual Rates of Job Reallocation Across Firms and Establishments, U.S.

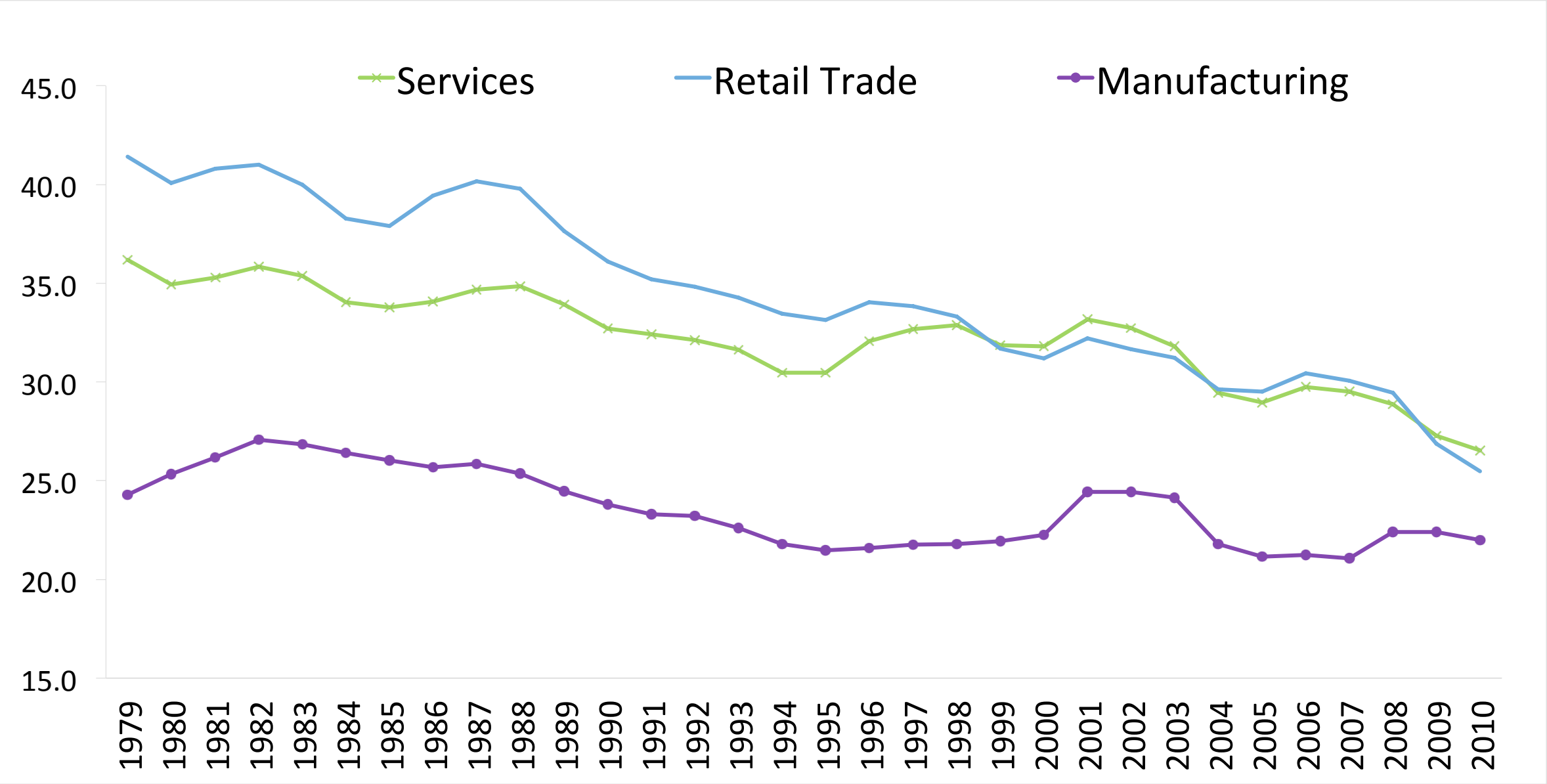
Nonfarm Private Sector



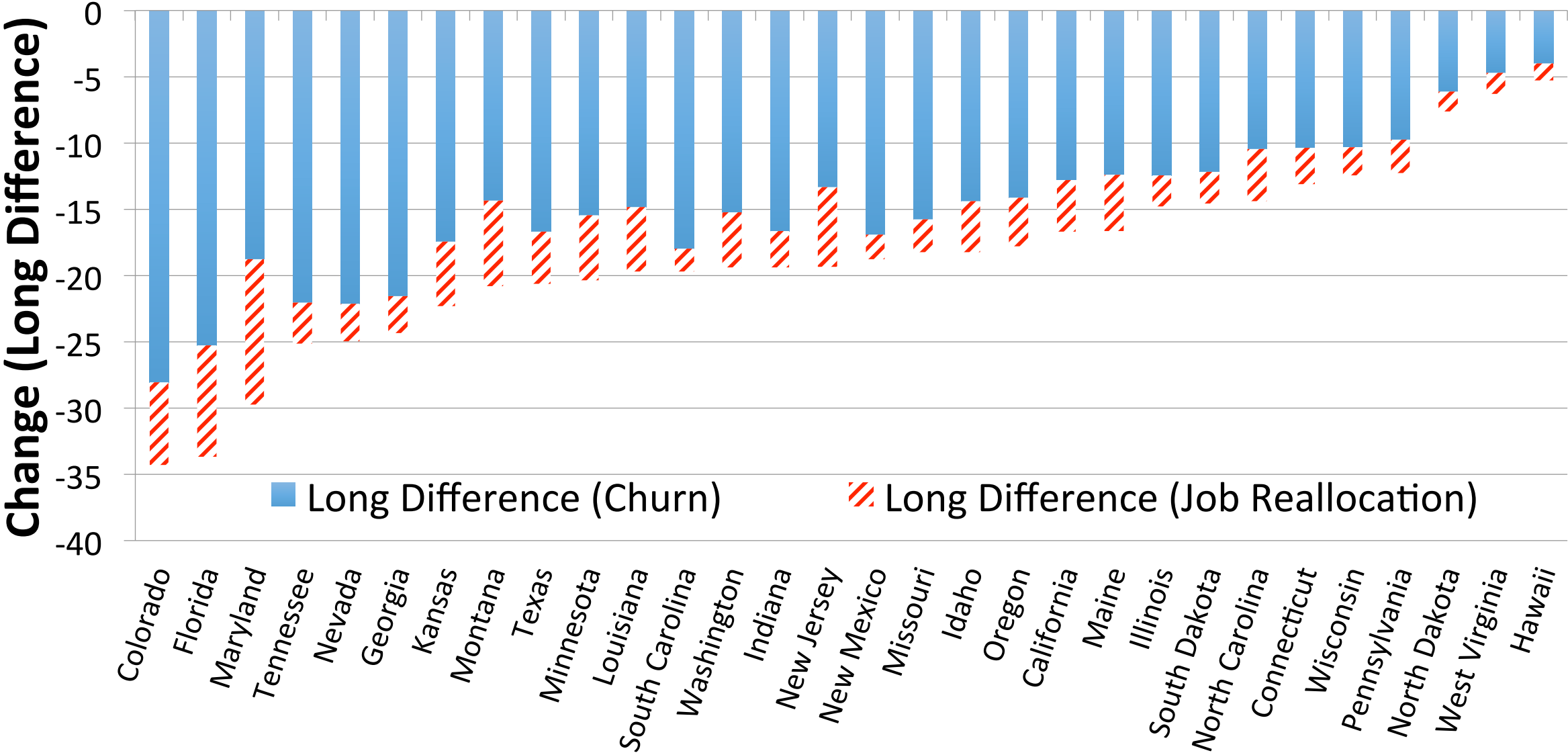
$$\text{Worker Reallocation} = \text{Job Reallocation} + \text{Churn}$$

(Hires + Separations) (Creation + Destruction)

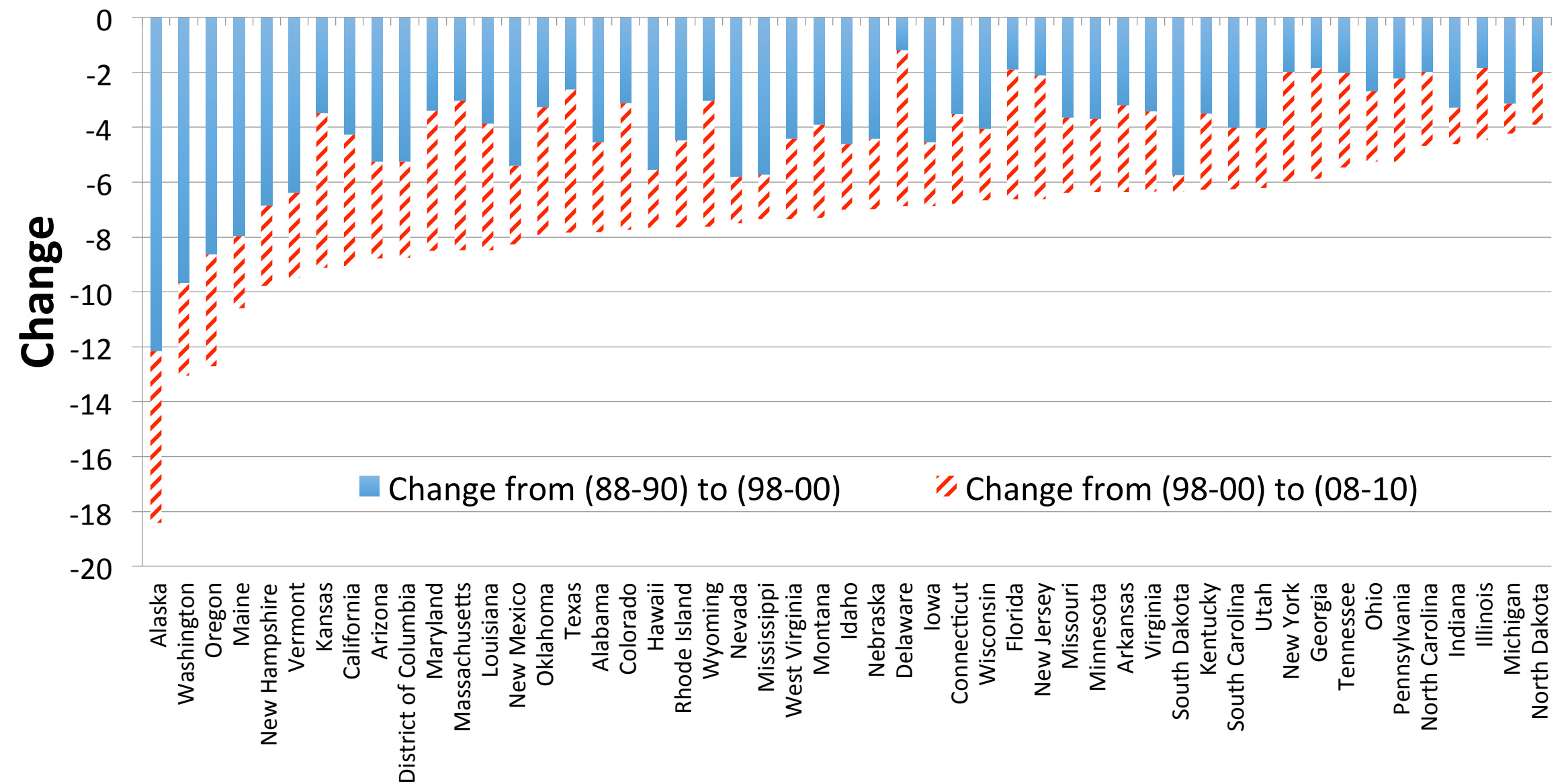
Annual Job Reallocation Rates in Selected U.S. Industry Sectors



