High-Growth Entrepreneurship

Discussion by Ryan Decker

Federal Reserve Board

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High-Growth Entrepreneurship

- Large literature on high-growth young firms
- But who are these entrepreneurs?
  - Big question: ex ante vs. ex post high-growth
  - Other approaches: eg Guzman & Stern 2016
- This paper:
  - Study 2007 cohort of employer firms (BR/LBD)
  - Link 2007 Survey of Business Owners
    - Founder age, education, demographics, etc.
    - Startup financing
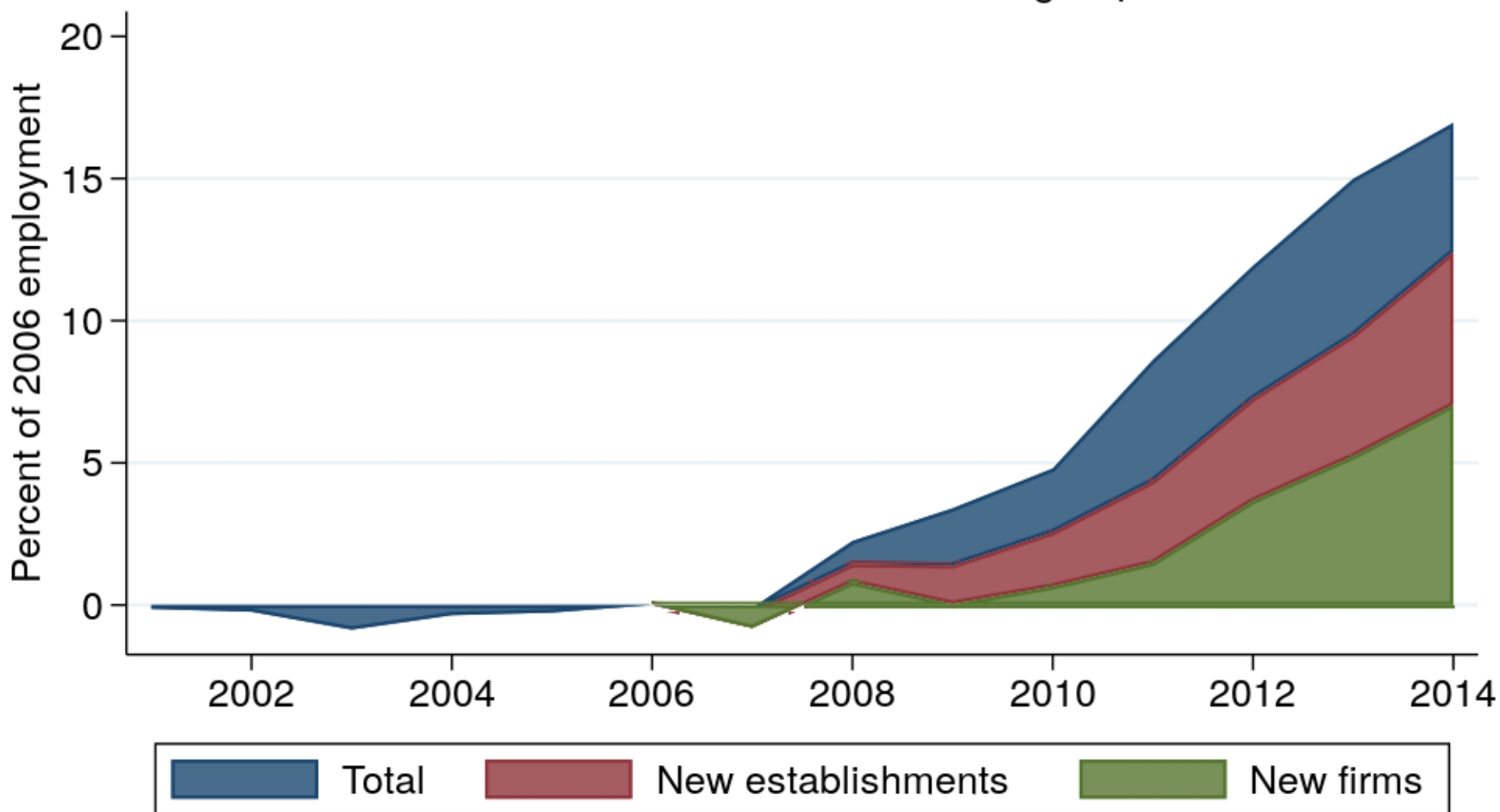 - Study size at entry, size at age 7

Today's points

1. Exposition

2. External validity

3. Growth vs. size

4. Theories of firm dynamics

1. Exposition

- Show us some industries (high growth vs. not, industry propensities for various founder traits, etc.)
  - And how are *firm* industries defined?

