

INTERVIEW

John Haltiwanger

Editor's Note: This is an abbreviated version of EF's conversation with John Haltiwanger. For the full interview, go to our website: www.richmondfed.org/publications

Policymakers, economists, and the public pay close attention to statistics such as GDP, productivity growth, and the unemployment rate. But those aggregate statistics mask the tremendous amount of churning that takes place in the economy: Every month, millions of jobs are created and destroyed as firms expand and contract, or as new companies enter the market and old companies go out of business.

Until the 1980s, few economists, and especially few macroeconomists, paid attention to these “microdata.” John Haltiwanger was one of the first to recognize their value for our understanding of the labor market and business cycles. Since the 1980s, he has worked closely with the Bureau of the Census and other statistical agencies to build new longitudinal business datasets and develop new methodologies for analyzing such data. Those efforts spurred a new line of research into how firms create and destroy jobs, including Haltiwanger’s seminal 1996 book *Job Creation and Destruction*, co-authored with Steven Davis of the University of Chicago and Scott Schuh of the Boston Fed. Economists in a wide variety of fields have built on Haltiwanger’s work to study topics ranging from tax policy to international trade.

Haltiwanger has continued to study the microdata that underlie aggregate statistics to examine the importance of young and small businesses to job growth, cross-country differences in productivity, and how firms find workers. Recently, he has documented a decline in the volatility and dynamism of the U.S. economy, which may help to explain the United States’ sluggish recovery from the 2007-2009 recession.

Haltiwanger joined the University of Maryland faculty in 1987 and was named Distinguished University Professor of Economics in 2010. In 2013, Haltiwanger was awarded the Julius Shiskin Memorial Award for Economic Statistics for his decades of work with government statistical agencies to develop new datasets and methodologies for measuring firm dynamics. Jessie Romero interviewed him in his office in College Park, Md., in July 2013.



EF: Your book *Job Creation and Destruction* has been credited with “fundamentally altering” our view of the labor market. What was the prevailing view prior to its publication, and how did that view change?

Haltiwanger: We’ve known for a long time from household data that workers move across jobs quite a bit. When you’re a young worker, you’re trying to figure out what kind of job you’d like, so you switch jobs a lot. And obviously people have children or get more education or retire. So there’s long been a sense that there were a lot of worker flows. But before the work that Steve Davis and I did, and that Timothy Dunne, Mark Roberts, and Larry Samuelson did, we didn’t know that a large fraction of those flows are actually not because the worker is moving, but because the jobs themselves are moving. My guess is if you actually talked to the typical worker, they’d say, “Yes, of course, that’s exactly my experience.” But we didn’t have a good metric for it, because we didn’t have access to the data that allowed you to measure job creation and destruction. Once we got the data, though, we found it was really huge. And second, we found that not only was it large, but it varied over the cycle too. So that was part of what changed things in macroeconomics. One view is, sure, there’s a lot of this heterogeneity, but it’s just in the background; it’s not so clear it’s important for business cycles. Maybe it just cancels out. But actually, no, it doesn’t cancel out.

EF: How did you get access to the data that allowed you to measure job creation and destruction?

Haltiwanger: Steve Davis and I met back in the mid-1980s, and we had this idea that to understand how the labor market works, it would be critical to understand the ongoing process of what we called job creation and job destruction. In the mid-1980s, we got to know Dunne, Roberts, and Samuelson, who were using lower-frequency Census data to study the entry and exit of firms and firm dynamics. We asked them if they thought it was possible to get access to the data to look at higher frequencies, say monthly or quarterly. And they said, “Well, we don’t know, but why don’t you call these guys up?”

So Steve and I called up the Census Bureau. Robert McGuckin, the director of the Bureau’s Center for Economic Studies (CES) at the time, invited us to come give a seminar. We got two reactions. Bob McGuckin was incredibly enthusiastic. But some of the folks said, “You guys are nuts!” They kept saying that the data were not intended for this task, that we were pushing them in a way they weren’t meant to be pushed. Steve and I were cognizant of that, but we started working with the data and realized their potential, and that led to us developing these concepts of job creation and destruction and how to measure them.