Changes in Quarterly Job Reallocation, Churn and Worker Reallocation Rates by State from 1999-01 to 2010-12, 30 States Covered by QWI

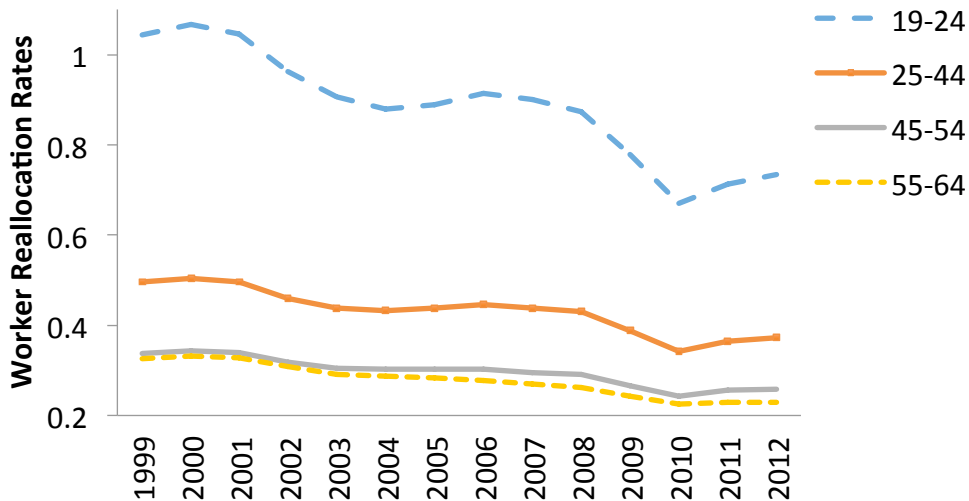


Changes in Annual Job Reallocation Rates by State from 1988-90 to 1998-2000 and 1998-2000 to 2008-10, All 50 States

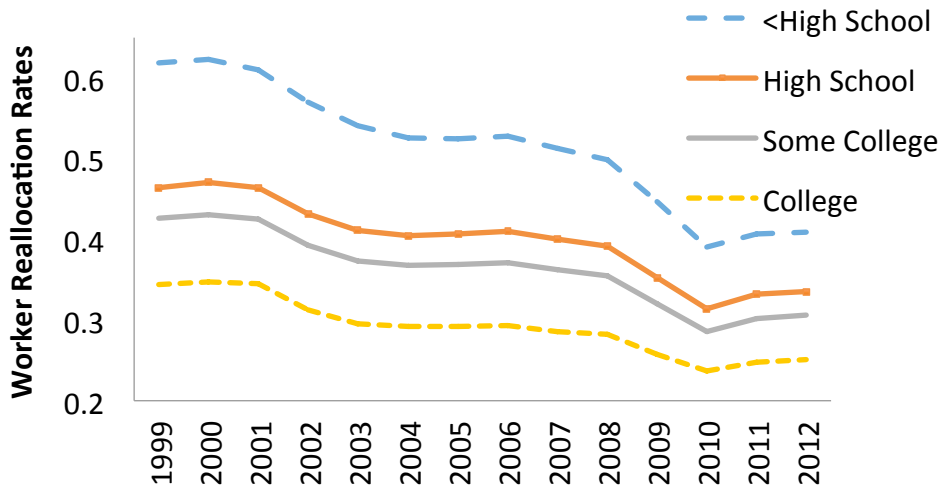


Quarterly Worker Reallocation Rates by Gender, Age and Schooling Attainment

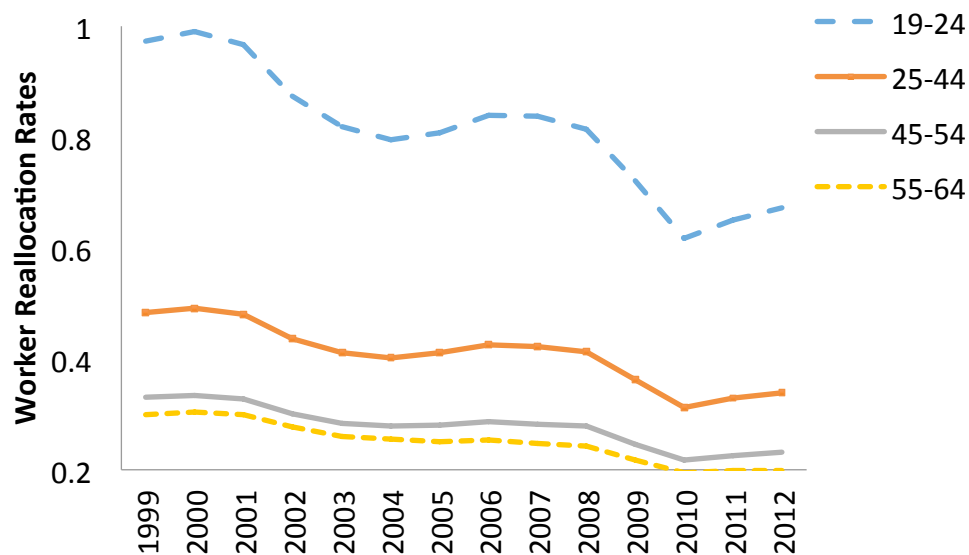
Worker Reallocation Rates by Age Groups, Males



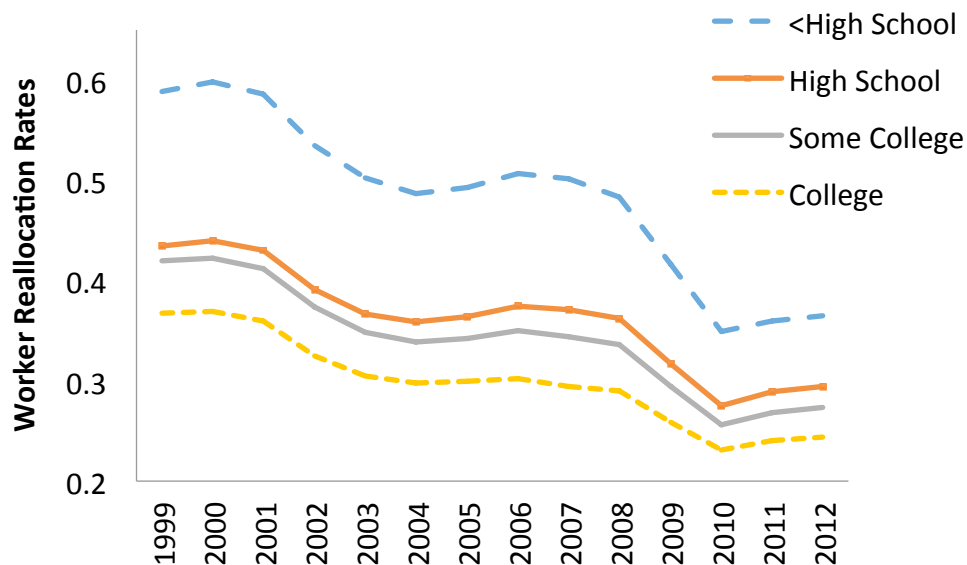
Worker Reallocation Rates by Education, Males



Worker Reallocation Rates by Age Groups, Females



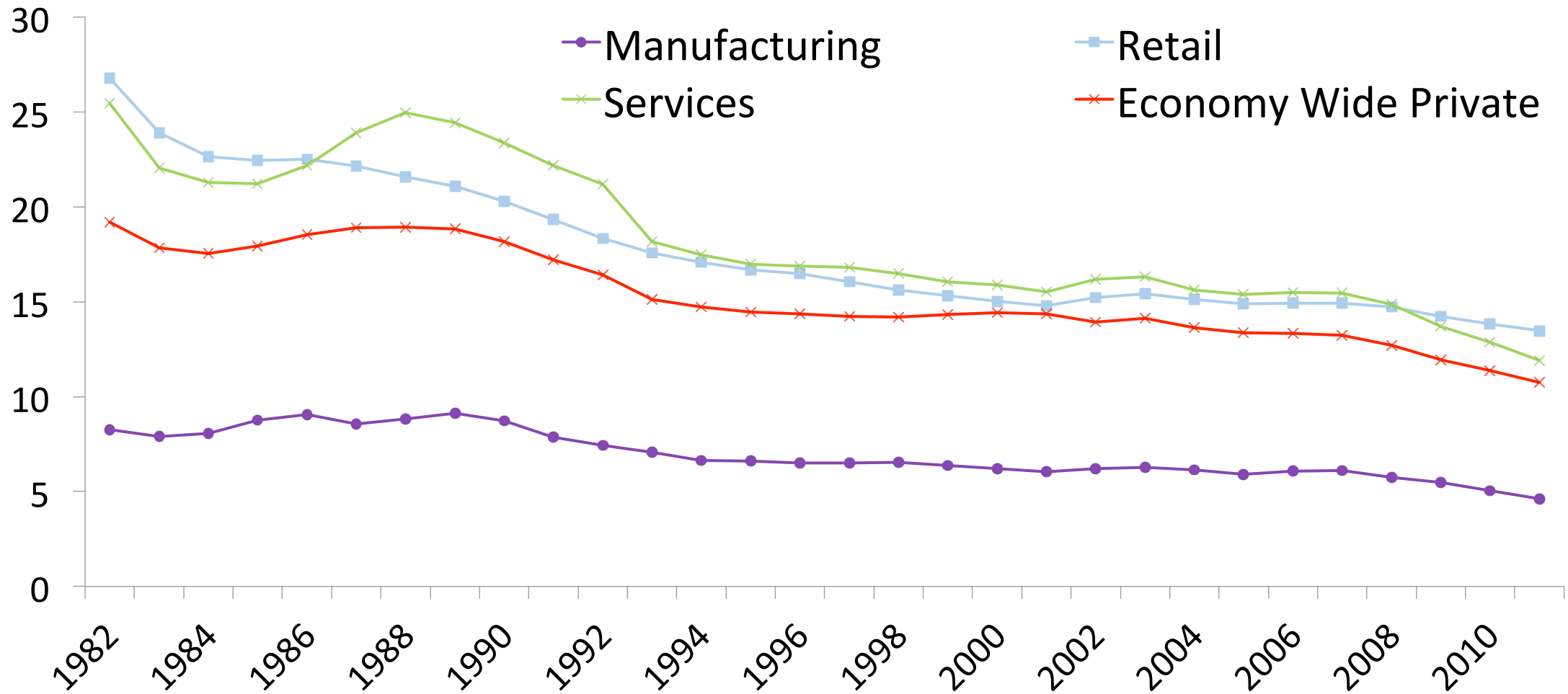
Worker Reallocation Rates by Education, Females



