Economics Letters 125 (2014) 261–265

Contents lists available at ScienceDirect

Economics Letters

journal homepage: www.elsevier.com/locate/ecolet

Economic policy uncertainty, financial markets and probability of US recessions

Lilia Karnizova *, Jiaxiong (Chris) Li

Department of Economics, University of Ottawa, 9053 - 120 University Private, Ottawa, Canada, K1N 6N5

HIGHLIGHTS

- Economic policy uncertainty indexes (IEPU) help predict future US recessions.
- IEPUs improve forecasts from probit models with financial variables.
- The results hold for in-sample and out-of-sample forecasts at longer horizons.
- The newspaper-based index is a robust predictor at the longer forecast horizons.

ARTICLE INFO

Article history:
Received 13 June 2014
Received in revised form
31 August 2014
Accepted 14 September 2014

JEL classification:
E32
E37
E44
E52
E62

Keywords:
Policy uncertainty
Recession forecast
Term spread
Probit regression

ABSTRACT

We use probit recession forecasting models to assess the ability of economic policy uncertainty indexes developed by Baker et al. (2013) to predict future US recessions. The model specifications include policy indexes on their own, and in combination with financial variables, such as interest rate spreads, stock returns and stock market volatility. Both in-sample and out-of-sample analysis suggests that the policy uncertainty indexes are statistically and economically significant in forecasting recessions at the horizons beyond five quarters. The index based on newspaper reports emerges as the best predictor, outperforming the term spread at the longer forecast horizons.

© 2014 The Authors. Published by Elsevier B.V.
This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/3.0/).

1. Introduction

Indexes of economic policy uncertainty (IEPU) constructed by Baker et al. (2013) have received increasing attention among researchers and policy-makers. We evaluate the possible use of these indexes in forecasting. In particular, we ask: "*Can the IEPUs predict future US recessions? If so, do they contain information that has not already been incorporated by the financial markets?*" These questions are novel, as previous studies have focused on the relation between the IEPUs and continuous measures of economic activity (e.g. Baker et al., 2013; Colombo, 2013).

Macroeconomic theory provides guidance as to why the IEPUs can forewarn recessions. Increased uncertainty about fiscal policy, for example, can cause a delay in investment and hiring decisions, which in turn can trigger a prolonged downturn. The downturn is likely to be followed by an economic rebound after the policy uncertainty is resolved (Fernández-Villaverde et al., 2011; Born and Pfeifer, 2013).[1]

We evaluate the in-sample and out-of-sample forecasting performance of the IEPUs using probit recession forecasting models, as defined in Estrella and Mishkin (1998). The IEPUs are statistically and quantitatively important in forecasting US recessions at the forecast horizons beyond five quarters. Furthermore, including

* Corresponding author. Tel.: +1 613 562 5800x2017.
E-mail addresses: Lilia.Karnizova@uOttawa.ca, lkarnizova@gmail.com (L. Karnizova), JLi241@uOttawa.ca (J. Li).

[1] Bloom (2014) reviews macroeconomic effects of time-varying uncertainty.

http://dx.doi.org/10.1016/j.econlet.2014.09.018
0165-1765/© 2014 The Authors. Published by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/3.0/).

