

News or Animal Spirits? Consumer Confidence and Economic Activity: Redux

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Changes in consumer confidence are known to predict future economic activity, but the underlying reasons remain unclear. We empirically assess the merit of two competing channels: the animal spirit channel and the news channel, to shed light on this question. Our study extends the existing research by (i) incorporating the Great Recession and ZLB episodes during which animal spirits have a greater potential to influence economic activity and (ii) employing novel state-level data to sharpen identification. We find that consumption and output persistently respond to innovations in consumer confidence, while inflation significantly declines. Such dynamics in data are difficult to reconcile with the animal spirit view of consumer confidence. Moreover, our simulation exercise suggests that animal spirit shocks explain much smaller proportion of the forecast-error variances of consumption and output compared to news shocks. Overall, our exercises support the interpretation that consumer confidence serves as a harbinger of future economic conditions rather than an exogenous driver.

There are two stark contrasting perspectives when it comes to understanding the role of consumer confidence in understanding the causes of business cycles. The animal spirits view asserts that changes in economic activity are caused by fluctuations in consumer beliefs (Blanchard 1993) whereas the information view argues that confidence measures contain information (news) about the present and future state of the economy (Barsky and Sims 2012).

To better understand the relationship between consumer confidence and economic activity, we expand upon the research conducted by Barsky and Sims (2012) in two significant ways. First, we extend the sample to include the Great Recession and the subsequent Zero-Lower-Bound (ZLB) episodes and re-evaluate the importance of news and animal spirits in explaining confidence innovations and economic activity. Second, we employ novel quarterly state-level data on consumer confidence, consumption, output, and inflation to exploit cross-sectional heterogeneity and identify the relationship between confidence and economic activity by accounting for confounding factors common to all states.

We argue that the relationship between consumer confidence and subsequent economic activity is mostly driven by news about the future. Overall, our results effectively support the interpretation that consumer confidence serves as a harbinger of future economic conditions.

Consumer confidence and economic activity in aggregates

Barsky and Sims (2012) using a sample from 1960Q1 to 2008Q4, show that confidence innovations are associated with little immediate movement in economic activity but subsequent growth in consumption and income in a persistent manner (this survey measure reflects respondents' expectations of economic conditions in the country as a whole over the next five years). By estimating a structural DSGE model, they purposefully decompose confidence innovation into variations in structural shocks. We follow their methodology and extend the sample period until 2019Q4. Our sample now includes the Great Recession and ZLB episodes during which animal spirits have a best chance to drive economic activity (Farmer 2012, Schmitt-Grohe and Uribe 2017, and Heathcote and Perri 2018).

Decomposing the model-implied variance of consumer confidence, consumption, and output at various forecasting horizons, we find that animal spirit shocks still explain only a minor proportion of the forecast-error variances of consumption and output at all horizons, except for consumption in the short run (21% at $h = 1$). In contrast, news shocks continue to account for a substantial amount of variation in economic activity, followed by technology shocks. (See Table 1 of Choi, Jeong, Park, and Yoo 2023.) Our analysis shows that, despite the use of an extended sample spanning the Great Recession and ZLB episodes, variations in economic activity are still largely explained by news about future economic prospects, confirming the main findings of Barsky and Sims (2012).

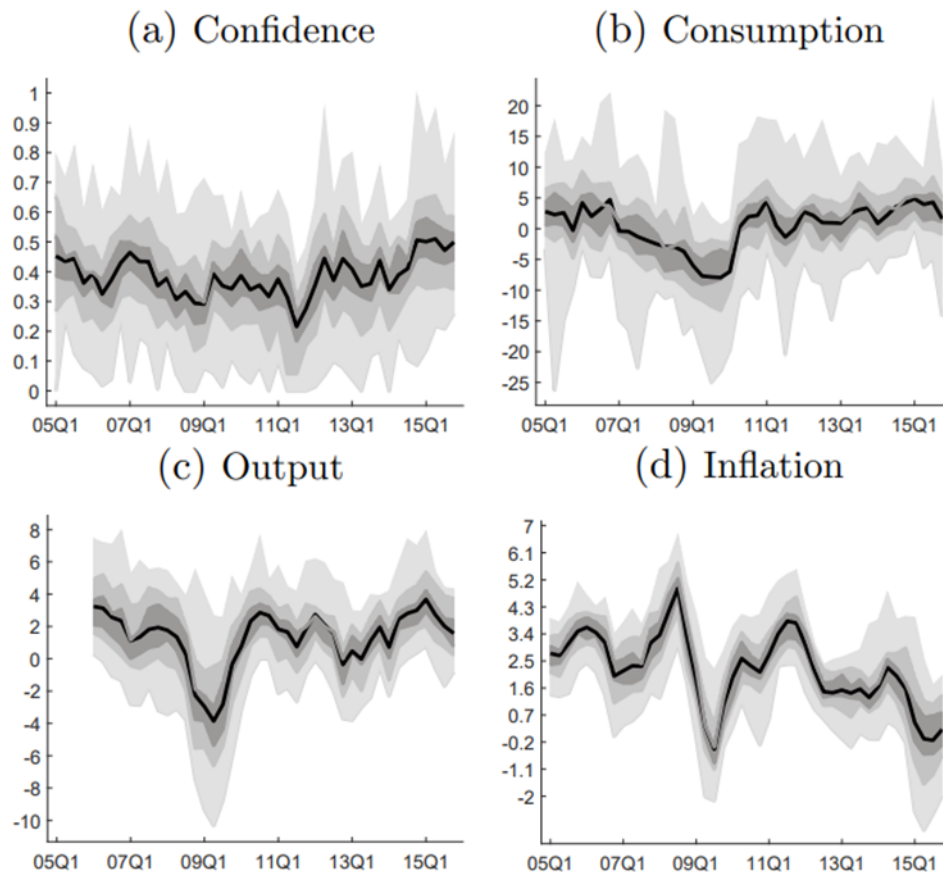
Consumer confidence and economic activity with disaggregated data

