Perspectives on Innovation and Entrepreneurship

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Emerging Venture Leaders Summit
30 June 2015
St. Louis, Missouri

Any opinions expressed here are my own and do not necessarily reflect those of the Federal Open Market Committee.

Today's talk

- Innovation and entrepreneurship as a local development strategy
- Some trends in start-ups
- Bubble talk returns

Innovation and Entrepreneurship as Development Strategy

Local development strategies

- Traditional strategy: Influence business location decisions.
- Newer strategy: Create and nurture an innovative business culture.
- Some small firms become large firms.
- Success often breeds further success in related firms.
- Managing an innovative eco-system is subtle.

Today's tour

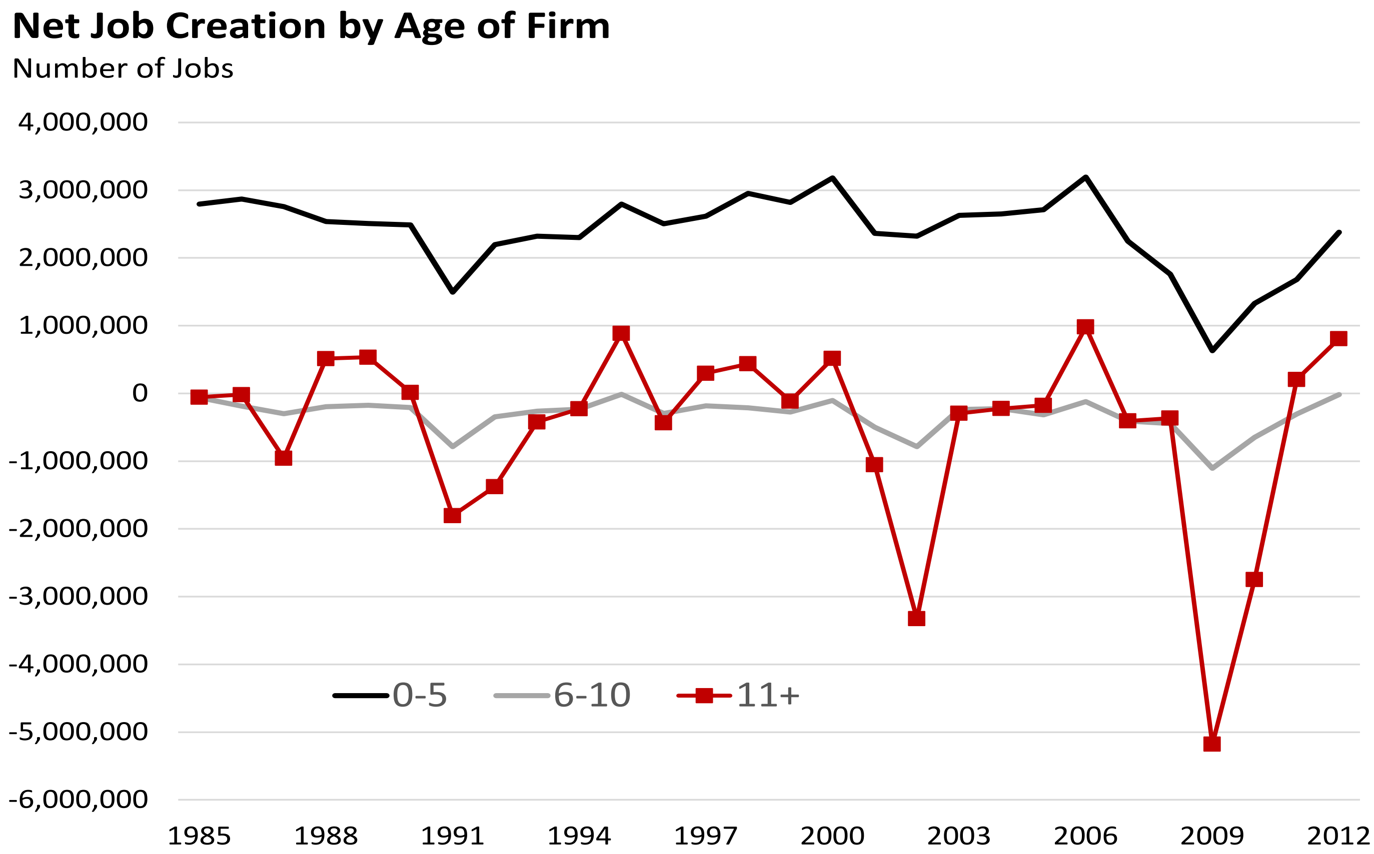
- Today's tour has illuminated many aspects of this newer strategy at work in St. Louis.
- St. Louis has relatively low costs, top quality universities, and a great business tradition.
- New technologies and venture capital are creating an innovative business culture that will drive regional growth.

