

The Dynamics of Dynamism

New York Association for Business Economics
New York, NY

March 29, 2018

Patrick T. Harker

President and Chief Executive Officer
Federal Reserve Bank of Philadelphia



FEDERAL RESERVE BANK
OF PHILADELPHIA

The views expressed today are my own and not necessarily those of the Federal Reserve System or the Federal Open Market Committee (FOMC).

The Dynamics of Dynamism

New York Association for Business Economics

New York, NY

March 29, 2018

Patrick T. Harker

President and Chief Executive Officer

Federal Reserve Bank of Philadelphia

Good afternoon and thank you. It's a pleasure to be here.

I'm headed into my third year as a Fed president, and of all the lessons that stand out in the job, two are the most acute — Always include an outlook if the FOMC has just raised rates and always issue the standard Fed disclaimer: The views I express here today are mine alone and do not necessarily reflect those of anyone else in the Federal Reserve System.

With the disclaimer taken care of, today I will first address the outlook — this move was, after all, only the sixth one the FOMC has made since 2008. But then I want to discuss one of the myriad factors affecting the U.S. economy and its trajectory. The headline issues — from jobs reports to market movements to policy decisions — are obviously important factors in discussions of the U.S. economy. But there are other factors — deeper, underpinning secular trends — that play important roles and should also be examined. Today, therefore, I'd like to discuss the trends in U.S. dynamism.

First, though, the promised outlook.

The Economic Outlook

The labor market continues to strengthen, with strong jobs gains in recent months and continued low unemployment. I expect the unemployment rate to stay low and move down even further, possibly dipping as low as the 3.5 percent range in 2019, before ticking back up a few tenths of a percentage point.

While inflation continues to run below the Fed's preferred 2 percent target this year, I see it as on track to meet or exceed that benchmark by the end of next year.

Taking into account the effects of fiscal stimulus and recent strong economic activity, I continue to see above-trend growth of about 2.6 percent for 2018. That should edge down a bit to 2.4 percent for 2019, then move further south to 2 percent. Overall, that's a very slight upward revision for my 2018 forecast but a stronger outlook over the medium term.

On the heels of a strengthening outlook, therefore, I see two additional rate hikes this year as appropriate. That projection continues to be written in pencil, as it is, like all things Fed related, data driven, but overall, things are looking pretty good.

Business Dynamism

One of the hallmarks of the U.S. economy is that it has historically been characterized by an elevated level of dynamism. And while the U.S. economy is classically "dynamic" in its colloquial sense, characterized by the innovation and the imagination that drives it, I am speaking today more specifically about the economic measure of dynamism that is defined by turnover: New businesses enter the market and others leave, workers move from job to job, people come in and out of the workforce, and so on.

This perpetual churn makes resources more fluid, and they move around with relative ease. As labor and capital are freed to flow from the least to the most productive firms, productivity, wages, and overall economic growth increase.

That's the general dynamism recipe that we all know and that has characterized the U.S. economy for most of the historical record.

I suppose this wouldn't be a policymaker's speech if there weren't a "however" coming, and here it is: However, the data indicate that, over the past 30 years or so, dynamism has been on the decline. Specifically, business start-up activity is lower than it used to be, and labor reallocation is also slowing, as is worker mobility. Over the past 20 years or so, we've seen a concurrent drop in productivity growth, which naturally poses the question of a causal relationship.

I'll spare the suspense of that question's answer and say from the start that we don't have definitive answers. I believe the old joke is that if you laid all the economists in the world end to end, they would never reach a consensus ...

But economic trends raise interesting possibilities and points for discussion, as do the factors affecting both their trajectories and our ability to manage them.

So I'd like to talk now about the trends in dynamism, the culprits in its retreat, and what can be done to reverse it.

Dynamism in Decline

The decline in dynamism and entrepreneurship since the early 1980s is evinced by a variety of measures. On the firm side, the new start-up rate has deteriorated by close to 40 percent.¹ At the same time, the exit rate has been more or less flat — not just slowing the net start-up rate, but actually pushing it into negative territory.

The IPO rate is also falling, a measure that has been linked to encouraging entrepreneurship and start-up activity. It is additionally the case that, over the past decade, M&A activity has been strong. The end result is that industries are becoming more and more concentrated, and the average listed company is bigger, older, and more profitable.²

On the worker side, people are now more likely to be employed at large, mature firms than was previously the norm. The share of employment at smaller and medium-sized younger firms has fallen from about 20 percent to 10 percent in the past few decades, while the proportion of workers at larger, older firms has risen from about 40 percent to 50 percent.³

We're also seeing the rate of job reallocation falling — that is, the number of jobs added to and subtracted from the economy. This is generally a substantial feature of the U.S. labor market —

¹ Ryan A. Decker, John Haltiwanger, Ron S. Jarmin, and Javier Miranda, "Declining Business Dynamism: Implications for Productivity?" Hutchins Center Working Paper 23 (September 2016).

