

Nowcasting Iran's Quarterly Economic Growth Using Sentiment Analysis of News Texts

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Abstract

This study introduces a novel framework for nowcasting Iran's quarterly GDP growth by leveraging sentiment analysis of economic news. A web crawler was employed to collect economic news articles from March 2005 to December 2023. The sentiment orientation (negative, neutral, positive) and intensity of each article were quantified using the Persian adaptation of the SentiStrength lexicon. Quarterly aggregation of these scores formed a composite news sentiment index. Statistical analysis reveals a significant correlation between this index and quarterly economic growth, offering valuable insights into Iran's short-term economic fluctuations. Furthermore, incorporating the sentiment index into a forecasting model leads to superior performance metrics compared to a benchmark univariate time-series model. By capturing shifts in economic sentiment in real-time, this approach provides a more timely and comprehensive understanding of Iran's economic trajectory, even prior to the release of official GDP statistics.

Keywords: Economic News; Nowcasting; Economic Growth; Sentiment Analysis; Big Data; Text Mining.

JEL Classification: O47, E17, C53, C55.

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