

Upturns, Downturns, and US Consumption

Esmacil Ebadi*

Wasiu Are**

Abstract

This paper examines the asymmetric aspect of U.S. consumption using disaggregated quarterly consumption expenditure data, including durables, nondurables, and services from 1994 to 2019. We apply a novel nonlinear autoregressive distributed lag (NARDL) analysis considering a regime-switching mechanism and find that U.S. consumers behave differently during economic upturns and downturns, with asymmetry existing for the consumption of durables (in the long run) and services (in both the short and long-run), but not for nondurables. Since services account for more than 40 percent of U.S. aggregate output, the slow adjustment toward equilibrium and the elasticity less than unity proves that services are more of a necessity than a luxury for U.S. consumers. The results indicate that the consumption of services is the primary determinant of U.S. consumer behavior, and monetary policy has a limited effect on U.S. consumption.

Since the Great Depression and Keynes's description of the consumption function, the concept has played a crucial role in macroeconomic analysis. However, economists still need to reach a consensus regarding the main determinants of households' consumption behavior and its predictability.

The key reason behind the mixed results regarding consumption determinants in the literature could be data availability and methodologies applied. For instance, Foster (2021) has argued that "the ratio

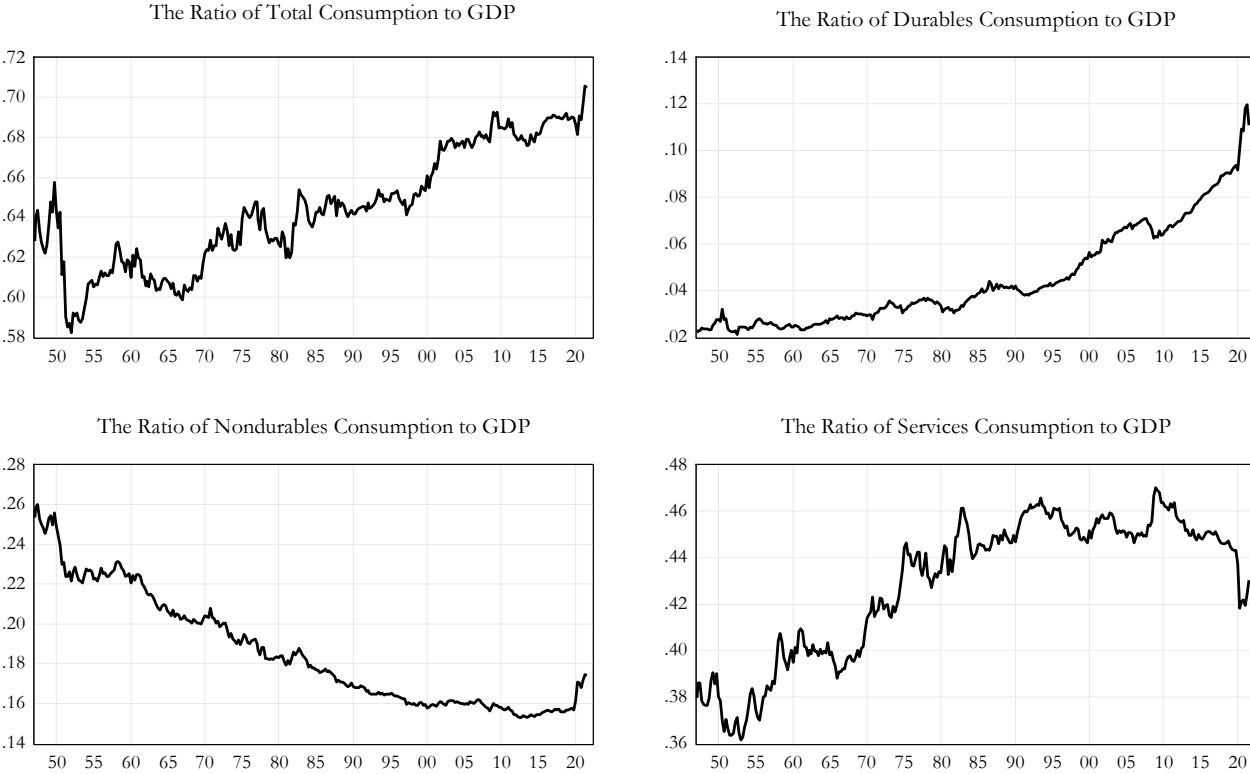
*Lead Author: Esmacil Ebadi, Department of Economics and Finance, Gulf University for Science and Technology, Kuwait (ebadi.e@gust.edu.kw).

**Wasiu Are, University of Chester, United Kingdom (w.are@chester.ac.uk).

of consumption to GDP has risen steadily over the past half-century" and that "in 2018, the U.S. consumption to GDP ratio was close to its limit." The study constructed a model to explain the fact using an error correction method, including hypothetical explanatory variables. Although the literature focused on nondurables and services consumption as spending on durables is highly volatile (Campbell and Mankiw, 1990), Foster's (2021) analysis boldly aggregated picture of U.S. consumption ignores disaggregated trends. According to Lucas (1976), using highly disaggregated data such as total consumption in macroeconomic analysis is problematic.

As [Figure 1](#) shows, although the consumption-over-GDP ratio has increased over time, only the consumption of durables has followed the same pattern. Nondurables consumption has declined, while consumption of services illustrates an inverted U-shape.

Figure 1: The Ratio of Consumption to GDP



Since services contribute to more than 60 percent of U.S. consumption, this inverted U-shape should influence the total consumption pattern that aggregate consumption cannot illustrate. The question

therefore arises: Which component of U.S. consumption responds more to shocks than others, and whether the response is different during recessions and expansions?

During the recent pandemic, we observed how fragile the essential part of the U.S. economy is: the services sector declined by about 12 percent in two quarters. This study shows that adequate macroeconomic policies are necessary for the U.S. economy to avoid falling consumption of services for at least 15 quarters. However, service consumption has recovered within seven quarters, with our model providing evidence for a positive shock in services lasting for almost eight quarters.