

Forecasting economic activity using preselected predictors: the case of Cyprus

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Abstract

This paper applies hard and soft thresholding techniques to a large dataset of domestic and foreign series in order to preselect informative predictors for forecasting economic activity in Cyprus. The variables of interest in the forecasting exercise consist of GDP and the production-side components of GDP, expressed in growth rates. The subsets of selected predictors are allowed to differ across the variables of interest and over the forecast horizon, thus accommodating idiosyncratic features of economic sectors. The sets of selected predictors contain a higher proportion of domestic as opposed to foreign predictors for the one-quarter horizon, while the opposite occurs for longer horizons. Furthermore, in the case of GDP all thresholding techniques result in selecting high proportions of business and consumer survey indicators for all horizons. The forecasting performance depends on the forecast horizon and, most importantly, on whether the subsets of chosen predictors remain constant or change over time. The thresholding technique employed is not found to substantially affect the forecasting performance. Selecting predictors prior to forecasting GDP growth, leads to lower forecast errors vis-à-vis a simple univariate benchmark, as well as compared to exploiting the full dataset of predictors for forecasting. The gains from preselecting predictors are higher during a crisis period than in normal times, especially for short horizons, while preselection in normal times benefits forecast accuracy for longer horizons. Predictor preselection is found to improve the forecasting performance in the case of some production-side components, particularly the gross value added in the sectors of trade and construction, and net taxes.

Keywords: Forecasting, factor models, predictor selection

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