

# Predictions on EU Target2 Balance

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## **Abstract**

Placeholder

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# 1 Background

## 2 Literature Review

### 2.1 Target 2

### 2.2 Target2

### 2.3 Policy

### 2.4 Measuring Economic Policy Uncertainty

### 2.5 Box-Cox Transformation

## 3 Model

### 3.1 Data Source and Cleaning

The policy uncertainty index of various countries is derived directly from the Economic Policy Uncertainty website and the target2 balance datasets are from the Institute of Empirical Economic Research at Osnabrück University, which is a reliable source for tracking TARGET2 balances from January 1987 to June 2019, updated nearly on a monthly basis.

Since the timelines of two datasets are moduled the same, after year and month, there is no difficulty transferring the combined ones into a time series. Referring to the raw dataset, there are missing variables only for ECB and Cyprus groups. Table 1 below has shown descriptive details of countries' target2 balance as well as the policy uncertainty index from a macroeconomic perspective. In addition, Figure 1 of uncertainty index has shown that most index lie below 200 with some extreme values extending to 1000. The policy uncertainty is measured using political news and macroeconomic events in 100 percentage. The extreme higher index of United Kingdom and France can be explained by the event of

Brexit and the discussion around exiting from the EU. Figure 2 shows the median ranking of Target2 Balance, which corresponds to people’s usual understanding. Figure 3 displays the only two negative examples of Austria and Begium, where the balance from 2001 till now has been below zero.

Table 1: Descriptive statistics

	mean	sd	min	max
Austria	-24296.7933783784	14674.3237811389	-46049.49	4086.61
Belgium	-23289.5541891892	19329.5564321393	-98312.13	7687.79
Cyprus				
ECB				
European-News-Index	154.548700315458	66.3208691016548	47.6923446655273	433.277496337891
France	185.035862158011	98.0282374243346	30.6203689575195	574.633178710938
France-News-Index	185.035862158011	98.0282374243346	30.6203689575195	574.633178710938
Germany	137.807954985816	65.0741829256057	28.4339847564697	454.005432128906
Germany-News-Index	137.807954985816	65.0741829256057	28.4339847564697	454.005432128906
Greece	102.636670389217	26.6825469949835	47.1814761087496	188.704530504278
Greece-policy-uncertainty	123.493935990991	60.0910694754914	28.63219	344.2343
Ireland	121.966938633335	55.9441890855816	22.9658655600782	282.127765252969
Italy	110.990210017642	38.5988775008311	31.7015342712402	241.018203735352
Italy-News-Index	110.990210017642	38.5988775008311	31.7015342712402	241.018203735352
Netherlands	95.8721697437445	38.2458191255031	27.2133611447053	233.73110601772
Spain	109.835684836893	32.7956285430677	56.2692222595215	236.578872680664
Spain-News-Index	112.530257319545	57.697184778201	23.3175201416016	407.419403076172
Sweden	91.4955742387561	18.6321694506138	53.73406929	156.7298215
UK	209.477777781787	156.802512055422	30.4688014984131	1141.79553222656
UK-News-Index	209.477777781787	156.802512055422	30.4688014984131	1141.79553222656

For the purpose of prediction on Target2 Balance, the time intervals are parsed from the year 2001 because the transition of millennial, even though the financial crisis around 2008 has also seriously influenced the economics and our further prediction. Furthermore, for any need of calculating the accuracy, the test dataset is splitted from Janurary 2015 to June 2019.

### 3.2 Transformation and Decomposition

Firstly, the additive decomposition of Greece balance from 2001 to June 2019 shows that there might not be a clear trend but there is a clear seasonality occuring every year. Moreover, the multiplicative decomposition shows the same, however, with a smoother trend line.

