Nowcast of US GDP (2025Q4)

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The US Buffett indicator quantitatively links the Wilshire 5000 index and GDP. Its quarterly dynamics are "well-behaved." The index is released immediately, whereas GDP is delayed by a month. This study predicts the unreleased value of GDP from the index, i.e., the GDP nowcast.
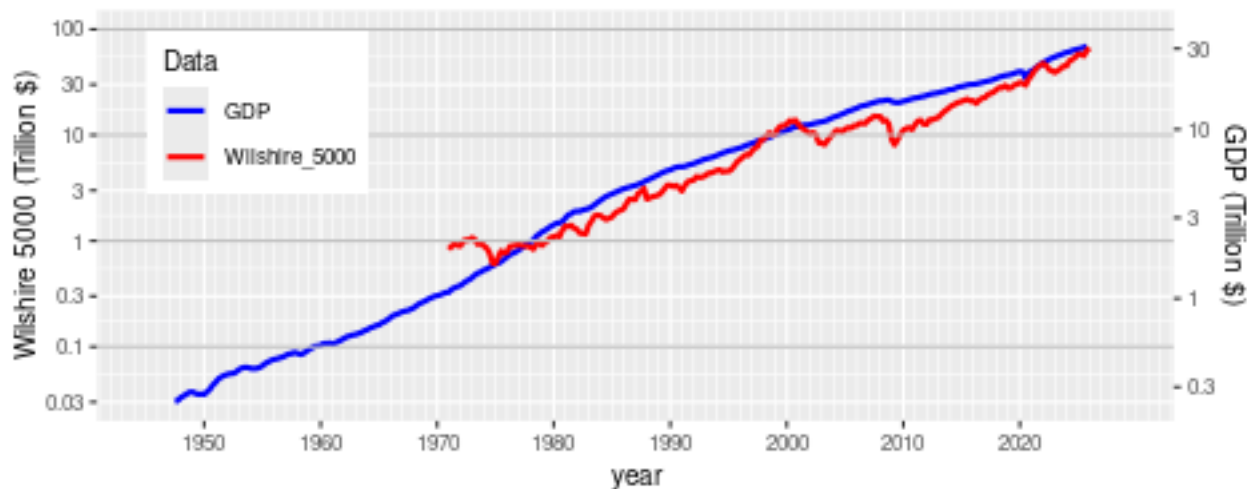
1. Wilshire 5000 index and GDP

Figure 1: Time-series plot of empirical Buffett indicator

2. Empirical Buffett indicator

$$\texttt{empirical Buffett indicator} = \texttt{Wilshire 5000} \div \text{GDP}^{1.025(\pm 0.323)}$$
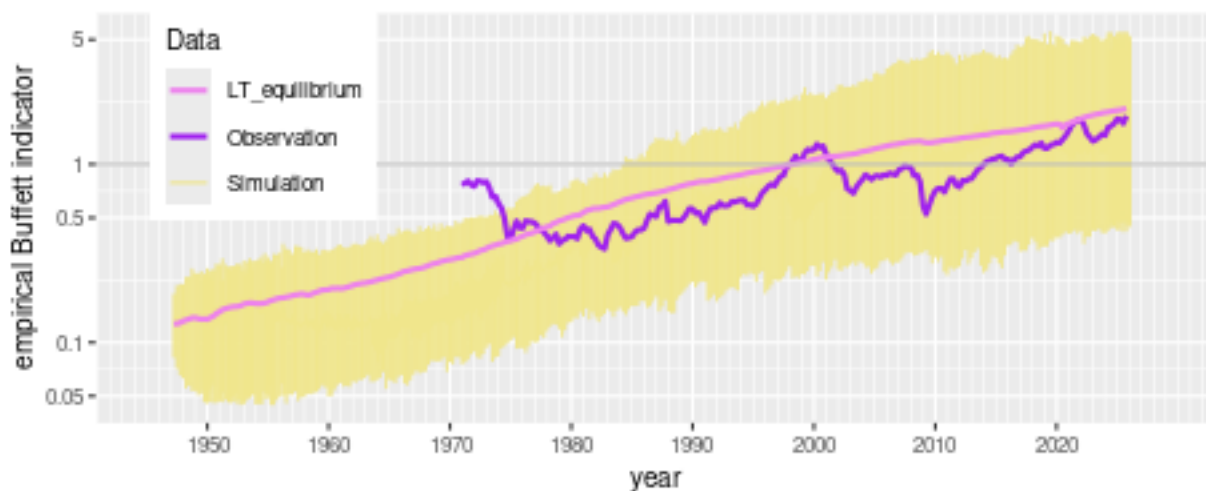