Over the years, one of our most satisfying accomplishments was to convince the statistical agencies that this was important. The Census Bureau and the Bureau of Labor Statistics (BLS) now have regular programs where they are turning out the kind of statistics that we developed. Back in the 1980s, there were only a handful of people working with the firm-level data. We literally were in basement rooms without windows. Now the CES has 100 staff members and 15 research data centers spread across the country — and most of the staff work in rooms that have windows! Those of us who worked with the CES in the early days recognized that it was important to improve data access because you just don’t make much progress in science unless other people can replicate what you’re doing and be creative with the data themselves. So when I was chief economist at the Census Bureau in the 1990s, it was important to me and the research director of CES at the time, Tim Dunne, to expand the research data centers. Many people contributed to this effort over the past 30 years, but I am proud to have been part of it.

EF: You’ve studied aspects of the search-and-matching process (which describes how workers and firms find each other) that don’t typically get a lot of attention. What do we learn from studying factors such as firms’ recruiting intensity?

Haltiwanger: We’ve learned an enormous amount from the kinds of approaches that Dale Mortensen and Christopher

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Pissarides developed. At the core of their model is this black box called the “matching function.” It’s a mathematical function that relates hires to labor market tightness, vacancies, and unemployment. There are lots of stories about what that represents, but we just don’t know very

much about how firms and workers meet, how they match, and what the process is.

In terms of data development, first we had data sets that allowed you to track whether firms were growing or shrinking — that’s job creation and destruction. More recently, we’ve been able to integrate what’s happening to the workers at the firms that are expanding and contracting.

There’s a very nice new survey that BLS developed called JOLTS [Job Openings and Labor Turnover Survey]. For each establishment, JOLTS provides information on hires and separations, and breaks the separations into quits and layoffs. It also gives you vacancies, so you’ve got all the ingredients to begin looking at how hiring occurs.

As usual, Steve Davis and I and our co-author on this work, Jason Faberman, didn’t want to look just at the aggregate data. So we got access to the JOLTS microdata by working directly at BLS and integrated it with the data BLS has developed on job creation and destruction. Our main focus in this work is to understand the hiring process. We were struck by the fact that there was a pattern in the job-filling rate that was not consistent with the standard search-and-matching model: Businesses that were very rapidly expanding filled their jobs much faster than other kinds of businesses. In the standard search-and-matching model, if you want to expand quickly, you just post more vacancies. We found that was true — businesses that were expanding rapidly did post more vacancies — but we also found that they filled them much more quickly.

So what’s going on there? The model that we came up with is that firms don’t just post vacancies, they also spend time and resources on hiring people. So if you want to hire more people, you can raise the wage you offer, or you can change the way that you screen workers — these are just two examples of the variety of margins that a firm can use. As shorthand, we’ve called these margins “recruiting intensity.”

We also found that recruiting intensity dropped substantially in the Great Recession and has been slow to recover. Firms posted many fewer vacancies in the collapse, and that’s exactly what you’d expect from the theory. But then as we went into the recovery, vacancies started to come back, but hiring didn’t. People were puzzled by that. How can this be? Why don’t the patterns of hires, vacancies, and unemployment fit the matching function? Why are we off the Beveridge curve? [The Beveridge curve describes the relationship between vacancies and hiring; for the past few years, the unemployment rate has been higher relative to the number of vacancies than would be predicted by historical trends.] Our explanation is that our index of recruiting

intensity has dropped significantly and it hasn't recovered. We don't explain all of the departures from the matching function and the Beveridge curve during the Great Recession and slow recovery, but it appears that recruiting intensity explains a nontrivial fraction of it.

EF: Your research makes a distinction between aggregate shocks, such as the financial crisis in 2008, and allocative shocks, such as technological change that reduces the demand for manufacturing workers. What role have these two types of shocks played during and since the Great Recession?