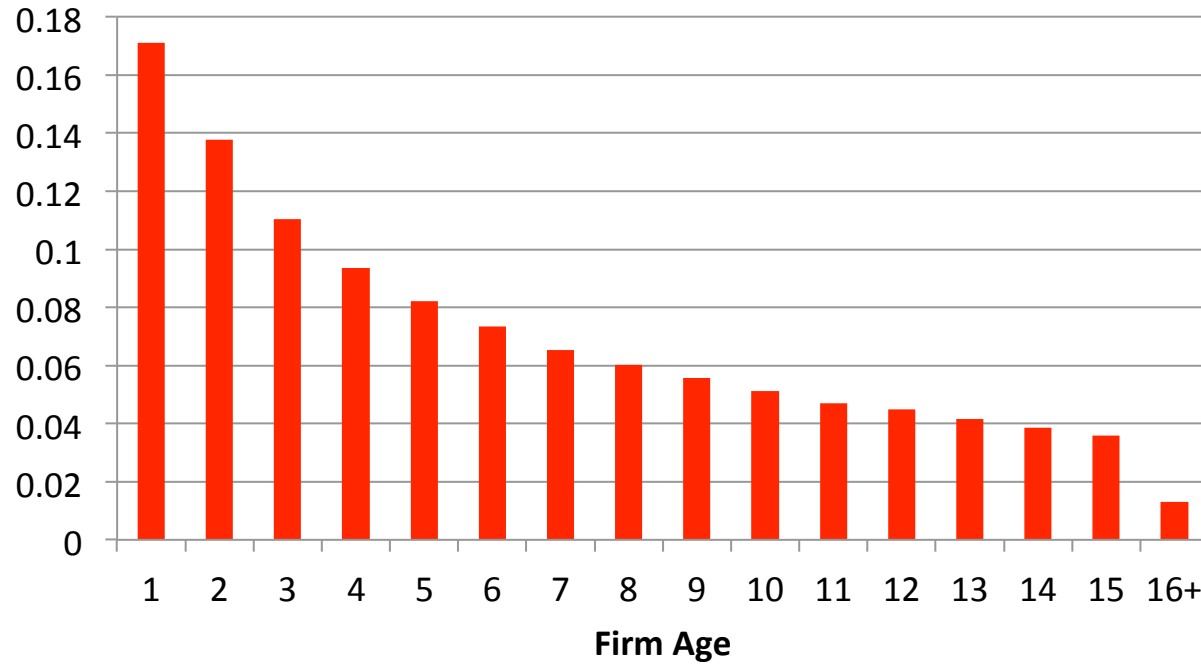
Why the Decline in Labor Market Fluidity?

- A shift to older firms and establishments accounts for a quarter of the decline in job reallocation intensity since the early 1980s
- A shift to larger businesses played an important role in retail trade.
- Shifts in the industry distribution of employment go the “wrong” way.
- Taken together, shifts in the industry, age and size distribution of employment account for about 15% of the secular drop in job reallocation
- An aging workforce contributes to the decline in worker reallocation intensity – but aging played a modest role in the 2000s
- Policy developments also suppressed labor market fluidity:
 - Occupational restrictions in the form of government-mandated licensing grew from 5% of employment in the 1950s to 29% by 2008
 - Erosion of employment-at-will doctrine
 - Expansion of protected classes of workers (age, race, disability, etc.)
 - “Job lock” associated with employer-provided health insurance
 - As yet, we know little about how much these policy factors suppressed fluidity

Employment Share of Firms Five Years Old or Younger

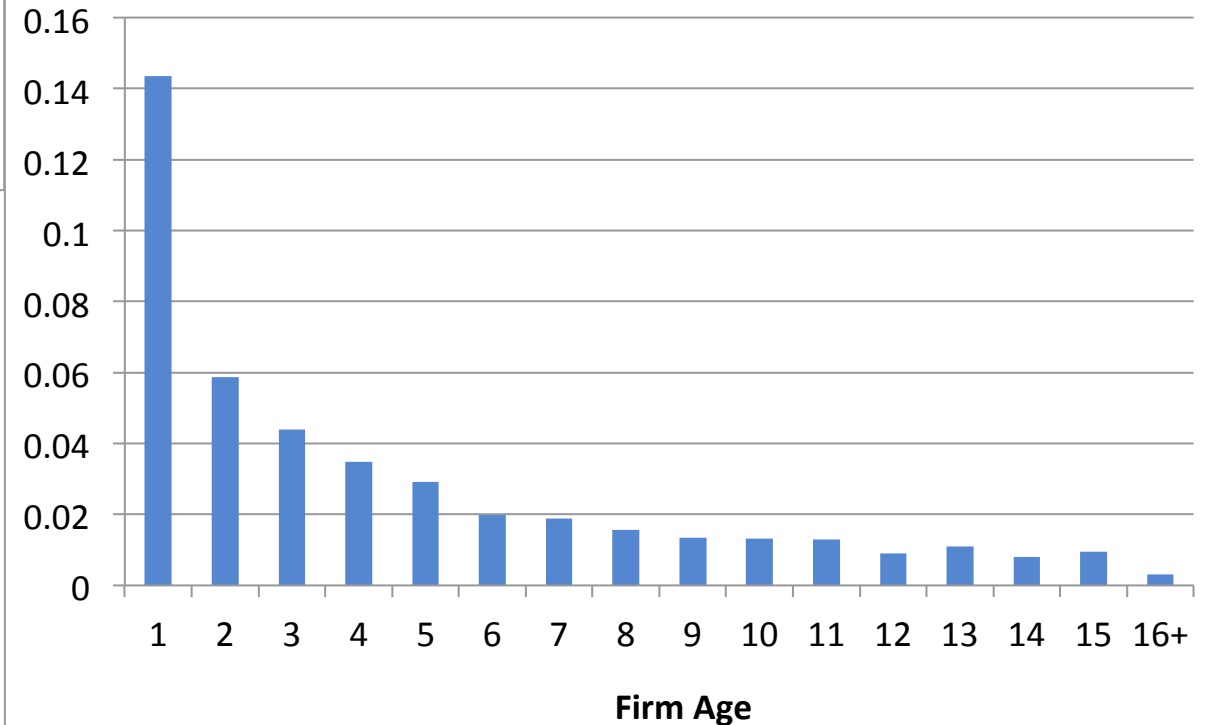


High Exit Rates of Young Firms



**Strong Up or Out Dynamics
Among Young Firms → Much
Greater Job and Worker
Reallocation at Younger Firms**

High Mean Net Growth of Surviving Young Firms



Erosion of Employment-At-Will Contributed to Fluidity Declines

Estimated Effects of Employment-at-Will Exceptions on Annual Job Reallocation Rates, by Firm Size Class

	Firm Size Class, Number of Employees				
	Less than 20	20 to 49	50 to 499	500 or more	All
Good-Faith Exception	-2.141*** (0.580)	-1.700*** (0.486)	-1.400*** (0.400)	0.186 (0.499)	-1.042*** (0.384)
Implied-Contract Exception	0.023 (0.459)	-0.010 (0.217)	0.309 (0.250)	-0.271 (0.433)	-0.108 (0.295)
Public Policy Exception	-0.472 (0.552)	0.084 (0.274)	-0.047 (0.274)	0.227 (0.511)	-0.124 (0.378)
Adj. R-Squared	0.76	0.81	0.74	0.50	0.69
N	1,000	1,000	1,000	1,000	1,000

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

1. Each column reports results for an employment-weighted least squares regression of the job reallocation rate in the indicated size class on state effects, year effects and dummy variables for exceptions to the employment-at-will doctrine. The sample period runs from 1978 to 1998, following Autor et al. (2006). Standard errors in parentheses are clustered at the state level.
2. The dependent variable is the private sector annual job reallocation rate for the state-year-size class cell, which we obtain from the Census Bureau's Business Dynamics Statistics.

Is Reduced Fluidity Cause for Concern?

1. Beneficial and benign aspects of reduced fluidity:

- A. Less job reallocation means fewer layoffs and smaller unemployment inflows.
- B. Reduced fluidity is partly a by-product of developments that raised productivity and improved welfare: The shift away from small, independent stores to big box retailers (e.g., Wal-Mart) raised productivity, lowered prices, and increased product selection. This shift to larger firms and establishments brought lower rates of reallocation.

2. Reasons for concern:

- A. Reallocation plays a key role in prominent theories of innovation and growth.
- B. Factor reallocation flows are an important source of medium-term productivity growth according to many empirical studies.
- C. Fluidity facilitates job mobility, wage growth and career advancement.
- D. Fluidity promotes high employment. (New evidence in our work.)

