

# Firm Dynamics and Productivity Growth

October 2011

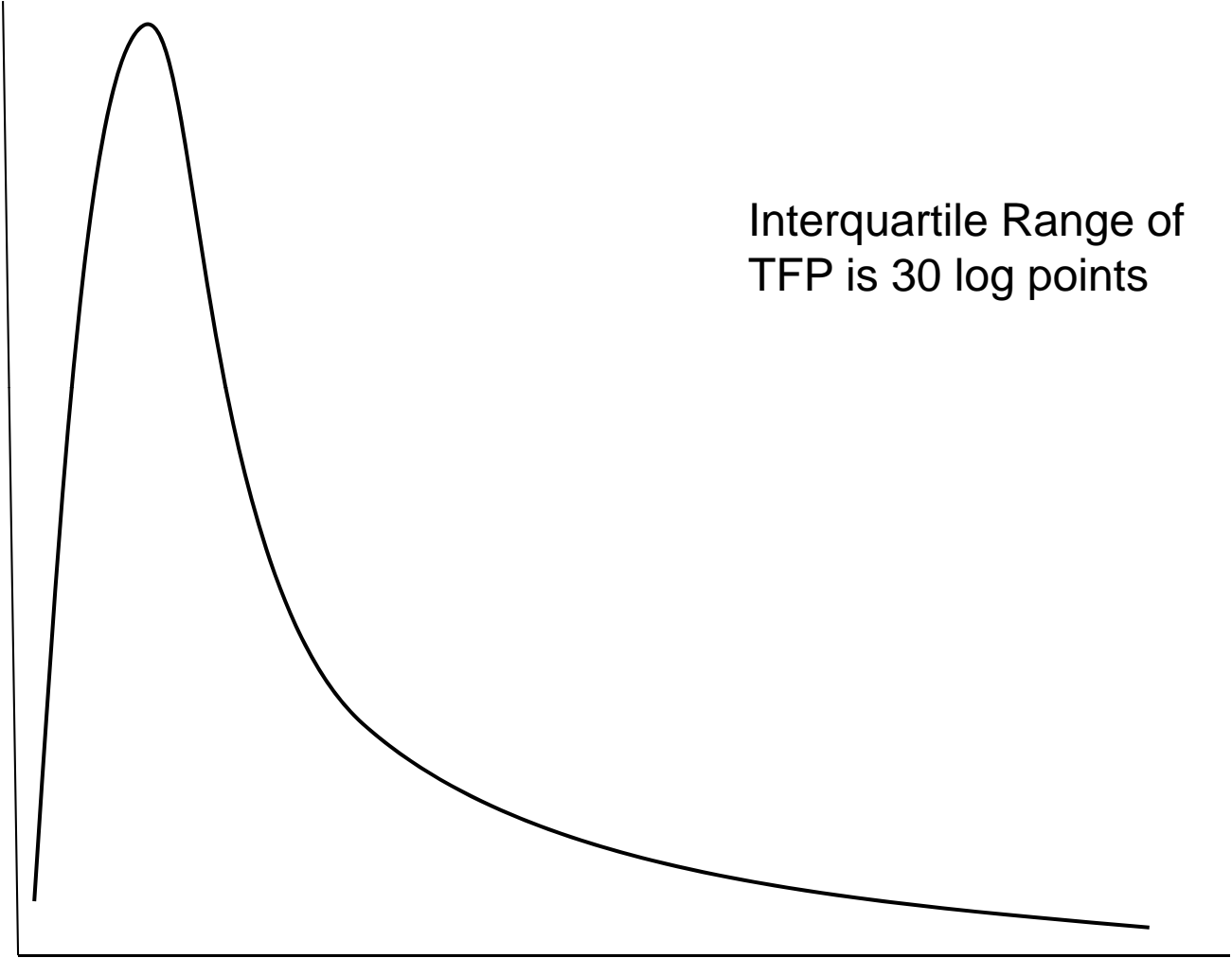
By John Haltiwanger

University of Maryland and NBER

# Overview

- Focus on Allocative Efficiency Across Firms Within Industries
  - Are the most productive firms the largest firms and/or becoming large?
  - Are the least productive firms the smallest firms and/or becoming small?
- The economic success of a country at the AGGREGATE level depends in large part the extent of allocative efficiency within industries
  - Static and dynamic allocative efficiency both are important
- Key challenges:
  - Allocative efficiency requires restructuring and reallocation.
  - Restructuring and Reallocation are costly

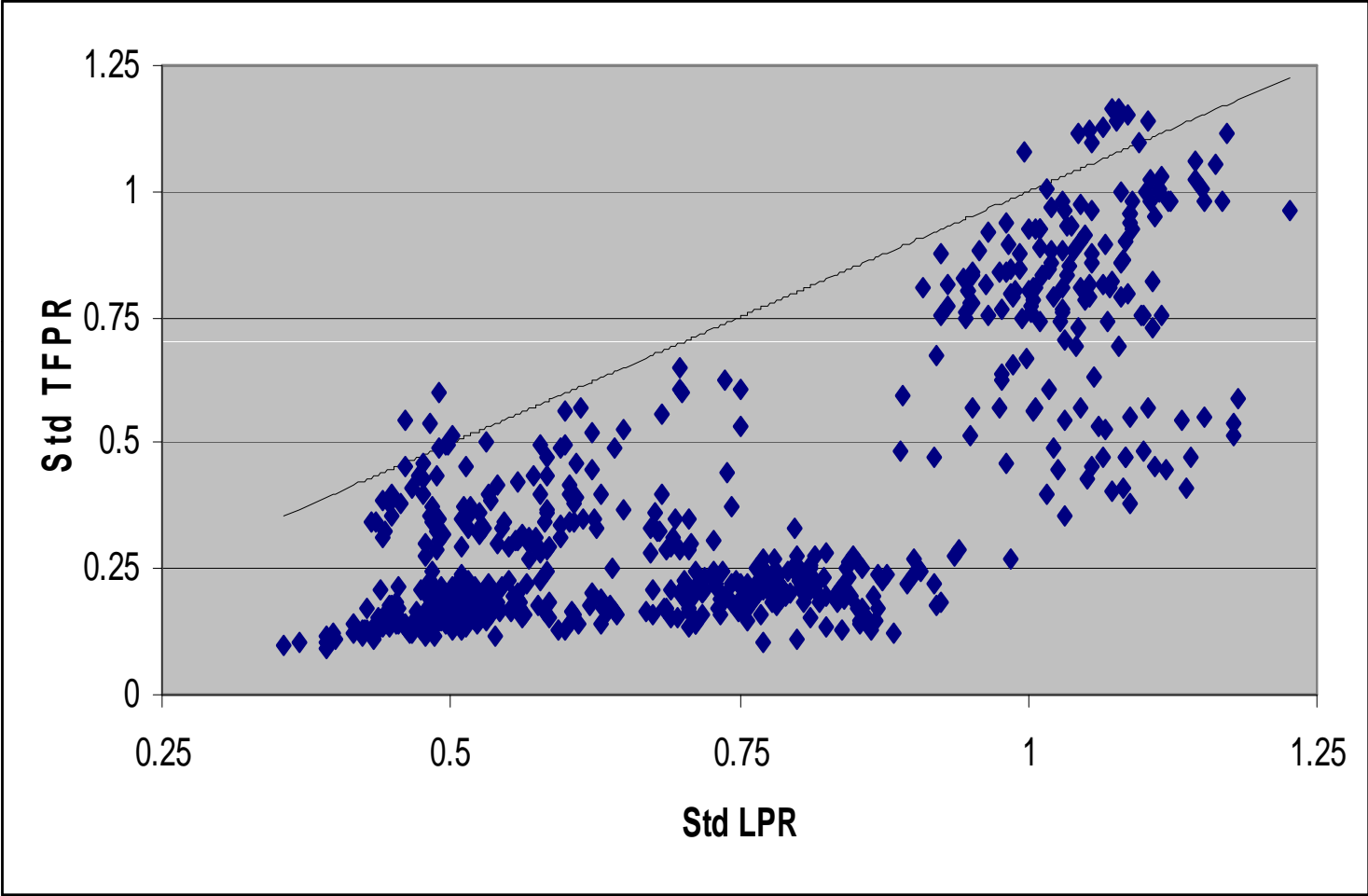
# Productivity Distribution Within Narrowly Defined Industries



Interquartile Range of  
TFP is 30 log points

Productivity of Businesses

More than 5200 country/industry/year observations of some of the key moments -- virtually all show high dispersion in both STD(LPR) and STD(TFPR)