Our second exercise offers insights into how to interpret the relationship between consumer confidence and economic activity by employing unique state-level data. The panel structure allows for the inclusion of both state- and time-fixed effects, which is analogous to a difference-in-differences approach. We argue that exploiting the panel structure can effectively improve the identification by controlling for various confounding factors, notably general equilibrium forces that affect both consumer confidence and economic activity such as, for example, monetary and federal fiscal policies and common business cycles.

Briefly describing the data used for our panel analysis, we first use the ‘E5Y’ variable from the Index of Consumer Sentiment (ICS) of the University of Michigan Surveys of Consumers. This particular variable pertains to the response to the question: “Looking ahead, which would you say is more likely that in the country as a whole, we will have continuous good times during the next five years or so, or that we will have periods of widespread unemployment or depression, or what?” Responses are rated on a scale from 1 (indicating good times) to 5 (suggesting bad times). Second, we utilize the ratio of sales tax revenues to sales tax rates, as proposed by Case, Quigley, and Shiller (2005) as our state-level consumption proxy. Third, we use Gross State Product (GSP) which measures state-level real output and is obtained from the Bureau of Economic Analysis database. Finally, we use the state-level quarterly inflation from Hazell, Herreno, Nakamura, and Steinsson (2022).

Figure 1 depicts the evolution of state-level consumer confidence, consumer spending growth, output growth, and annual inflation from 2005Q1-2015Q4. Although a decline in consumer confidence characterizes the Great Recession, accompanied by a significant decrease in consumption, output, and inflation, substantial cross-sectional heterogeneity is evident in each variable, with the heterogeneity in consumer confidence appearing particularly strong. Thus, one may need to exploit cross-sectional heterogeneity to better understand how useful consumer confidence is in prediction and in understanding the causes of business cycles.