The Fluid Labor Markets Hypothesis

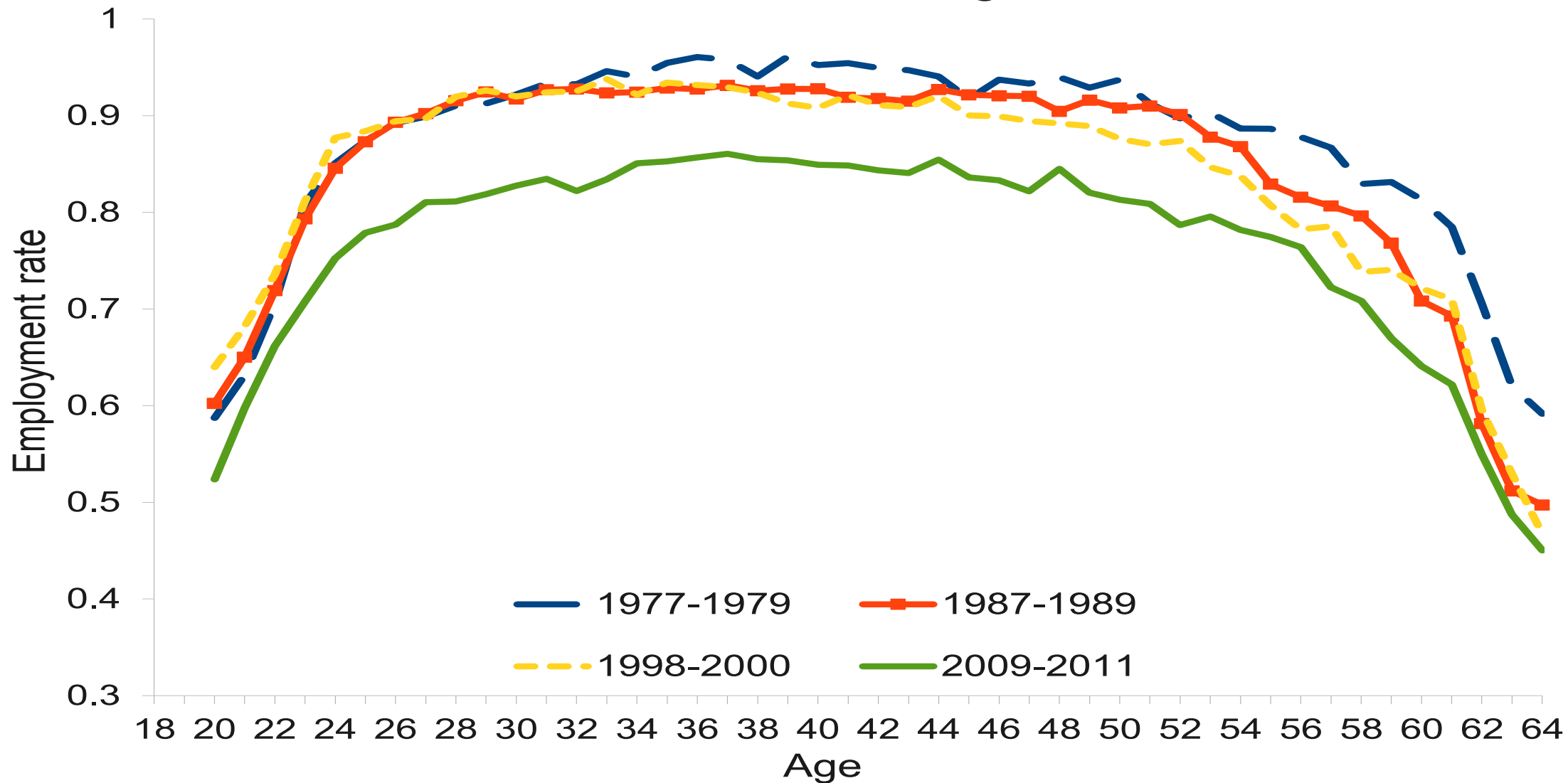
Hypothesis: Fluid labor markets promote high employment.

Mechanisms:

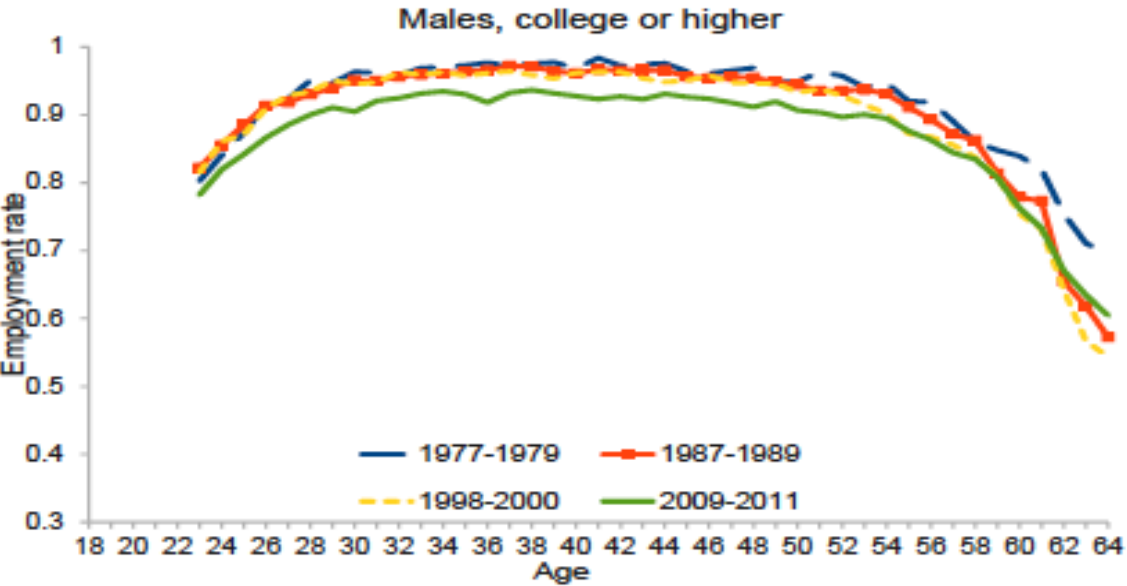
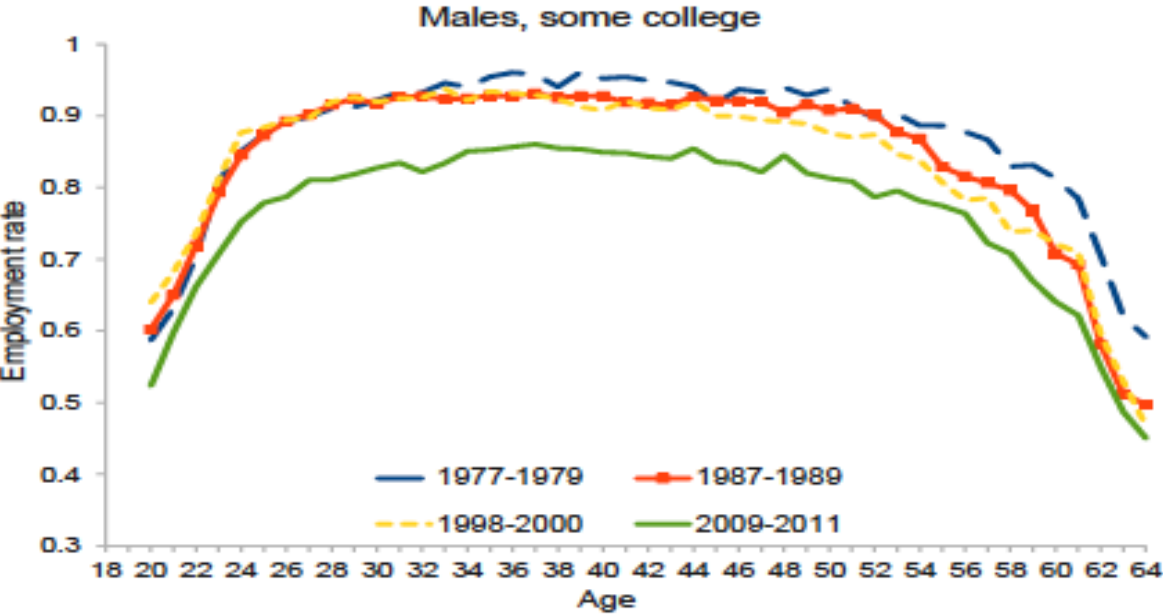
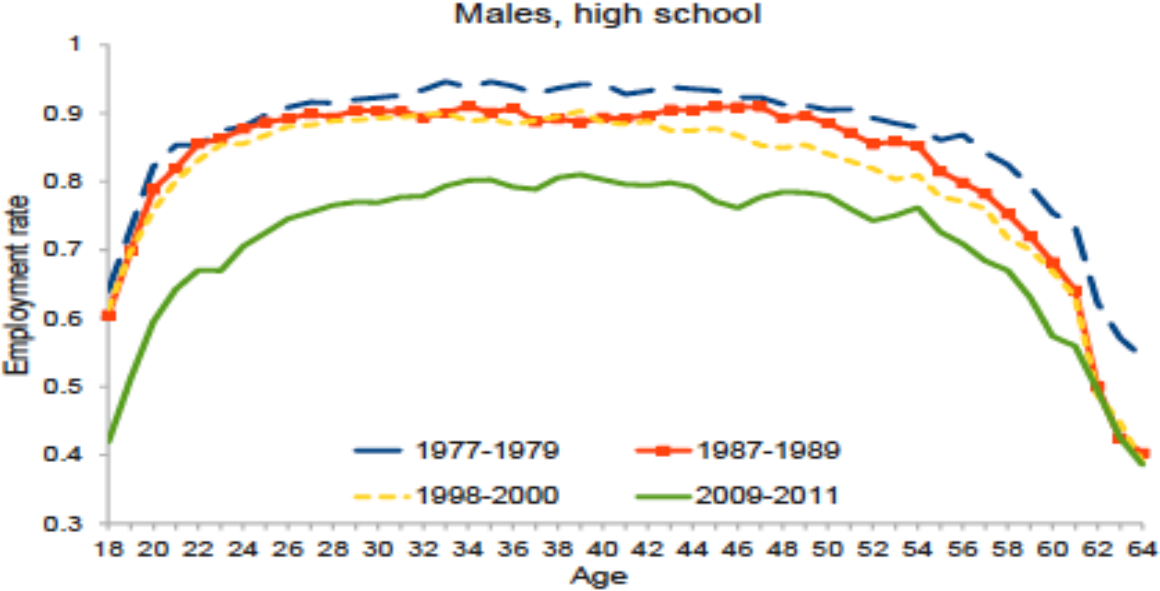
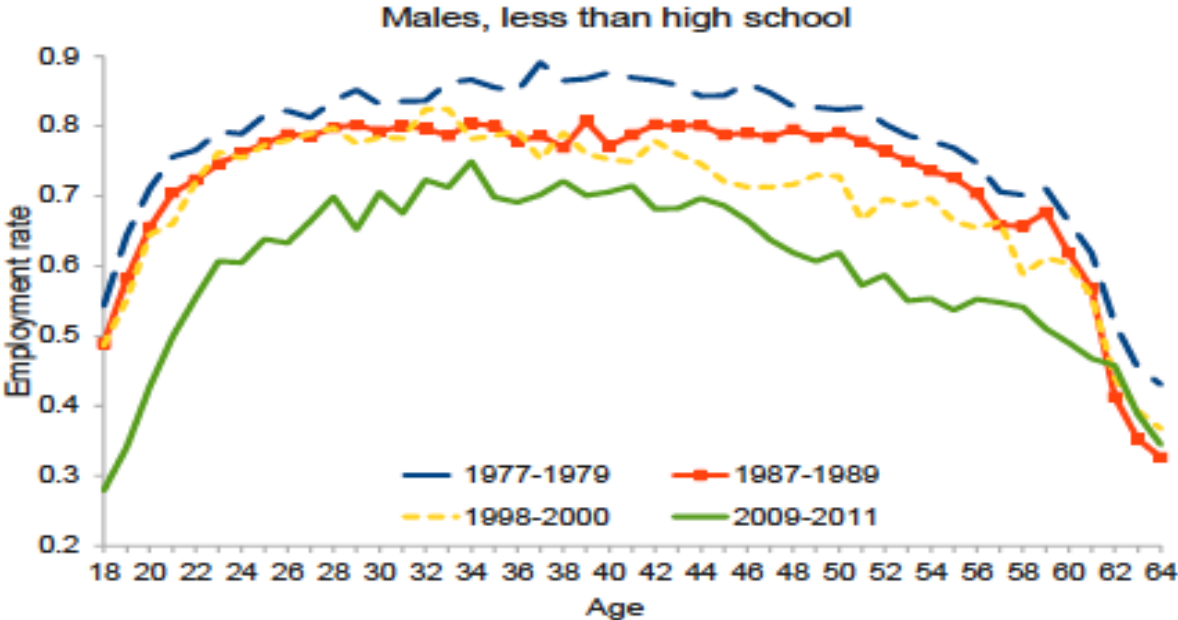
1. **Job creation incentives** (Rob Shimer, 2001): Young workers tend to be less well matched to suitable jobs than older workers. When the youth share of the working-age population is high, average match quality is low, and employers with open job positions are more likely to encounter poorly matched workers. Easier recruiting, in turn, leads to higher equilibrium job creation and lower unemployment rates for workers of all ages.
2. **Human Capital Accumulation**: Fluid labor markets offer abundant opportunities to find a job, prospect for the “right” job, move up a job ladder, satisfy locational constraints, re-enter the labor market, etc. The result is better opportunities and stronger incentives to accumulate market-relevant human capital, increasing earnings capacity and strengthening work attachment. (The effects on employment are especially relevant for younger and marginal workers, and those with limited skills.)
3. My paper with Haltiwanger discusses other mechanisms as well.