## Distribution of firms by size

(ratio of the mean size of fourth to the first quartile of the distribution of firms)

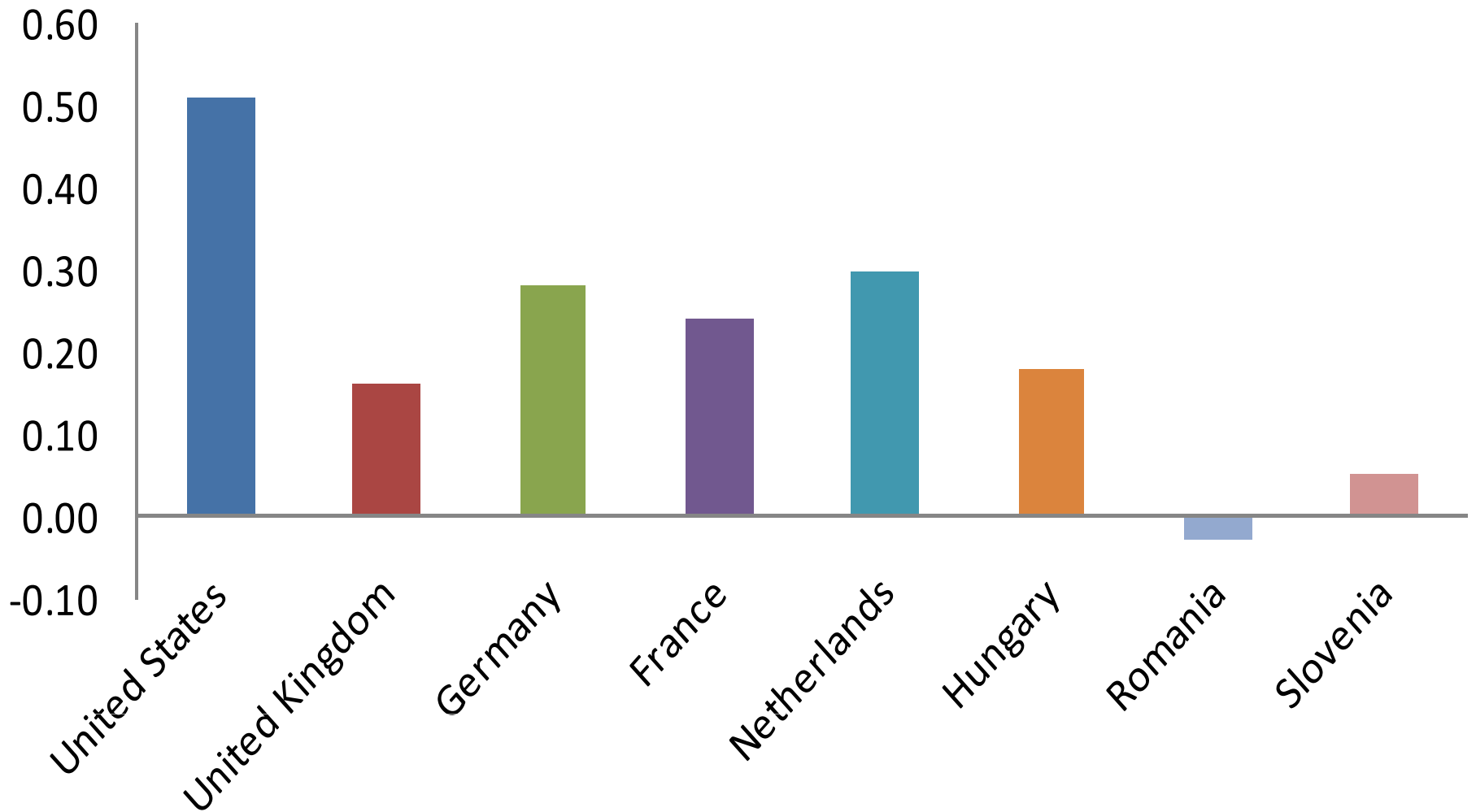
Country	Total economy	Total manufacturing weighted average	High & medium tech industries <sup>1</sup>
Finland	15	37	46
France		52	77
Italy	32	66	111
Netherlands	32	113	192
Portugal	34	60	78
United Kingdom		133	221
United States	76	236	381
Argentina	29	47	52
Brazil	65	74	117
Estonia	35	56	85
Latvia	51	47	44
Mexico	51	108	277
Romania	114	433	
Slovenia	126	283	314
Chile <sup>2</sup>		16	15
Colombia <sup>2</sup>		25	24
Venezuela <sup>3</sup>		39	29

1. Weighted averages of industry-level data.

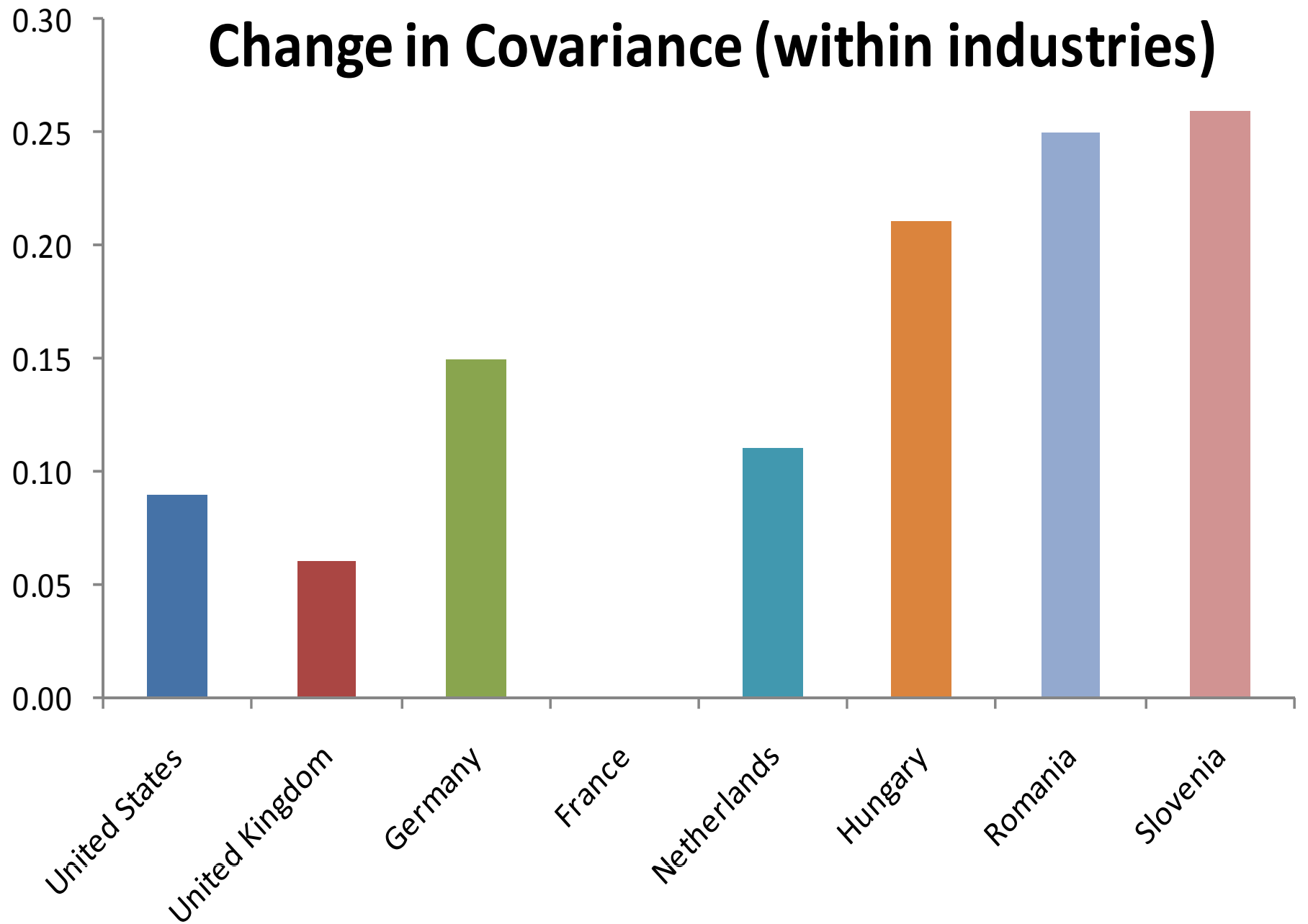
2. Firms with 10 or more employees.

