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Using newspapers for tracking the business cycle: a comparative study for Germany and Switzerland

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ABSTRACT

The use of news-based data for tracking the real economy has gained popularity recently as newspapers archives have become accessible and the need for timely information has soared. In this article, on the basis of keyword searches in newspaper articles we construct several versions of the so-called Recession-word Index (RWI) for Germany and Switzerland and exploit its use for forecasting. Our main findings are the following. First, we show that augmenting benchmark autoregressive models with the RWI leads to improvement in accuracy of one-step-ahead forecasts of GDP growth compared with those obtained by benchmark models. Second, the accuracy of out-of-sample forecasts obtained with models augmented with the RWI is comparable to that of models augmented with established economic indicators, such as the Ifo Business Climate Index and the ZEW Indicator of Economic Sentiment for Germany, and the KOF

Economic Barometer and the Purchasing Managers Index in manufacturing for Switzerland. Our results are robust to changes in estimation/forecast samples, the use of rolling versus expanding estimation windows and the inclusion of a web-based recession indicator from Google Trends. As our indices are timely and simple to construct, they could be replicated in countries or regions where no reliable economic indicators exist or their provision is very costly.

KEYWORDS:

Nowcasting recession indicators Google Trends

JEL CLASSIFICATION:

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Notes

[1] DAX stands for Deutscher Aktien Index, the German stock index.

[2] A comprehensive list of related references to the articles using Google Trends is provided in Choi and Varian (2012).

[3] Data according to the Swiss Customs Administration, without gold bars and other precious metals, coin, precious stones and gems, works of art and antiques.

[4] Handelsblatt provided us this data on request.

[5] Q.DE.Y.A.AG1.CA010.C.A Pfad: Volkswirtschaftliche Gesamtrechnungen [A]/Bruttoinlandsprodukt [AG1]/Gesamtwirtschaft (Inlandskonzept) [CA010]/in konstanten Preisen [C]/absolute Angaben [A]/vierteljÃ¤hrlich [Q]/kalender- und saisonbereinigt [Y].

[6] Q.DE.Y.A.AG1.CA010.A.I Pfad: Volkswirtschaftliche Gesamtrechnungen [A]/Bruttoinlandsprodukt [AG1]/Gesamtwirtschaft (Inlandskonzept) [CA010]/in verketteten Vorjahrespreisen [A]/Index [I]/vierteljÃ¤hrlich [Q]/kalender- und saisonbereinigt [Y].

[7] The use of alternative keywords is investigated in Iselin (2015). The results confirm that the keyword ‘Recession’ captures business cycle dynamics better than other keywords such as ‘Uncertainty’, for example.

[8] The Ifo Business Climate Index is based on around 7000 monthly survey responses from firms in manufacturing, construction, wholesaling and retailing. The firms are asked to give their assessments of the current business situation and their expectations for the next 6 months.

[9] The ZEW Indicator of Economic Sentiment is constructed by asking up to 350 financial experts on their expectations for the economic development in Germany in 6 months.

[10] The KOF Economic Barometer was at the time comprised of 25 individual indicators subdivided into core-GDP, banking and construction modules. The core-GDP module was further split into three submodules capturing dynamics of consumption, manufacturing and exports. In 2014, the barometer was completely revised (check Abberger et al. 2014 for details).

[11] The PMI is constructed by asking 200 purchasing managers in industrial companies in Switzerland.

[12] In doing so, we treat these indicators in a pseudo real-time framework similar to Drechsel and Scheufele (2012) and Marcellino and Schumacher (2010), for example who are even more restrictive than us by using final data vintages not only for economic indicators but also for time series they forecast like industrial production and GDP. We, however, chose to retain the real-time aspect of forecasting as much as data availability allows us.

[13] Here we follow a so-called Bridge Model approach traditionally used in the time series literature (e.g. see inter alia Baffigi, Golinelli, and Parigi 2004; Golinelli and Parigi 2007; Trehan 1989).

[14] Although the French-speaking and the Italian-speaking parts of Switzerland are more French-oriented and Italy-oriented, respectively, the German-speaking part of Switzerland is the economically speaking dominant part of the country.

[15] As mentioned in the Introduction, Germany is by far the single most important export and import country for Switzerland, responsible for 20% of all exports and almost 30% of imports according to the Swiss Customs Administration, the official body for measuring Swiss trade.

[16] Since one may argue that by restricting the starting date for the model estimation in 1998Q1 we are likely to artificially impair the forecasting performance of the models augmented with economic indicators for which more data points are available, we also conducted the robustness check where we allow for maximum possible estimation samples. We make these results available upon request.

[17] We experimented with alternative criterion for model specification choice, like minimizing the Schwarz Information Criterion, and longer lags of the explanatory variables, but it did not result in any systematic improvement in forecast accuracy.

[18] Since this transformation requires positive keyword counts, we substituted zero counts with 1.