Some Trends in Start-ups

Young businesses and job creation

- Research by John Haltiwanger and co-authors suggests that start-ups and young firms contribute importantly to job creation and productivity growth.
- The research tends to emphasize the age of firms rather than the size.

Job creation: Younger vs. older firms



SOURCE: Business Dynamic Statistics, Census Dept. Data kindly provided by the Kauffman Foundation.

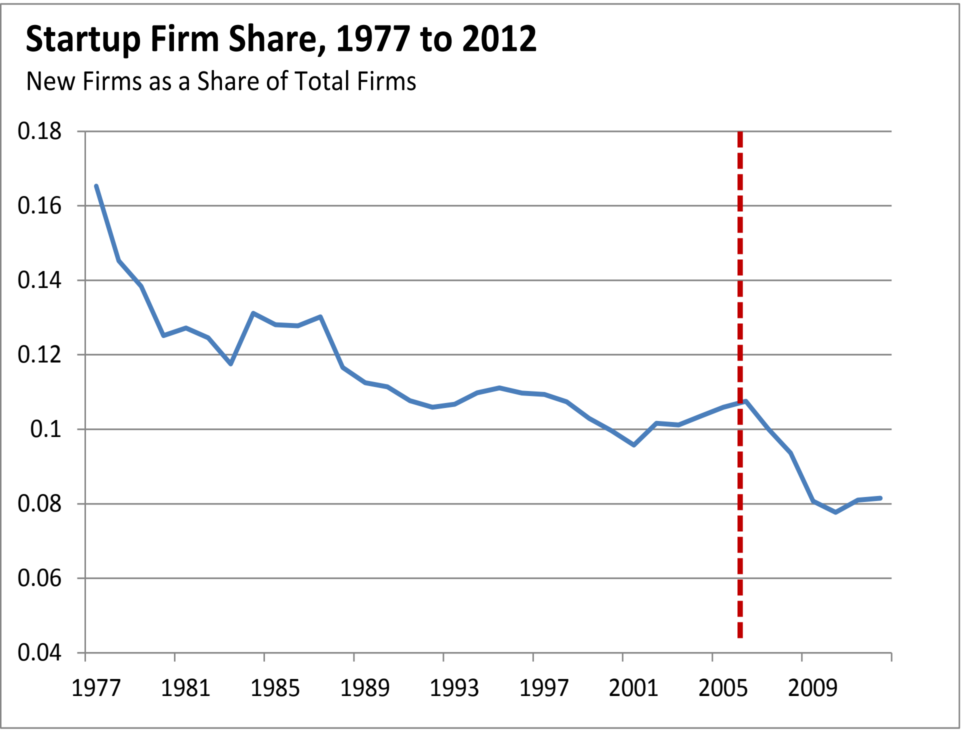
Small to large

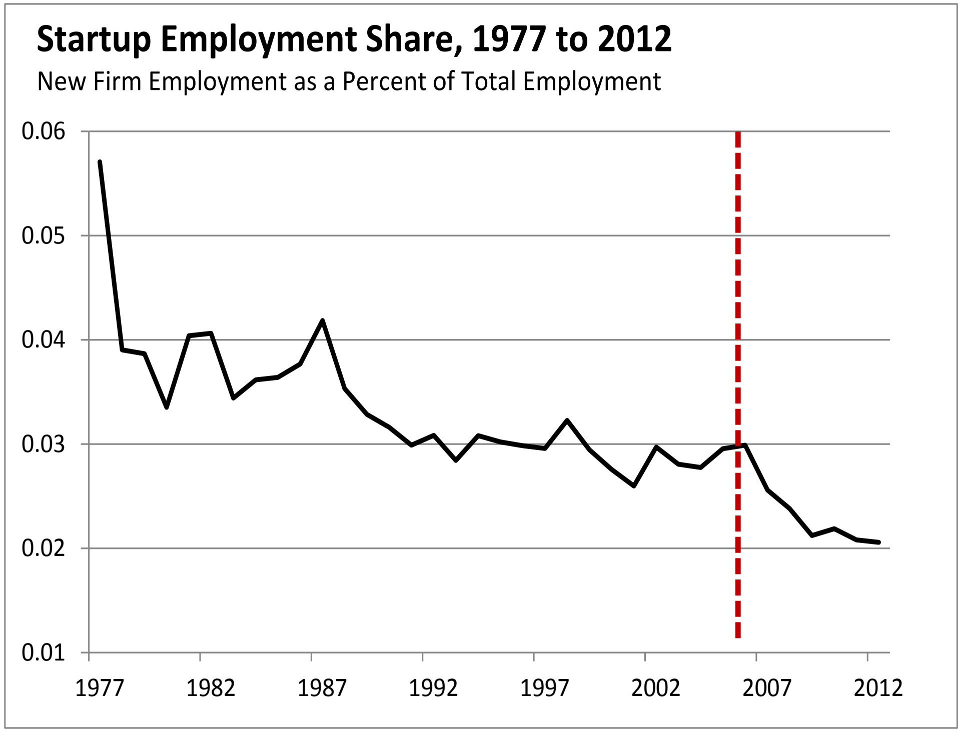
- A small percentage of those start-ups that survive and thrive are high-growth firms that are outsized contributors to job growth.
- Many examples, including Express Scripts, Wal-Mart, Microsoft, Google, and Amazon.
- The entrepreneurial process is a critical part of job creation, both locally and nationally.