3. Firms with 15 or more employees and sample of smaller units.

# Covariance Between Size and Productivity (within industries)



# Change in Covariance (within industries)



# Job Creation and Destruction, U.S. Private Sector, Annual Rates (Percent of Employment), 1980-2009

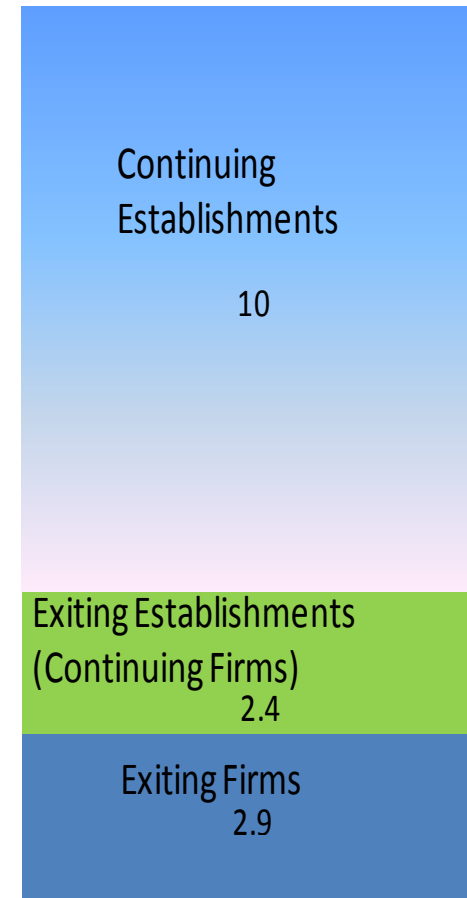
Source: BDS

Total=16.9



Job Creation

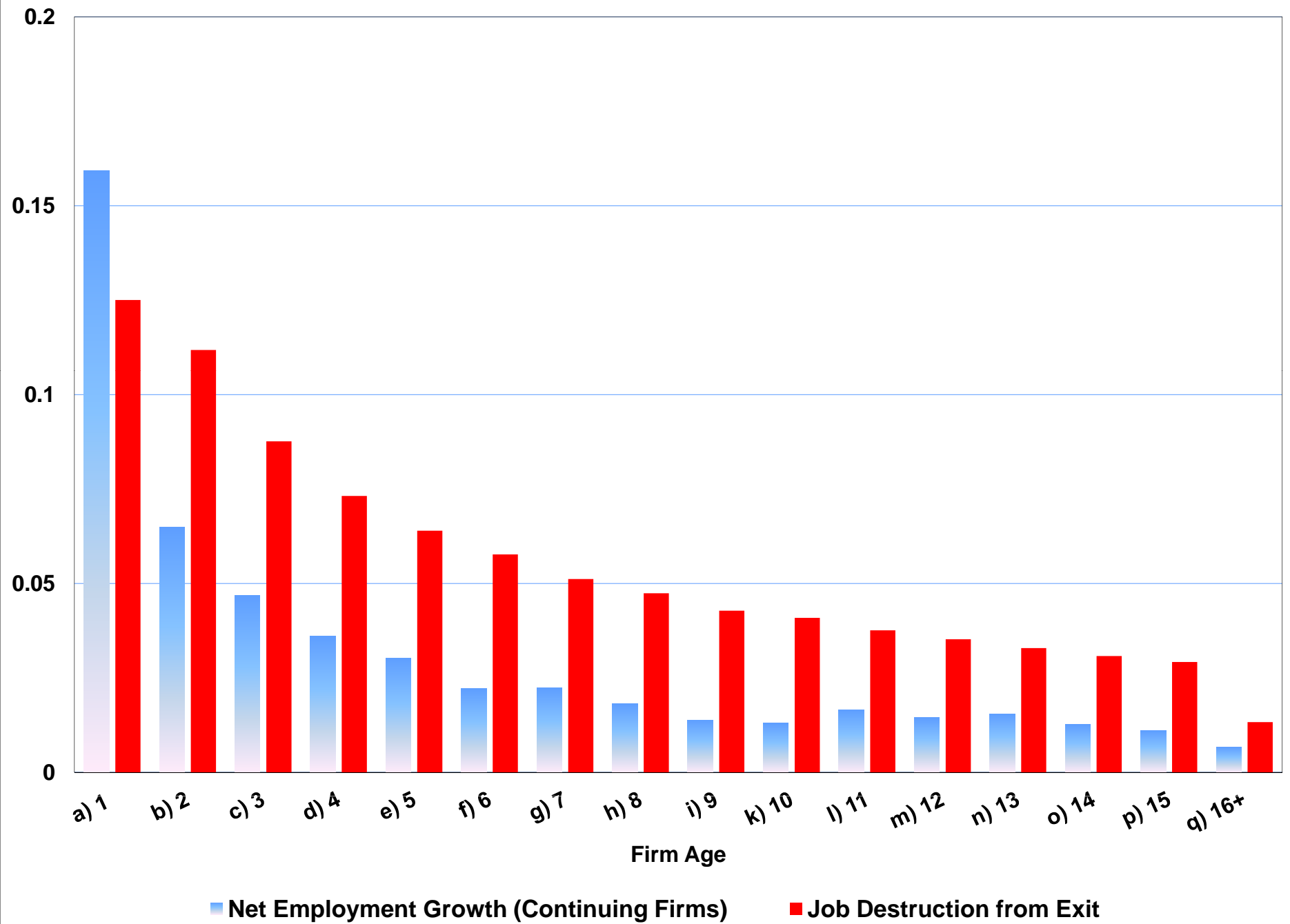
Total=15.3



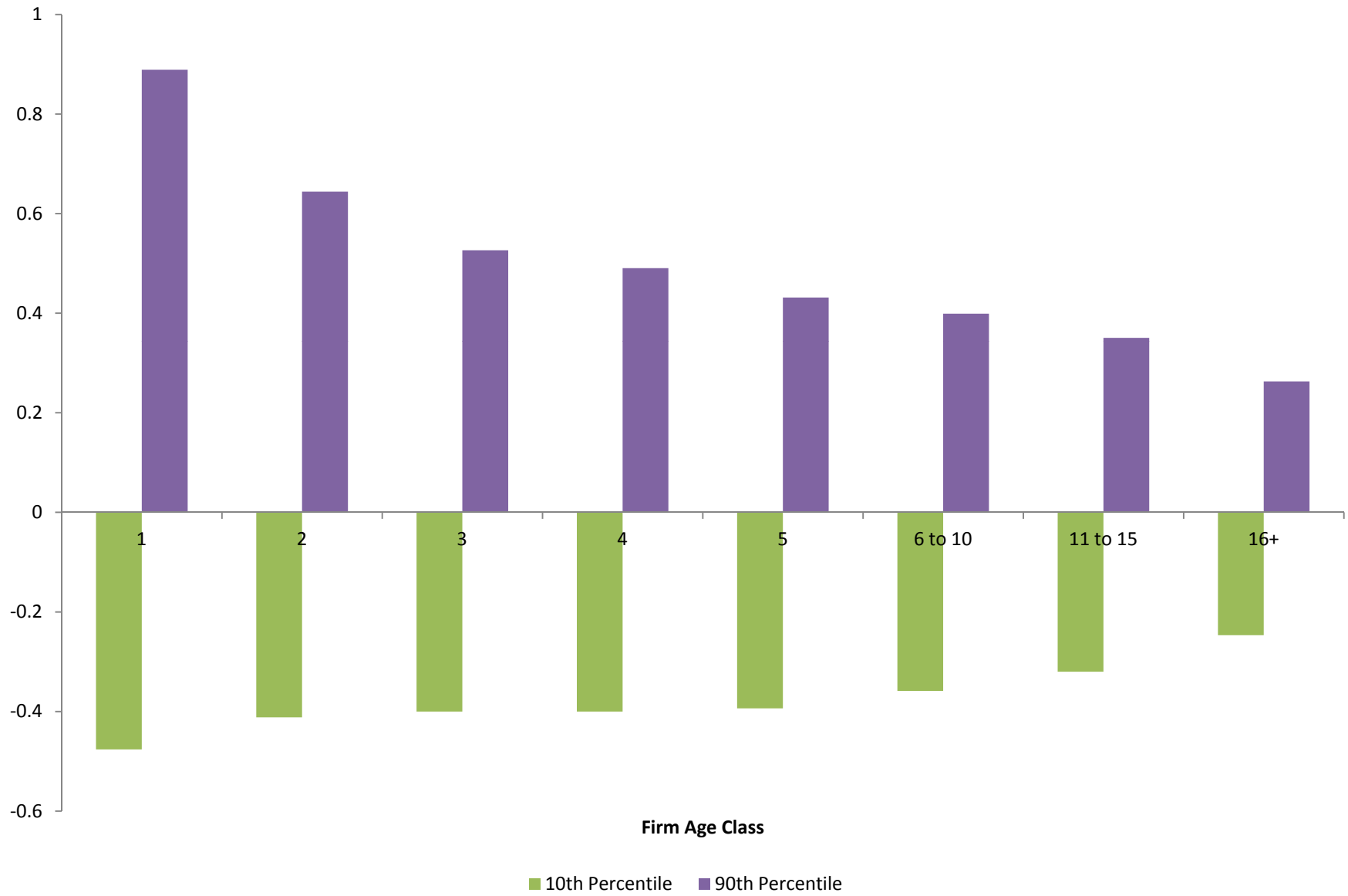
Job Destruction



## Up or Out Dynamics of Young U.S. Firms



### 90th and 10th Percentiles of Net Employment Growth Rates for Surviving U.S. Private Sector Firms by Firm Age (2003-05)