Haltiwanger: We're still struggling with how to disentangle this. And there's a third kind of shock: uncertainty. If you're in a sector where businesses are facing fundamentally different conditions — changing technology, changing costs, changing international competition — it's as though the rug has been pulled out from underneath you. You can't do things the way you did them last decade. And I think that we're increasingly recognizing that those kinds of events lead to greater uncertainty. Allocative shocks and uncertainty go hand in hand. In many early models, it was assumed that the economy was hit by a certain pace of idiosyncratic shocks every period. But then Nick Bloom and others came along and said, well, there's no reason that pace can't change over time. That research has helped make the case that changes in the dispersion of idiosyncratic shocks, which generate uncertainty, are important. So now we're struggling to disentangle the relative importance of aggregate shocks, allocative shocks, and uncertainty.

We're also struggling with causality. Something Steve and I spent a lot of time on, and are still worrying about, is the "cleansing effect" of recessions. One idea is that recessions are times in which things slow down, which makes them a good time to reorganize and reallocate. That suggests that the causality arrow could run from aggregate shocks to reallocation. But on the other hand, a period of very high idiosyncratic shocks could be a period where we've got to do lots of reorganization. Reorganization takes time and resources, which could cause a recession itself, so the causality might be running the other way. Then you add uncertainty shocks to this mix. So, as usual, drawing causal inferences is a continued challenge.

EF: What are the implications of findings on reallocation for employment policy or industrial policy?

Haltiwanger: That's a hard question. What we've found, in the United States at least, is that all this reallocation is largely productivity-enhancing. The job destruction we observe usually occurs in the less productive businesses, and all the job creation and entry of new firms usually occurs in the more productive businesses. A large fraction of aggregate productivity growth is moving resources away from less productive to more productive firms.

Eric Bartelsman, Stefano Scarpetta, and I started to look at the connection between reallocation and productivity around the world. We've found that in some countries, that process doesn't work so well. Allocative efficiency — the ability to move resources from less-productive to more-productive businesses — differs pretty dramatically across countries. We first hypothesized that things were so distorted in emerging economies that they had very low rates of reallocation. But actually, there is a lot of entry and exit going on, it's just not particularly healthy. For example, there's lots of entry of street vendors, but street vendors don't grow. They just churn: They come in, they go out, they come in, they go out. But it's not productivity enhancing.

How is this related to the policy question? What we're beginning to see in the cross-country evidence are things that distort this reallocative process. But here's the problem. It's not as though we can't come up with policy recommendations — we can come up with too many. There are 101 (plus) possible distortions to the ongoing dynamics of reallocation. We are still trying to figure out which ones are the most important. For example, is it distortions that primarily impact the entry margin? If it is on the entry margin and it's young businesses, is it that they can't get access to credit? I think we've got lots of hypotheses out there, but I don't think we've got a good way yet of saying which are the most important and how they vary across countries, and how they vary within countries across time.

EF: How do countries find a balance between allowing the necessary reallocation to occur and minimizing the costs of that reallocation to workers and firms?

Haltiwanger: That's one of the hardest questions countries face. I think the evidence is overwhelming that countries have tried to stifle the destruction process and this has caused problems. I'm hardly a fan of job destruction per se, but making it difficult for firms to contract, through restricting shutdowns, bankruptcies, layoffs, etc., can have adverse consequences. The reason is that there's so much heterogeneity in productivity across businesses. So if you stifle that destruction margin, you're going to keep lots of low-productivity businesses in existence, and that could lead to a sluggish economy. I just don't think we have any choice in a modern market economy but to allow for that reallocation to go on.

Of course, what you want is an environment where not only is there a lot of job destruction, but also a lot of job creation, so that when workers lose their jobs they either immediately transit to another job or their unemployment duration is low. In the United States in the 1990s, the last time we experienced really robust growth, there was a high pace of job creation and job destruction, and a lot of it was workers moving directly from one job to another. That's what you want. But what are the ingredients for efficient, productivity-enhancing reallocation? There are many factors. But I think it's clear that you have to make sure that

there aren't barriers to entry or exit, and then that there aren't barriers to post-entry growth or contraction.