A macroeconomic worry

- We central bankers get paid to worry.
- It looks like there has been much less start-up activity over time in the U.S.
- This may be damaging job creation.

A worrisome development?
Lower start-up rates and employment shares

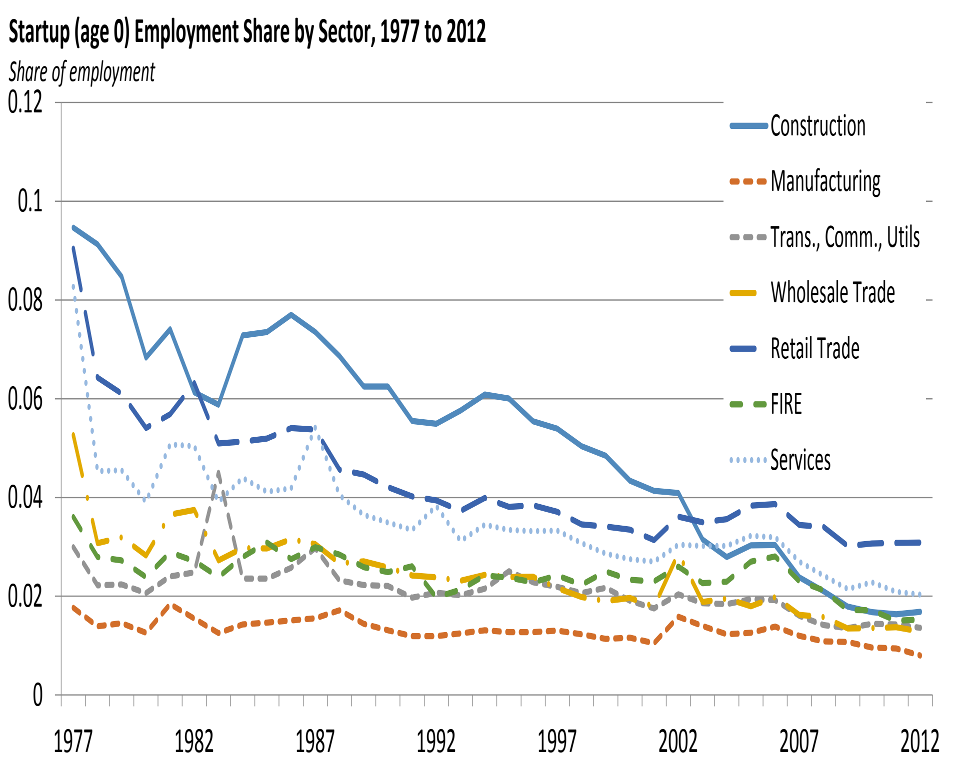




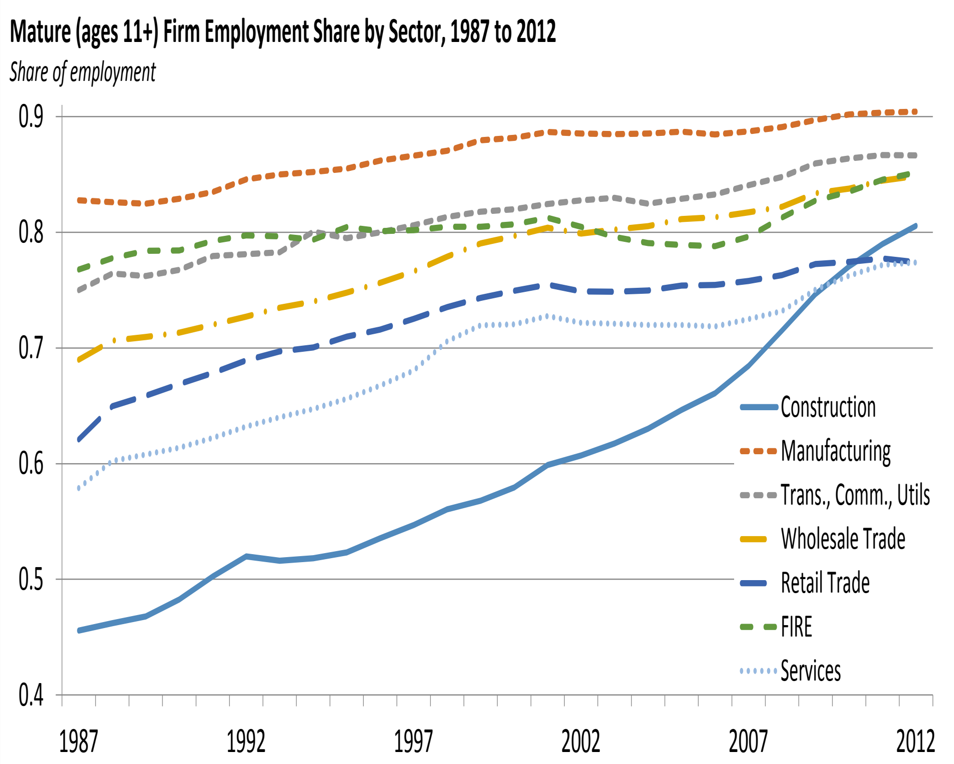
SOURCE: B. Pugsley and A. Sahin, 2014. "Grown-up Business Cycles," FRB of New York Staff Report No. 707.

The pattern in employment shares across sectors

