

Job Creation and Productivity Growth: What Can We Learn from Firm-Level Data?

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Without implication, this talk draws heavily on joint work with Eric Bartelsman, Steven Davis, Jason Faberman, Lucia Foster, Ron Jarmin, C.J. Krizan, Javier Miranda, and Stefano Scarpetta.

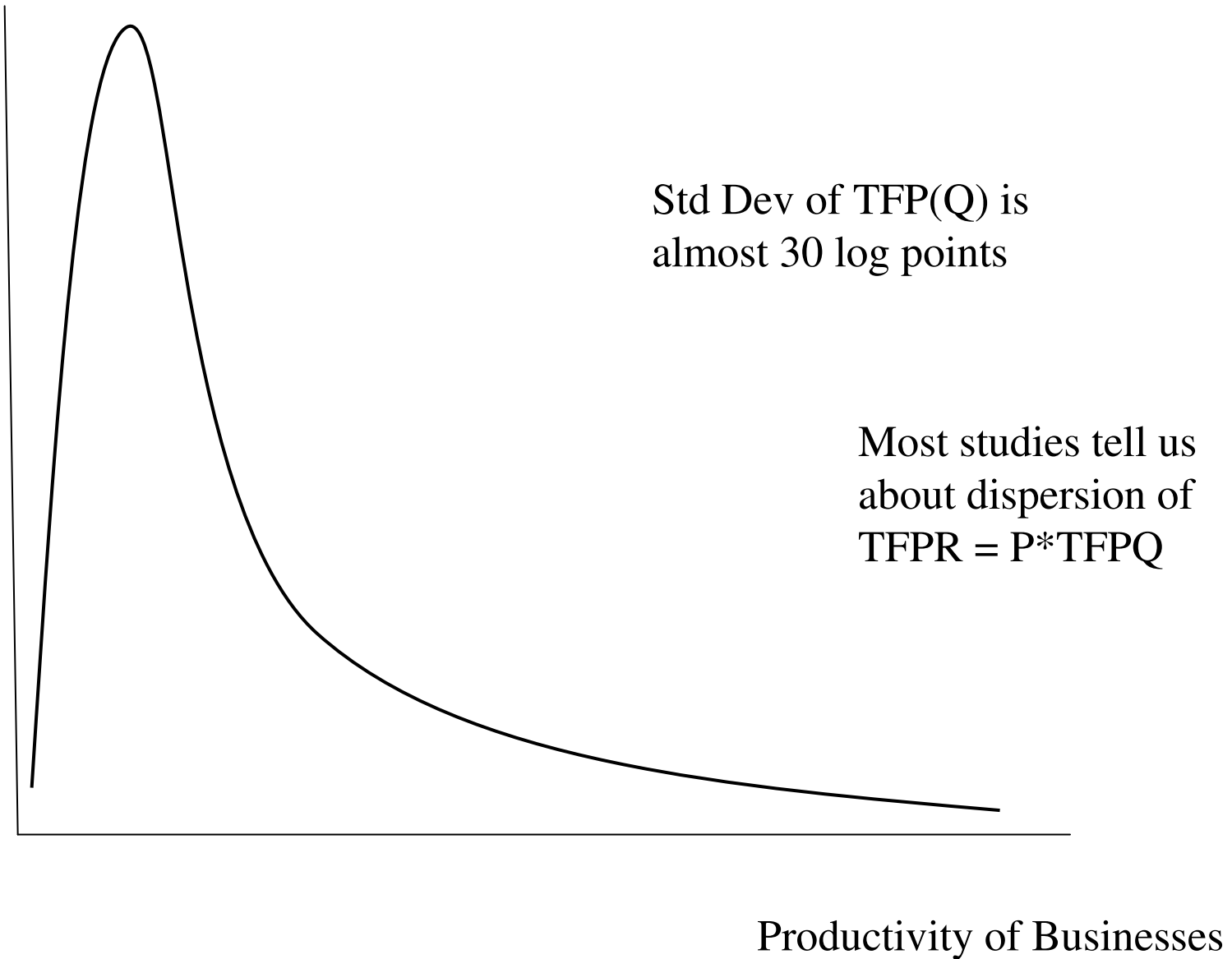
Overview

- Allocative Efficiency Critical
- Static:
 - A positive covariance between size and productivity
- Dynamic:
 - Economies (both advanced and emerging) constantly reinventing themselves
 - In healthy economy:
 - Resources being reallocated from less productive to more productive businesses
 - Much productivity growth associated with this ongoing reallocation
- Much potential for misallocation

Outline

- Brief overview of what we have learned from the U.S.
 - Its relevance for emerging economies
- What patterns do we see in emerging economies?
- Lessons learned and looking ahead

