

Nowcasting Finnish real economic activity: a machine learning approach

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Abstract

We develop a nowcasting framework based on micro-level data in order to provide faster estimates of the Finnish monthly real economic activity indicator, the Trend Indicator of Output (TIO), and of quarterly GDP. In particular, we rely on firm-level turnovers, which are available shortly after the end of the reference month, to form our set of predictors. We rely on combinations of nowcasts obtained from a range of statistical models and machine learning methodologies which are able to handle high-dimensional information sets. The results of our pseudo-real-time analysis indicate that a simple nowcasts' combination based on these models provides faster estimates of the TIO and GDP, without increasing substantially the revision error. Finally, we examine the nowcasting accuracy obtained by relying on traffic data extracted from the Finnish Transport Agency website, and find that using machine learning techniques in combination with this big data source provides competitive predictions of real economic activity. The applications of these approaches of utilising surveyed microdata in nowcasting or imputation are discussed. There are multiple possibilities to extend this work in other statistical domains.

Keywords: Nowcasting, business surveys, machine learning

References

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