² Michael J. Mauboussin, Dan Callahan, and Darius Majd, "The Incredible Shrinking Universe of Stocks: The Causes and Consequences of Fewer U.S. Equities," Global Financial Strategies, Credit Suisse (March 2017).

³ John Haltiwanger, "Top Ten Signs of Declining Business Dynamism and Entrepreneurship in the U.S.," a paper presented at the Kauffman Foundation New Entrepreneurial Growth Conference (June 2015).

currently, roughly 14 million jobs are reallocated over a typical quarter — but the rate of reallocation has fallen by about 22 percent since the early '90s.⁴

Another factor of today's labor force is that workers are much less mobile than they used to be. This is something that's frequently arisen in our examination of U.S. employment as we search out the “new normal” of the labor market in a post-recovery world. People aren't moving for work the way they used to, and when they do, they don't go as far. The rate of people moving out of state has dropped to less than half its average level in the quarter century that followed the Second World War.⁵

The Impact of Dynamism

So, the data clearly point to a decline in turnover and dynamism, but there's a logical argument that older, bigger, more profitable firms hiring people who stay around longer is a perfectly natural state — a sort of settling into middle age for a mature economy. Is that the case? Why do we ascribe such importance to dynamism? Why do we view it as a sign of a healthy economy?

History is awash with quotes about history being awash with lessons — and clichés, very often, have worked their way into the lexicon for a reason. So, the simple history of the role dynamism has played in the U.S. economy might be enough. But we are the Fed, and we like research, so I'd prefer to offer an analysis of dynamism's influence, rather than rest on the laurels of “it's always been that way.”

The first measure of importance to this inquiry is innovation intensity. Among those firms that invent, revolutionize, or — in our overused parlance — “disrupt” industries, it is the younger, smaller firms that spend more on R&D as a proportion of sales. Additionally, research shows that the quality of innovation — as measured by patent citations — is inversely proportionate to firm size, indicating that smaller firms have higher quality innovation.⁶ Older, more staid

⁴ Haltiwanger.

⁵ Tyler Cowen, *The Complacent Class: The Self-Defeating Quest for the American Dream* (New York, NY: St. Martin's Press, 2017).

⁶ Ufuk Akcigit, “Firm Size, Innovation Dynamics and Growth,” 2009 Meeting Papers 1267, Society for Economic Dynamics (2009).

organizations achieve productivity growth from entry and exits to markets, or expansion and contraction of offices or factories. Manufacturing, for instance, derives a significant portion of its industry-level growth this way.

As we know from our days in undergraduate economics, high productivity firms grow faster than low productivity ones and contribute to a country's overall productivity growth.

New firms also provide job opportunities. That is not to say that older firms — through continued growth, acquisition, and consolidation across industries — wouldn't continue to produce jobs. But fast-growing businesses, which tend to be young, have historically accounted for a substantial fraction of job creation, averaging about 70 percent of gross annual job creation in the decades spanning 1992–2011.⁷

More fluid labor markets ease the path up the job ladder, allow workers to find better matches for their skills, and can encourage attachment to the labor force. As the labor market continues to tighten, and we need every person possible participating in the workforce, that becomes increasingly important. If a marginal worker's job opportunities aren't much more beneficial than not working, we'll still have people on the sidelines. The longer they stay there, the less likely they are to be employed. With a more dynamic labor market, opportunities arise more frequently and are often better, decreasing the likelihood of someone staying out of work for an extended period of time.

By contrast, a sluggish employment landscape offers infrequent opportunities, which makes people ever more unemployable as they wait for something to come their way and disproportionately affects lower skilled, less educated, and younger workers. As the market stagnates, employers can become more exclusive — and more exclusionary — in whom they will hire, exacerbating the cycle for those who can't meet the bar. They'll stay out of work longer, and their prospects will be dimmer when opportunities do arise.

⁷ Ryan A. Decker, John Haltiwanger, Ron S. Jarmin, and Javier Miranda, "Declining Business Dynamism: Implications for Productivity?" Hutchins Center Working Paper 23 (September 2016).

The Culprits

So the research tells us that business dynamism in the United States is falling. Can it tell us why it has experienced a downturn?

There are, of course, many competing hypotheses, and it wouldn't be the dismal science if there were one definitive victor in the blame game. But the many potential contributing culprits are all worth exploring.

The fact that dynamism has slowed suggests that there has been some fundamental change in the economy.