Productivity Distribution Within Narrowly Defined Industries



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

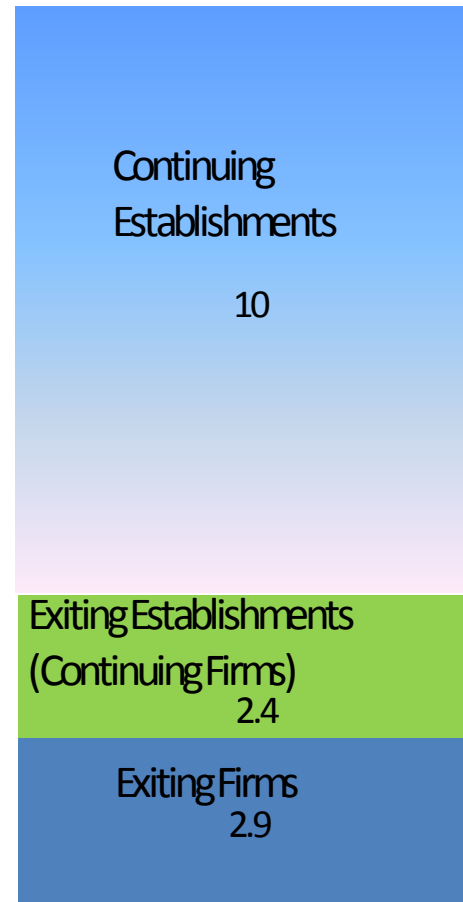
Source: BDS

Total=16.9



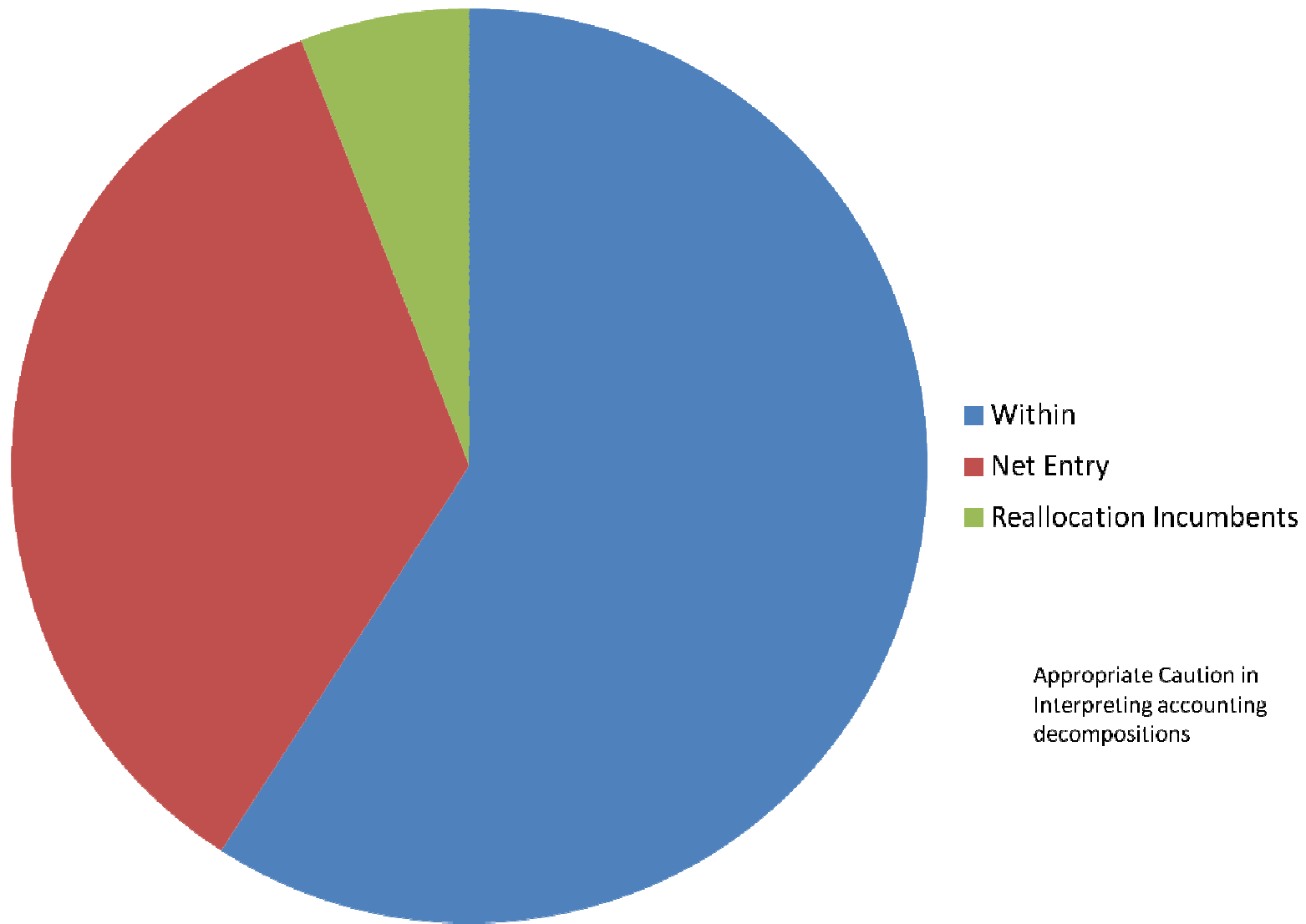
Job Creation

Total=15.3

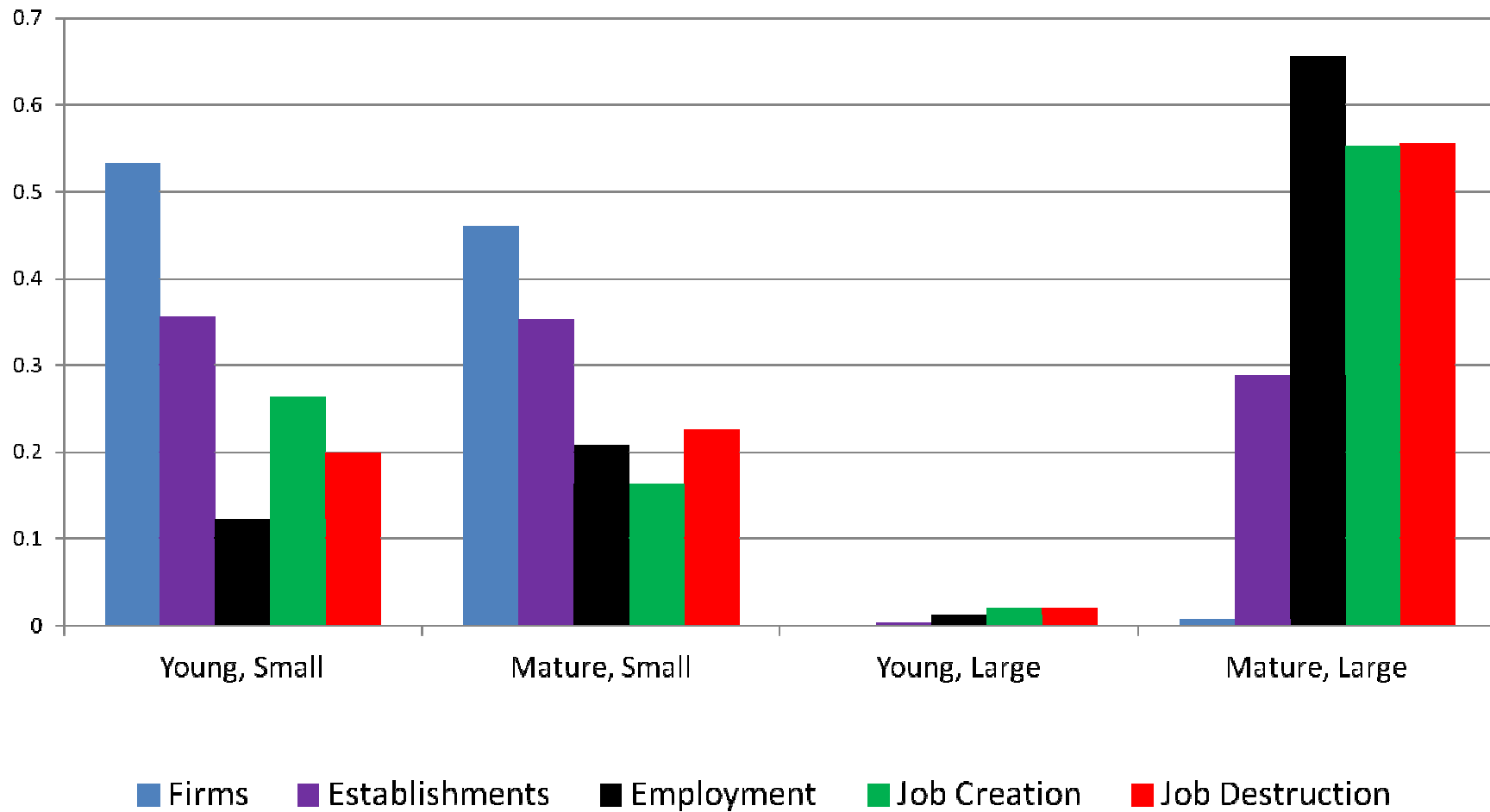


Job Destruction

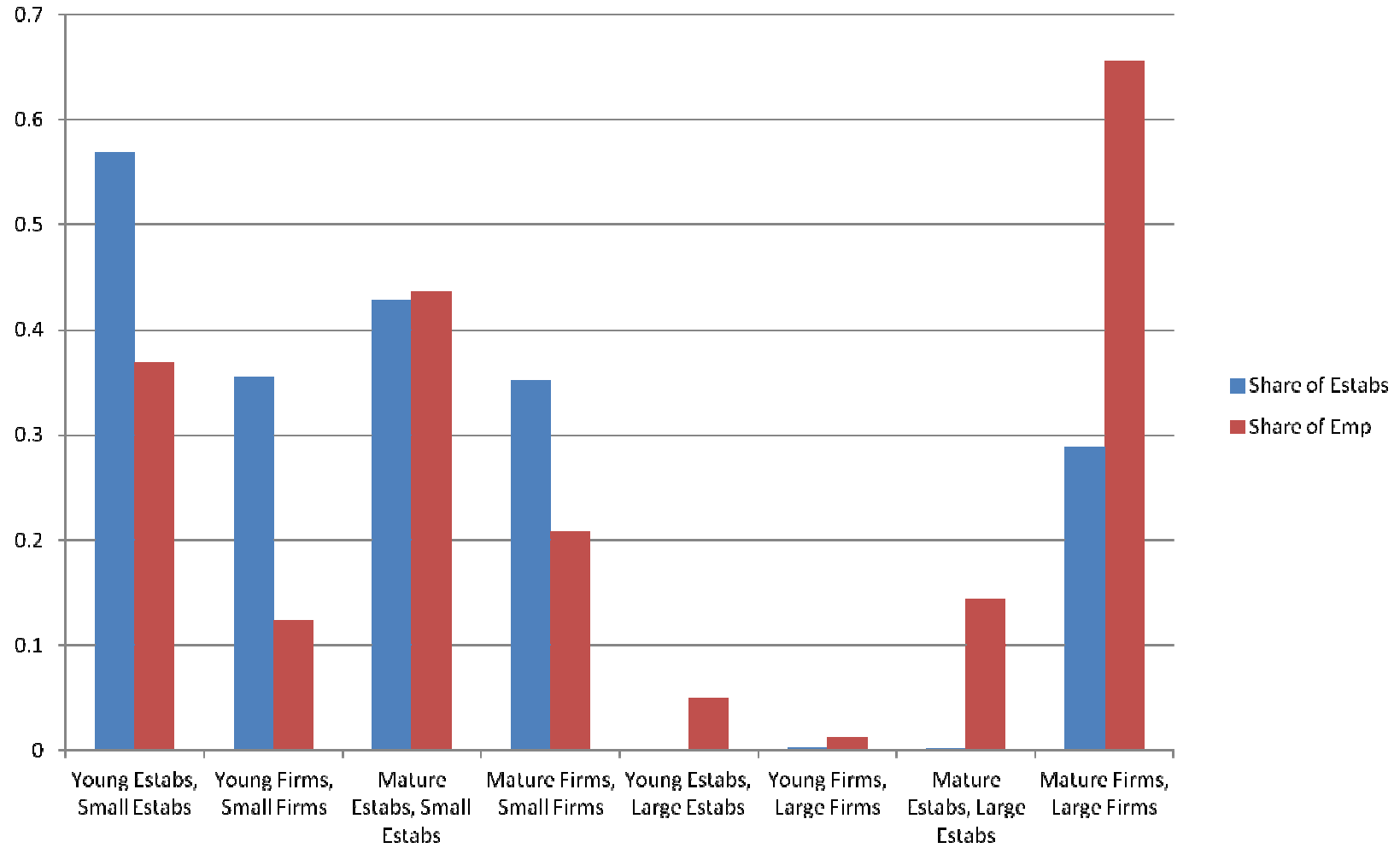
Shares of TFP(Q) Growth in U.S. Manufacturing, 5-Year Horizon