Employment by establishment type: All regions
## Shale counties versus control group

Employment scaled by 2006 county employment. Regression compares treatment and control counties with year effects. New establishments are establishments born after 2006. New firms are firms born after 2006. Decker, McCollum, & Upton (2017) calculations from LBD.
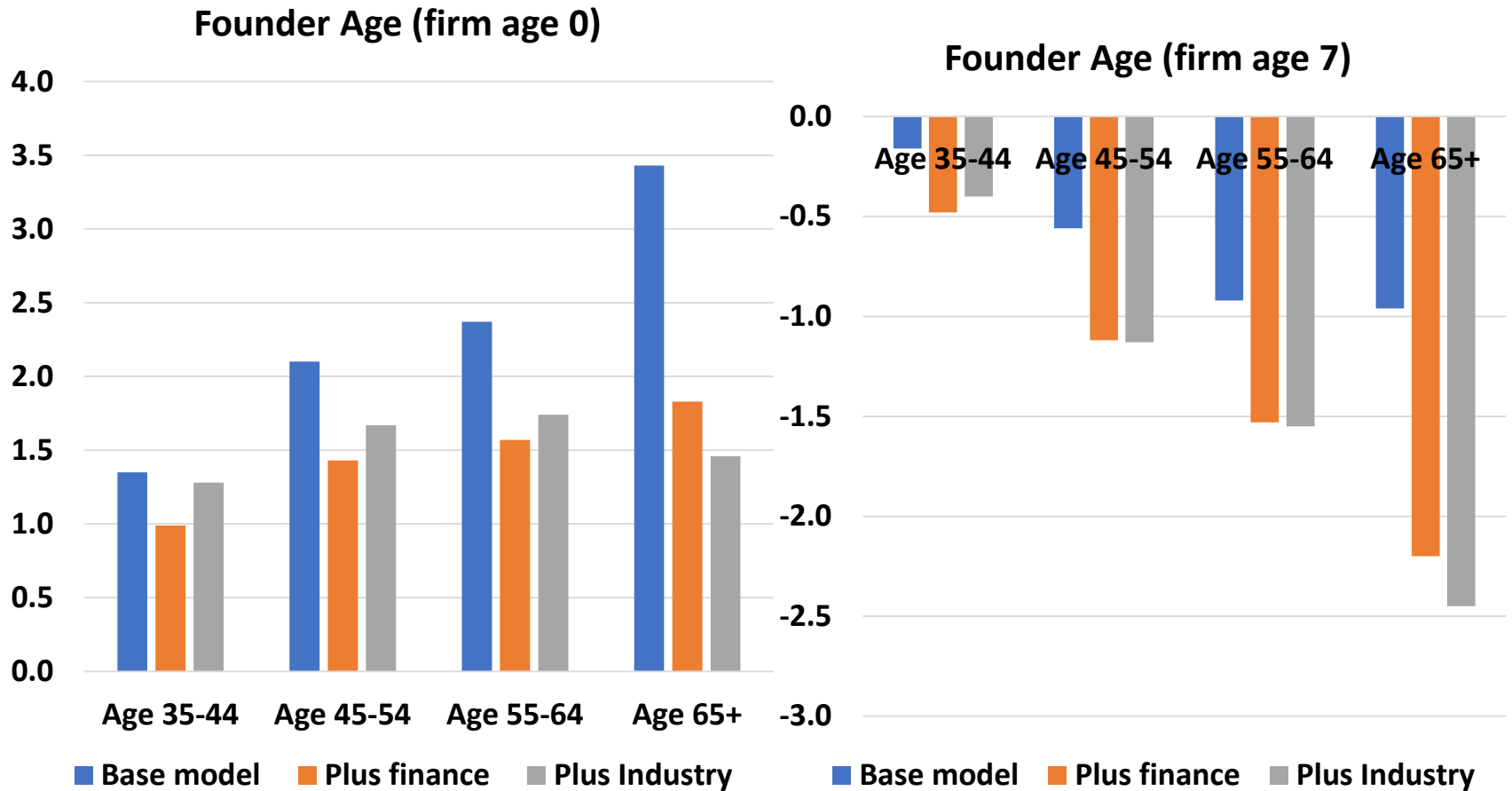
1. Exposition