Having said that, I think lots of countries hear this advice from economists or from organizations like the International Monetary Fund or the World Bank, so they open up their markets, they open up to trade, they liberalize their labor and product and credit markets. And what happens is, job destruction goes up immediately, but job creation doesn't. They realize that they've got a whole bunch of firms that can't compete internationally, and they're in trouble. So the question is, does the economic environment have the ingredients that allow businesses to come in and start up? On the one hand, there is lots of evidence that countries that distort the destruction margin find themselves highly misallocated, with low productivity and low job growth. On the other hand, it's difficult to just let things go without having well-functioning market institutions in place — it's not easy to snap your fingers and become the United States. And even here this process is at times distorted.

EF: You've written about a long-term decline in volatility in the United States; the job creation and destruction rates, for example, have been declining steadily since the 1990s. What's behind that decline?

Haltiwanger: There is now substantial evidence from a wide range of sources that volatility is declining in the United States. One of the markers is a decline in the pace of job reallocation. But there's also something going on with new businesses. We've always known that young businesses are the most volatile. They're the ones experimenting, trying to figure out if they have what it takes to be the next Microsoft or Google or Starbucks. But now we're seeing a decline in the entry rate and a pretty stark decline in the share of young businesses. The latter isn't surprising given the decline in the entry rate — it's equivalent to seeing that when the birth rate declines, you have fewer children. But it's also important to recognize that the decline in the share of young firms has occurred because the impact of entry is not just at the point of entry, it's also over the next five or 10 years. A wave of entrants come in, and some of them grow very rapidly, and some of them fail. That dynamic has slowed down.

Should we care? The evidence is we probably should, because we've gotten a lot of productivity growth and job creation out of that dynamic. A cohort comes in, and

John Haltiwanger

➤ Present Position

Distinguished University Professor of Economics, University of Maryland, College Park

➤ Other Positions

Chief Economist, Bureau of the Census (1997-1999); Associate Professor, Johns Hopkins University (1986-87); Assistant Professor, University of California, Los Angeles (1981-1986)

➤ Education

Sc.B., Brown University (1977)
Ph.D., Johns Hopkins University (1981)

➤ Selected Publications

Author of six books and numerous articles in journals such as the *American Economic Review*, *Quarterly Journal of Economics*, *Review of Economics and Statistics*, *Journal of Monetary Economics*, and *Journal of Economic Perspectives*

amongst that group, a relatively small group of them takes off in terms of both jobs and productivity. So the concern is, have we become less entrepreneurial? If you're not rolling the dice as often, you're not going to get those big wins as often. Then the question is why? What happened? One idea that some have suggested recently is that culturally we've become more risk-averse. That's an interesting hypothesis but only one of many possible hypotheses.

In terms of what we know, we've clearly seen a shift in activity toward large national and multinational businesses. In retail trade, that shift is overwhelming. The big guys dominate. That's not necessarily a bad thing; maybe what we've done is move resources toward the big firms because they are the more productive and profitable. But there might be a trade-off between economies of scale and flexibility and innovation. A

strong young business sector is flexible. If an economy needs to shift resources from one place to another, the young business is a good margin of adjustment.

Also, there's the question, what's the role of entrepreneurs in innovation? This question is much harder. But suppose the hypothesis is correct that you really do need all this experimentation to get new ideas out there, and that young businesses are where lots of this experimentation occurs. Then the decline in the share of young businesses is concerning. It's not that the big guys don't innovate, but it tends to be an adaptation of what they already do.

But coming back to the facts, there's no doubt that there has been a decline in volatility, and it's of some concern. The benign view is, maybe it's possible to get the same gains in productivity without all this churning of businesses and jobs. If so, that would be a good thing. But if it was really nothing but good news, I ask, why aren't we recovering more quickly? Why isn't productivity surging? Even the recovery from the 2001 recession was nowhere near the recoveries of previous years. We have been pretty sluggish at least since 2001. And this is the period of time when the decline in entrepreneurship accelerated.

EF: Do you view the decline in volatility as the cause of the slow recovery?