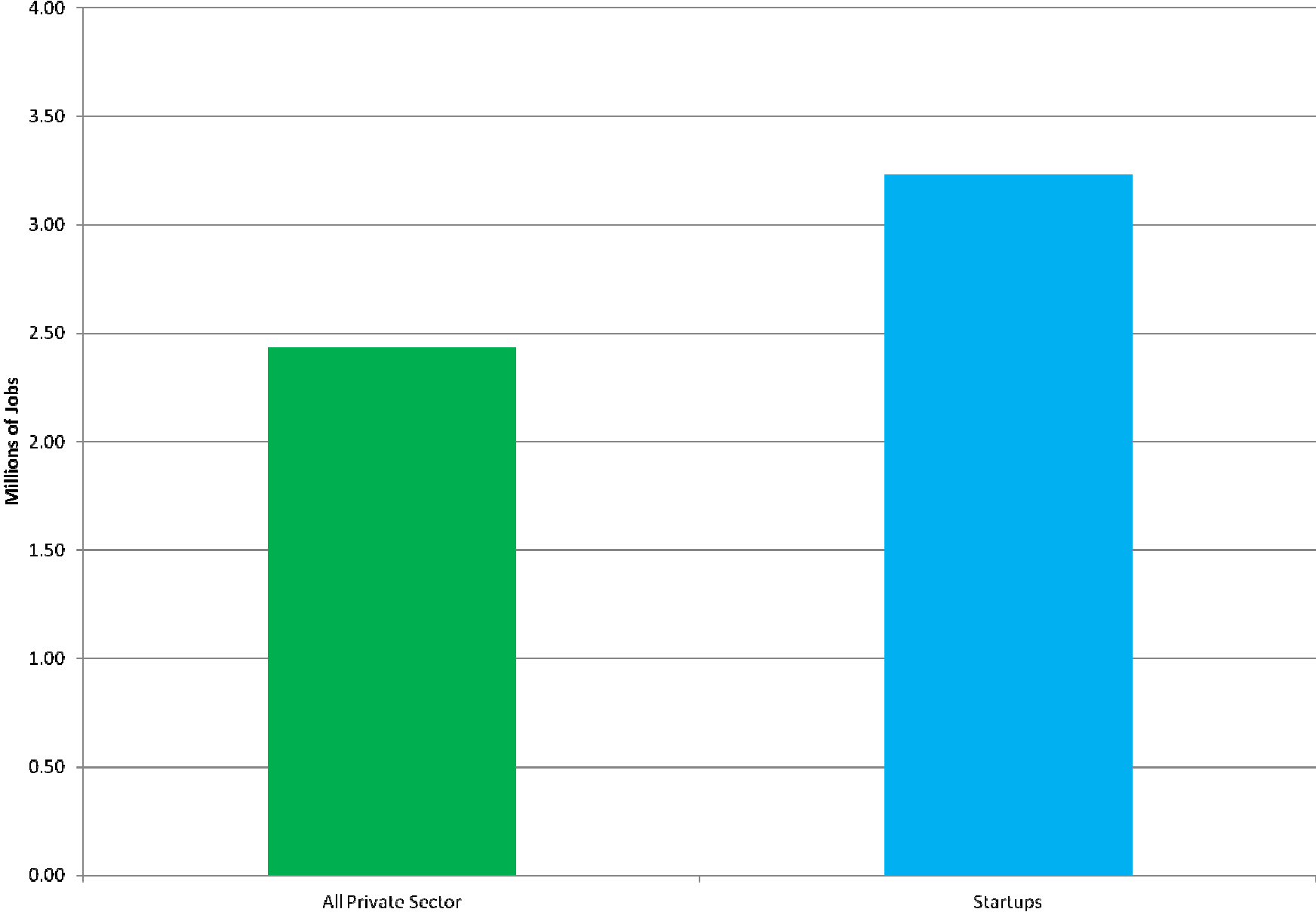
Firm Size and Firm Age Distribution of Firms, Establishments, Employment and Gross Job Flows, U.S. Private Sector, 2010



Differences in Establishment and Firm Size and Age Distributions, U.S. Private Sector 2010

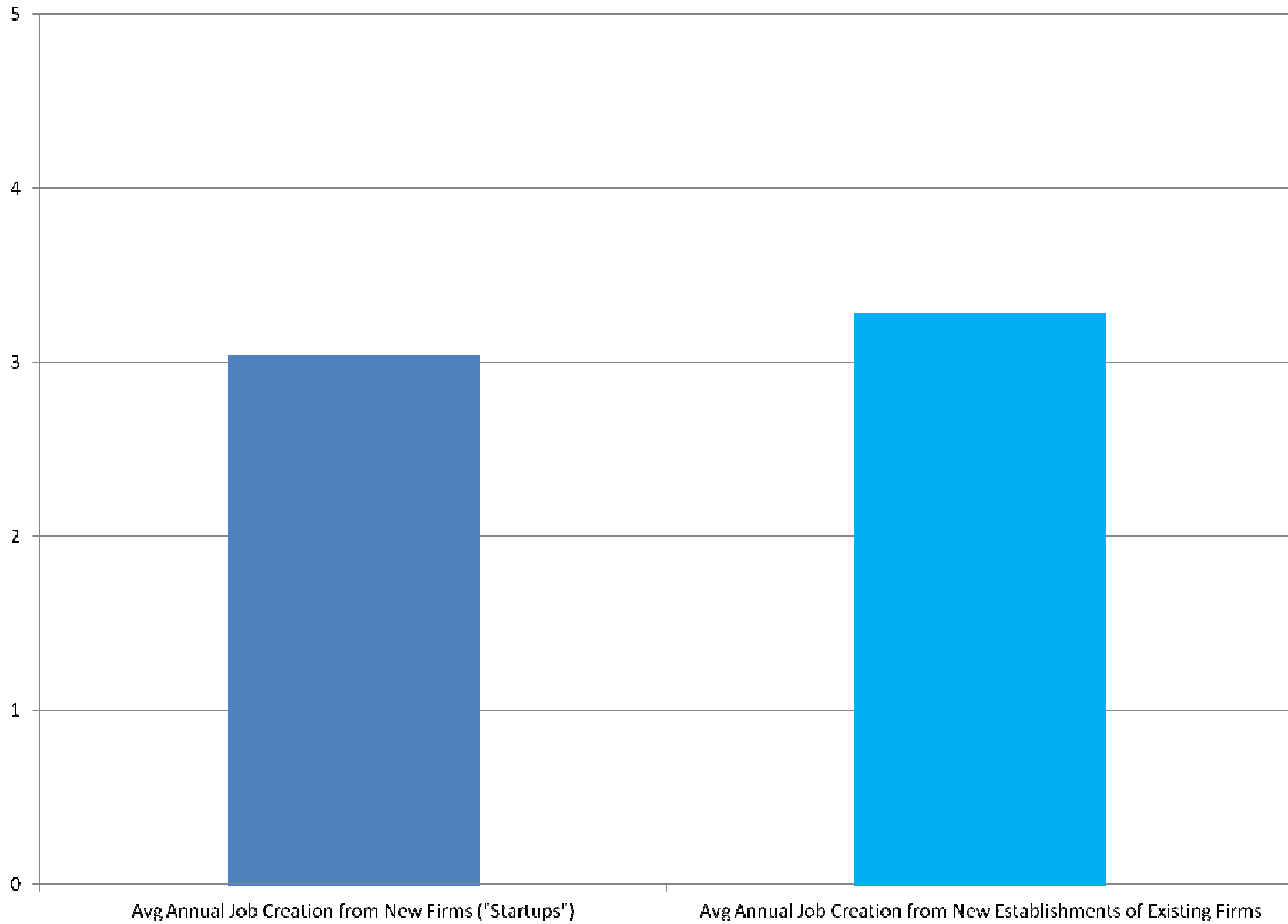


Average Annual Net Job Creation (March 2003 to March 2007)