It could be that the business climate is changing in ways that impede the reallocation of labor and capital. If costs in one area increase, that affects other margins, as businesses look to offset costs. That, in turn, can hinder the flow of resources from the least productive to the most productive firms. So, for example, if restrictions make it more difficult for existing firms to grow, new firms are less likely to enter the market because lifetime growth prospects are weaker. And if restrictions hinder job destruction by existing firms, job creation rates will fall as competition wanes.⁸

We also hear a lot about regulatory burden — and uncertainty about future regulation — when we talk about barriers to new business start-ups. And it is true that regulation has generally increased in the U.S. But that pace has not been constant or consistent across industries. We can, therefore, compare industry dynamism with industry regulation and get a sense of whether there's any correlation. The evidence so far indicates that, in fact, the case for correlation is fairly weak, and where it does exist, it goes in the wrong direction.⁹ The same holds true for start-up rates.

It is also the case that, if the fixed cost of starting a new business had risen, we would expect to see that new firms are larger, on average, than in the past, but the data don't bear that out

⁸ Hugo Hopenhayn and Richard Rogerson, "Job Turnover and Policy Evaluation: A General Equilibrium Analysis," *Journal of Political Economy*, 101:5 (1993), pp. 915–938.

⁹ Nathan Goldschlag and Alexander Tabarrok, "Is Regulation to Blame for the Decline in American Entrepreneurship?" George Mason University Working Paper 15-11 (February 2015).

either.¹⁰ We can infer, then, that there hasn't been any outsized growth in the amount of seed money necessary to get a new firm off the ground.

It may be — to steal a phrase from another economist — that the change in the U.S. business climate is more akin to a “death by a thousand cuts” than a single blow of the regulatory axe, with small changes and encumbrances combining to create a larger barrier.¹¹

Zoning restrictions, for instance, and other inhibitors of local growth could be impeding the flow of workers and capital to high productivity uses. The cost of relocating to a place like San Francisco or New York and attempting to start a new business is all but prohibitive, surely affecting the rate of new start-ups. By one estimate, lowering those kinds of constraints — for instance, on housing supply — in such high productivity cities would significantly expand their workforces and increase overall GDP by almost 10 percent.¹²

There has also been a marked increase in occupational licensing. The percentage of workers required to hold a government-issued license to do their jobs rose from less than 5 in the 1950s to almost 30 in 2008.¹³ That's a six-fold increase and has manifested a creep into areas far outside what most of us would consider standard, like braiding hair or teeth whitening.

Both of those examples, by the way, come from *Planet Money*, which has a couple of very entertaining podcasts on occupational licensing that are worth a listen. I use them in part because they're good examples and in part because it allows me to mention that at the beginning of the year, Philadelphia beat Boston in not one but two extremely important contests. We didn't just take the Super Bowl; the Philadelphia Fed beat out the Boston Fed for first place in the “Beigie” awards, *Planet Money's* ode to the Beige Book. I don't think Bill Belichick is losing much sleep over that one, but we were pretty pleased.

¹⁰ John Haltiwanger, Ron S. Jarmin, and Javier Miranda, “Who Creates Jobs? Small versus Large versus Young,” *Review of Economics and Statistics*, 95:2 (May 2013).

¹¹ Haltiwanger called the situation “a death by a thousand cuts.”

¹² Chang-Tai Hsieh and Enrico Moretti, “Why Do Cities Matter? Local Growth and Aggregate Growth,” *Kreisman Working Papers Series in Housing Law and Policy* 30 (2015).

¹³ Morris M. Kleiner and Alan B. Krueger, “Analyzing the Extent and Influence of Occupational Licensing on the Labor Market,” *Journal of Labor Economics*, 31:S1, Part 2 (April 2013).

In any event, the bogeyman of big regulation does not appear to be the villain in this story, though the smaller, seemingly more benign, regulations may be combining to create something more malignant.

That said, the fact that the decline in business dynamism is not confined to the United States, but is occurring across OECD countries, suggests that broader, systemic forces are likely playing a role in the phenomenon.¹⁴ These are the same factors that are currently affecting other aspects of the economy: technological advancement, demographics, and measurement.

Technology has had a marked effect on the economy, and its various influences and effects are intertwined. In the labor market, it emerges in the automation of jobs and the increasing need for worker retraining to keep pace with change. In growth and productivity, it's affecting the efficacy of measurement. In the case of business dynamism, technological advancements help larger firms to manage production and distribution across businesses, making them more efficient. More and better data and analysis allow them to adapt to changes in customer demand. This is a positive effect, but it would not show up in measures of dynamism.