Employment Rates by Age for Men with Some College

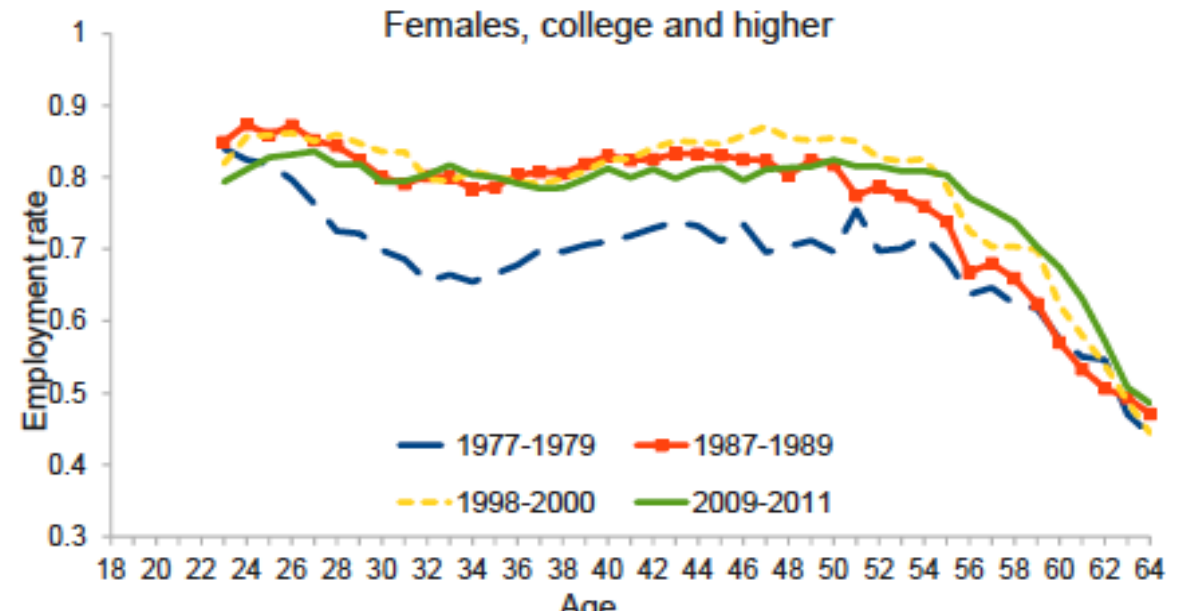
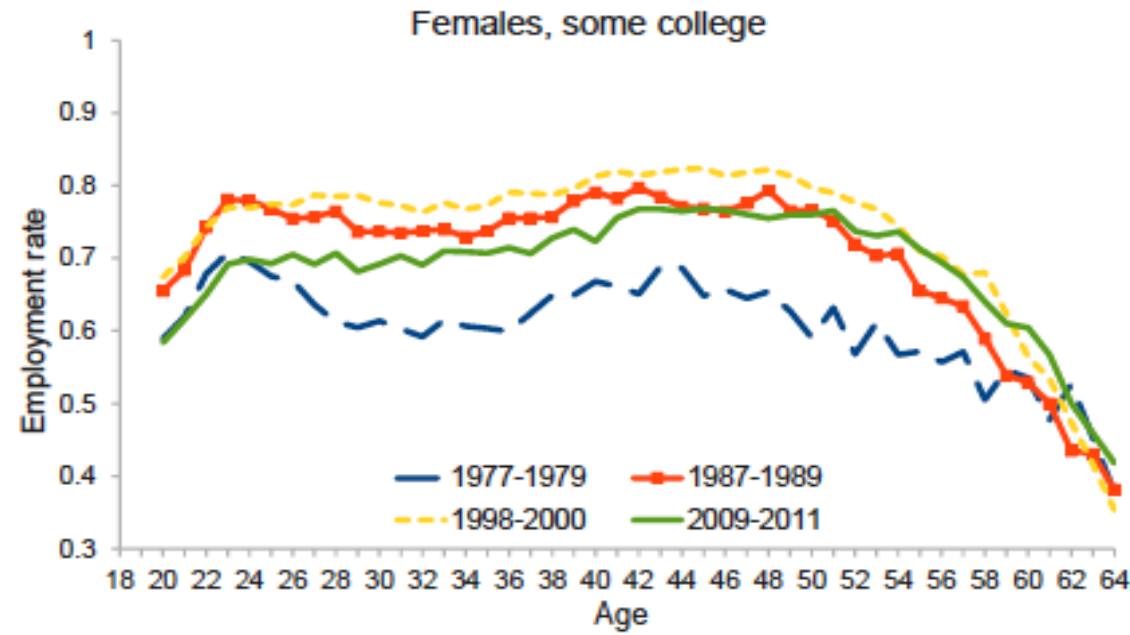
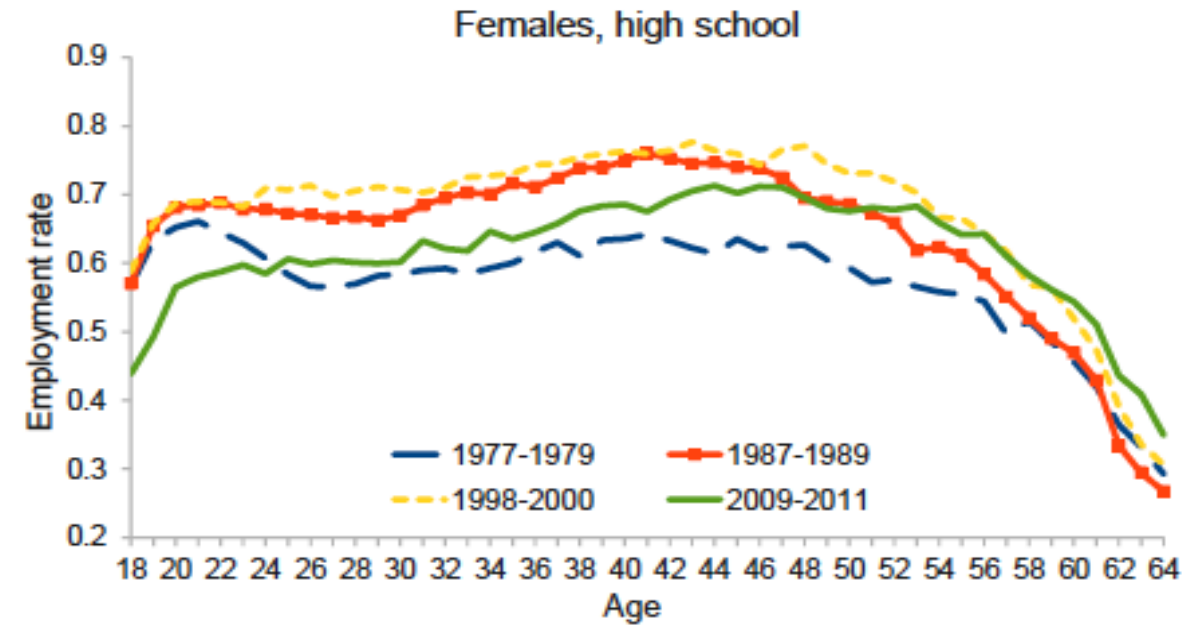
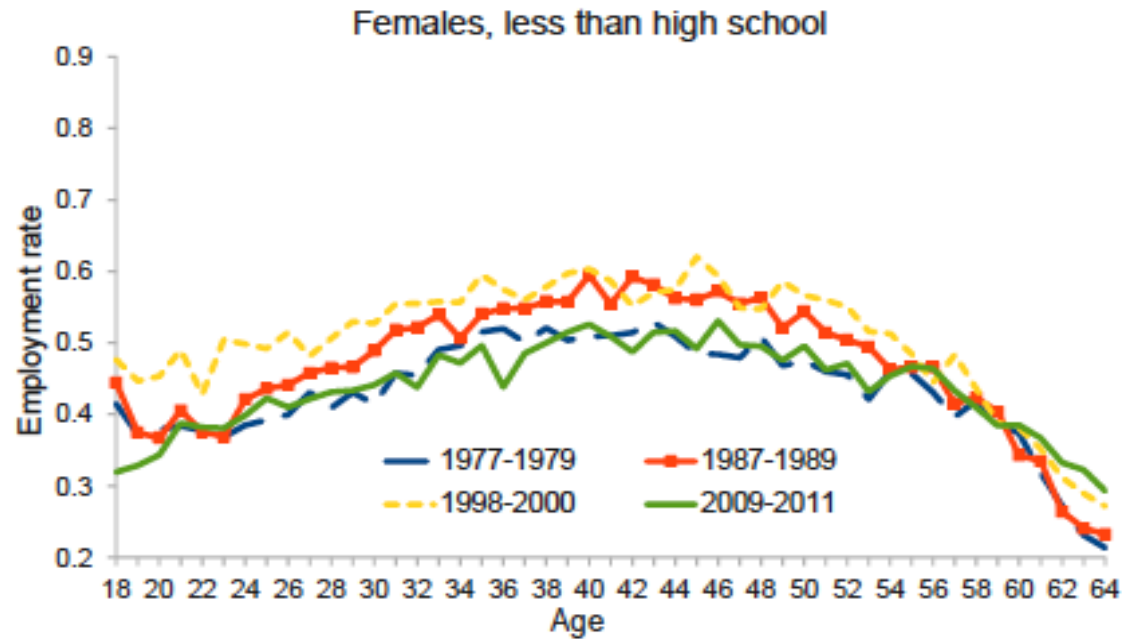
Males, some college



