

Flow Approach to Labor Market Forecasting

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Forecasting labor market variables like the unemployment rate is an difficult and important task for policy makers, especially surrounding economic downturns. However, a stock-based linear model that policy makers often rely on does not capture the asymmetry of labor market changes. Thus, forecast errors become bigger in times of business cycle turning points.

To address this problem, we established a flow approach to labor market forecasting. The main idea behind our approach is as follows: unemployment at a given time can be thought of as the amount of water in a bathtub, a stock. Given an initial water level, the level at some future time is determined by the rate at which water flows into the tub from the faucet and the rate at which water flows out of the tub through the drain. What is important here is that the inflows and outflows have different time-series properties, and their contributions change over the business cycle. Therefore, focusing on the flows allows us to capture the asymmetric nature of unemployment movements.

A flow-based forecasting model with the theory of equilibrium unemployment and simple time-series techniques outperforms the survey of professional forecasters and other time-series models. More specifically, in forecasting the unemployment rate one year from now, our model achieves a root-mean-squared error (RMSE) about 10 percent below that of the survey of professional forecasters, and 47 percent below that of VAR models. In addition, our model has better predictive ability in times of business cycle turning points and when

the unemployment rate rises.

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