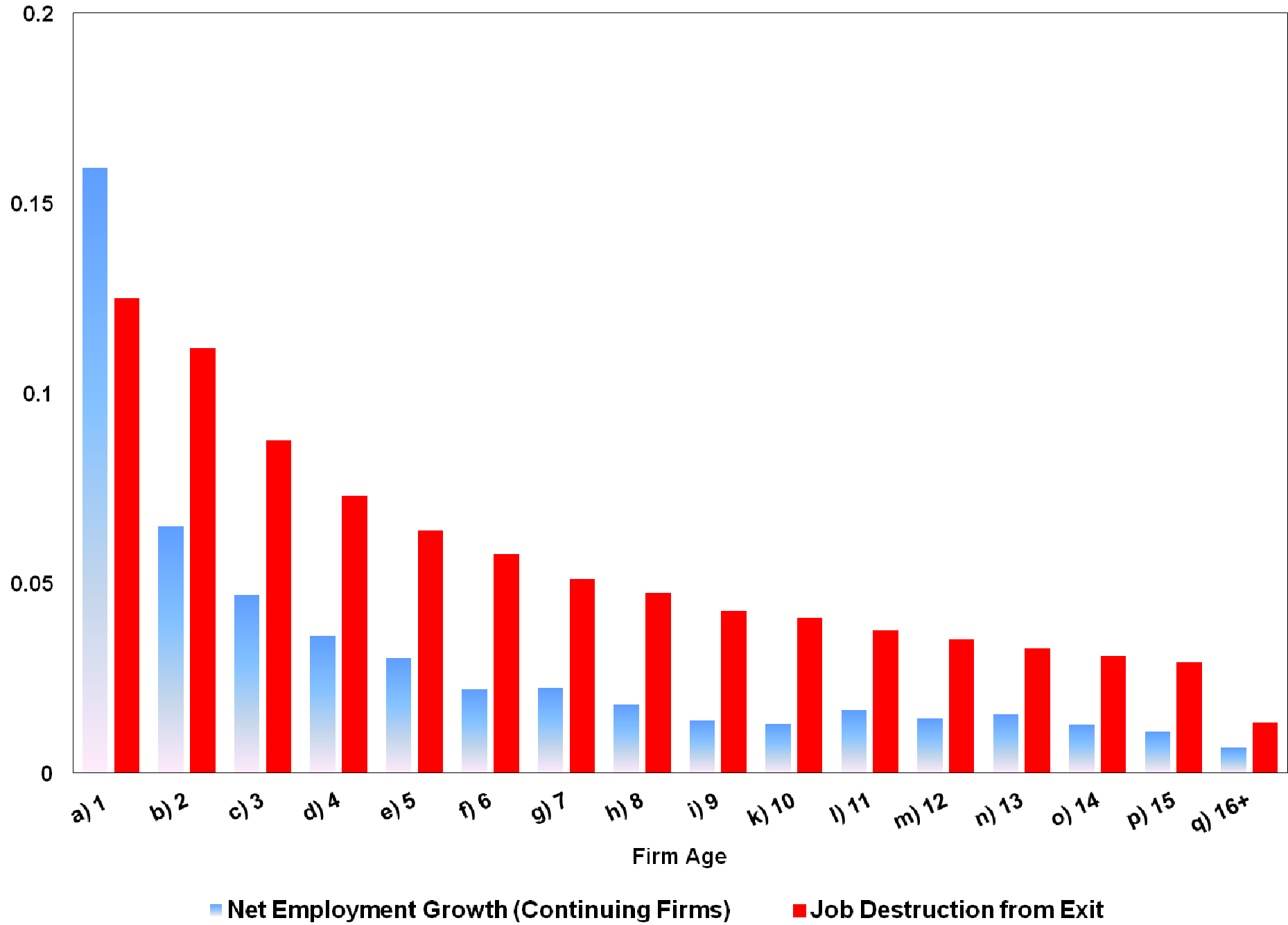
Source: BDS

Job Creation from New Firms and New Establishments of Existing Firms (1980-2010)

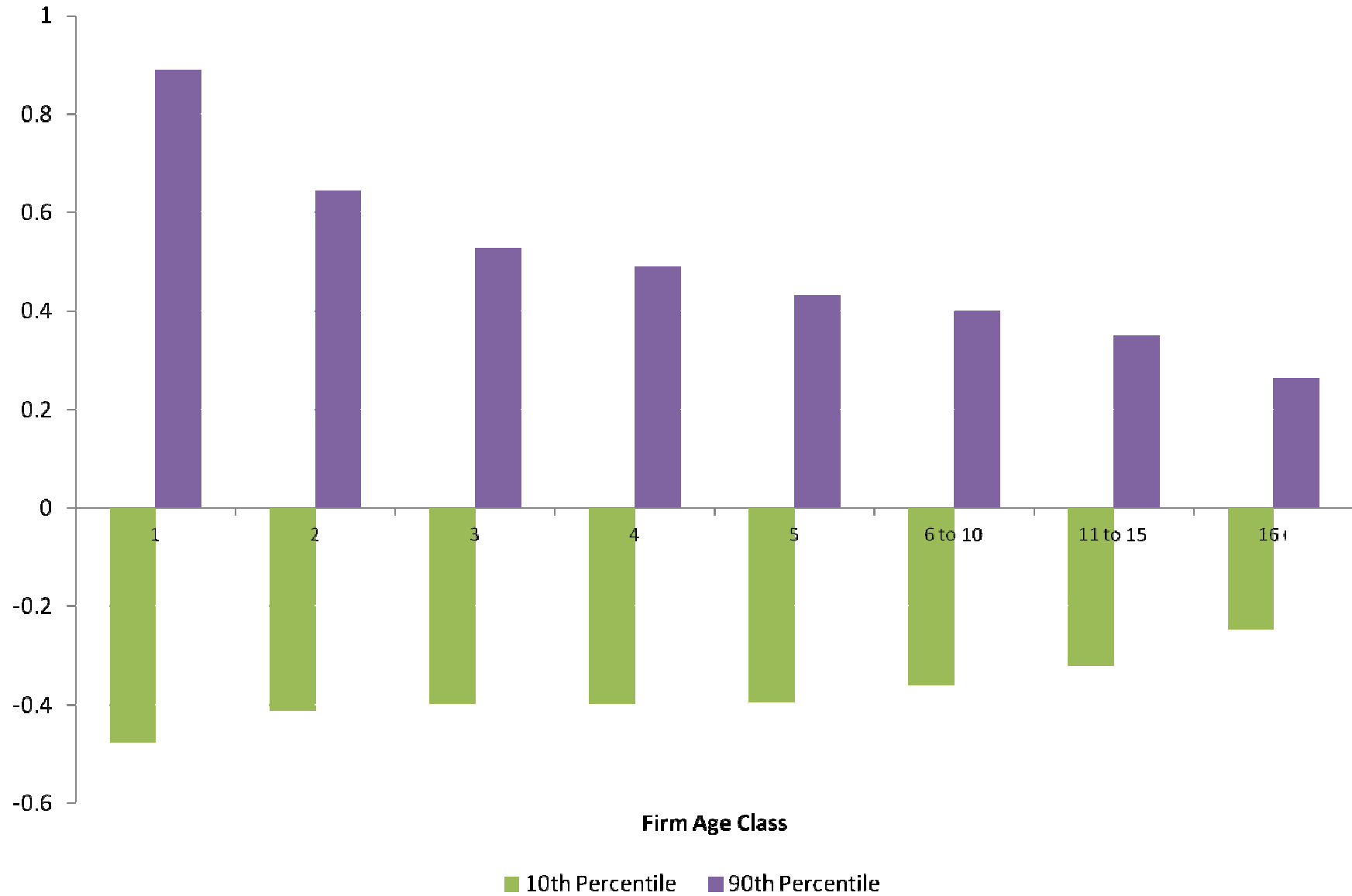


Source: BDS

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



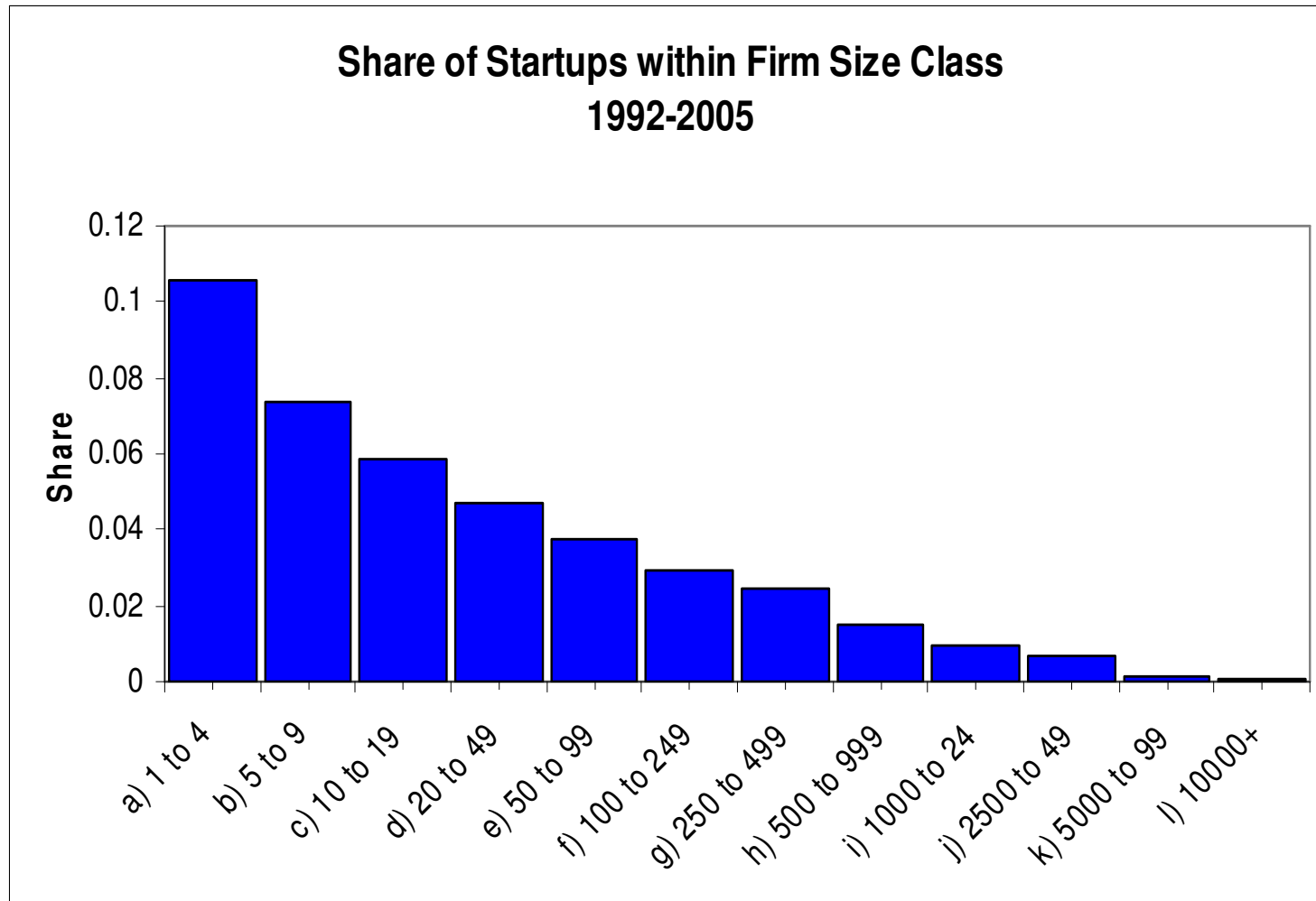
Source: Firm-level data used by Haltiwanger, Jarmin and Miranda (2011)

Industry as Predictor of Size and Growth of Firms?

