



A new economic policy uncertainty index for Spain[☆]

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HIGHLIGHTS

- We refine the Economic Policy Uncertainty (EPU) index (Baker et al., 2016) for Spain.
- We fine-tune the richness of the expressions used and the newspaper coverage.
- We unveil an index chronology more in line with key uncertainty-increased events.
- EPU shocks affect economic activity and more so private consumption and investment.

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ABSTRACT

We explore how sensitive is the influential Economic Policy Uncertainty (EPU) index (Baker et al., 2016) to certain key features of the construction methodology. Our results (for the case of Spain) both as regards the chronology of economic policy-related events as well as the effects of uncertainty shocks on the economy, show the relevance of fine-tuning two key methodological choices: (i) the richness of the keywords and expressions used, and (ii) the newspaper coverage. Thus, our results are not to be read only as regards the case under study (Spain), but rather convey a more general message.

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1. Introduction

The theoretical and empirical literature shows that heightened economic uncertainty can harm economic activity. Nevertheless, being “uncertainty” a non-observable concept, a number of empirical strategies have been developed in the literature to proxy it (see e.g. [Castelnuovo et al. \(2017\)](#), and the references quoted therein). The most influential methodology to compute such proxies is the so-called Economic Policy Uncertainty (EPU) index of [Baker et al. \(2016\)](#) (BBD henceforth). This index has been borrowed in a number of empirical applications: e.g. [Meinen and Roehe \(2017\)](#), [Fontaine et al. \(2017\)](#), [Caggiano et al. \(2017\)](#) and [Colombo \(2013\)](#).

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BBD construct indexes of economic policy uncertainty based on newspaper coverage frequency for the US and some other countries.¹ For the US case, they rely on a large press and time coverage. For European countries, they restrict the press coverage to two newspapers per country, i.e. *El País* and *El Mundo* in the Spanish case. The time coverage varies case by case, and for Spain starts in January 2001. For each country, they count the number of articles that contain terms referring to three categories: economy, policy, and uncertainty. For Spain, they consider the following keywords: (economy) *económica* or *economía*; (policy) *impuesto* or *tarifa* or *regulación* or *política* or *gastar* or *gasta* or *gasto* or *presupuesto* or *deficit* or *banco central*; (uncertainty) *incierto* or *incertidumbre*. They scale the raw count by the total number of articles in the same newspaper/month, standardize the monthly series of scaled counts, average them across the newspapers, and rescale the resulting index to mean 100.

In this paper we provide a new EPU index for Spain, building on the methodology of BBD, so that it is more in line with

¹ See also [Davis \(2016\)](#), and the dedicated webpage <http://www.policyuncertainty.com/>.

the index BBD constructed for the US. We expand the latter in several relevant dimensions, namely: (i) we expand the headline newspaper coverage from 2 to 7, including economic-financial ones; (ii) we use a much richer set of keywords to form the search expressions; (iii) we cover a longer sample period (from January 1997). In addition, we provide estimates of the macroeconomic effects of uncertainty shocks.

Two results stand out: (i) the new index presents a more consistent chronology of economic policy events; (ii) the macroeconomic effects of uncertainty shocks measured from the new index yield significant negative responses of GDP, private consumption and private investment, compared to muted responses obtained using the original one. Beyond this, our results suggest that, in addition to the richness of keywords, widening press and time coverage is key to improve the quality of the index.

In the rest of the paper we explain how we build our index (Section 2), our empirical exercise (Section 3), and some conclusions (Section 4).

2. Building the index

We consider 7 relevant Spanish national newspapers: *El País*, *El Mundo*, *La Vanguardia*, *ABC*, *Expansión*, *Cinco Días*, and *El Economista*. The first 4 newspapers are the most read generalist newspapers in Spain, while *Expansión*, *Cinco Días*, and *El Economista* are the three headline Spanish business newspapers. All searches are carried out using the Dow Jones' Factiva service. For each newspaper, we conduct our search from the first date in which the newspaper is collected in the database, starting from January 1997.²

Our search (in Spanish language) counts the number of articles containing simultaneously at least one keyword related to the categories of “uncertainty”, “economy”, and “policy”:

- Uncertainty: *inciert** or *incertidumbr** or *inestabl** or *inestabilidad/inestabilidades* or *riesgo/riesgos*;
- Economy: *economic** or *economía*;
- Policy: *Parlamento* or *Moncloa* or *gobierno central* or *Hacienda* or *Comisión Europea* or *déficit* or *presupuest** or *gasto público/gastos públicos* or *deuda pública/deudas públicas* or *política fiscal/políticas fiscales* or *política monetaria/políticas monetarias* or ((el or de or del or un or por or este or ese or aquél) w/1 *impuesto* or *impuestos*)³ or *Banco Central Europeo/BCE* or *Banco de España/BdE* or *legislación/legislaciones* or *reforma/reformas* or *norma/normas* or *normativ** or *regulación/regulaciones* or *reglamento/reglamentos* or *ley/leyes*.

