Shedding Light on Consumer Sentiments: Evidence from India

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Abstract

This paper shows how location-based indicators can influence consumer confidence in India. We capture local economic activity using city-wise night-time luminosity (NTL) data. Using data on unit-level observations on consumer confidence from the Consumer Confidence Survey (CCS) by the Reserve Bank of India from June 2016 to November 2021, we find that night-time luminosity positively impacts the perception and future outlook of Indian households. Our results are robust even after controlling for state-wise urban inflation. We also find the dynamic effect of NTL on consumer sentiments. Finally, we extend our study to analyze the impact of NTL on several individual components of household sentiments from the RBI survey, such as household perception and outlook on household income, spending, employment, and general price levels. Overall, our results provide fascinating insights about using NTL as a measure of local economic indicators and its implications on households' sentiment indicators.

1. Introduction

Forecast of economic activities plays a pivotal role in the decision-making process of policymakers and market players (Galimberti, 2020). Consumer confidence (CC) in the economy is widely recognized as one of the driving forces behind several economic decision-making processes. These sentiments are often measured using perceptions and expectations about the state of the economy. On one hand, CC influences investment decisions in financial markets (Jansen & Nahuis, 2003), and on the other hand, it also reflects the prevailing animal spirits (Keynes, 1936). According to European Commission (2016), CC is a leading indicator of consumer spending. CC is also often used as a forward-looking indicator of the overall economic environment (Acemoglu & Scott, 1994). Ludvigson (2004) argues that CC is an important source of information about economic activity. Carroll et al. (1994) show that CC can forecast household spending. For instance, Barsky & Sims (2012) use data from Michigan Survey Index and show that the impact of unexpected shocks on responses to questions measuring consumers' confidence about future economic conditions can predict the movement of macro variables. Furthermore, Dees (2017) finds that consumer confidence shocks are important drivers of real economic activity.

Nevertheless, what drives consumer confidence? Literature documenting how consumers form such confidence about the real economy is primarily available in the backdrop of advanced economies and mostly based on aggregate data (Edelstein & Kilian, 2009; Fuhrer, 1993; Güntner & Linsbauer, 2018; Lahiri & Zhao, 2016). For instance, Fuhrer (1993) argues that variables like national income, unemployment rate, inflation, and real interest rates explain most of the variations in Michigan's Index of Consumer Sentiments. In a similar study, Güntner & Linsbauer (2018) finds that besides oil supply shocks, other ancillary factors (like future inflation expectations, variation in household income, and perceived vehicle and home buying condition) also significantly impact the responsiveness of Michigan's Index of Consumer Sentiments. Lahiri and Zhao (2016) argue that macroeconomic aggregates propel household sentiments, like perception and expectation about the economic conditions, such as their financial position and employment likelihood. Their findings also highlight that news-based channels significantly drive such household sentiments. However, these studies are primarily based on aggregate indicators of consumer confidence. A notable exception is Binder & Makridis (2020). Using household-level microdata, Binder & Makridis (2020) show that local gas prices can successfully predict consumer perceptions and expectations about the real economy in the U.S. Makridis (2019) also argues that local shocks related to housing prices affect individual perceptions about the economy and thereby drives individual beliefs about the national state of the economy. Makridis (2019) shows that changes in local economic conditions on labor and housing market activity have statistically and economically significant impact on individual beliefs about the economy's current and future state, conditional on demographic characteristics and location fixed effects. In a recent study, Makridis (2022) primarily explores the impact of local factors on an individual's perceived belief and quantifies the conducive effect of economic sentiments on consumption, using a newly licensed micro-data from Gallup between 2008 and 2017 for the U.S. The author also compares this new measure of economic sentiment vis-à-vis the Michigan Survey,