- Show us some industries (high growth vs. not, industry propensities for various founder traits, etc.)
  - And how are *firm* industries defined?
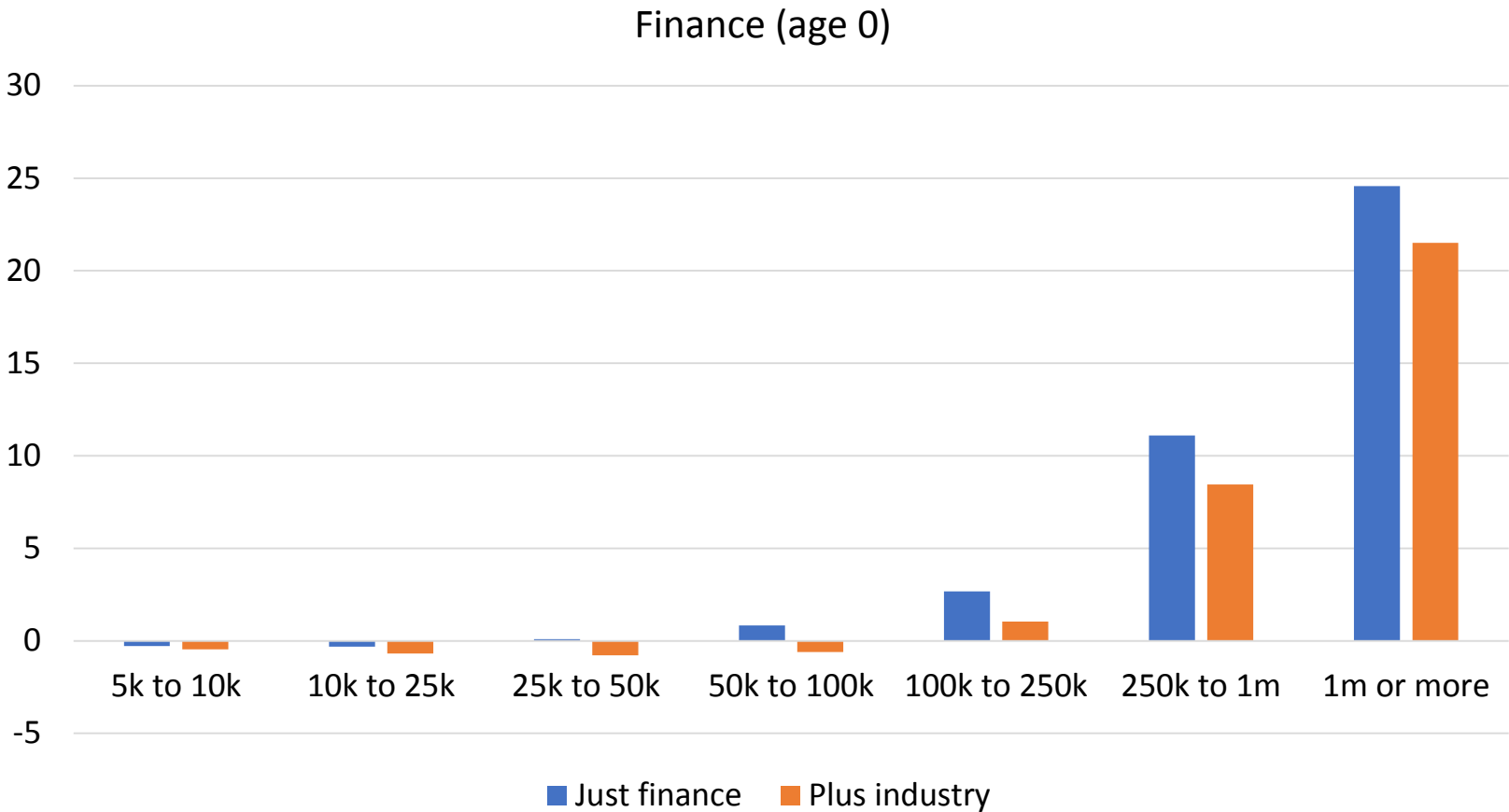- More charts!