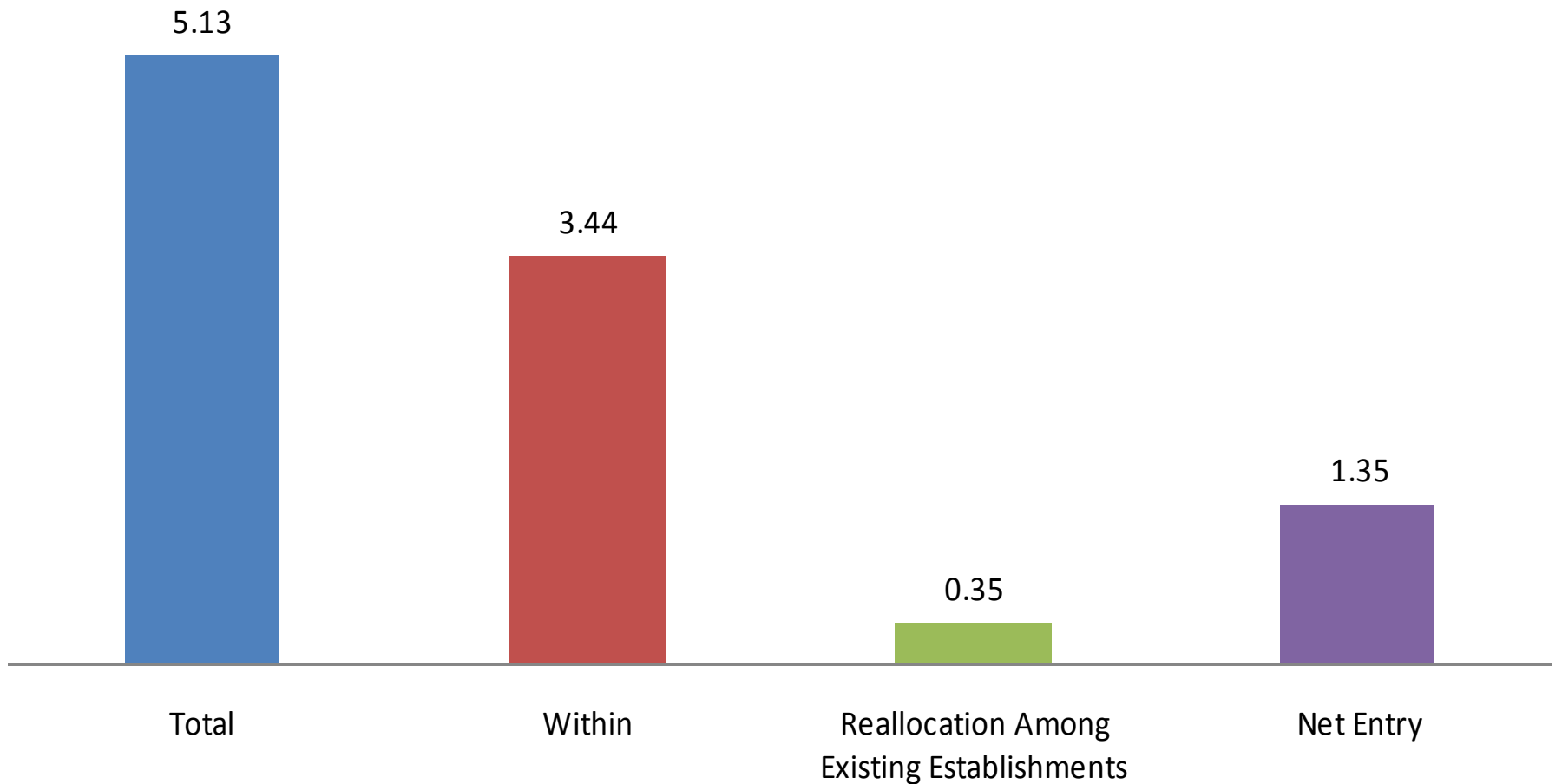
# Industry as Predictor of Size and Growth of Firms?

	R-squared from 6-digit NAICS effects
Probability Firm has less than 20 employees	0.12
Net Firm Growth Rate (All Firms)	0.06
Net Firm Growth Rate (Small Firms)	0.06
Probability firm is a high growth firm (defined as $\text{Net\_Rate} > .2$ )	0.04
Probability firm is a high growth firm (defined as: $\text{Net\_Rate} > .2$ and $\text{Net\_Level} > 10$ )	0.03

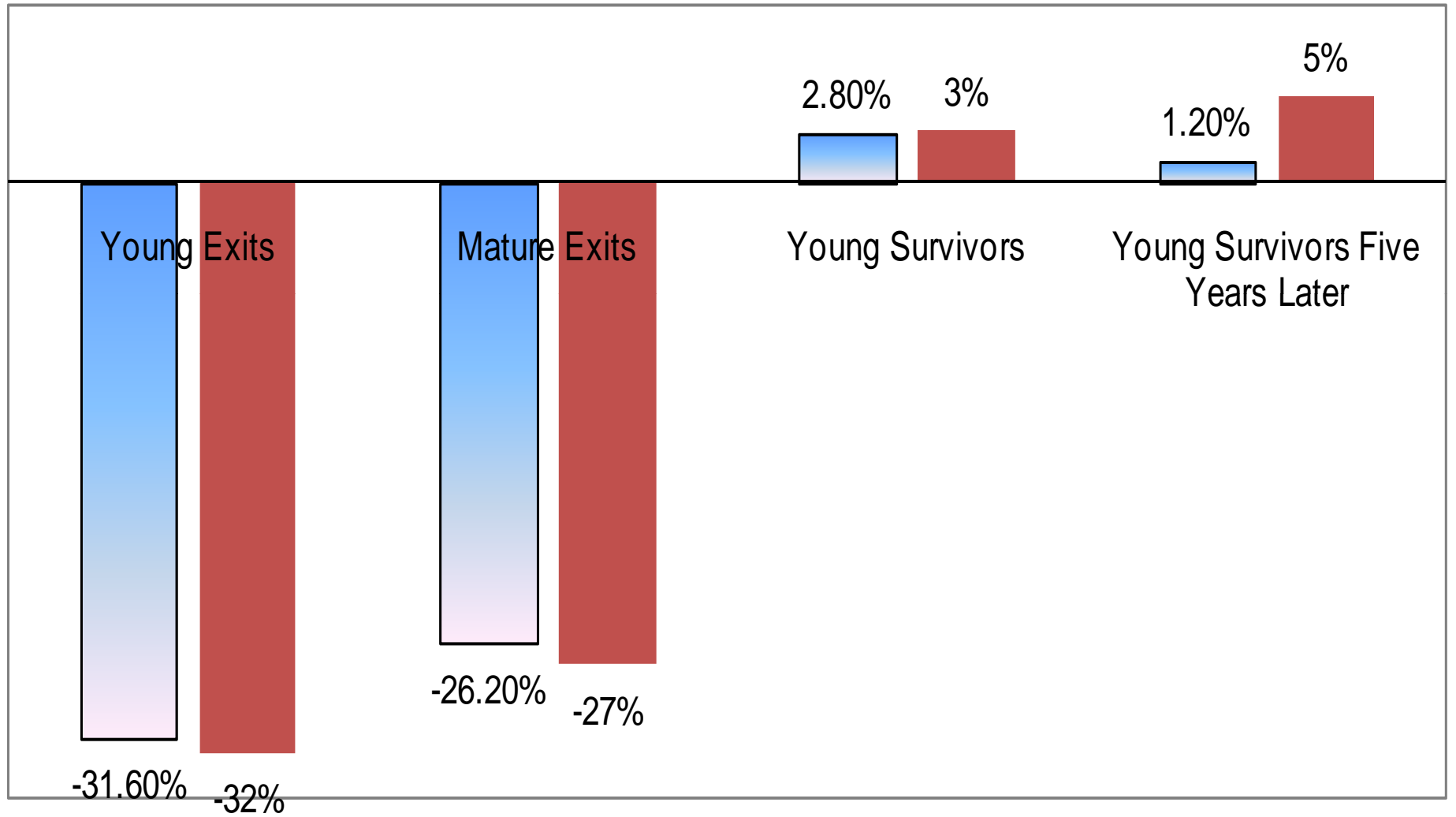
Sample: All U.S. Private Sector Firms, 2003-05