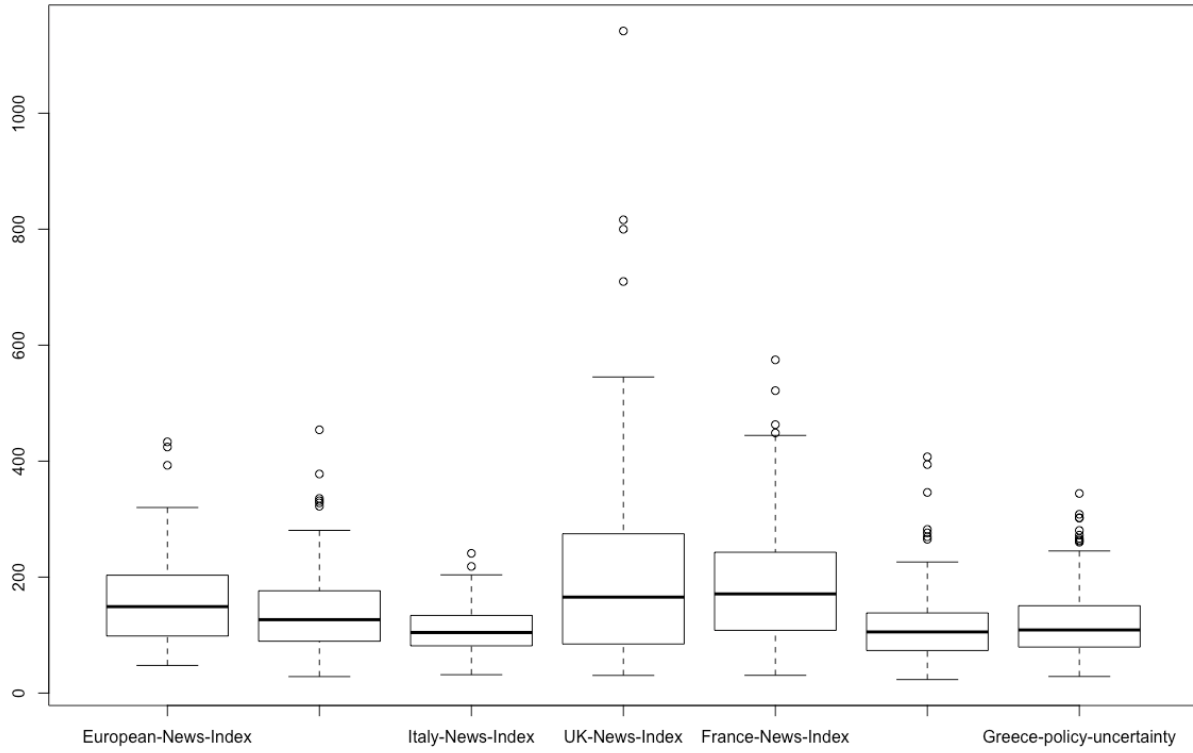


Figure 1: European, Germany, Italy, UK, France, Spain, Greece News Index

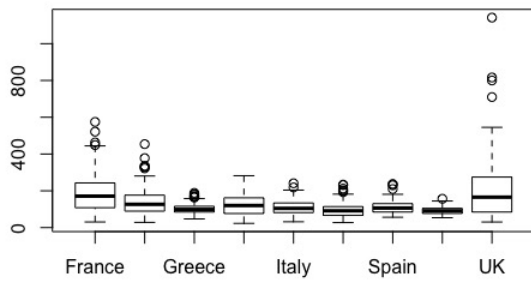


Figure 2: Target2 of France, Germany, Greece, Ireland, Italy, Netherlands, Spain, and UK

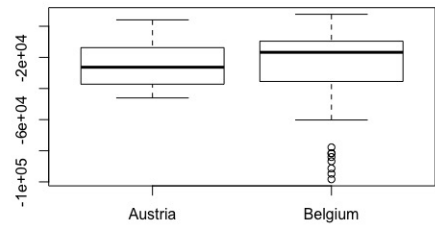


Figure 3: Negative Target2 Balance of Austria and Belgium

## 4 Next Things

## Tables

## Appendix A. Placeholder