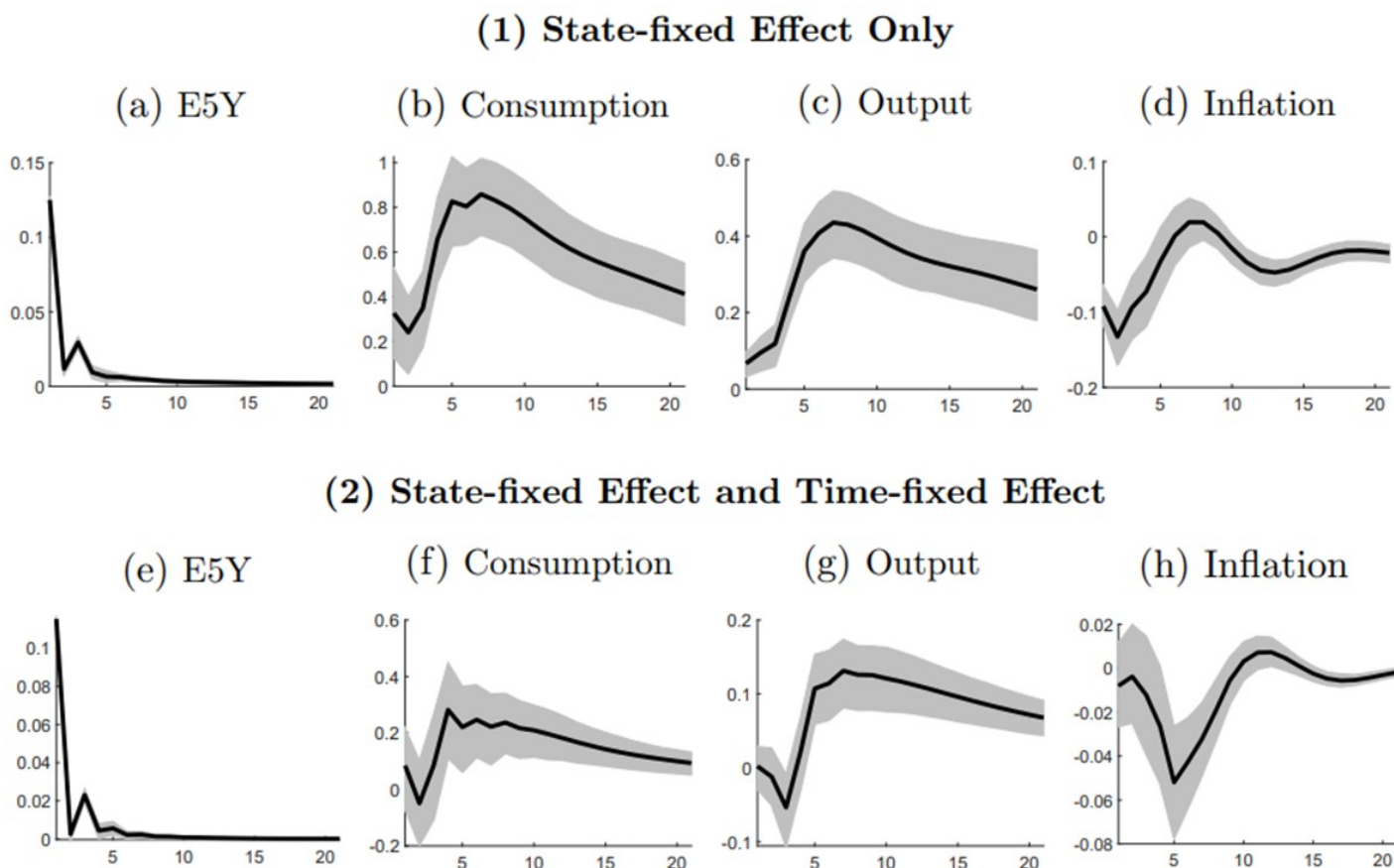
Figure 1: Evolution of State-level Variables



Note: The panels depict the evolution of key state-level variables: consumer confidence, consumption growth, output growth, and inflation with their 5th, 20th, 35th, 50th, 65th, 80th, and 95th percentiles.

Figure 2 depicts the impulse responses of consumer confidence (E5Y), consumption, output, and inflation to a consumer confidence innovation from the four-variable panel VAR. We use the dataset from 2005Q1-2015Q4 for 30 U.S. states. Despite the short-lived nature of consumer confidence innovations at the state level, the responses of consumption and output persist. The impact effect is minor, but the effect increases over time and remains positive even after five years. This feature of the impulse response functions appears to be consistent with the dynamics implied by the news shock interpretation of consumer confidence.

Figure 2: Effects of consumer confidence shocks from the state-level analysis (2005:I – 2015:IV)



Note: The panels depict the responses of consumer confidence (E5Y), consumption, output, and inflation to one-standard deviation shock to consumer confidence in the baseline panel VAR model of 30 U.S. states between 2005:I and 2015:IV. The top panels are estimated using state fixed-effect only, whereas the bottom panels are estimated using both state-fixed effect and time-fixed effect, which accounts for any general equilibrium effect. The shaded areas report 68% confidence bands.

The response of state-level inflation is notably informative in determining the nature of consumer confidence. According to Barsky (2015), the sign of the inflation response to consumer confidence shocks can help determine whether they are a demand shock that aligns with the animal spirit interpretation (Lorenzoni 2009) or a supply shock that aligns with the news interpretation, via the role of future real marginal costs in the determination of current inflation). Moreover, recent studies on news shocks employing alternative identifying assumptions commonly find a decline in inflation (Fève and Guay 2019; Klein and Linnemann 2021). State-level inflation exhibits a significant and persistent decline after a positive consumer confidence shock, which is challenging to reconcile with the animal spirit interpretation.

However, the absence of additional control variables at the national level could confound the estimation results with general equilibrium effects. To address this issue, we extend the panel VAR model by introducing time-fixed effects to control for any time-varying confounding factors common to each state. While one can include such confounding factors as an exogenous variable in the VAR system, the relatively low degree of freedom in our data limits the scope of these variables. The bottom panel of Figure 2 presents the partial equilibrium effect of consumer confidence shocks at the state level. As expected, the magnitude of consumption and output responses becomes smaller but the responses remain persistent. Importantly, we still observe a significant decline in inflation, which reinforces the news interpretation of consumer confidence.

Concluding remarks

In conclusion, even though consumer confidence is widely recognized for its predictive power regarding future economic activity, the interpretation of this connection remains uncertain. In this article, we have made an effort to shed light on this relationship by including two important economic events and utilizing innovative state-level data, which effectively tackle concerns related to endogeneity. Considering the significance of the question posed in this article, we sincerely hope that our findings will encourage additional discussion on the nature of consumer confidence. ■

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