Fewer workers at start-ups



More workers at mature firms



SOURCE: B. Pugsley and A. Sahin, 2014. "Grown-up Business Cycles," FRB of New York Staff Report No. 707.

Innovation across the nation

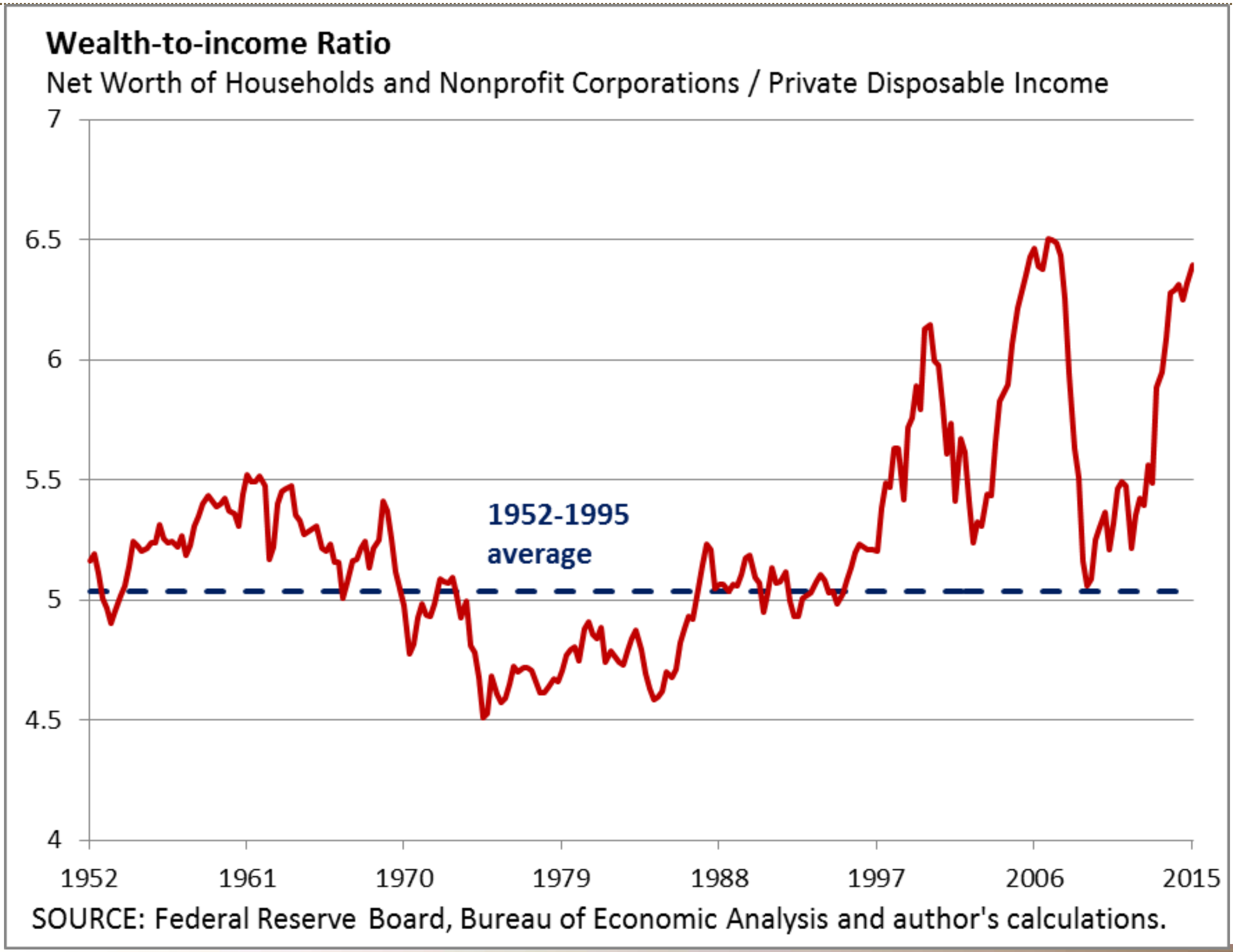
- The St. Louis effort and others like it are critical to help fight this trend.
- To achieve maximum benefits, innovation should occur everywhere, not just in certain places.
- We can never be sure where the next great idea may take root.

