



Economic Policy Uncertainty and Small Business Expansion

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Is uncertainty causing small business owners to behave in ways that are hindering the recovery? That question is at the center of an intense public debate. Though reasonable arguments have been presented on both sides, there is not much empirical evidence to draw on. To contribute some to the discussion, we investigated the statistical association between data on small business plans to hire and make capital expenditures and a measure of policy uncertainty. Our analysis suggests that uncertainty is adversely affecting small business owners' expansion plans.

Small business owners have been saying for some time that uncertainty about the future direction of federal policies has caused them to hold back on hiring and capital investment. As the Federal Reserve Bank of Boston reported in July, businesses have expressed "concern about current and future negative effects of increased uncertainty, attributable in part to failure to resolve the U.S. debt ceiling dispute promptly and the associated unclear future course of federal expenditures and taxes."¹

The media, pundits, and politicians have picked up this point. Some commentators now assert that currently high levels of "policy uncertainty" are choking off the recovery in the small business sector. Others counter that there is no evidence for this assertion. This debate is important to our elected officials because policy uncertainty could be slowing the recovery. If small business owners do not hire or invest, economic expansion will be slower than if they do.

In this *Commentary*, we empirically examine the hypothesis that "policy uncertainty" adversely impacts small business owners' expansion plans. To do this, we looked at the statistical association between data on small business plans to hire and make capital expenditures and a measure of "policy uncertainty." The data on small business plans cover January 1986 through July 2011 and were collected by the National Federation of Independent Business (NFIB).² The uncertainty measures were created by Scott Baker, Nick Bloom, and Steve Davis and described in their paper "Measuring Economic Policy Uncertainty."³

The economic theory behind the hypothesis is straightforward. As Federal Reserve Board Chairman Ben Bernanke explained in a 1983 paper, business owners will delay costly capital investments and hiring decisions when the future is uncertain. They want to avoid making choices that turn

out to be wrong when the future environment is revealed.⁴ Therefore, if tax and regulatory policies are likely to change significantly in the future, small business owners will reduce their planned hiring and investment. In simple terms, the theory predicts a negative correlation between policy uncertainty and small business expansion plans.

Some observers have argued that existing data from the NFIB survey already negate the policy uncertainty argument.⁵ They say that policy uncertainty cannot account for small business owners' reluctance to hire and invest because only a small fraction of them responds to a question about the primary problem that they face by indicating "regulation" or "taxes." Moreover, the share of respondents identifying taxes and regulations as their primary problem is not very different now from periods when small business owners were more willing to hire and invest.

However, the NFIB question to which these observers refer asks about regulation and taxes, not policy uncertainty. Uncertainty about regulation and taxes may separately affect small business expansion even if regulation and taxes are not currently a problem. Our approach brings in additional information about the uncertainty itself.

Measures

To quantify small business expansion plans, we obtained two monthly measures collected by the NFIB in its survey of members (who are small business owners). The first, which we call "hiring plans," is the net percentage of small business owners who indicate that they plan to hire over the upcoming three months.⁶ The second, which we call "capital investment plans," is the percentage of small business owners who indicate that they plan to make a capital expenditure over the upcoming three to six months.

We believe that the NFIB data are accurate measures of small business hiring plans. To verify this, we compared the NFIB hiring-plan measure with the ADP Employment Report measure of the percentage change in employment at establishments with 1 to 49 employees, a commonly used measure of changes in small business employment. We found that the NFIB measure is strongly correlated (0.67) with the ADP measure of the employment change three months later, for the period over which the two indexes overlap (December 2000 to July 2011).

Moreover, economists working with the NFIB evaluated how informative the survey variables were in models created to predict a number of macroeconomic variables in 2003.⁷ The two variables we chose to investigate were both shown to be informative. The analysis showed that small business hiring plans are helpful in predicting the overall unemployment rate, while small business capital expansion plans are predictive for economy-wide capital expenditures.

The policy uncertainty measure is also a monthly measure. It contains three components. According to its creators: “One component quantifies newspaper coverage of policy-related economic uncertainty. A second component reflects the number of federal tax code provisions set to expire in future years. The third component uses disagreement among economic forecasters as a proxy for uncertainty.”

The components are weighted as follows: 50 percent on the news component and 16.67 percent each on tax expirations, forecaster disagreement about the future CPI, and forecaster disagreement about future federal expenditures.

We believe that the Baker, Bloom, and Davis measure accurately captures policy uncertainty for several reasons.

First, it looks reasonable. The measure increases in response to events that most observers believe have increased policy uncertainty and decreases in response to events that most observers think reduced that uncertainty. In addition, the authors show that other measures developed using the same approach accurately predict other types of uncertainty, such as financial uncertainty. Finally, the measure predicts changes in several measures of economic activity, such as employment and GDP.

