

# Forecasting economic activity in sectors of the Cypriot economy using VAR models\*

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## ABSTRACT

This paper explores the use of Vector Autoregressions (VARs) for the construction of short-term growth forecasts for the production-side components of GDP as well as for GDP growth via aggregation of its component forecasts. The production-side components of GDP are given by the gross value added in six sectors of economic activity (i.e. agriculture, industry, construction, trade and transport, financial and business activities, and other services), and import duties plus value added tax. Apart from simple VARs, we also consider VAR models augmented with exogenous variables represented by common factors. The common factors are computed from separate blocks of series in the dataset so that the resulting factors represent different aspects of the economy.

The results show that, in general, component forecasts obtained from VARs with exogenous factors outperform simple VAR forecasts. Forecast gains, however, are mainly attained for short horizons. The exceptions are the construction sector in which some gains are found for longer horizons, and the sector of financial and business activities in which significant gains are attained for both short and long horizons. Component forecasts computed from single equations are at least as accurate as VAR forecasts. However, the contraction in real activity during the period 2012 – 2013 was better predicted by VAR models in the case of large components such as trade, financial and business activities, and other services. Similarly, bottom-up GDP growth forecasts from single equation models for components are at least as precise as indirect forecasts using VARs to compute the component forecasts. Direct GDP growth forecasts are the best performers over the period examined.

Keywords: VAR, forecasting, combination forecasts, GDP, gross value added, bottom-up forecasts.

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