Bubble Talk Returns

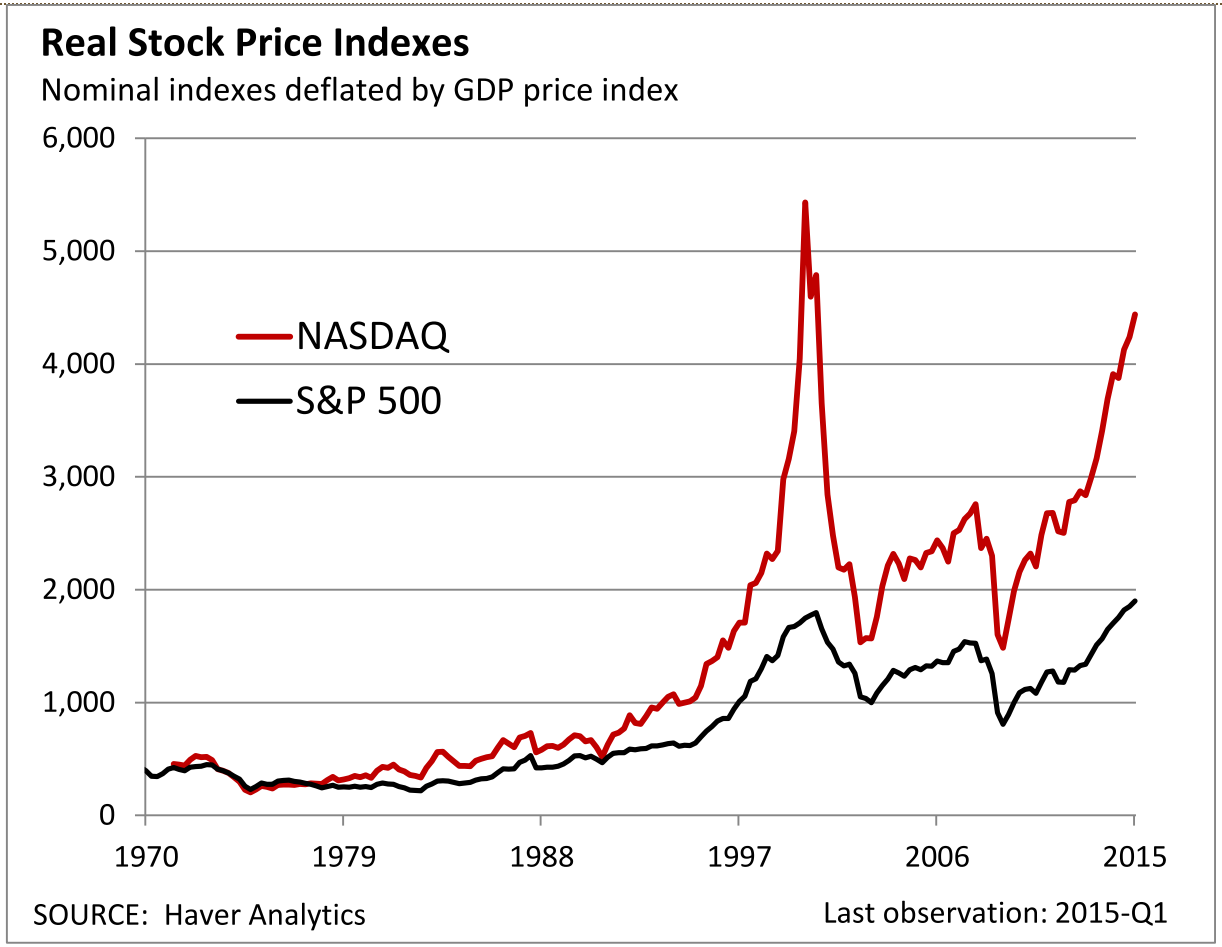
Net wealth to disposable income

- The net wealth to disposable income ratio has returned to a high level.
- It has been high and volatile since the mid-1990s.
- Can the U.S. escape the boom-bust cycle this time?
- Do low interest rates feed this process?