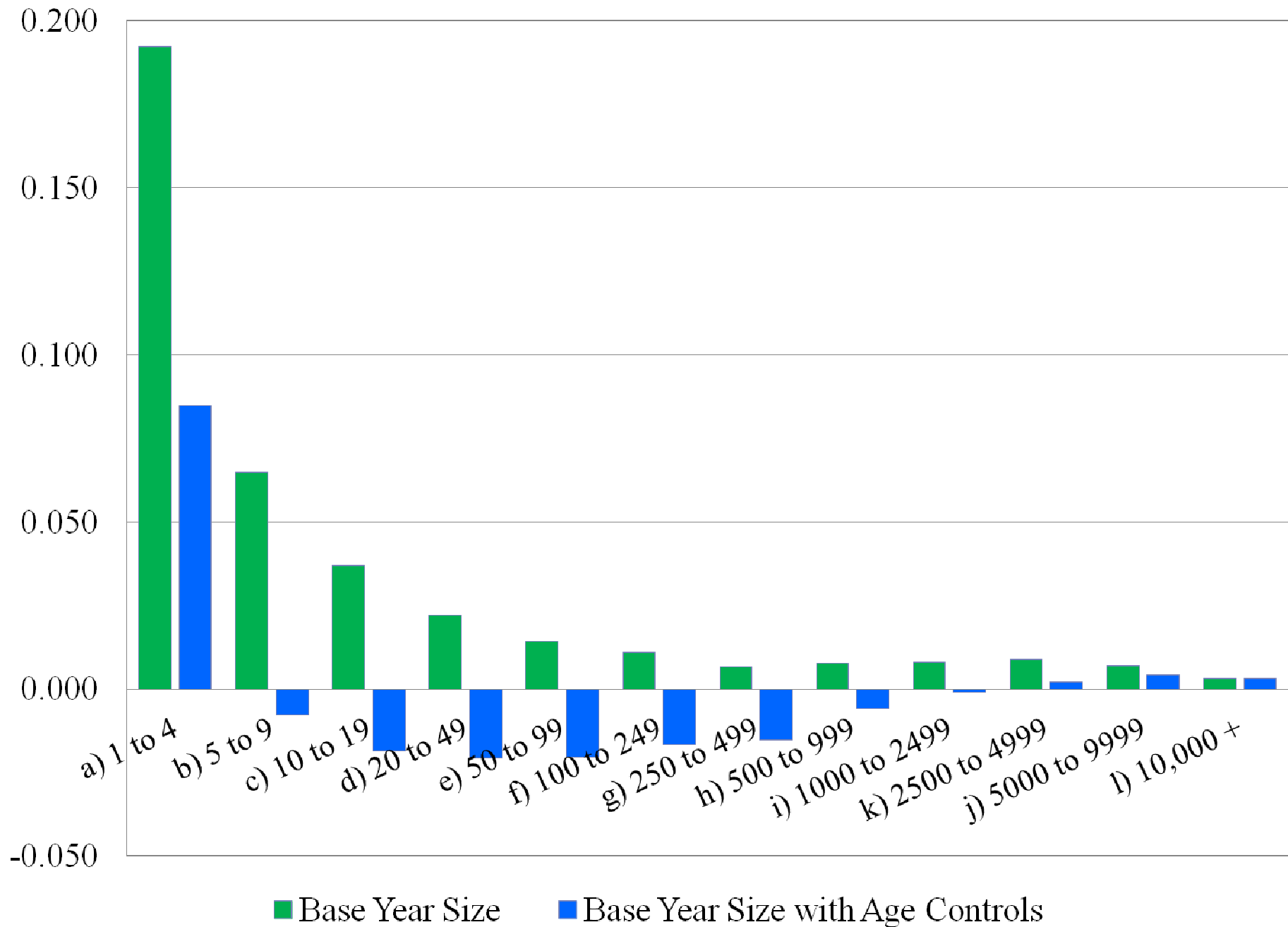
	R-squared from 6-digit NAICS effects
Probability Firm has less than 20 employees	0.12
Net Firm Growth Rate (All Firms)	0.06
Net Firm Growth Rate (Small Firms)	0.06
Probability firm is a high growth firm (defined as Net_Rate>.2)	0.04
Probability firm is a high growth firm (defined as: Net_Rate > .2 and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

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

Startups are Small...