# Components of Total Factor Productivity Growth over Five-Year Horizons, 1977-1997, Selected Manufacturing Industries

■ Total   ■ Within   ■ Reallocation Among Existing Establishments   ■ Net Entry



# Productivity of Young Businesses Relative to Mature Surviving Incumbents, U.S. Retail Trade

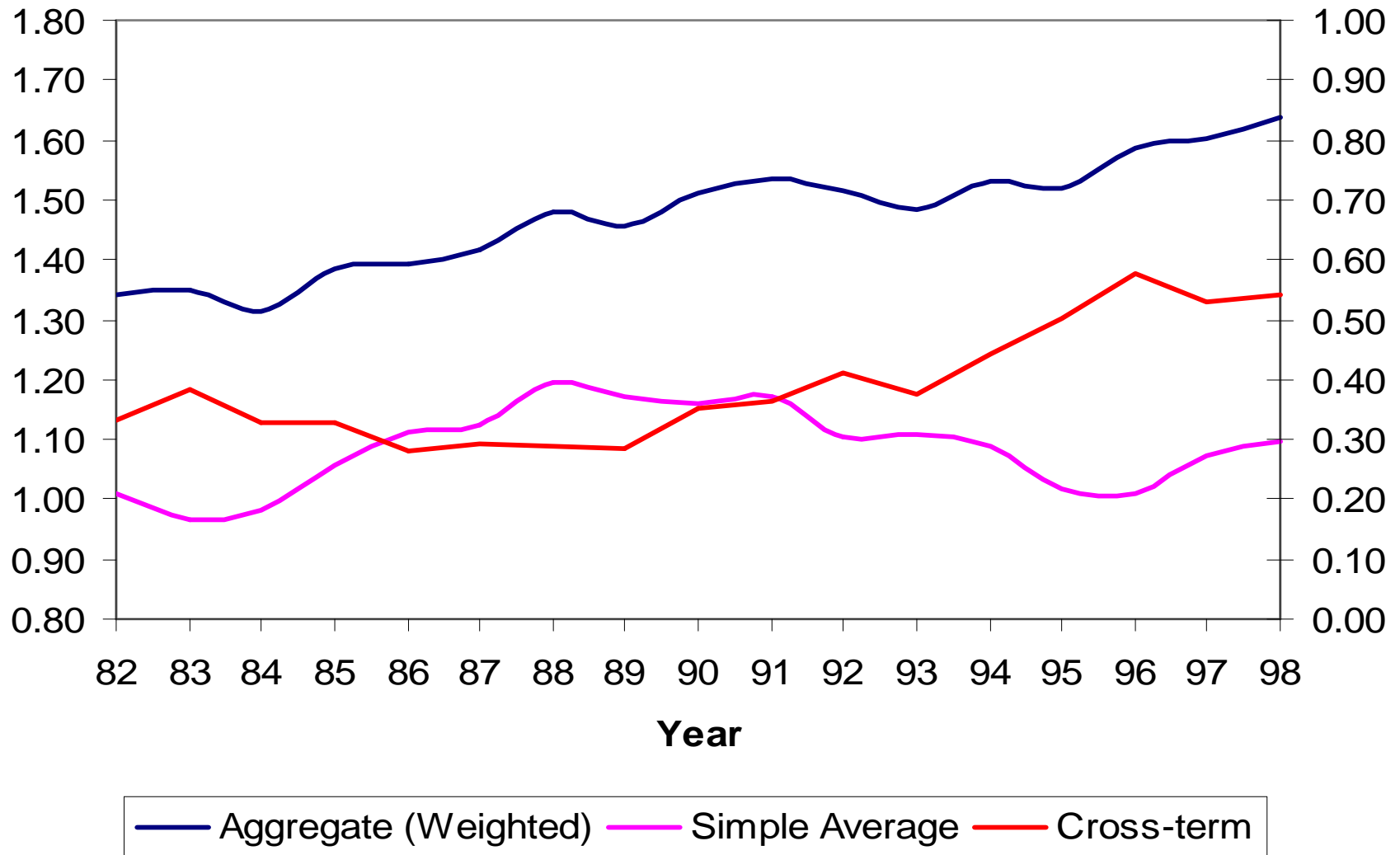


■ Single Unit Establishment Firms    
 ■ All establishments

# Much Scope for Misallocation

- Barriers to entry and exit
- Poorly functioning product, capital and labour markets
- Weak rules of law
- Poor public infrastructure for communication and transportation
- Graft and corruption
- Even well-intended policies that deter job destruction (and in turn job creation)

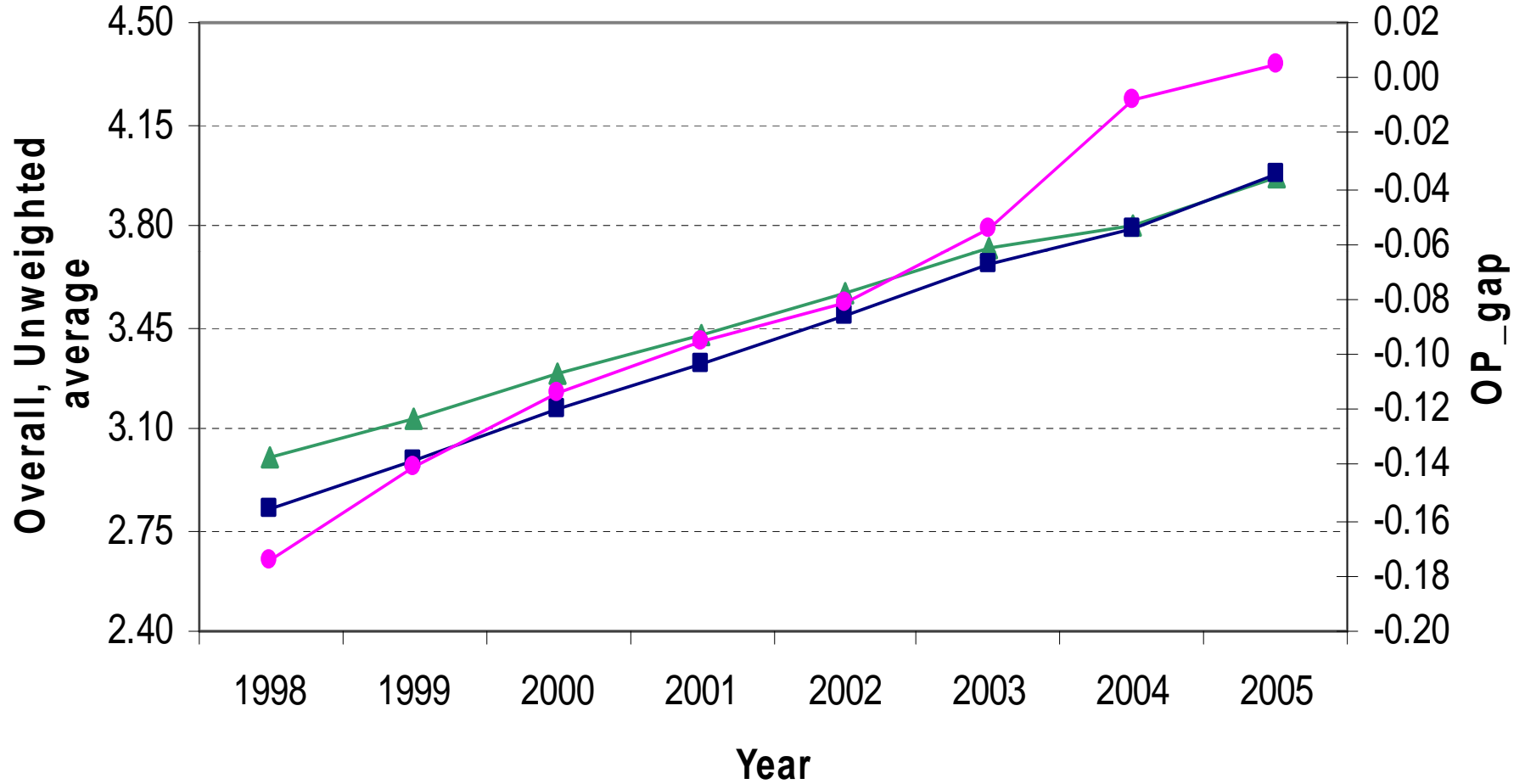
## Olley-Pakes Decomposition for Colombian Manufacturing