Male Employment Rates by Age and Education for Selected Periods



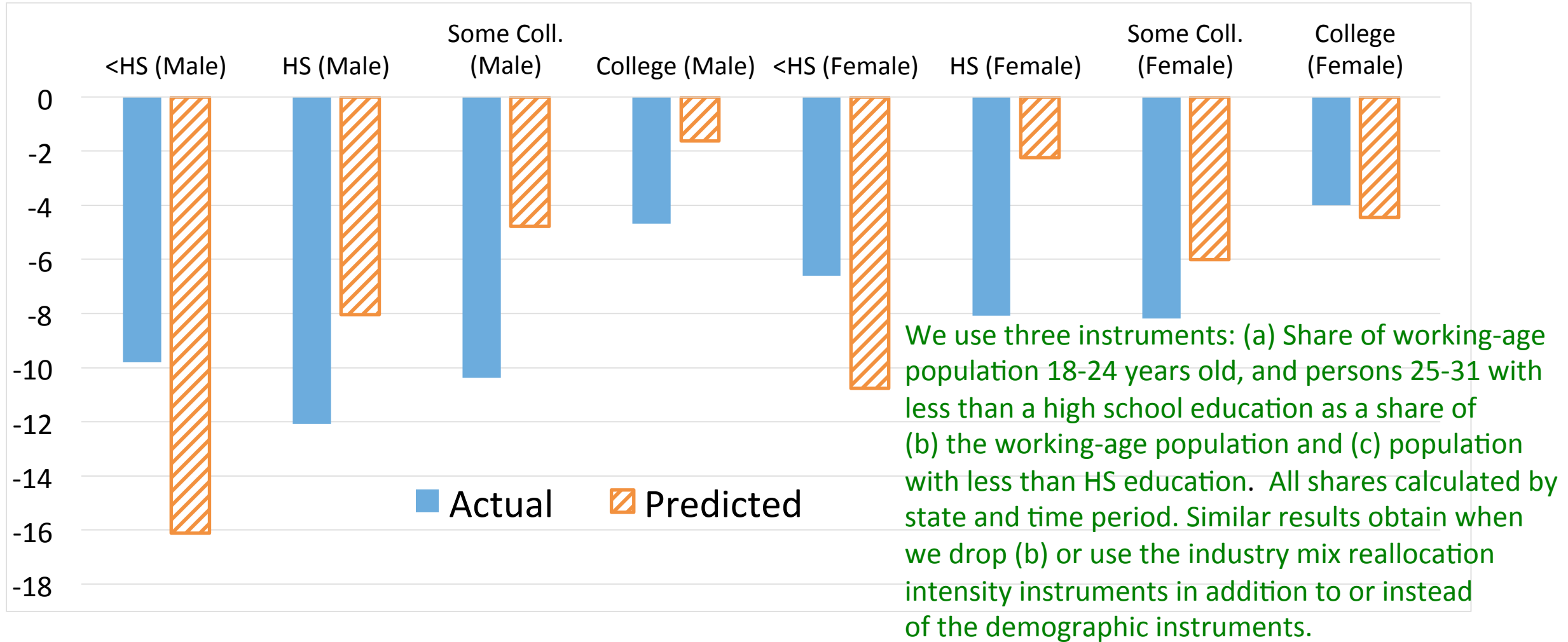
Female Employment Rates by Age and Education for Selected Periods



How We Assess the Fluid Labor Markets Hypothesis

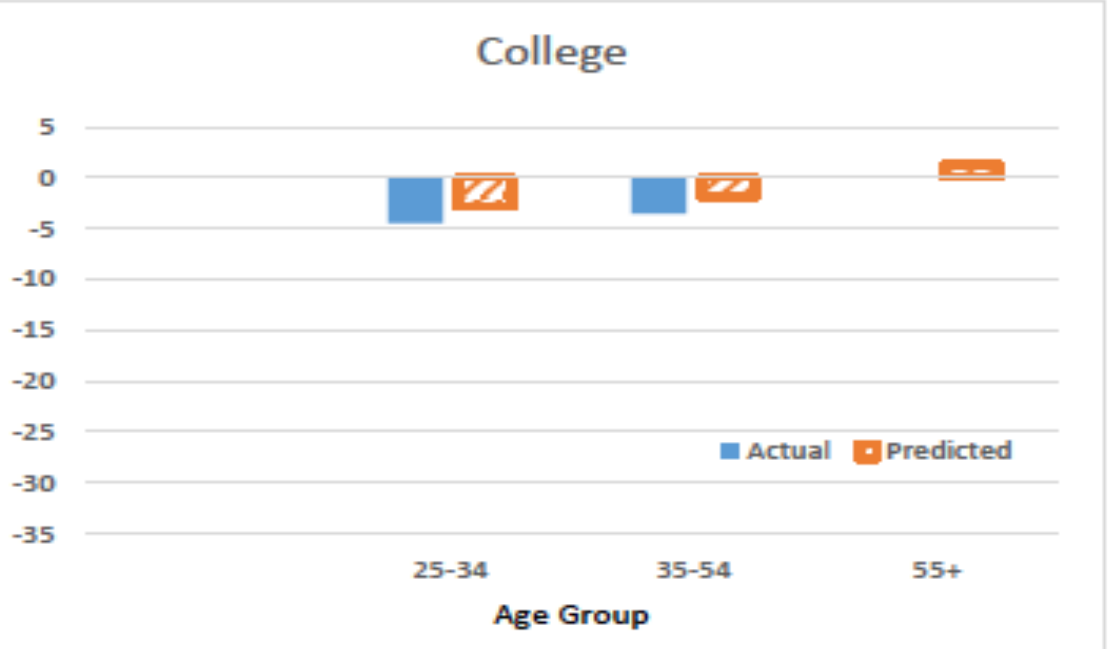
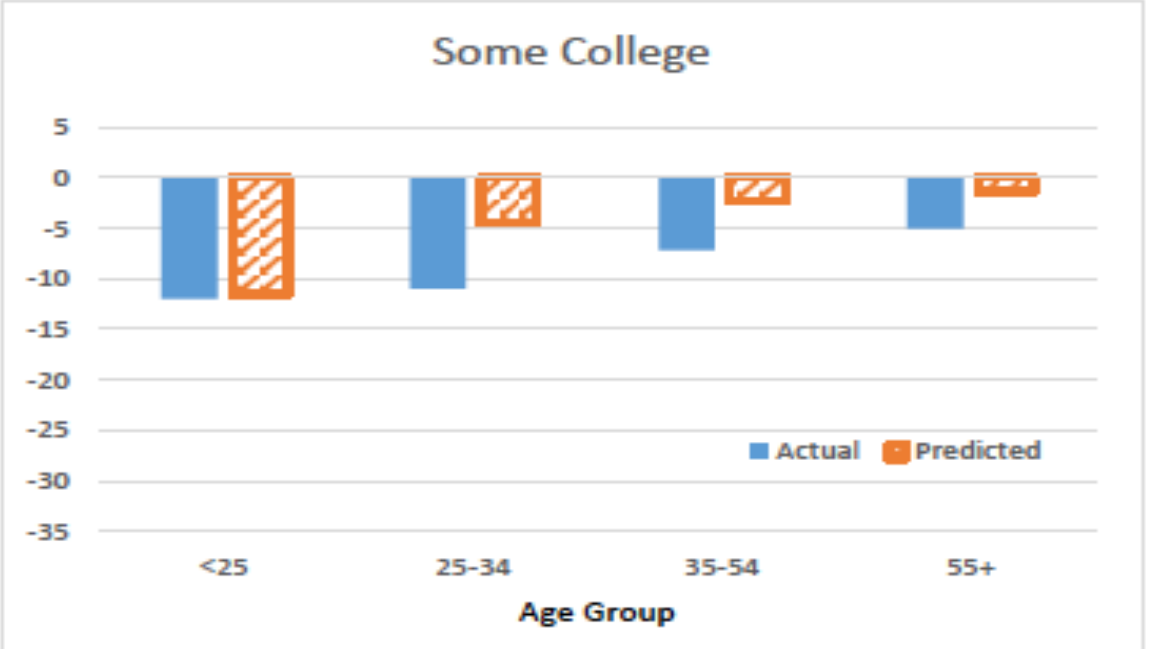
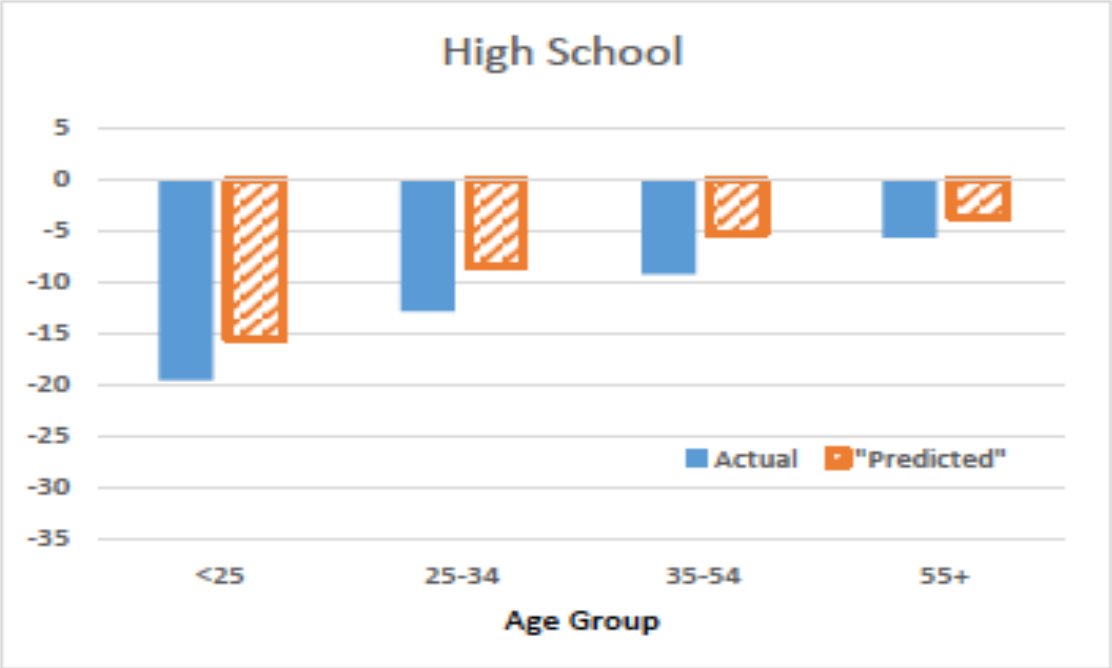
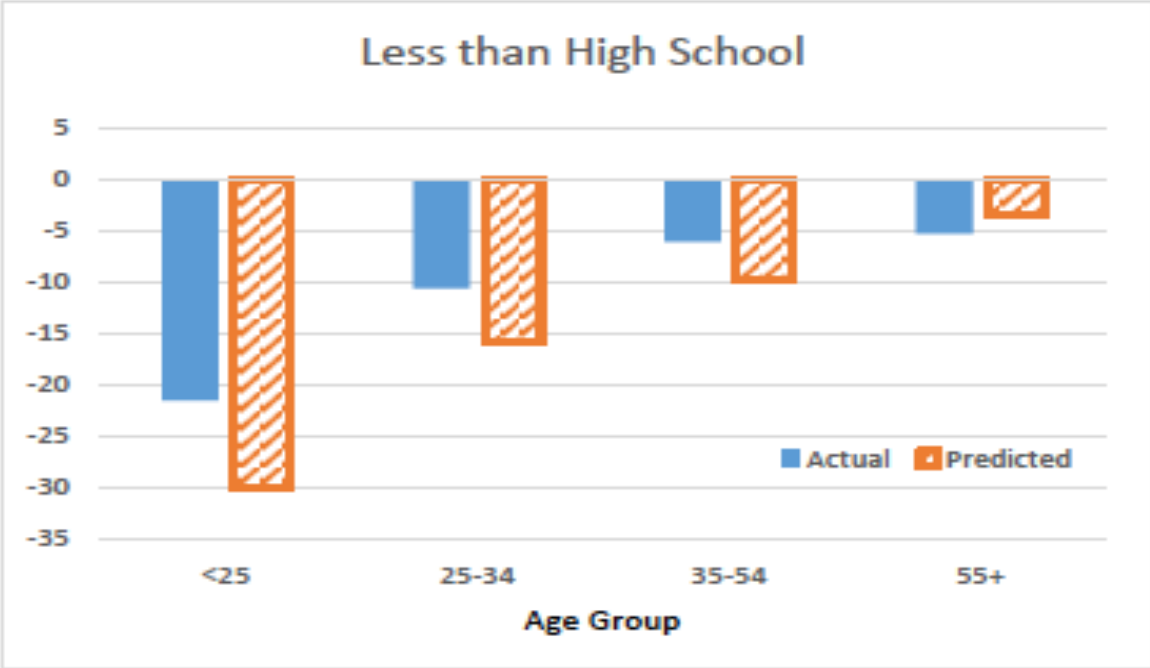
1. Estimate effects of fluidity on state-level employment rates for groups defined by gender, education, and age.
 - Use variation over time within states and demographic groups
2. Baseline Regression Specification:
 - Three-year averages of all variables
 - Controls for state fixed effects, and for national and state-level cyclical conditions
 - Additional controls for presence of children and young children in the HH
3. Instrument fluidity variables to address measurement error, endogeneity concerns, and retain focus on longer-term effects. Instruments:
 - Share of working-age population 18-24 years old in the state and time period
 - Abundance of less educated persons 25-31 in the state and time period: relative to working-age population, and relative to population 25-31
 - Reallocation intensity measures that derive from national shifts in the industry mix of employment and the state's legacy industry mix.