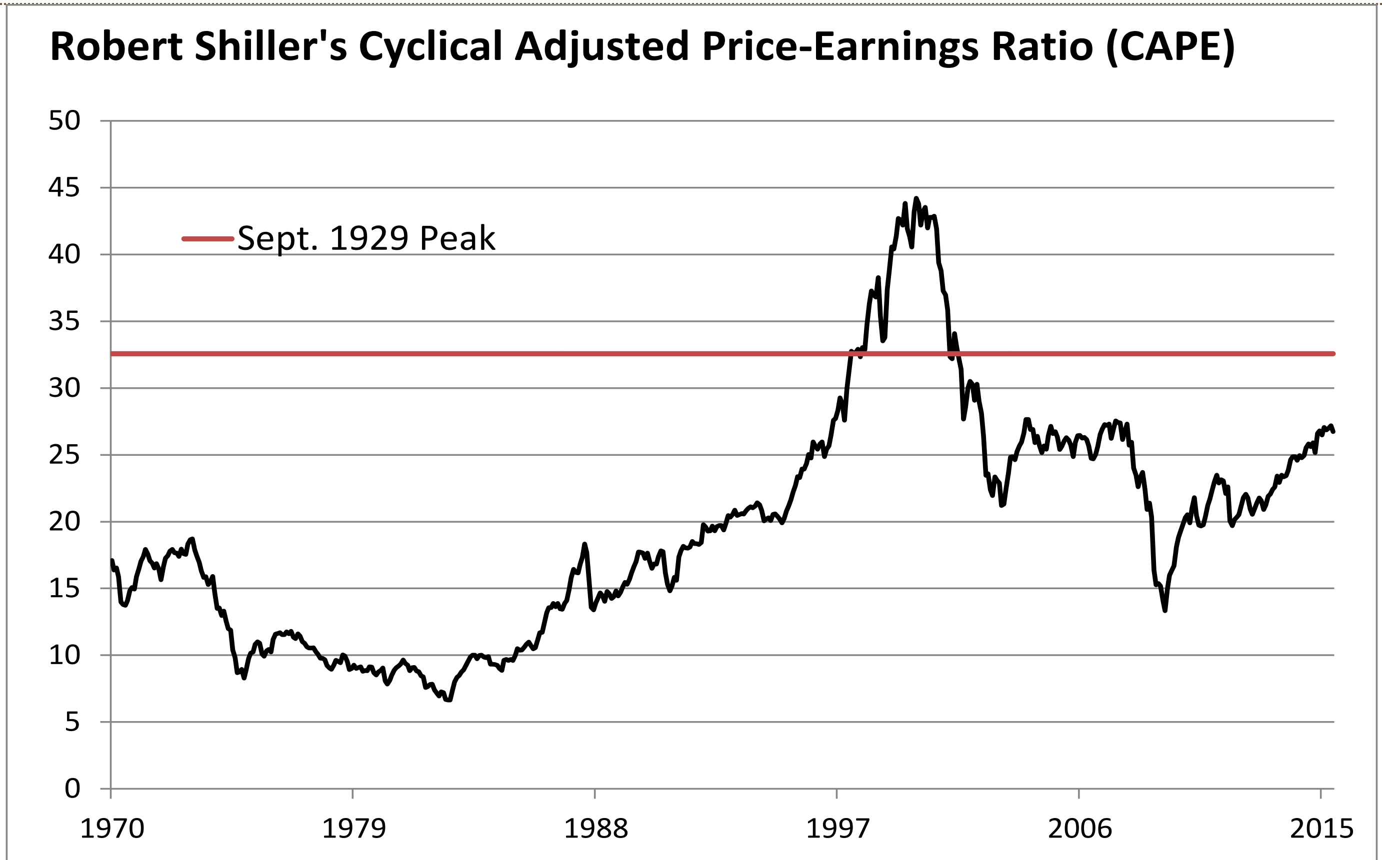
Wealth-to-income ratio again at a high level



NASDAQ near a high in real terms



The price-earnings ratio is relatively high, but still below the 1990s peak



SOURCE: Robert Shiller

Feeding bubble processes

- My view is that low interest rates tend to feed bubble processes.
- The Fed should hedge against the possibility of a third major macroeconomic bubble in the coming years by shading interest rates somewhat higher than otherwise.
- The benefit would be a longer, more stable economic expansion.