Source: Eslava et al. (2005)

# Olley Pakes Decomposition of Labor Productivity (Average Industry)

China



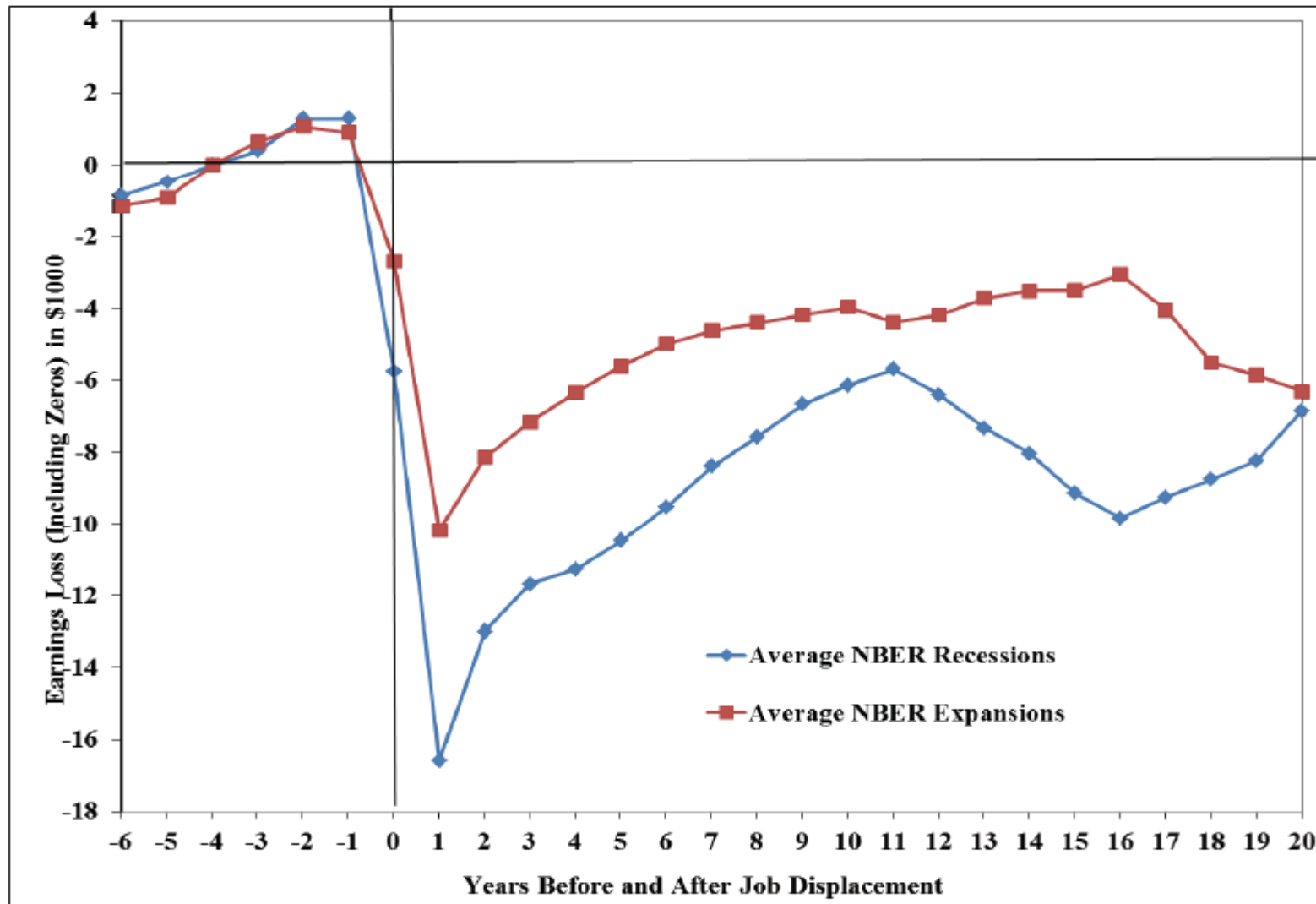


# No Free Lunch

- Restructuring and Reallocation is Costly
  - Even in U.S. displacement is a costly event
  - In current crisis, displacement is especially costly
    - Hiring and job creation remain anemic in U.S.
    - Job finding rate is at historical lows.

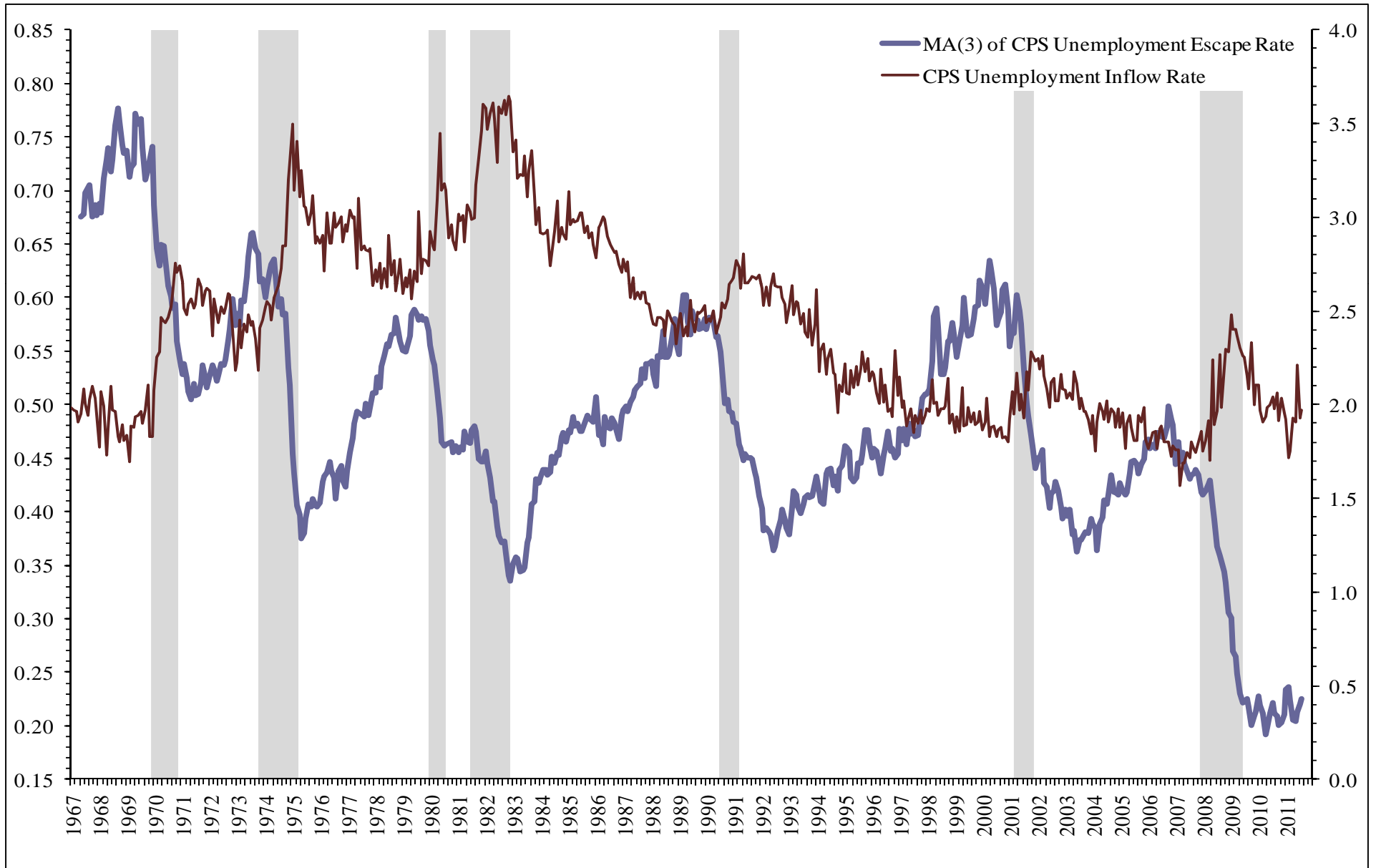
# The Impact of Job Displacement on Earnings