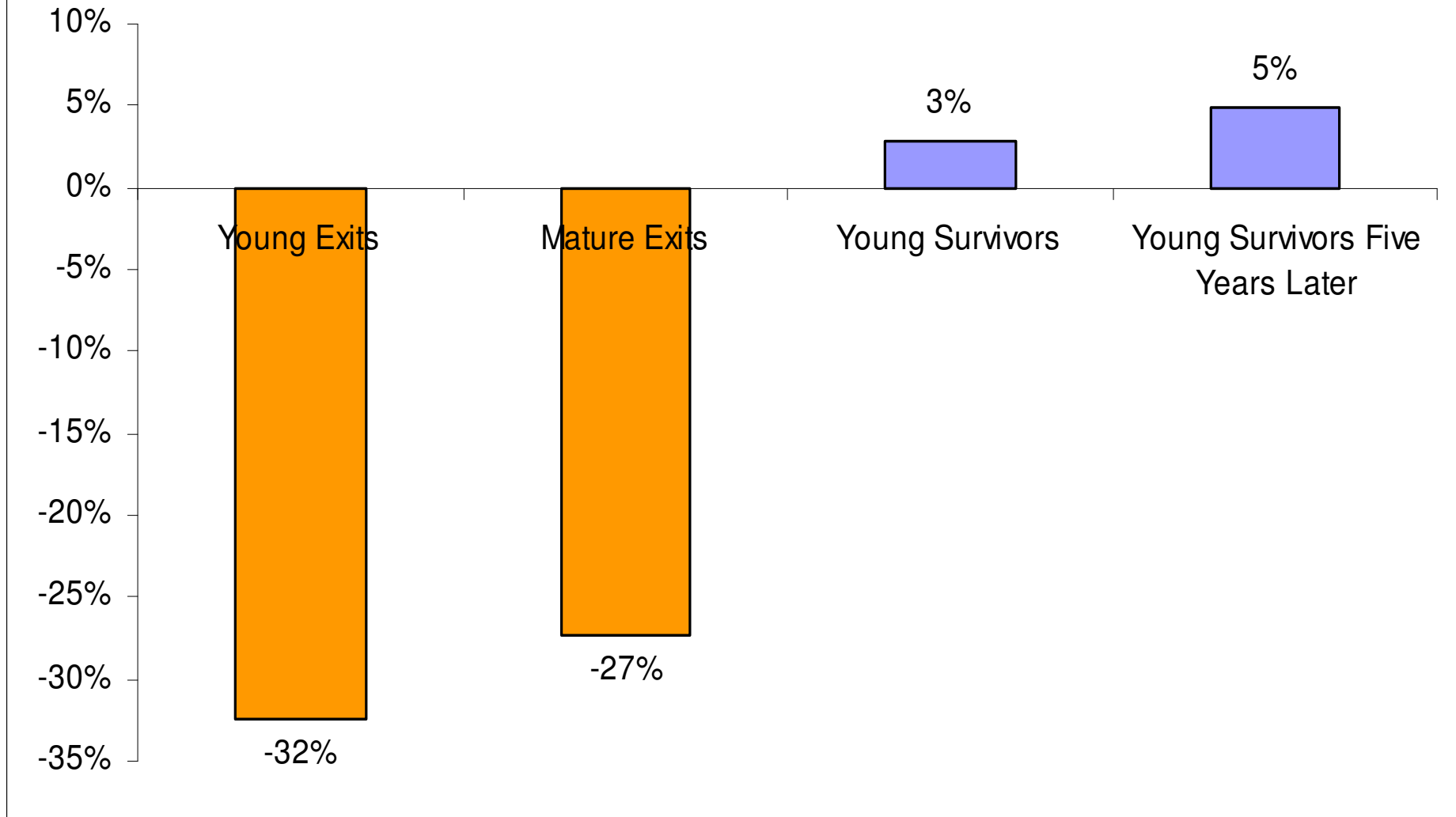


Net Employment Growth by Base Year Firm Size

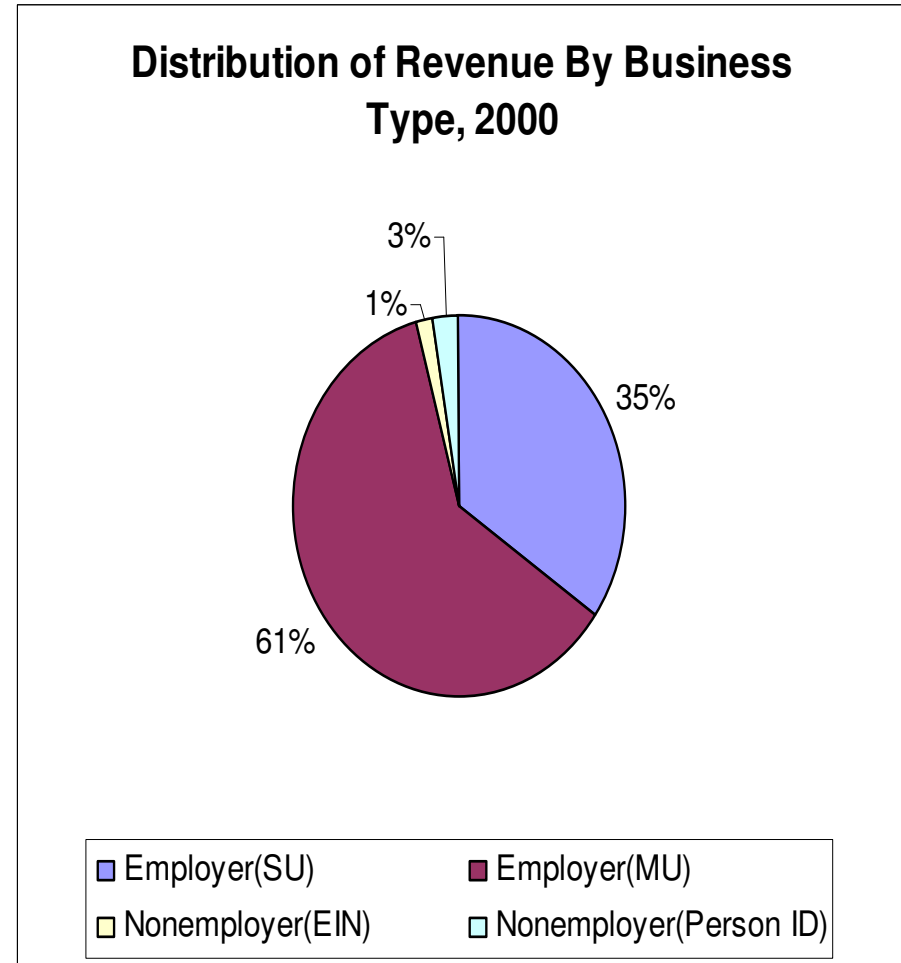
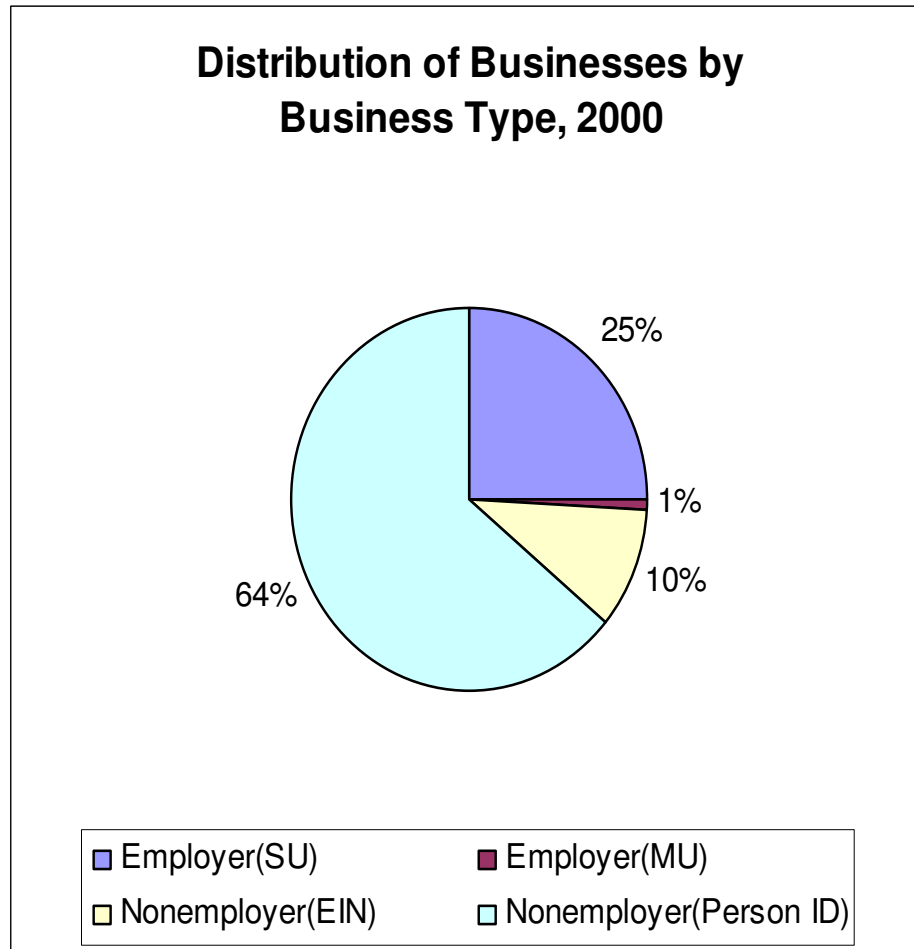


“Up or Out” dynamics play critical roles....

Productivity Relative to Mature Surviving Incumbents

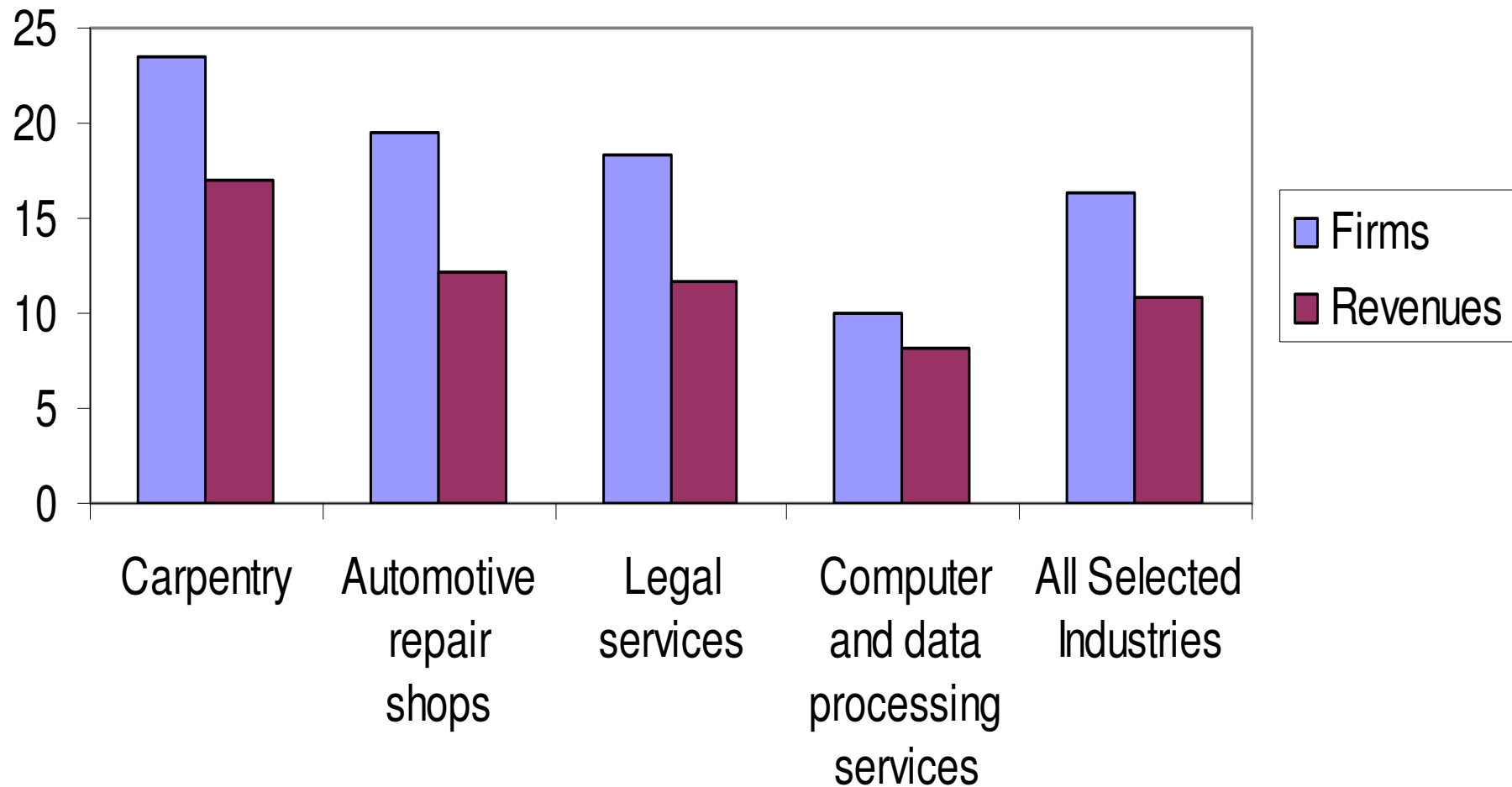


Micro Businesses constitute a large share of businesses and a small share of revenue...