The construction of the index follows closely the procedure used by BBD, as described in the previous section. Our EPU indicator is shown in Fig. 1a. The new EPU index increases in periods that are generally associated to periods of higher uncertainty: e.g. the Lehman Brothers bankruptcy or the Greek bailout. It shows the highest spike in June 2012, when Spain asked for a financial sector support package from the European institutions, and decreases afterwards. Also, in the most recent period, the index increases again during the Catalan crisis in October 2017.

A comparison between the new EPU index and the original BBD's EPU index (named EPU-BBD hereafter) is provided in Fig. 1b. The EPU-BBD index is more volatile than the new one, showing some important spikes that cannot be associated to any relevant policy-related historical event. In addition, it increases

² We restrict all queries to articles whose content is related to Spain. We replicated the index ignoring this condition and got very similar results (available upon request).

³ We want to ensure that we capture sentences in which *impuesto* is a noun (meaning taxes) and not the past participle of the verb *imponer*.

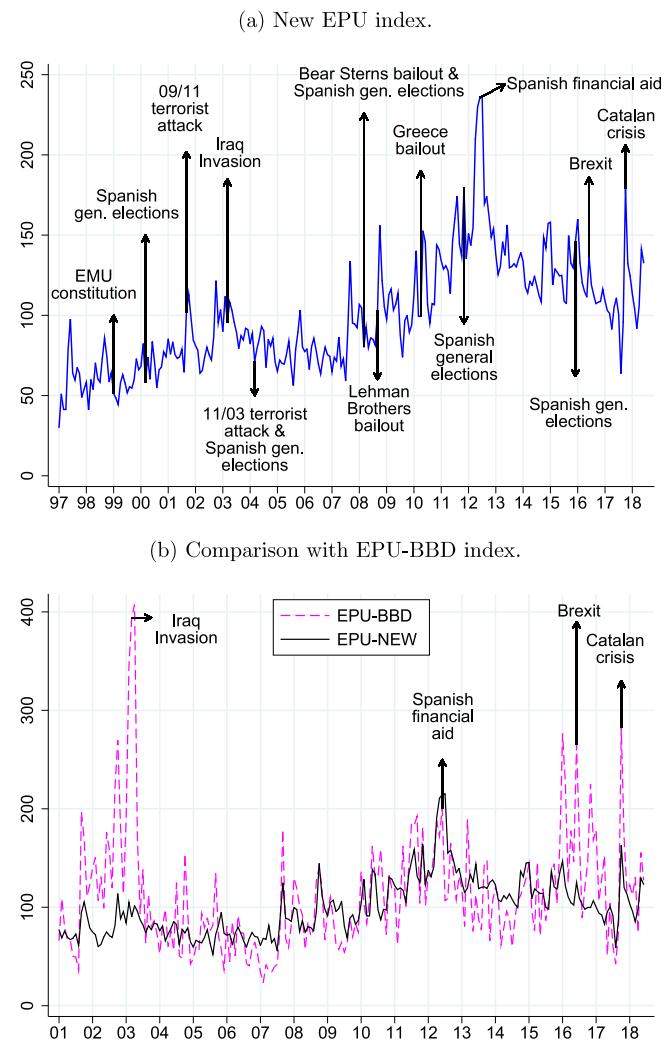


Fig. 1. Narrative of main events in EPU indexes. Notes: EPU-BBD: BBD's EPU index. EPU-NEW: own calculation.

dramatically in March 2003, at the time of the Iraq invasion. Although this event could have reflected Spain-related economic policy uncertainty, it is hard to associate it with the sharpest increase in the series. The new EPU index, in contrast, presents only a slight increase at that date. Of particular notice is the increase in economic policy uncertainty at the time of the recapitalization of the Spanish banking sector, a major event in the Spanish recent economic history, that is much more marked, in relative terms, by the new EPU index (see Fig. 1).

3. Empirical exercise

We identify the macroeconomic effects of EPU shocks by means of VAR models: $X_t = \Pi(L)X_t + \epsilon_t$, where X_t is a set of endogenous variables, Π is a matrix of VAR coefficients capturing the dynamics of the system, and $\epsilon_t : N(0, \Omega)$ is the vector of reduced-form residuals having zero-mean and variance-covariance matrix Ω . The VAR models are estimated by OLS. In each model we include lags according to the optimal lag length.