Actual and Predicted Changes in Employment Rates Implied by Changes in Fluidity, 1998-00 to 2010-11



“Predicted changes” refer to the employment rate changes implied by actual changes in reallocation intensity, according to our IV regression estimates, holding fixed national and state controls for cyclical conditions, state effects, and controls for children under 18 and under 5.

Actual and Predicted Changes in Employment Rates Implied by Changes in Fluidity, 1998-00 to 2010-11, Males



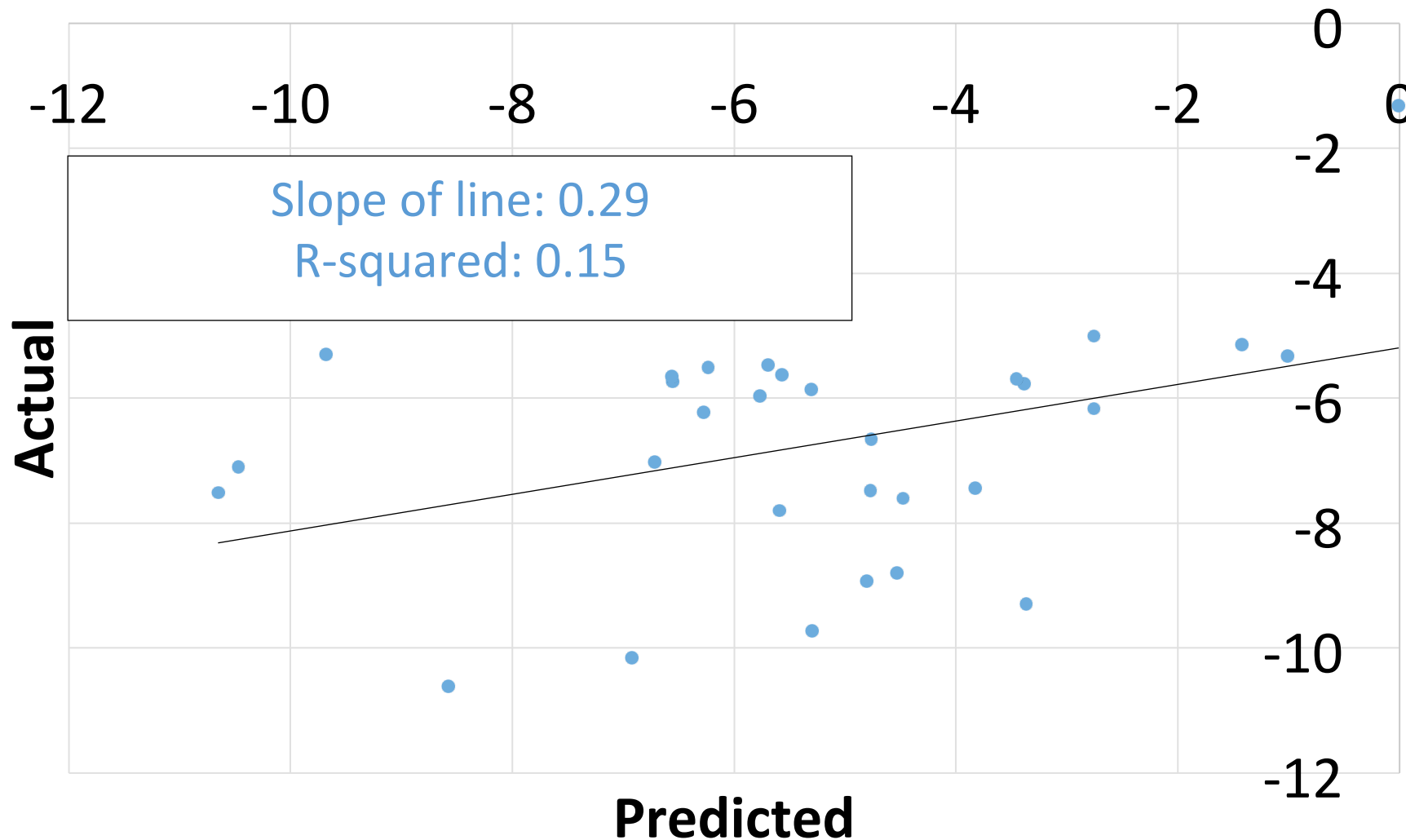
Implied Elasticities for Male Employment Rates with Respect to Worker Reallocation Rates, IV Estimates for the 1998-2011 Sample

Age Group	Less than High School	High School	Some College	College
<25	1.36	0.68	0.53	0.12
25-34	0.49	0.30	0.15	0.09
35-54	0.32	0.19	0.08	0.06
55+	0.16	0.18	0.06	-0.05

Are These Results Driven by the Great Recession?

Re-estimating our baseline specifications using data that ends in 2007, and projecting pre-GR fluidity trends forward through 2011, we still obtain large effects. For example, taking this approach and repeating the exercise on the previous slide yields a model-predicted decline of 7.4 percentage points from 1998 to 2011 in the employment rate for men with less than a high school education, as compared to an actual decline of 10 percentage points.

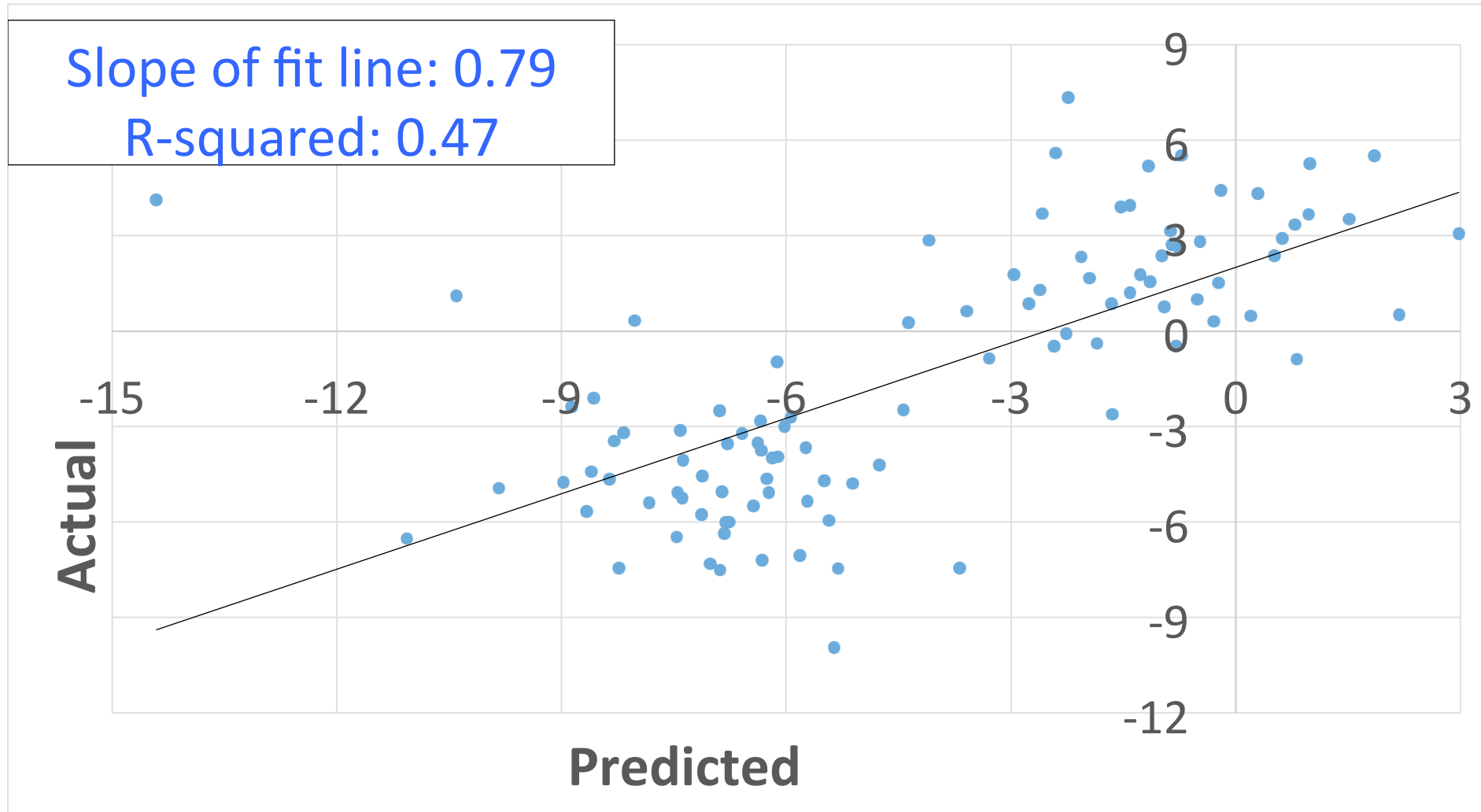
Actual and Predicted Changes in State-Level Employment Rates Implied by Changes in Fluidity, 1998-00 to 2010-11, For 30 States Covered by QWI Data



This chart suggests that differences across states in the size of fluidity declines are a factor behind the differences in the evolution of state-level employment rates.