Source: Davis et. al. (2008)

Shares of New Employer Businesses in 1997 with Pre-History as Nonemployer Businesses



Source: Davis et al. (2008)

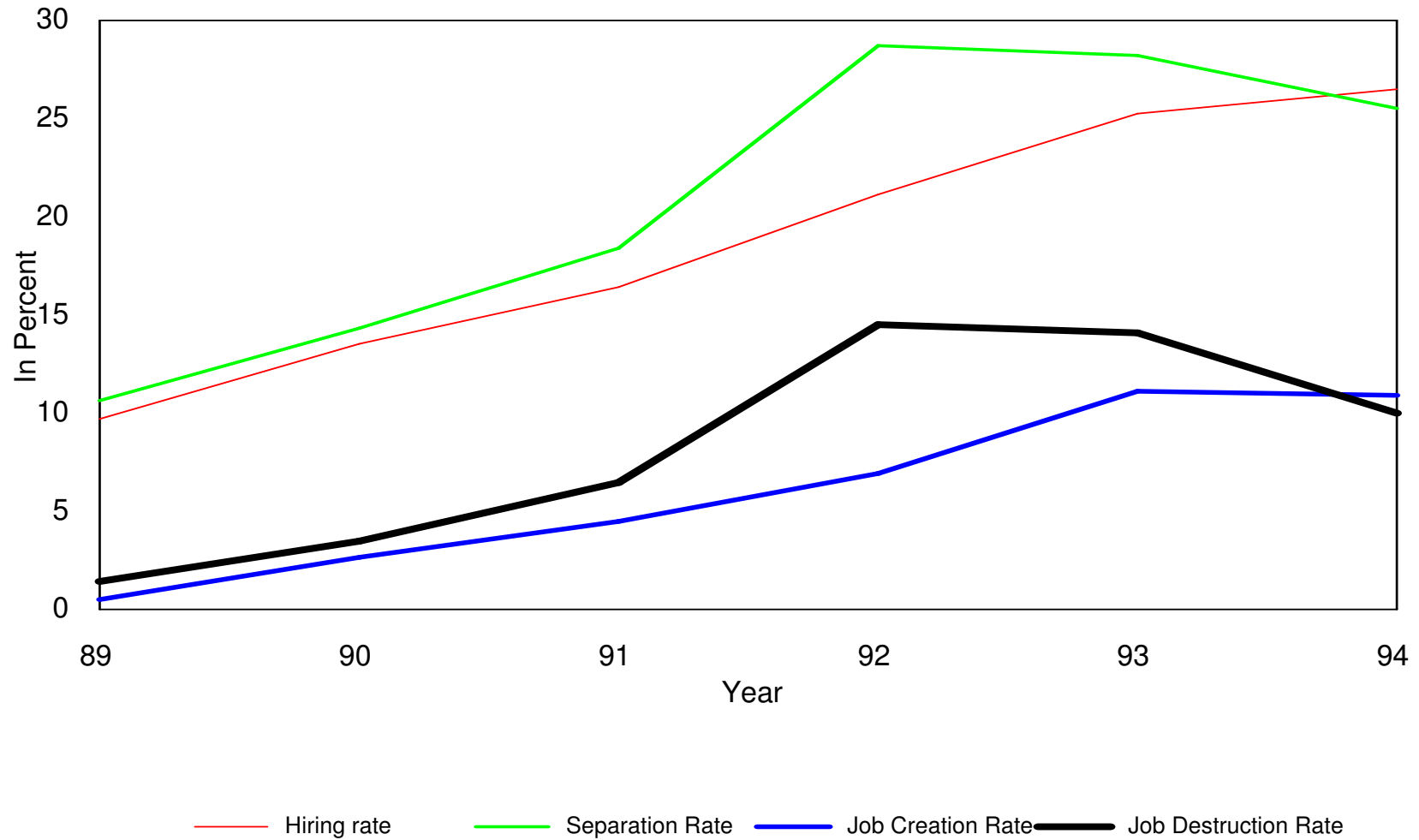
Pace of Reallocation High in Developing, Emerging and Transition Economies



Difficult to simply rank countries by pace of reallocation – too many complicating factors (composition of industry, size, age, shocks, measurement error). Better to find some within country variation on some dimension.

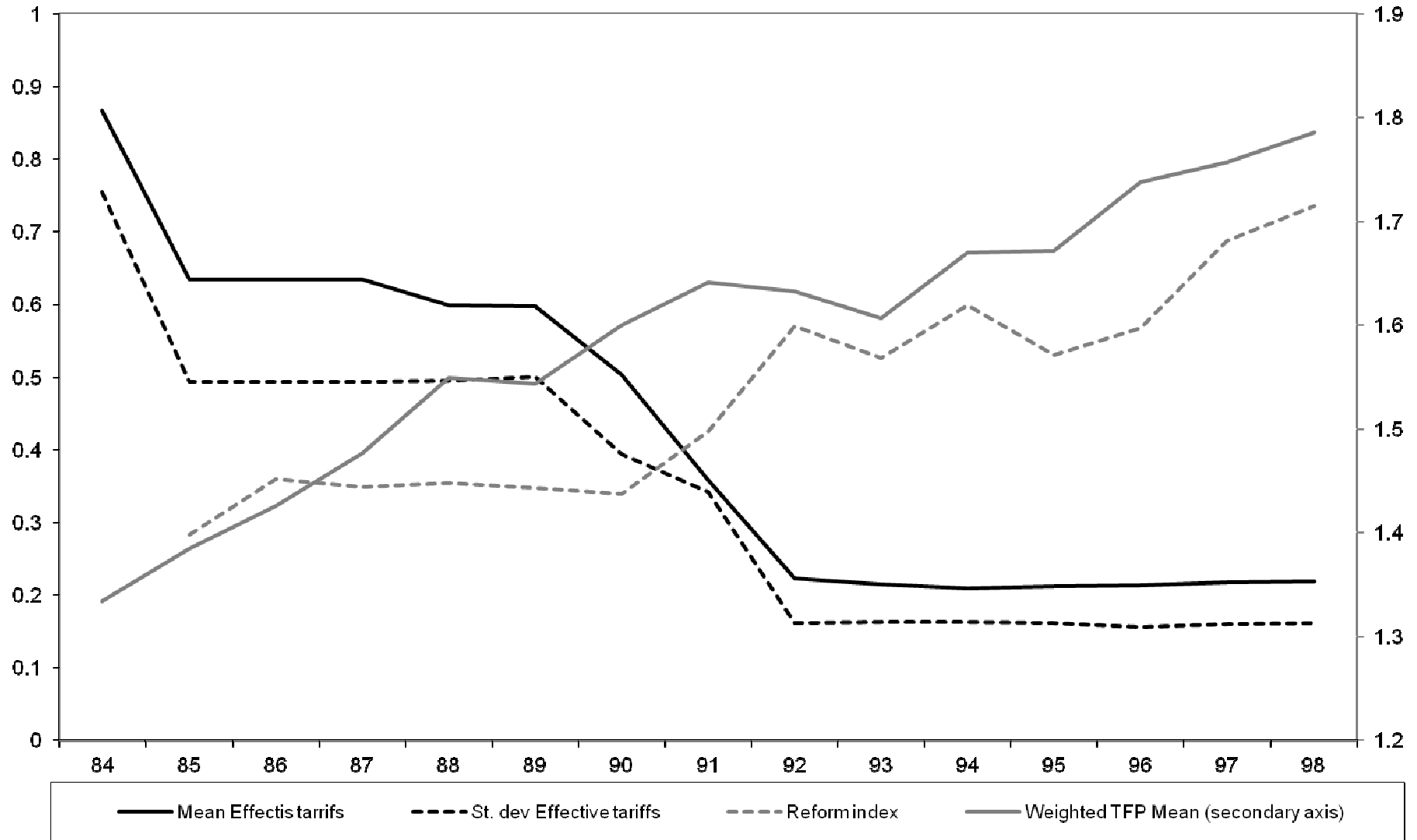
Source: Bartelsman, Haltiwanger, and Scarpetta (2009)