To make sure that EPU shocks are orthogonal to the other stochastic elements in the econometric framework, we model the impulse vector responsible of the one-impact response of the variables in the vector X_t by means of a Cholesky decomposition of the reduced-form variance-covariance matrix Ω . The

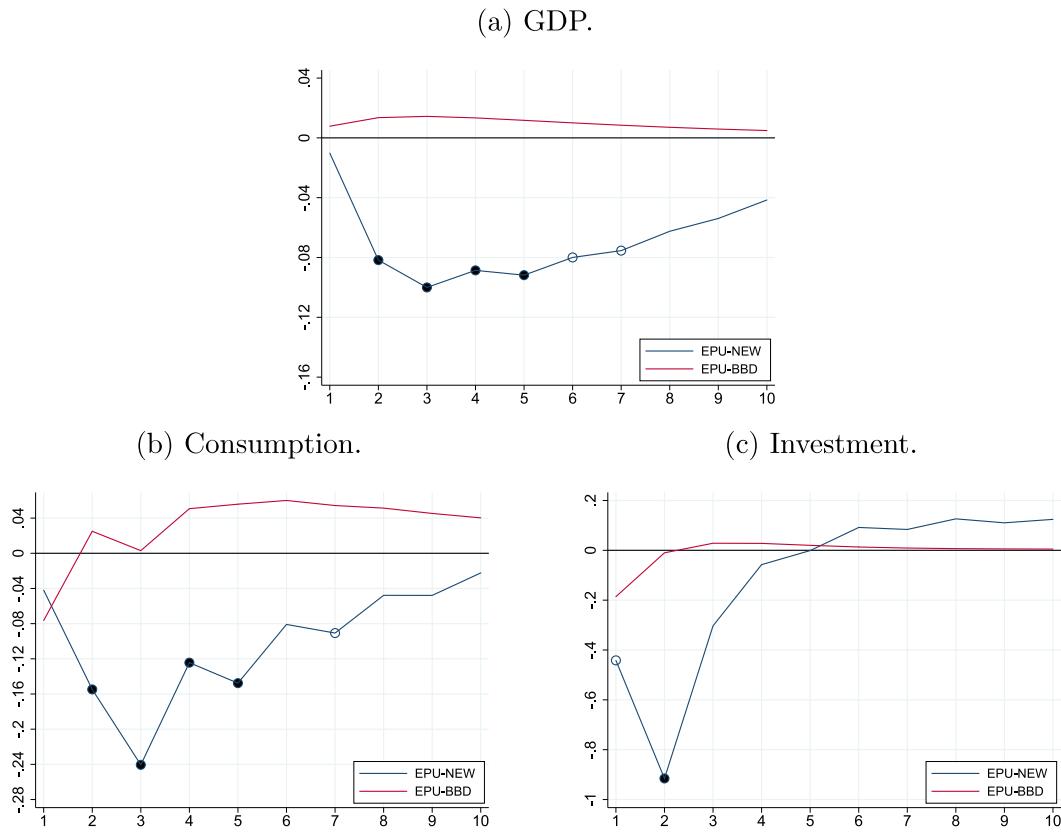


Fig. 2. Responses to EPU-BBD and EPU-NEW. Notes: Each graph shows responses to a positive shock of one standard deviation in EPU. Full (empty) circles indicate statistical significance at 5 (10)%; solid line, no statistical significance. EPU-BBD: BBD's EPU index. EPU-NEW: own calculation. VAR models include EPU index, spread, GDP/consumption/investment, price index; global EPU is included as exogenous variable.

variables in X_t are the following: EPU (levels), the Spanish 10-year sovereign debt spread over the German Bund, real GDP (quarterly growth rates) [in turn, Real Households' aggregate consumption, or Real Capital Goods Investment], inflation rate (quarterly growth rates of CPI), and the global EPU index of Baker et al. (2016) to control for global uncertainty, which we assume to be exogenous.⁴

Fig. 2 compares the responses of GDP, consumption and investment for an unexpected shock in the Spanish uncertainty indicator, as measured alternatively by EPU-BBD and our new indicator.⁵

Turning to the EPU-NEW case, an unexpected increase in uncertainty generates a significant drop in GDP that lasts for 5 quarters. The initial fall amounts to about 0.08 percentage points (pp) in the second quarter, and gradually fades away. The response of investment is more pronounced than the one in private consumption and then vanishes quickly afterwards, while the fall in private consumption is more prolonged and remains significant at 5% level until quarter 5.⁶ By contrast the responses of an unexpected shock in the EPU-BBD index is zero in all cases.