Founder age and firm size
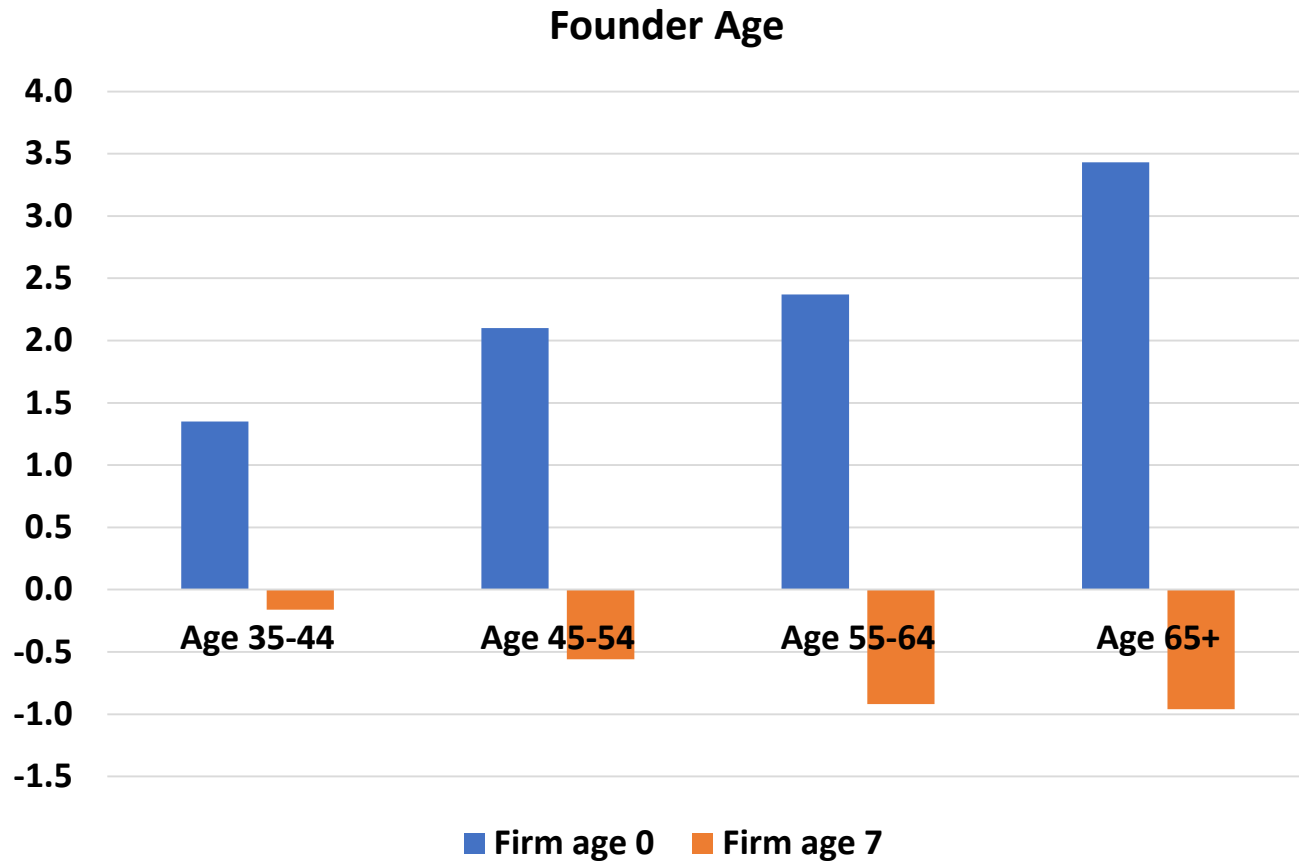
Founder Age

Founder age and firm size (2)