Figure 1: Annual Rates of Worker and Job Flows in Estonia



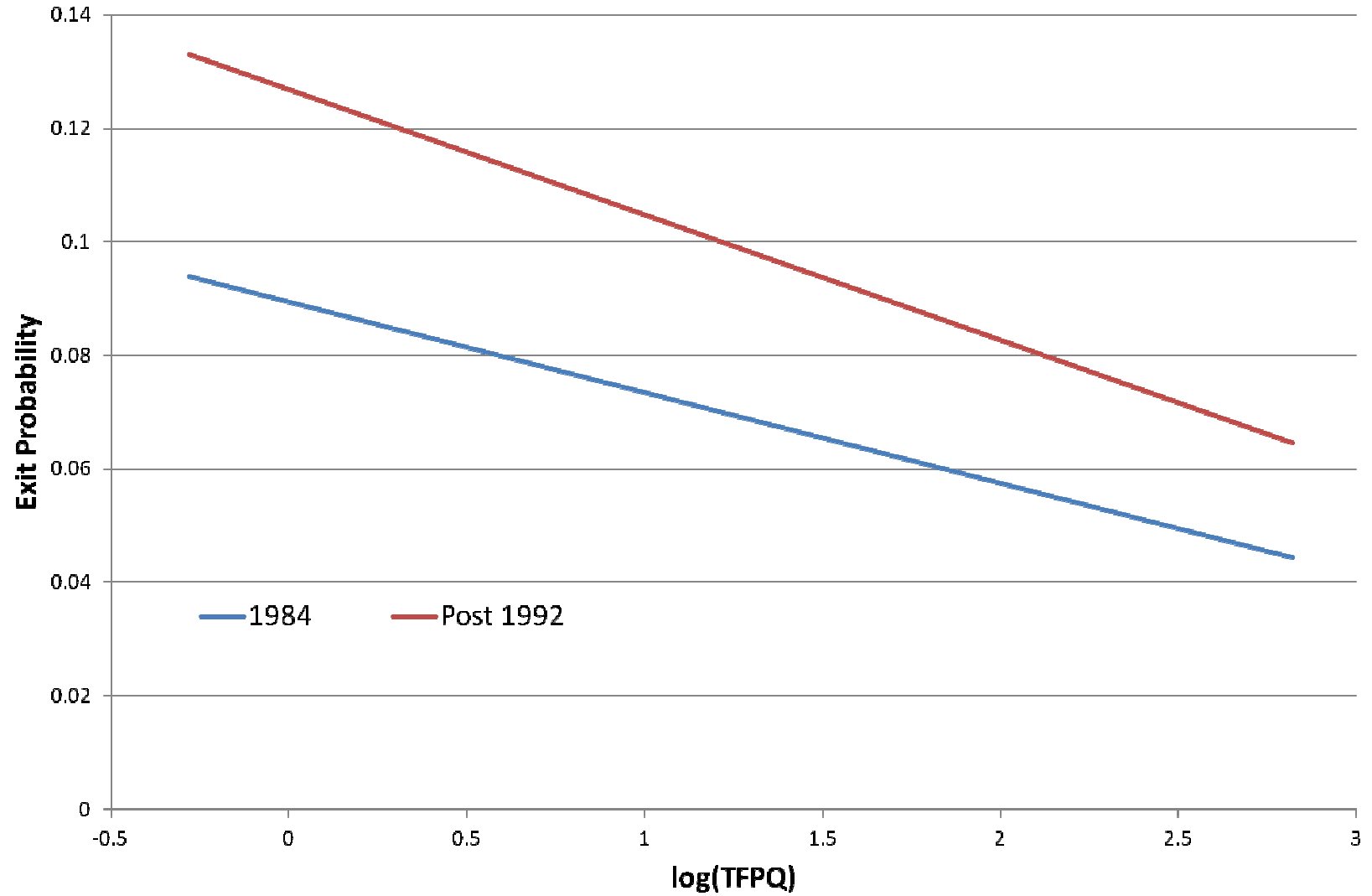
Source: Haltiwanger and Vodopivec (2002)

Effective tariffs, reform index, and aggregate tfp 1984-1998, Colombia



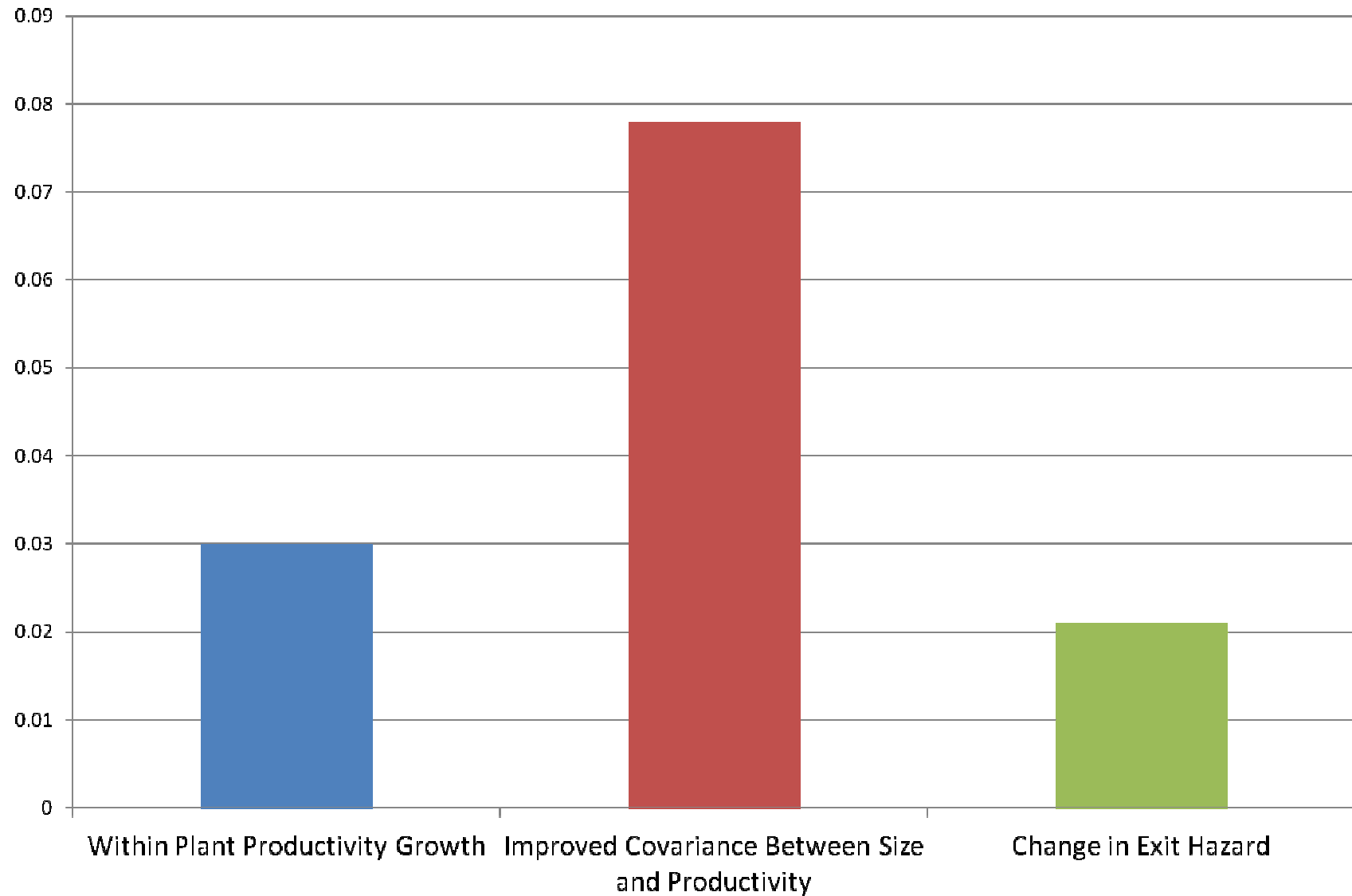
Source: Eslava, Haltiwanger, Kugler and Kugler (2012)

Impact of Trade Reform on Plant Exit Hazard in Colombia



Source: Eslava, Haltiwanger, Kugler and Kugler (2012)

Impact of Trade Reform on TFP(Q) in Colombia



Source: Eslava, Haltiwanger, Kugler and Kugler (2012)

Messages

- Tracking firm and establishment growth and relationship to size and age can provide much information about sources of job creation and productivity levels and growth.
- Ideally:
 - Representative samples or admin/census data.
 - Longitudinal linkages
 - Measures of growth, survival, firm performance

Challenges

- High quality longitudinal firm level data is difficult to construct.
 - Ownership Changes, ID changes
 - Size thresholds
 - Formal vs. Informal
- Measures of performance often quite crude (Revenue or Value Added Per Worker)
 - Appropriate caution about interpretation
- Simple comparisons of indicators across countries can be misleading:
 - Some key variation within country (over time, business size and age, industry, etc.)
 - Gap between concept and measurement (TFPQ vs. TFPR)

Being entrepreneurial in creating data infrastructure

- Household data on work/business activity can often be used
 - By itself or in combination with formal firm level data.
 - Size distribution, Industry Distribution, Age distribution can sometimes be inferred from household data.
 - Worker flows and even job flows (reasons for separations) can be inferred from household data.