Haltiwanger: I think there is some causality, but I can't say for sure. I think we could make a case that this more-sclerotic, less-dynamic economy affects the pace of recoveries. The decline in volatility predates the Great Recession. It has been going on for decades, although it

accelerated after 2000. In terms of job flows, we never recovered from the 2001 recession. Job reallocation never returned to the late-1990s levels. Something similar seems to be going on following the Great Recession. Job destruction is somewhat lower than during the 2004-06 period, and job creation is a lot lower. The decline in young businesses appears to be playing a role in these dynamics.

EF: Early research found that small businesses create the most jobs. But more recent work, including your own, has shown that's not the whole story. What does that mean for policy?

Haltiwanger: If you just cut the data by business size, there is some evidence that net growth rates of small businesses are higher than net growth rates of large businesses. There are some statistical issues here, involving regression to the mean, but there is some truth to this conventional wisdom in an accounting sense. But our recent work has asked, wait a second, who are those small businesses that are creating jobs? It turns out it's not old small businesses. It's all coming from the entry of new firms and young businesses, which happen to be small businesses. We didn't realize this until recently because we didn't have good measures of firm entry and young businesses. I started studying this with Steve Davis and Scott Schuh, and recently I've been working with Ron Jarmin and Javier Miranda from the Census Bureau to develop data that allow us to study the role of startups and young businesses.

So the grain of truth is that it's all coming from entry and young businesses. I do think it's important to recognize that if you're trying to advocate a policy to help small businesses to stimulate job creation, and it's not especially relevant for entry or young businesses, then it's possible the policy is completely mistargeted. But we don't view our evidence as saying we should inherently target young businesses. Instead, it flips things around to ask, what are the barriers that young small businesses face? That's the right question to ask, and we're starting to ask it better.

Young small businesses got hit especially hard in the Great Recession. The evidence suggests that financial markets and access to credit played some role in that. I've been studying this with Teresa Fort, Ron, and Javier, and we've got some interesting evidence that housing prices played a role here. Young small businesses got hit especially hard in states with very large declines in housing prices, even taking into account the extent of the cyclical slump in the state. California is the poster child for these patterns. California had a bad recession but it had an especially bad decline in housing prices, and young small businesses got hit especially hard there. What's the connection between housing prices

and young small businesses? One possible channel is that young small businesses use houses as collateral. An alternative but related channel — there's some very nice work on this by Atif Mian and Amir Sufi — is the housing price/aggregate demand channel. Housing comprises the net worth of the household, so when prices drop households have less to spend. If there's a local spending shock, young small businesses might get hit especially hard if they're the most vulnerable businesses. Another possible mechanism is that local financial institutions were hit especially hard in the areas where housing prices fell the most. If local financial institutions are especially important for startups and young businesses, this might have been an important factor.

EF: That vulnerability is part of what you've described as the "up or out" dynamic — most young small businesses fail, but those that survive are likely to grow very rapidly.

Haltiwanger: We've been struck by how rare success is for young businesses. When you look at normal times, the fraction of young small businesses that are growing rapidly is very small. But the high-growth firms are growing *very* rapidly and contribute substantially to overall job creation. If you look at young small businesses, or just young businesses period, the 90th percentile growth rate is incredibly high. Young businesses not only are volatile, but their growth rates also are tremendously skewed. It's rare to have a young business take off, but those that do add lots of jobs and contribute a lot to productivity growth. We have found that startups together with high-growth firms, which are disproportionately young, account for roughly 70 percent of overall job creation in the United States.

This is related to the policy challenge: It's a needle-in-a-haystack problem. Can you say the high-growth companies are going to be in particular sectors? No. Sector is not a very great predictor of where the next best thing is going to come from, even though governments would love to be able to predict it, and they want to be able to help the high-growth businesses. Theory suggests that you can set up an environment that allows high-growth businesses to be successful, but you can't target them. It's just too hard. Did we really know that Apple would take off? And it's not just tech companies; it's in mundane industries too. It's the Hair Cuttery. It's Starbucks.

Most entrants fail. Even conditional on survival, most surviving young businesses don't grow. But a small fraction of surviving young businesses contribute enormously to job growth. A challenge of modern economies is having an environment that allows such dynamic, high-growth businesses to succeed.

EF