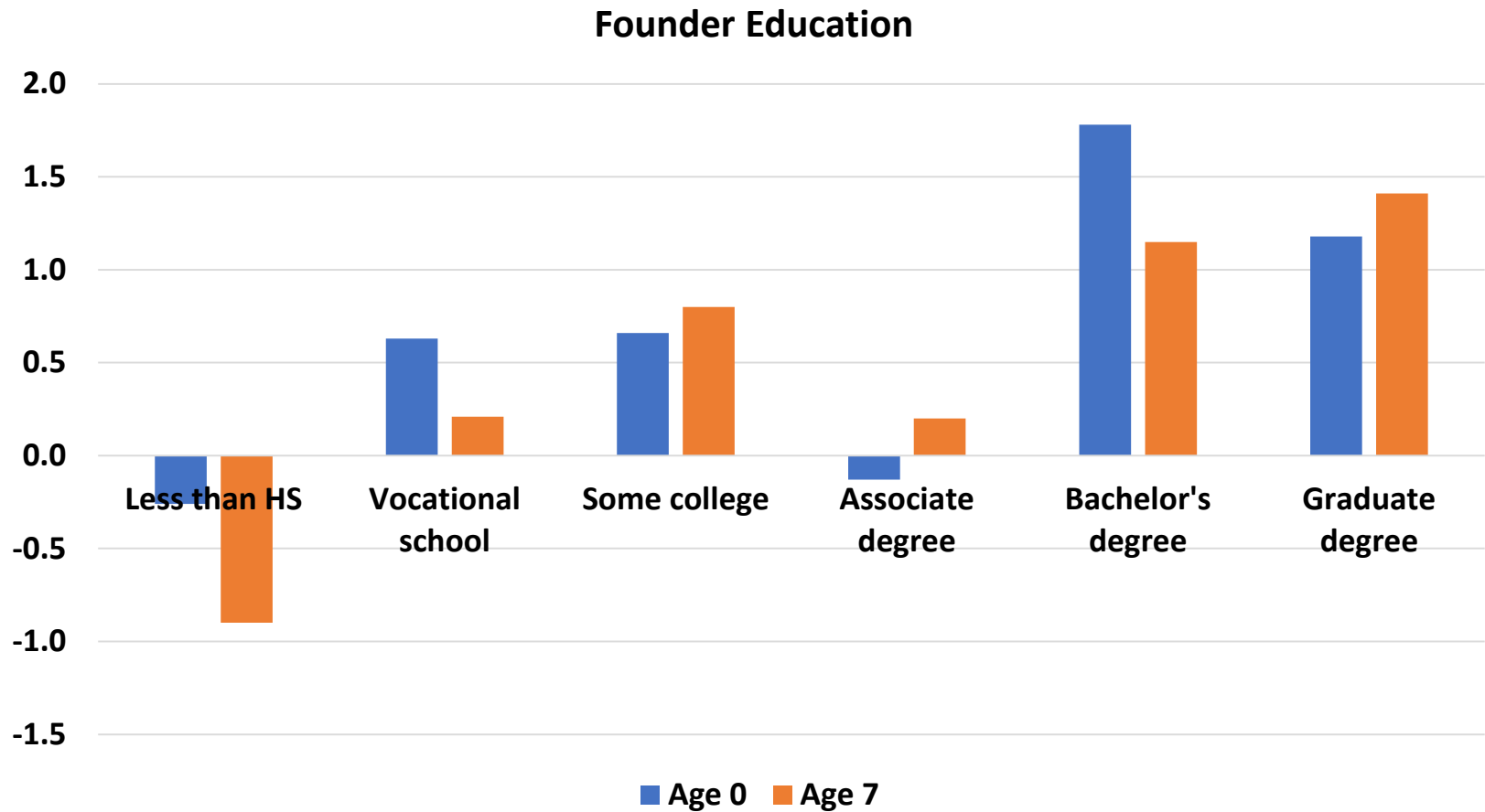# Finance and industry

Finance (age 0)

Side note: Could you replace/supplement Rajan & Zingales indexes?