(Men, 3 years of tenure, 50 employee firms with contraction of 30% over 2 years)

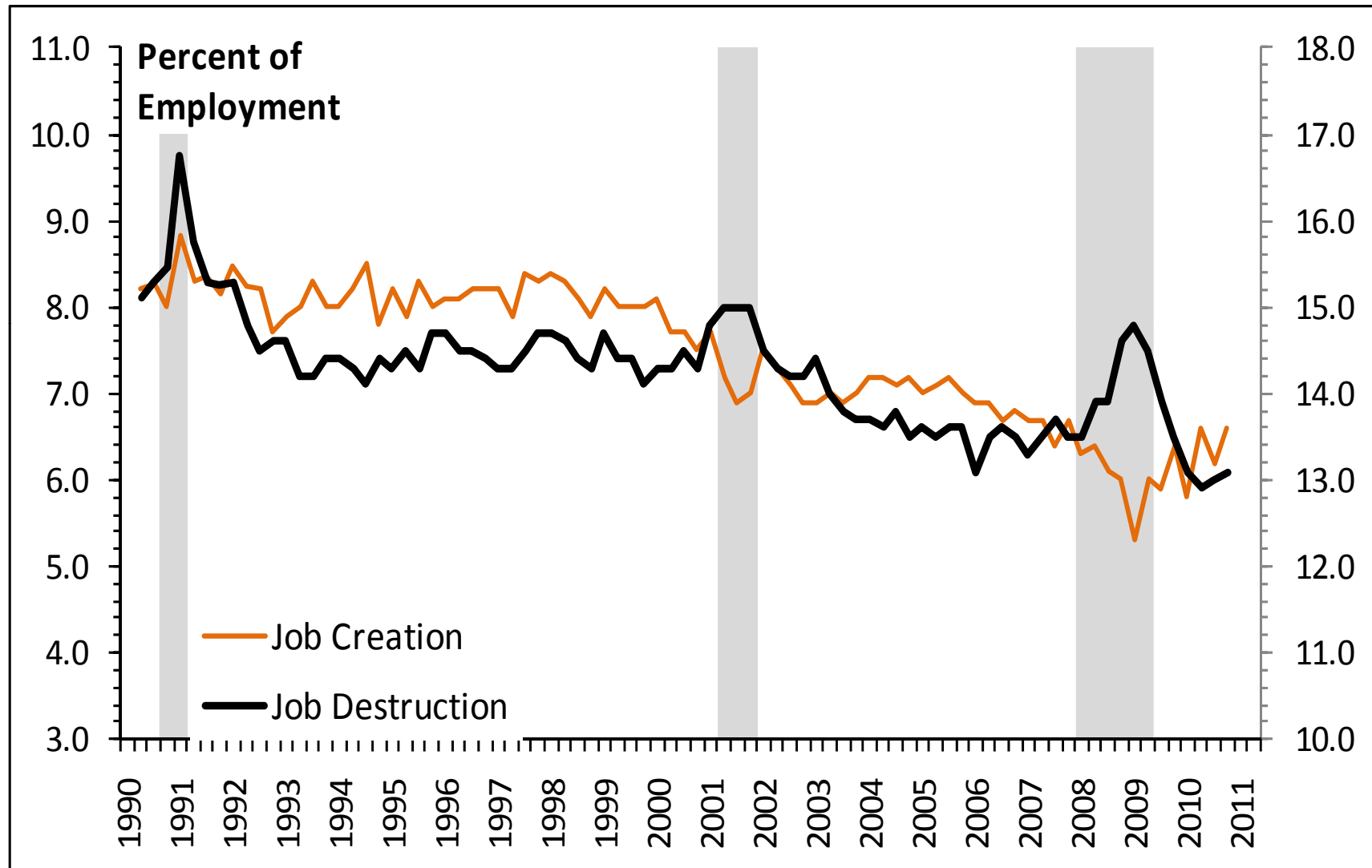


Source: Davis and von Wachter (2011)