Demographic forces have been plaguing us as well. Our aging population is exerting downward pressure on the labor force participation rate, and research by my staff indicates that will continue.¹⁵ This also has an effect on dynamism, as older workers are less mobile and more likely to remain in jobs for longer periods of time. Population growth is also slowing, which is associated with a decline in start-up rates.¹⁶ Growth in the labor force is decelerating, too, and with fewer people entering the workforce, the churn of reallocation and worker mobility further suffers.

Finally, we have the measurement conundrum. Creative destruction at the firm level isn't captured by dynamism statistics. Take, for example, IBM's reinvention in the early 1990s, after

¹⁴ Chiara Criscuolo, Peter N. Gal, and Carlo Menon, "The Dynamics of Employment Growth: New Evidence from 18 Countries," OECD Science, Technology and Industry Policy Papers (May 2014).

¹⁵ Shigeru Fujita, "On the Causes of Declines in the Labor Force Participation Rate," *Research Rap Special Report*, Federal Reserve Bank of Philadelphia (February 2014).

¹⁶ Ian Hathaway and Robert E. Litan, "Declining Business Dynamism in the United States: A Look at States and Metros," Economic Studies at Brookings, The Brookings Institution (May 2014).

the collapse of the mainframe market. While it fundamentally remade itself into a different company, that shift wasn't captured in the dynamism data on entry and exit. Dynamism doesn't measure global activity very well either. In this case, Apple is the example. Apple constantly adds and drops suppliers as it continues its evolution in product development; in 2013, for instance, it had about 750 suppliers, but almost 90 percent of them were in Asia. That activity doesn't show up in the U.S. dynamism statistics.

What Can We Do About It?

While we certainly have a measurement problem, it is still clear that dynamism is slowing and has been doing so steadily, not just in the U.S., but across mature economies. It is also the case that a number of factors are conspiring to keep it that way. So what, if anything, can be done?

I should note here that dynamism, much like food or wine, should be taken in moderation, and an excess could lead to something of an economic hangover. The downside of dynamism, and the risk of overindulging in it, would be a glut of churn and all its attendant costs — frequent bankruptcies and business failures, high rates of firings and layoffs, too much job-hopping by workers. But in an environment with the right amount, it has its intended effect: Resources are channeled to more productive uses, workers are more engaged with the labor market, and innovation is nurtured.

The first avenue of recourse is that trustiest of panaceas: education. Our future entrepreneurs and inventors are in school today, and investing in that human capital is essential. There's a recent paper by Raj Chetty and others that considers what we're missing out on in terms of what they call "lost Einsteins" — the kids who could and should be patent holders later in life but aren't getting access to adequate education. As demographic trends continue to exert pressure on our labor force, we're going to need every contribution to the economy we can get. It's an exercise in folly to think we can succeed without significant attention to, and investment in, education at all levels.

We also need to think about the future of that labor market and the role it plays in growth. Growth, as we all know, is fundamentally growth in the labor force plus growth in productivity. Without an increase in one of those variables, it will stagnate, and productivity growth, as I mentioned, has been low as well. It is neither my purview nor my desire to comment on

legislation, but the economic fact is that we need more people in the workforce and that means in the country. We simply do not have the population to keep growth at even its current rate over the long term. I would also note that immigrants either founded or cofounded just over half of all U.S. start-ups valued at \$1 billion or more, and immigrant founders have created an average of 760 jobs per company.¹⁷

Second, innovation and entrepreneurship need encouragement. That's everything from funding research to sensible regulation that considers the benefits of innovation and does not offer unearned advantage to incumbents at the expense of new entrants.

Finally, with a reissuance of my previous caveat that I am not in the business of weighing in on anyone else's area of policymaking, ease of trade is essential. Small and medium-sized firms account for about 97 percent of American businesses that export goods and services and make up around 34 percent of the total value of U.S. exports.¹⁸ Access to foreign markets and competition fuels innovation and productivity, and trade relationships offer opportunities to adapt and adjust new technologies developed outside our borders.

Conclusion

Dynamism is in decline. While the difficulties of measurement may play some part in our overall reading, they don't account for its entirety and they don't mitigate the broader secular trends. Dynamism is also essential to U.S. growth and competitive edge, so it's unwise to leave it unprotected from economic fates and furies. There are things we can do, measures we can take, and decisions we can make that will affect its trajectory. And in the interest of the American economy, we should.

¹⁷ Stuart Anderson, "Immigrants and Billion Dollar Startups," NFAP Policy Brief, National Foundation for American Policy (March 2016).

¹⁸ Patrick Delehanty, "Small Businesses Key Players in International Trade," Issue Brief 11, U.S. Small Business Administration Office of Advocacy (2015).