Founder education

Founder Education

2. External validity

- Study of 2007 cohort (some robustness checks with 2012 cohort)

Age 0 firms

Share of firms   Share of employment (right axis)
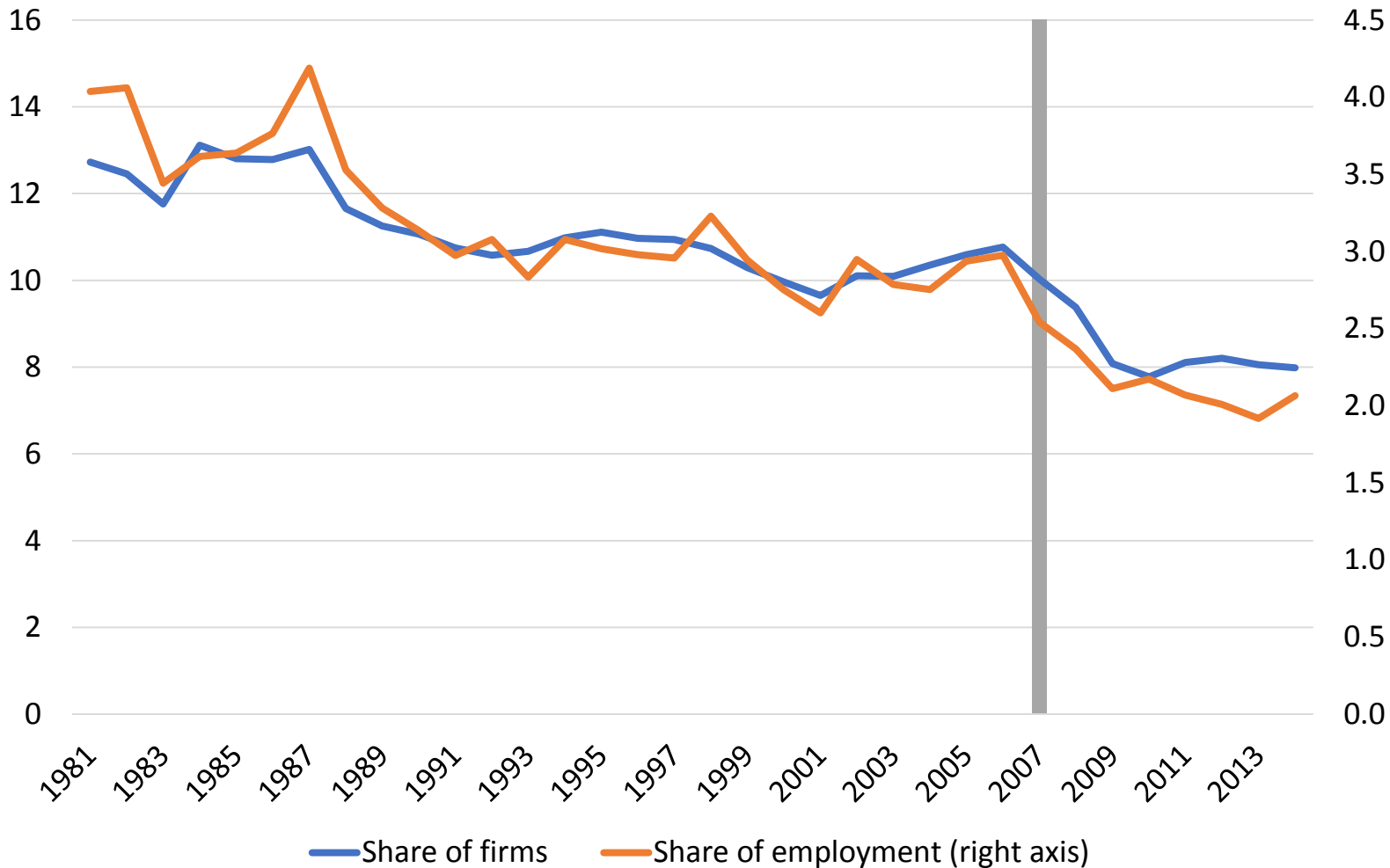
Business Dynamics Statistics