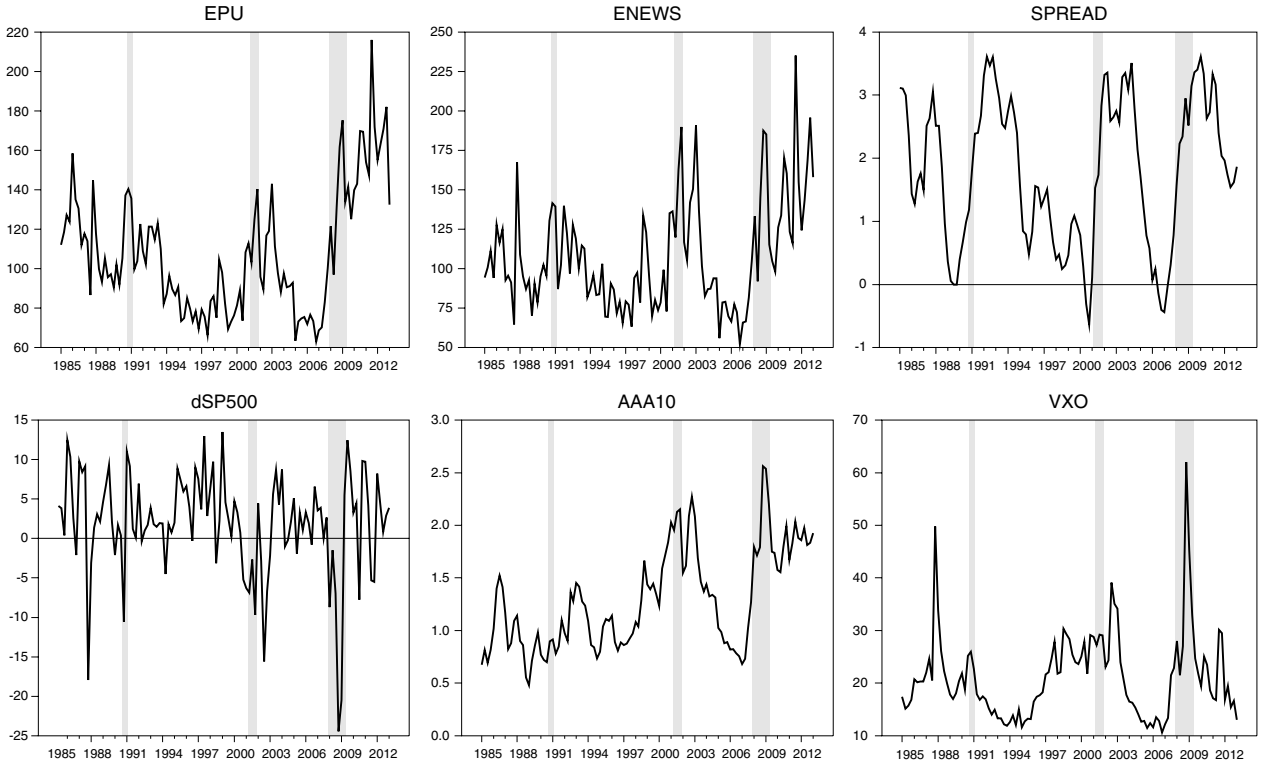

Fig. 1. Time series with the shaded NBER recession dates.

the IEPUs into the models with financial variables improves the accuracy of the forecasts.

2. Method and data

Our empirical framework is based on probit recession forecasting models. Such models have been previously used to test the forecasting properties of financial variables.[2] Despite their simplicity, probit models with the term spread generate recession forecasts that are often comparable and in some cases superior to those of more sophisticated models, as well as to the responses of professional forecasters. This framework provides a consistent and parsimonious way of comparing the predictive content of individual variables at different forecast horizons. Similar to Estrella and Mishkin (1998), we use two evaluation criteria: the significance of the regression coefficients and the measures of fit.

We first estimate one-factor models, which include an IEPU or a financial indicator x_t:

$$P\left(R_{t+k}=1\right)=F\left(\alpha+\beta x_t\right), \tag{1}$$

where R_{t+k} is the zero–one recession indicator in period $t+k$, with k denoting the forecast horizon. Following a common convention, we define a recession as a period between the peak and the subsequent trough plus the trough itself, using the business cycle dates from the National Bureau of Economic Research (NBER). Finally, F denotes the cumulative normal distribution. If the β coefficient is statistically significant, then x is useful for forecasting a recession k periods ahead. The quantitative importance of each variable is measured by pseudo R^2, developed by Estrella (1998).

We use two IEPUs: an aggregate index (EPU) and its newspaper-based component (ENEWS). The choice of financial variables is based on the extensive analysis of Estrella and Mishkin (1998) and Fornari and Lemke (2010). The term spread (SPREAD) is the difference between the 10-year and 3-month US Treasury yields. The stock returns (ΔSP500) is the log-difference of the S&P 500 index. The corporate spread (AAA10) is the Aaa corporate bond yield relative to the yield on 10-year Treasury. In addition, we include stock market volatility as a common proxy for economic uncertainty. It is measured by the VXO index, combined with the realized volatility from Bloom (2009) for 1985. Fig. 1 plots our series for the whole sample 1985:Q1–2013:Q1.[3]

To answer our second research question, we estimate multi-factor models

$$P\left(R_{t+k}=1\right)=F\left(\alpha+\beta x_t+\gamma \mathrm{SPREAD}_t+\delta' Z_t\right), \tag{2}$$

where x_t is an IEPU or a financial variable, and Z_t is a vector of controls.[4] The models always include SPREAD, due to its well-known forecasting properties. If β for an IEPU remains significant in (2), then this index provides information above and beyond of what is captured by the financial markets. Pseudo R^2s measure the quantitative importance of the IEPUs.

3. Results

Probit models are estimated by maximum likelihood. In-sample results are for the whole period. Out-of-sample results are based on the recursive estimation, which keeps the same prediction sample 2006:Q1–2013:Q1 for all forecast horizons. Note that the 2007–2009 recession is included into out-of-sample forecasting. In all cases, we consider the forecast horizons from one to ten quarters.

[2] See Wheelock and Wohar (2009) for a recent survey, and online Appendix for references.

[3] The IEPUs are from http://www.policyuncertainty.com. The financial variables are from the FRED database (http://research.stlouisfed.org/fred2/), and www.cboe.com/VXO.

[4] Z_t can include up to two financial variables, but can also represent the null set.

Download English Version:

https://daneshyari.com/en/article/5059234

Download Persian Version:

https://daneshyari.com/article/5059234

Daneshyari.com