Next, we investigate the relative role of enriching the keywords used in the search expressions, and widening both press

and time coverage when constructing the index. Results are shown in Fig. 3, which compares macroeconomic responses from shocking alternative EPU versions in which we vary one of the aforementioned dimensions at a time, moving from EPU-BBD to our new index. All these dimensions are important, since they all contribute to obtaining the expected negative sign in the responses. Expanding the time coverage is key to improve the precision of the estimates and to yield significant results. The press coverage is also relevant.⁷

4. Conclusions

In this paper we investigate how sensitive is the influential Economic Policy Uncertainty (EPU) index (Baker et al., 2016) to certain key features of the construction methodology. We focus on the Spanish case. While we follow closely the methodology used by these authors, we widen the press coverage, and enrich the keywords used in the search expression. Our results, both as regards the chronology of economic policy-related events as well as the macroeconomic effects of uncertainty shocks, show the relevance of fine-tuning these key methodological choices: the richness of the keywords and expressions used, and the newspaper coverage. Thus, our results should not be read as regards the Spanish case, but rather convey a more general message.

Appendix A. Supplementary data

Supplementary material related to this article can be found online at <https://doi.org/10.1016/j.econlet.2019.05.021>.

⁴ Available at <http://www.policyuncertainty.com>. Based on our tests, it is exogenous in Granger's sense (available upon request).

⁵ Results are robust to: (i) ordering uncertainty last in the vectors, to control for possible contemporaneous effects of the endogenous variables on uncertainty; (ii) modeling different VAR lags. See Figure A.1 and A.2 in the Appendix.

⁶ The evidence of the negative impact of uncertainty shocks on the Spanish macroeconomic activity is robust. In Ghirelli et al. (2019) we show that the macroeconomic variables in Spain are affected by both financial uncertainty indexes and policy uncertainty indexes.

⁷ We also build newspaper-specific EPU indexes and compute GDP responses to uncertainty shocks based on each one of them. Individual results are available upon request.

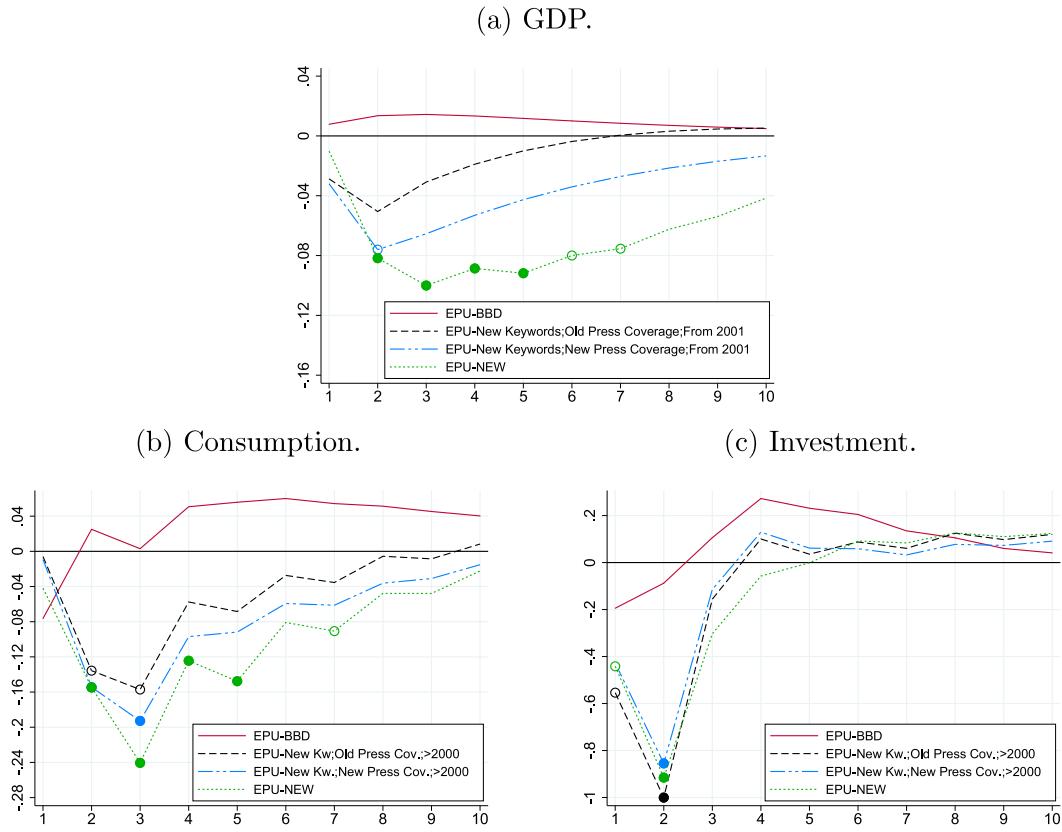


Fig. 3. Relative contribution of richness of keywords, press and time coverage in improving the index. Notes: The graph shows GDP responses to a positive shock of one standard deviation in the EPU. Full (empty) circles indicate statistical significance at 5 (10)%.

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