Figure 10. High-Growth Firms by Firm Age (90th Percentile of Employment-weighted Distribution), Continuing Firms
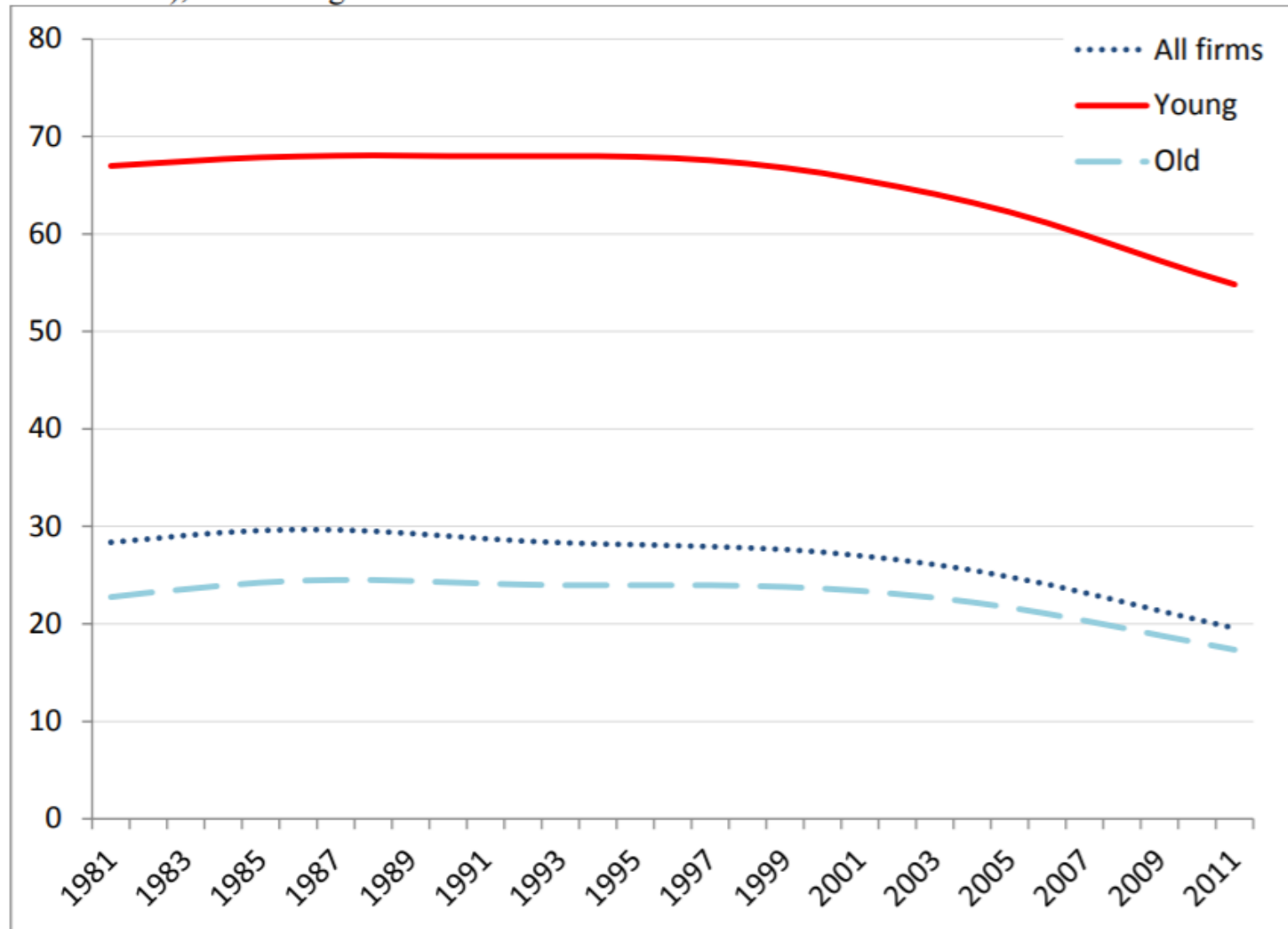
Note: The 90th percentile is based on the employment-weighted distribution of firm employment growth rates. Data are HP trends using parameter set to 100. Data include continuers only. Author calculations from the Longitudinal Business Database. See Figure A.5 in the web appendix for non-filtered data.

