

Truflation vs. BLS CPI Lead Analysis

Github: <https://github.com/truflation/BLS-Lead-Analysis>

Objective

Evaluate whether Truflation CPI provides an early signal relative to BLS CPI by measuring the time lead between the two series using multiple validation methods.

Methodology

The analysis is conducted using three complementary approaches to ensure both intuitive interpretation and statistical rigor:

1. **Visual Alignment**

Truflation CPI is manually shifted forward or backward using an adjustable slider to visually align with BLS CPI movements. This method enables rapid identification of potential lead relationships and structural similarities between the datasets.

2. **Correlation Corridor**

Correlation coefficients are calculated for each incremental day-shift between Truflation CPI and BLS CPI. The results are plotted to form a “correlation corridor,” where the shift producing the highest correlation indicates the most likely lead time.

3. **R² Corridor**

R² values are computed across the same range of day-shifts to measure explanatory power and strengthen statistical confidence. Consistency between peak correlation and peak R² supports the validity of the identified lead.

Outcome

By combining visual inspection with quantitative metrics, this framework provides a structured and defensible method for determining whether Truflation CPI systematically leads BLS CPI and by how many days.