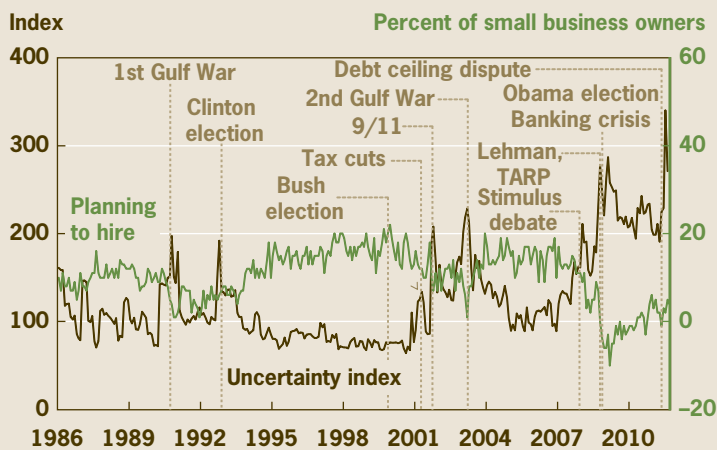
A critical technical complication in the Baker, Bloom, and Davis paper and other econometric work on uncertainty is that bad economic conditions could cause economic uncertainty to rise, rather than the other way around. Most of the existing work on the topic uses some statistical modeling assumptions to help solve this problem.

We deal with the problem differently. First, we focus on the attitudes of small businesses rather than the general economic outcomes. Second, we estimate a statistical model that predicts most of the variation in business attitudes based on business cycle and finance variables and then we add policy uncertainty to see how it changes the initial model’s estimates.

What the Data Show

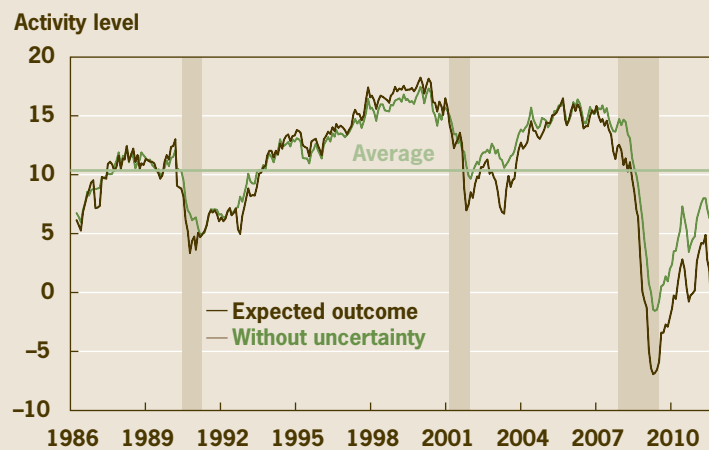
Figure 1 plots the measures of policy uncertainty and small business hiring plans over the past 25 years, identifying key events that occurred over this period. As the figure shows, the trends in both small business hiring plans and policy uncertainty look reasonable, with the Second Gulf War, the 2001 Bush tax cut debate, the stimulus debate, and the banking crisis all leading to spikes in policy uncertainty. Several of these periods also saw sharp declines in small business hiring plans.

Figure 1. Policy Uncertainty and Small Business Hiring Plans



Source: Created from data from National Federation of Independent Business and Baker, Bloom, and Davis (2011).

Figure 2. Effects of Uncertainty on Small Business Hiring Plans



Note: Shaded bars indicate recessions. Source: Authors’ calculations.

While this casual empiricism shows the link between uncertainty and slower business expansion, the rise in policy uncertainty is also clearly correlated with recessions. Economic problems encourage policy changes, but they also dampen businesses' enthusiasm for expansion. This is the reason that controlling for cyclical variables that are predictive of small business sentiments is important to the analysis.

To ensure that we isolate the effect of uncertainty from general economic conditions, we first construct a model that does well at predicting hiring and capital expansion plans without including policy uncertainty. We find that the unemployment rate and employment growth are very effective at picking up how recessions and expansions affect small businesses' plans.⁸

We are also concerned that the availability of financing affects small business expansion plans and is correlated with economic growth. To control for the financing conditions facing small businesses, we include both the prime rate and the 6-month Libor. The first of these captures the cost of line-of-credit financing, while the second picks up the funding costs of banks and the effects of the financial crisis on those costs.