Source: Decker, Haltiwanger, Jarmin, & Miranda 2016 EER

2. External validity

- Study of 2007 cohort (some robustness checks with 2012 cohort)
- 2007 is just after startup peak, preceding historic drop in young firm activity
- Post-2000 period characterized by less high-growth young firm activity
- Large literature on weakness of young firms in Great Recession (Moreira 2017, Sedlacek & Sterk 2017, Siemer 2016, Decker 2015, etc.)
- To what extent does present study generalize?
  - Could look at 2002 SBO for available variables (age, ed, gender)
  - Some tables do not need SBO (Tables 1.1-1.3)

3. Growth vs size

- Focus is on size at entry and size at age 7
  - Authors adopt broad definition of "growth" to include large initial size
  - Implies dominant role of large entrants and weak lifecycle dynamics (ie, large stay large)
  - But small firms dominate *post-entry* growth

Table 1.1 Employment Category Transition Matrices from Age 0 to Age 7: Row Percent

				Age 7					Age 0 Emp Share	Age 7 Emp Share
		0	1	2-4	5-9	10-19	20+	Column Total		
Age 0	1	67.3	16.5	10.8	3.4	1.3	0.8	44.7	7.1	15.9
	2-4	61.8	6.6	18.2	8.4	3.2	1.8	33.4	13.9	23.1
	5-9	59.1	2.4	9.5	16.0	8.9	4.1	11.9	12.2	15.0
	10-19	57.3	1.8	4.0	9.2	17.1	10.7	6.1	12.7	13.0
	20+	56.5	0.6	1.6	2.2	7.6	31.4	4.1	54.1	33.0
	Row Total	63.4	10.0	12.3	6.9	4.1	3.3	100.0		100.0
Age 7 Emp Share		0.0	2.8	9.4	12.6	15.2	60.1		100.0	

Employment in the start quarter and the same quarter at age 7 are from the Business Register (BR), and firms are tracked over time using the Longitudinal Business Database (LBD). The sample is all firms starting in one of the quarters of 2007, and the sample size is about 603,000. Each cell represents the percentage of firms in the age 0 size category in the particular row that transition to the age 7 size category in the column. The Age 0 and Age 7 shares are the age 0 size category's percent of employment at age 0 and age 7, respectively.

Table 1.3 Average Jobs Gained/Lost Per Firm in Category

		$Emp_7=0$	$Emp_7<Emp_0$	$Emp_7=Emp_0$	$Emp_7>Emp_0$
Age 0	1	-1.0	N.A.	0.0	5.8
	2-4	-2.6	-2.4	0.0	8.3
	5-9	-6.5	-5.7	0.0	12.0
	10-19	-13.2	-11.2	0.0	17.6
	20+	-100.4	-78.5	0.0	52.3

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  - But small firms dominate *post-entry* growth
- "Firms can be high growth either by creating many jobs at start-up or by catching up later" (p9)
  - These are different lifecycles!
  - Depends on what kind of questions one is asking
  - Relevant to "up or out" characterizations, debates about ex ante vs ex post heterogeneity, etc.
- DHS growth rates can address some reversion-to-mean issues

4. Theories

- Authors contrast results with Jovanovic 1982, Hopenhayn 1992
  - Entrants enter at same size
- Much more recent literature allows heterogeneous entrants
  - If entrants have some signal about ability/productivity, entry size is heterogeneous (under revenue curvature and appropriate entry cost)
  - Clementi & Palazzo 2016, Quadrini & coauthors various, Lambson various (sunk costs, factor prices)
  - Could sharpen paper by comparing results to competing models of heterogeneous entry
- Other theories of young firm dynamics
  - Foster et al. 2016 "learning about demand"
  - Financial frictions
  - Pugsley, Sedlacek, & Sterk (2017) / Guzman & Stern (2016) entrepreneurial heterogeneity

Stray thoughts

- Productivity? Revenue growth?
  - Persistence of size could reflect ex ante heterogeneity *or* high labor adjustment costs
- Cutoffs
  - Top 5% of entrants are ½ of employment
  - Some other work uses top x% of employment-weighted growth rate distribution
- Can these findings shed light on declining startup rates?
- More detail about SBO/BR(/LBD) bridge
  - Match rates, *employment* share
  - How do Tables 1.1-1.3 look if restricted to bridge sample?

Thanks!