Not everything is the same as in the 1990s

- Good arguments are being made in the financial media about differences in today's technology markets compared to the 1990s.
- I think these are interesting points but they do not change my policy view.

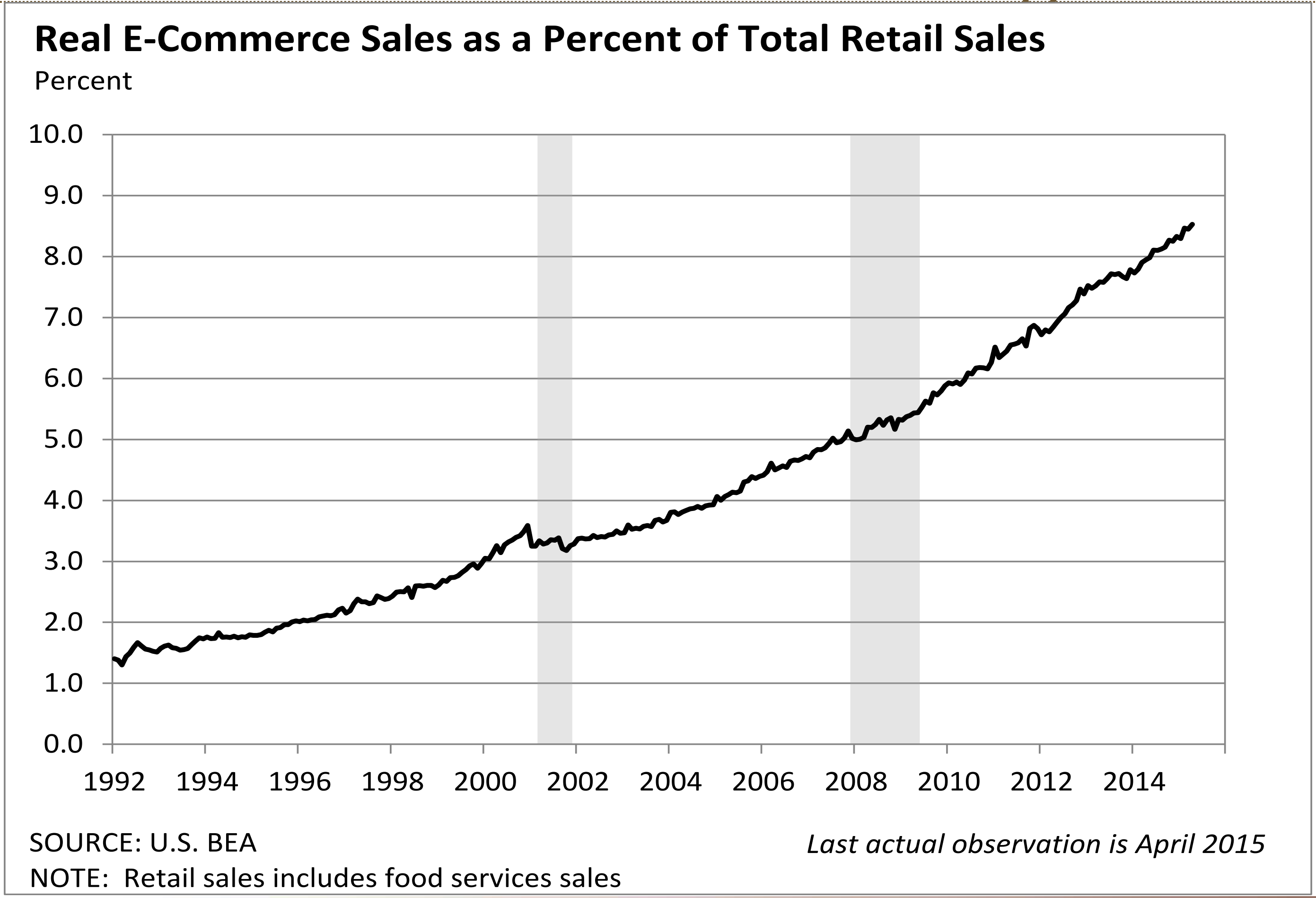
Reasons for calm

- Here are some of the reasons being given for calm:
  - Investors are reaching for yield, but firms these days are more likely to have real earnings.
  - Internet technology is far more established than it was and is continuing to introduce disruptive business models in nearly every sector.

