

# Rethinking UK Inflation: An Application of Engel Curves

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## **Abstract**

The CPI, including CPIH, tends to have biases in measuring the cost of living. Since it is reviewed only every five years, these biases can accumulate over time as the fixed consumption basket fails to capture evolving consumption patterns. As a result, inflation may be systematically misestimated. This study examines whether the official CPI (or CPIH) accurately reflects the UK's cost of living from 2001 to 2023, focusing on key economic shocks.

Using Engel curve analysis, this study identifies potential biases in inflation measurement and assesses whether structural changes in consumption patterns are adequately captured. The methodology builds on Nakamura et al. (2016) and Oguro (2020), interpreting unexplained shifts in Engel curves as CPI biases. Unlike previous studies, this analysis sets the cross-section to food items due to the lack of regional data. Inflation bias is estimated using time fixed effects, and the Engel-adjusted inflation rate is derived accordingly. The study utilizes annual data from the UK Office for National Statistics (ONS) covering 2001–2023.

Findings provide empirical evidence on CPI accuracy and contribute to the discussion on inflation measurement, offering policy insights for improving price index reliability.

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