# Unemployment Inflows and Outflows

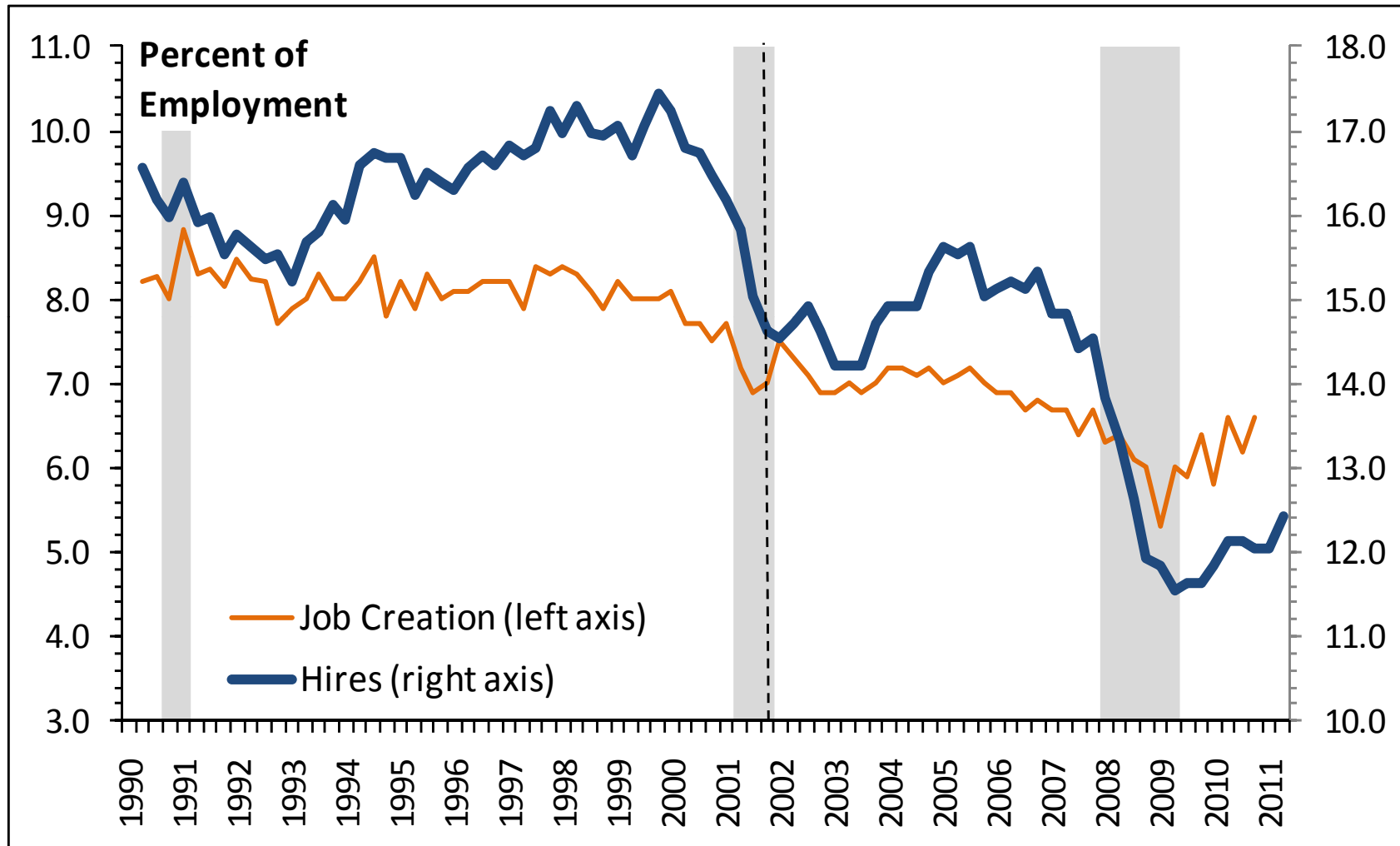


# Aggregate Job Creation and Destruction (Quarterly)

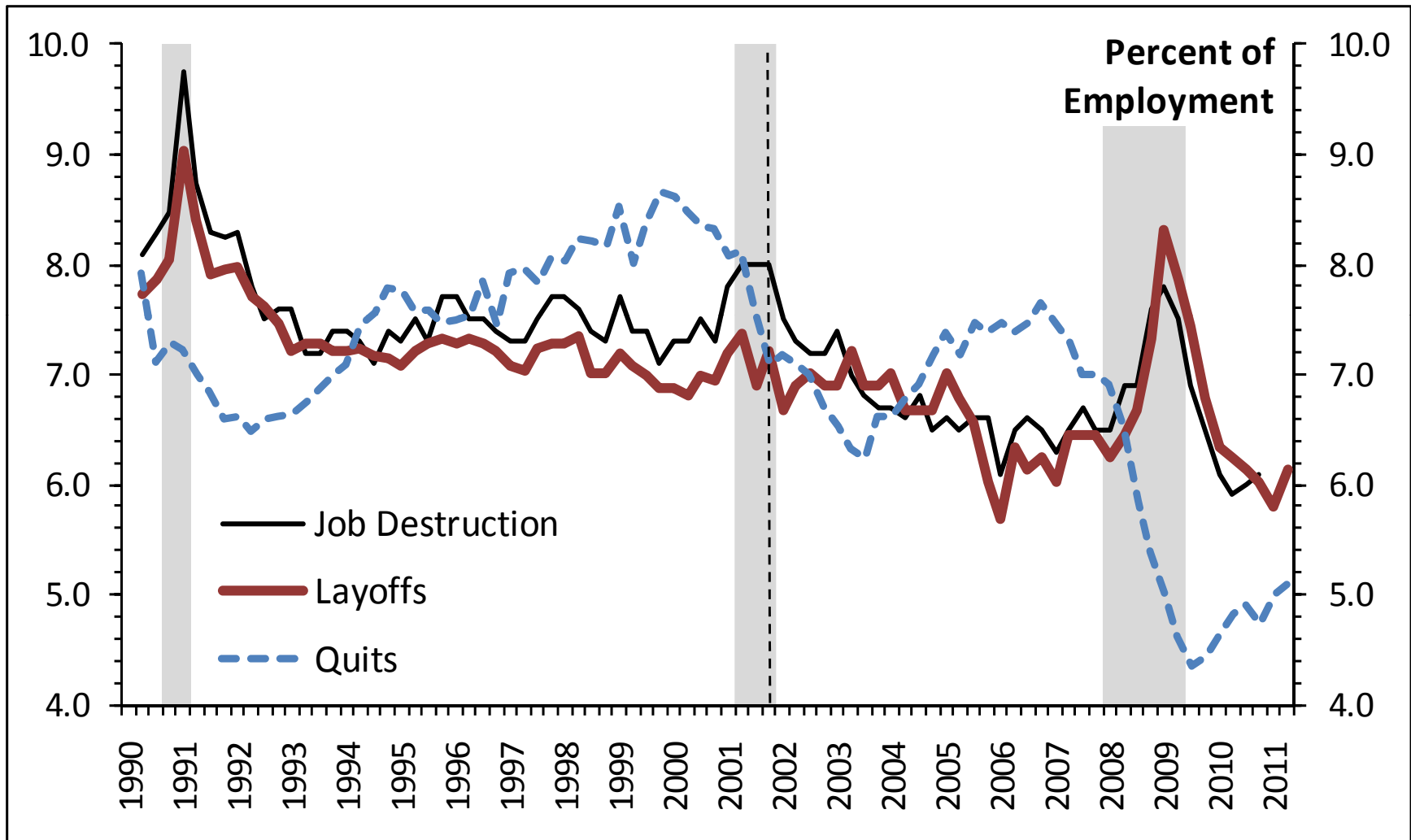


Creation is all expanding and entering establishments. Destruction is all contracting and exiting establishments.

# Hiring and Job creation Lowest in last 20 years



# Job Destruction, Layoffs and Quits

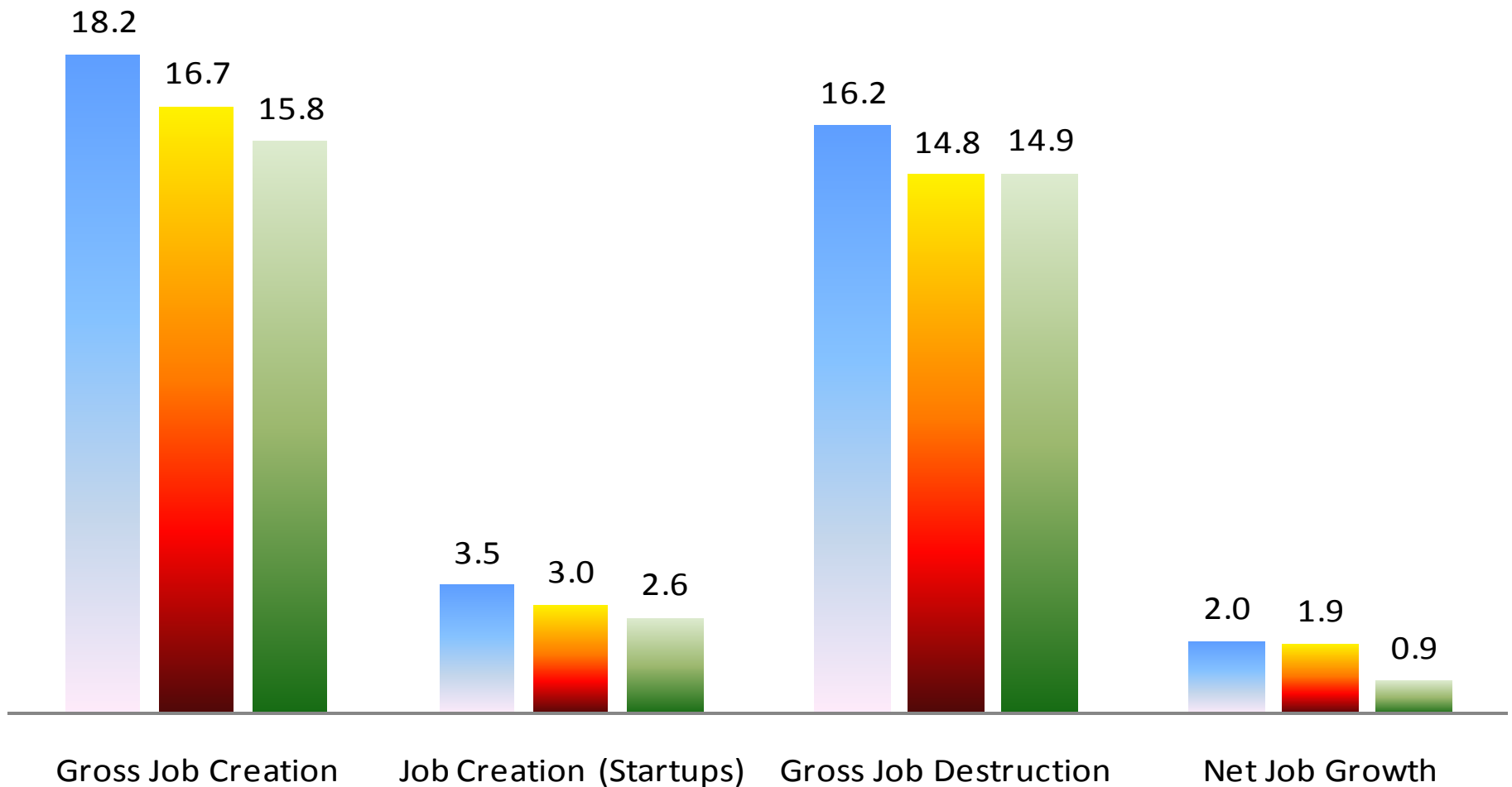


- Layoffs (JOLTS) move with job destruction (BED), and quits (JOLTS) moves opposite to both. In booms, job destruction accommodated more by quits. In recessions, destruction is closely tracked by layoffs.

Surprising (?) declining volatility in U.S.

## Trends in Gross Flows and Net Job Creation

Avg 1980-1989   Avg 1990-1999   Avg 2000-2009



# Policy Challenges?

- Flexibility of Jobs and Workers are critical in advanced AND emerging economies for productivity growth
- Stifling job and worker reallocation through job and worker mobility restrictions dampens productivity levels and growth
- BUT workers caught up in this turbulence even in U.S. can experience persistent periods of joblessness and earnings losses.
- Implement safety net without moral hazard and adverse selection problems, without dampening job and worker mobility but provides support to those caught up in restructuring.
- Targeting problematic given heterogeneity
- BUT what to do during crises?