Fluidity Measure =
Worker Reallocation Rate

Actual and Predicted Changes in State-Level Employment Rates Implied by Changes in Fluidity, 1987-89 to 1999-01 and 1999-01 to 2008-10, All 50 States



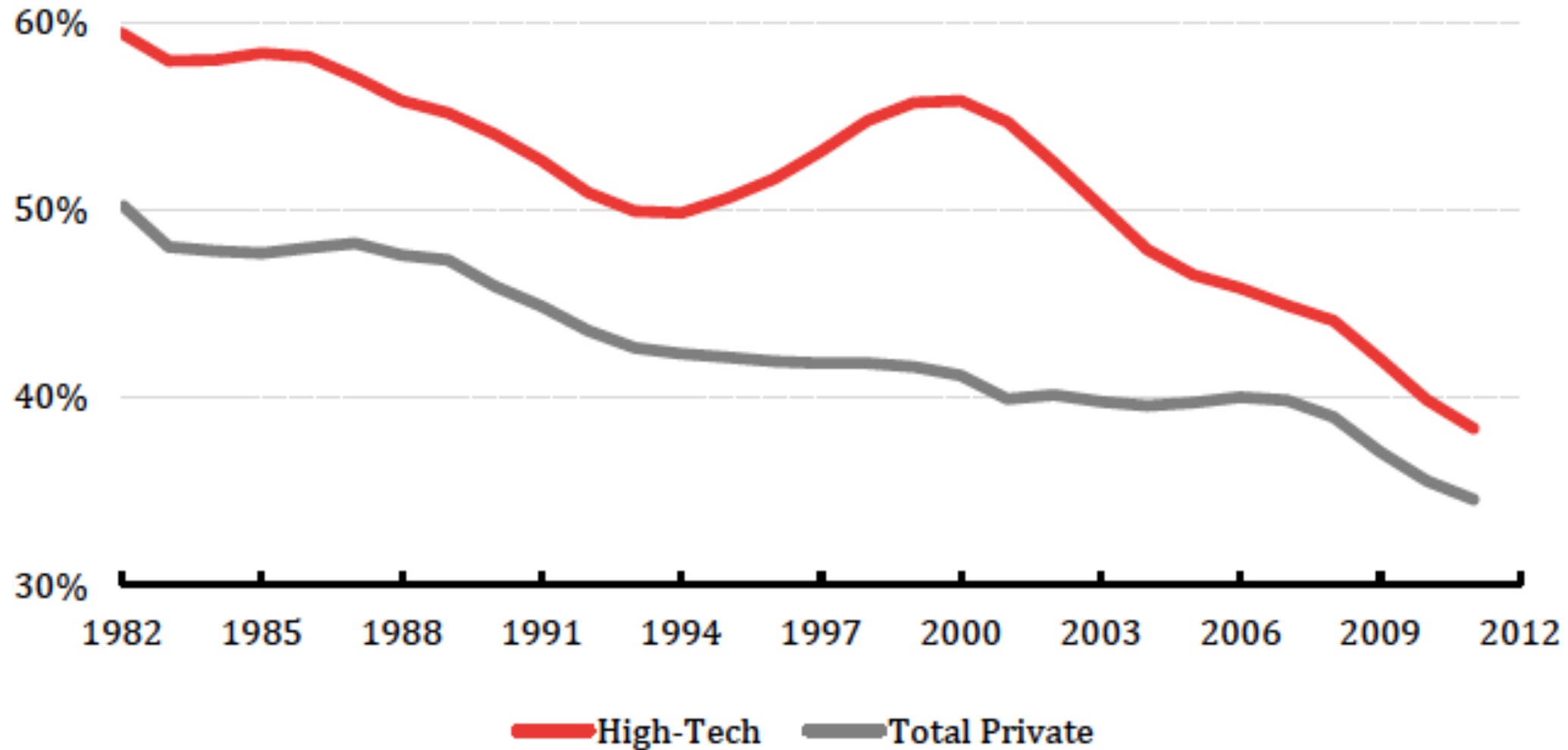
This chart suggests that differences across states in the size of fluidity declines are a major factor behind differences in the long-term evolution of state-level employment rates.

Fluidity Measure =
Job Reallocation Rate

Related Evidence from Other Studies

- The available evidence indicates that U.S. employers became less responsive to idiosyncratic shocks in recent decades, not that they experienced a fall in the variability of idiosyncratic shocks.
- Job reallocation rates in high-tech industries rose in the 1990s, cutting against the prevailing pattern, but they fell sharply in these industries after 2000.
- Related, the high-tech sector experienced a large decline in startups and fast-growing young firms after 2000, reversing an earlier pattern.
- The frequency of IPOs in the United States plunged after 2000, following a robust pace of IPOs in the 1980s and 1990s.

Fig. 4: Young Firms (aged five years or younger) as a Share of Total Firms by Sector (1982–2011)



Source: U.S. Census Bureau, BDS and Special Tabulation; authors' calculations

Reproduced from “Declining Business Dynamism in the U.S. High-Technology Sector” by John Haltiwanger, Ian Hathaway, and Javier Miranda, Kauffman Foundation, February 2014.

Defining the High-Tech Sector

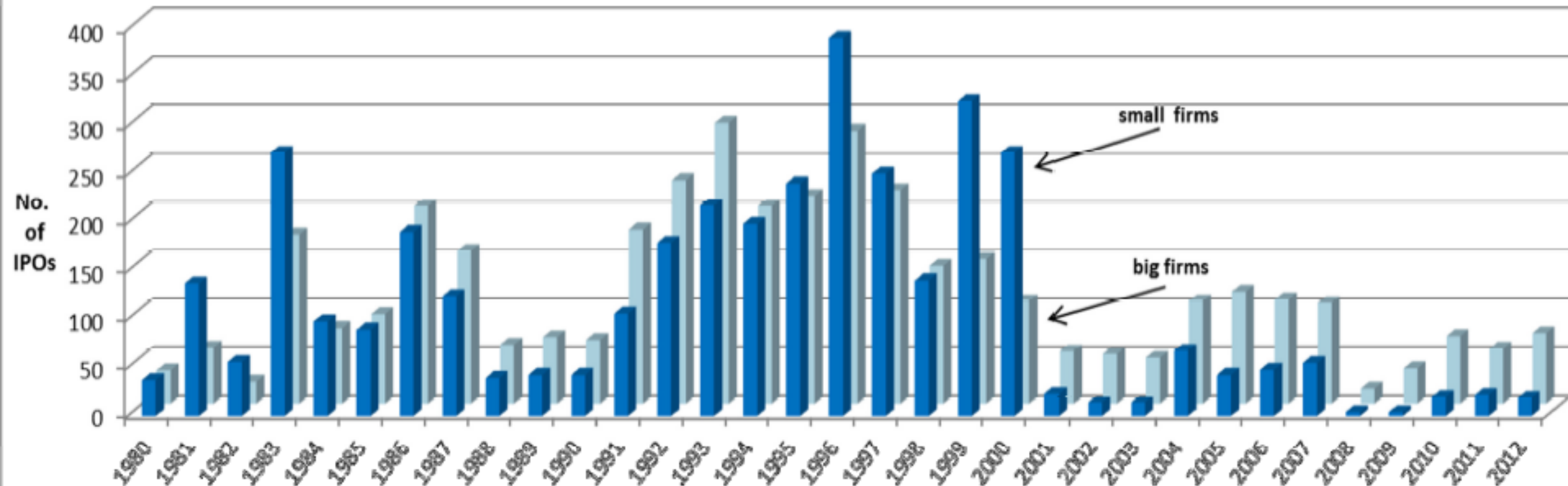
Following a study by the U.S. Bureau of Labor Statistics, HHM define “High-Tech” as 14 “high-technology” industries at the four-digit NAICS level:

- 10 industries in the Information and Communications Technology sector including “Computer and peripheral equipment mfg.”, “Semiconductor and other electronic component mfg.”, “Navigational, measuring, electromedical, and control instruments mfg.”, “Software publishers,” “Internet publishing and broadcasting”, “Data processing, hosting, and related services,” and “Computer systems design and related services.”
- 4 other industries: “Pharmaceutical and medicine mfg.”, “Aerospace product and parts mfg.”, “Architectural, engineering, and related services,” and Scientific R&D service.”

These 14 industries had the highest concentration of technology-oriented workers in the STEM fields of science, technology, engineering, and math.

Initial Public Offerings (IPOs) Plunged after 2000

Number of IPOs in the United States, by Size of Firm, 1980–2012⁸



Reproduced from Xiaohui Gao, Jay R. Ritter and Zhongyan Zhu, 2013. “Where Have All the IPOs Gone?” working paper, University of Florida.

Summary of Key Points

1. Broad-based declines in U.S. labor market fluidity in recent decades

- Large declines for most demographic groups, huge for younger and less-educated
- Sharp drop in fluidity and entrepreneurial dynamism in high-tech since 2000

2. Why? Full story yet to be written, but multiple forces are at work:

- Shift of activity to older firms and establishments (why is not well understood)
- Shift to larger firms and establishments in some sectors (e.g., Retail Trade)
- An aging workforce
- Policy developments that suppress reallocation (e.g., erosion of employment-at-will)

3. Reasons for Concern:

- Worker and job reallocation contribute to productivity and real wage growth
- Reduced fluidity negatively affects employment, especially for those with limited skills

4. Key Implication for U.S. economic outlook:

- U.S. faced serious impediments to high employment before the Great Recession. A return to sustained high employment unlikely without restoring labor market fluidity

To obtain a copy of “Labor Market Fluidity and Economic Performance,” please visit my website at <http://faculty.chicagobooth.edu/steven.davis>.