Figure 2: Time-series plot of empirical Buffett indicator

$$\texttt{Long-term equilibrium} = e^{-1.253(\pm 0.276)} \times \text{GDP}^{0.574(\pm 0.313)}$$

This study conducts 10,000 simulations of the empirical Buffett indicator by its dynamics.

cf. estimated quarterly dynamics of the empirical Buffett indicator (technical)

$$\Delta ln(\texttt{empirical Buffett indicator}_t) = \hat{\kappa} \cdot \{\hat{\mu} + \hat{\nu} \cdot ln(\texttt{GDP}_{t-1}) - ln(\texttt{empirical Buffett indicator}_{t-1})\}$$

$$+ \texttt{normal error}_t + \texttt{Poisson shock}_t \qquad (1)$$

where $\hat{\kappa} = 0.045 \pm 0.013$; $\hat{\mu} = -1.25 \pm 0.28$; $\hat{\nu} = 0.57 \pm 0.31$; the normal error is mean zero with the variance of 0.0028; and, the size of the Poisson shock is -0.247 with the arrival rate of 0.018.

By definition,

$$ln(\texttt{empirical Buffett indicator}_t) = \Delta ln(\texttt{empirical Buffett indicator}_{t-1})$$

$$+ ln(\texttt{empirical Buffett indicator}_{t-1}) \qquad (2)$$

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3. Distribution of GDP nowcast

$$\texttt{GDP nowcast}_{2025Q4} = \left(\frac{\texttt{observed Wilshire5000}_{2025Q4}}{\texttt{hypothetical empirical Buffett indicator}_{2025Q4}} \right)^{\frac{1}{1.02(\pm 0.32)}}$$

The hypothetical empirical Buffett indicator is simulated by equation (1) with random draws of the parameters($\hat{\kappa}$, $\hat{\mu}$, and $\hat{\nu}$), the normal error, and the Poisson shock.

(a) Hypothesis from long-term simulations

Long-term simulations apply equation (1) to the time-series data of GDP from 1947Q1 to 2025Q3. Its initial value is obtained by $ln(\texttt{empirical Buffett indicator}_{1947Q1}) = \hat{\mu} + \hat{\nu} \times ln(\texttt{GDP}_{1947Q1})$.

(b) Hypothesis from quarterly dynamics

Quarterly dynamics apply equation (1) to the observed values of GDP and the empirical Buffett indicator in 2025Q3.

The observed values of the empirical Buffett indicator and GDP for 2025Q3 are respectively 1.868 and 31.095. Then, the predicted value of the indicator for 2025Q4 is 1.867. The observed value of the Wilshire 5000 index for 2025Q4 is 66.582, cf. 63.253 for 2025Q3. The corresponding GDP is 32.699, which is very high. That is likely because the index is too high.
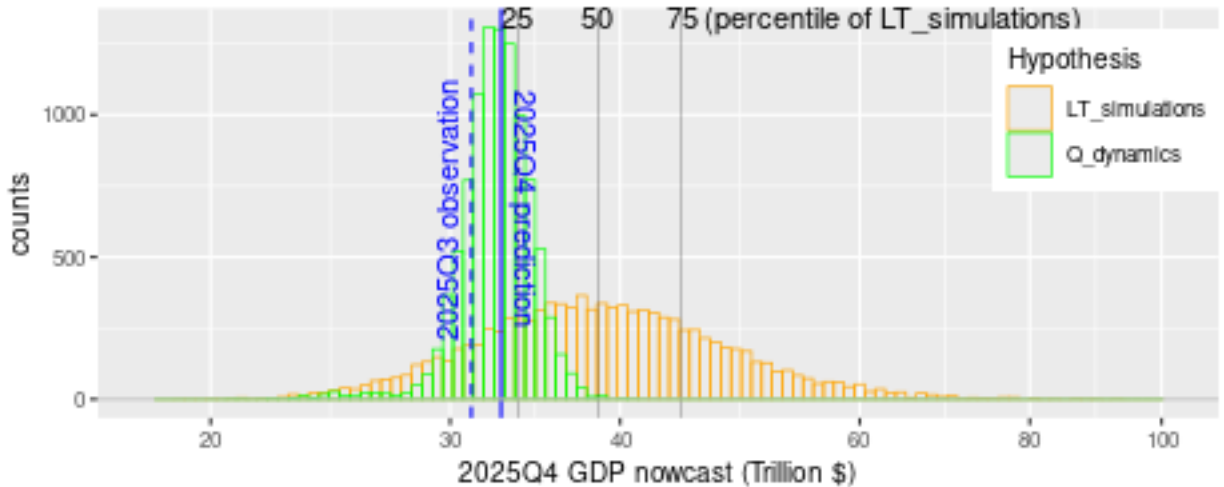

Figure 3: Histogram of 2025Q4 GDP nowcast