Perspectives on Innovation and Entrepreneurship

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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

Net Job Creation by Age of Firm
Number of Jobs

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

The pattern in employment shares across sectors

Fewer workers at start-ups

More workers at mature firms

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

Wealth-to-income Ratio
Net Worth of Households and Nonprofit Corporations / Private Disposable Income

1952-1995 average

SOURCE: Federal Reserve Board, Bureau of Economic Analysis and author’s calculations.
NASDAQ near a high in real terms

Real Stock Price Indexes
Nominal indexes deflated by GDP price index

- NASDAQ
- S&P 500

SOURCE: Haver Analytics
Last observation: 2015-Q1
The price-earnings ratio is relatively high, but still below the 1990s peak.
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.
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.
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

But, earnings, not P/E multiples, are growing
This time, profits are driving returns – in fact, P/E multiples are at early 1990s levels

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.

Real E-Commerce Sales as a Percent of Total Retail Sales

Percent

SOURCE: U.S. BEA
NOTE: Retail sales includes food services sales

Last actual observation is April 2015
Digital technologies: better, cheaper, faster

**FIGURE 3.3 The Many Dimensions of Moore’s Law**

- Supercomputer Speed (FLOPS)
- Supercomputer Energy Efficiency (FLOPS/watt)
- Residential Internet Download Speed (kilobytes/second)
- Microprocessor Transistors/Chip
- Hard Drive Cost Efficiency (gigabytes/dollar)

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.