Including just the control variables and a simple time trend, our regression explains 79 percent of the monthly variation in reported plans to hire and 76 percent of the variation in reported capital investment plans. These results are strong enough to accurately pick up the decreases in expansion plans around three recessions since 1986, and the general pattern of expansion plans between recessions.

When we add policy uncertainty to the model, statistical tests suggest that this variable helps the model fit the data better. Policy uncertainty has a statistically significant negative effect on both small business hiring plans and small capital expenditure plans.

In order to show the size of the effect of policy uncertainty, we compare what small business owners' hiring plans would be in the face of average uncertainty and above-average uncertainty, according to our model (figure 2).

Consistent with the assertions made by the critics of the policy uncertainty argument, our model shows that economic conditions dramatically lower predicted small business planned hiring, particularly from 2007 to 2009. A comparison for capital expansion shows similar results.

The effects of the recession and financing conditions are still weighing on business hiring plans. In the summer of 2011, for instance, we estimate that measures of economic conditions reduced NFIB planned hiring by over 4 percentage points from the average and by about 10 percentage points from early 2007 levels.

While the downturn and weak recovery certainly had a large negative effect on small business hiring plans, policy uncertainty has exacerbated this effect. In the summer of

2011, the net percentage of small business owners planning to hire would be 6 percentage points higher if it were not for policy uncertainty. That is, either 6 percent more small business owners would be planning to hire (or 6 percent more small business owners would not be planning to lay off workers), were policy uncertainty not currently an issue. The results for capital expenditures are very similar.

We also reanalyzed the data using two different versions of the uncertainty variable to make sure the results don't depend on how uncertainty is measured. The results are maintained in these alternative specifications.

An additional concern is whether the uncertainty index is picking up dips in consumer sentiment about the economy that are not connected with policy uncertainty. To address this concern, we examined how including a measure of consumer confidence influences the effect of policy uncertainty on small business expansion plans. We included the monthly score on the Michigan Consumer Sentiment Index as an additional control variable in the regression analysis. As one might expect from the tendency of policy uncertainty to be highly negatively correlated with consumer confidence, including this variable reduces the size of the policy uncertainty effect on small business expansion plans. However, in both regressions, the effect of policy uncertainty on small business expansion plans remains statistically significant.

Implications

We find statistically significant negative effects of policy uncertainty on small business owners' plans to hire and make capital expenditures over the 1986 to 2011 period. We also find a large effect of the economic downturn on small business plans, but the two effects do appear to be independent. The negative effects of policy uncertainty show up even when we weight the components of policy uncertainty in several different ways. The results also stand up when consumer confidence is controlled for, suggesting that the effects are distinct from consumer sentiment.

While this statistical analysis is informative about the relationship between policy uncertainty and small business expansion plans, we cannot say that "policy uncertainty" causes small business hiring and capital expenditure plans to decline. That is because a purely statistical model cannot identify fundamental causes. But whatever the fundamental cause, our analysis indicates that adding information about policy uncertainty improves our ability to explain the survey responses provided by the NFIB's survey respondents.

In that sense, we can say that the correlations between the two are strong enough to reject the argument that policy uncertainty is irrelevant for currently weak small business expansion plans. In our view, policymakers should take seriously the widespread anecdotal reports that policy uncertainty is adversely affecting small business owners' expansion plans.



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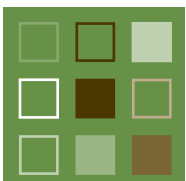
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Footnotes

1. "Report on Economic Conditions," July 27, 2011. <<http://www.federalreserve.gov/fomc/beigebook/2011/20110727/FullReport.htm>>.
2. "Small Business Economic Trends," W. Dunkleberg and H. Wade, various years. National Federation of Independent Business.
3. "Measuring Economic Policy Uncertainty," Scott R. Baker, Nicholas Bloom, and Steven J. Davis, 2011. Unpublished manuscript. <<http://faculty.chicagobooth.edu/steven.davis/pdf/PolicyUncertainty.pdf>>
4. "Irreversibility, Uncertainty, and Cyclical Investment," Ben Bernanke, 1983. *Quarterly Journal of Economics*, vol. 98, pp. 85–106.
5. "Regulatory Uncertainty: A Phony Explanation for Our Jobs Problem," L. Mishel, 2011. Economic Policy Institute <<http://www.epi.org/publication/regulatory-uncertainty-phony-explanation/>>.
6. The net percentage is the percentage planning to increase hiring minus the percentage planning to decrease hiring.
7. "Small Business Indicators of Macroeconomic Activity," W. Dunkleberg, A. Scott, and W. Dennis. 2003. Washington, DC: National Federation of Independent Business.
8. Employment growth is measured using a three-month moving average of nonfarm employment growth.



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