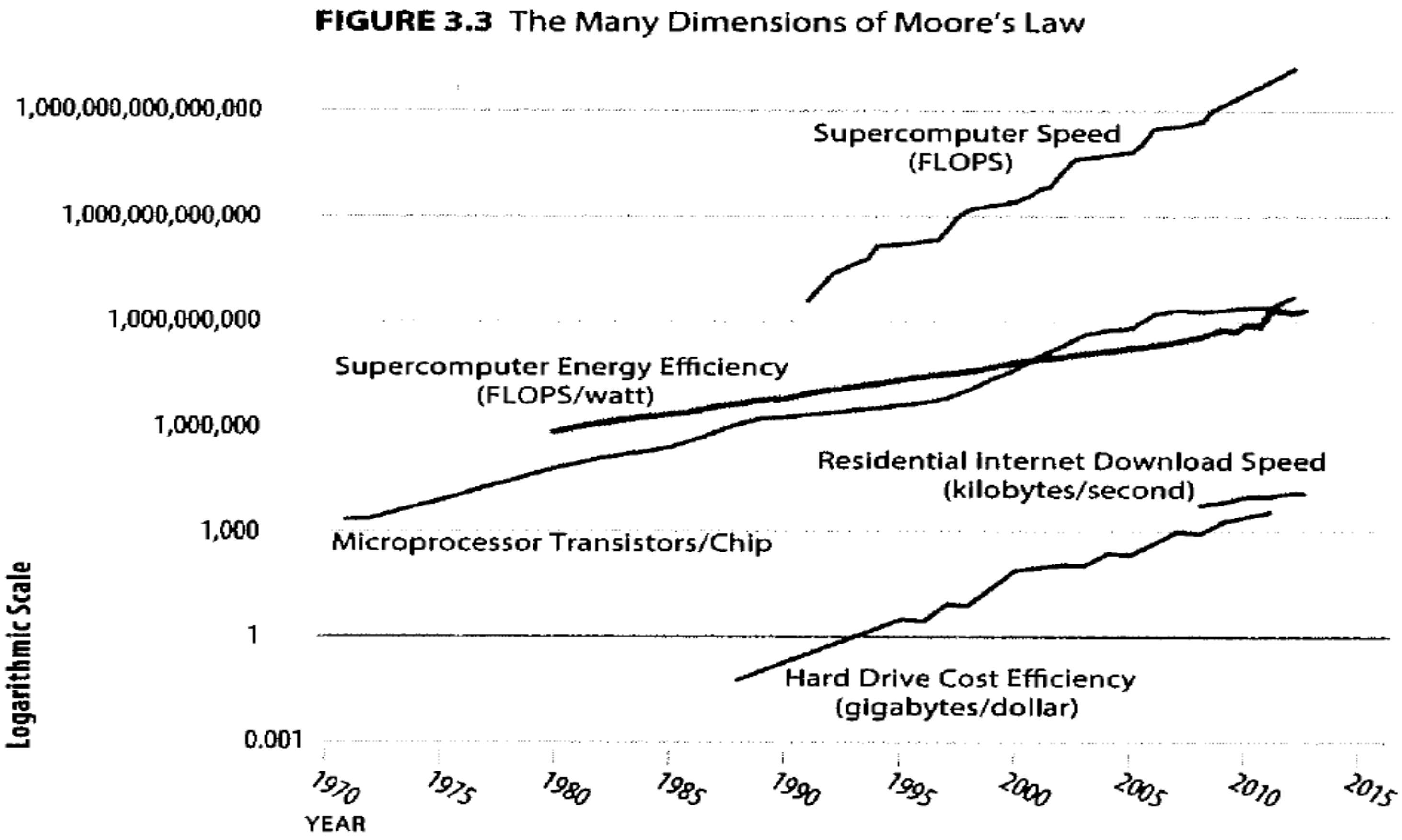
Higher tech prices better reflect actual earnings

In the 1999-2000 tech "bubble," investors adopted a "faith-based" strategy: We have faith that these companies will eventually make money! Many didn't.

The share of e-commerce sales shows little evidence of slowing



Digital technologies: better, cheaper, faster



SOURCE: E. Brynjolfsson and A. McAfee, 2014. *The Second Machine Age*, W.W. Norton & Co.

Summary

- Local development strategies that emphasize creation of an innovative business start-up culture make a lot of sense.
- Younger firms create jobs, but nationally young firms represent a declining fraction of all firms. The St. Louis effort can help to arrest this trend.
- Bubble talk has resumed. I think low rates feed bubbles, but I am listening to reasons why tech is not an exact repeat of the 1990s.

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