Extracting Socioeconomic Patterns from the News: Modelling Text and Outlet Importance Jointly

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2006 -> 2013

Data

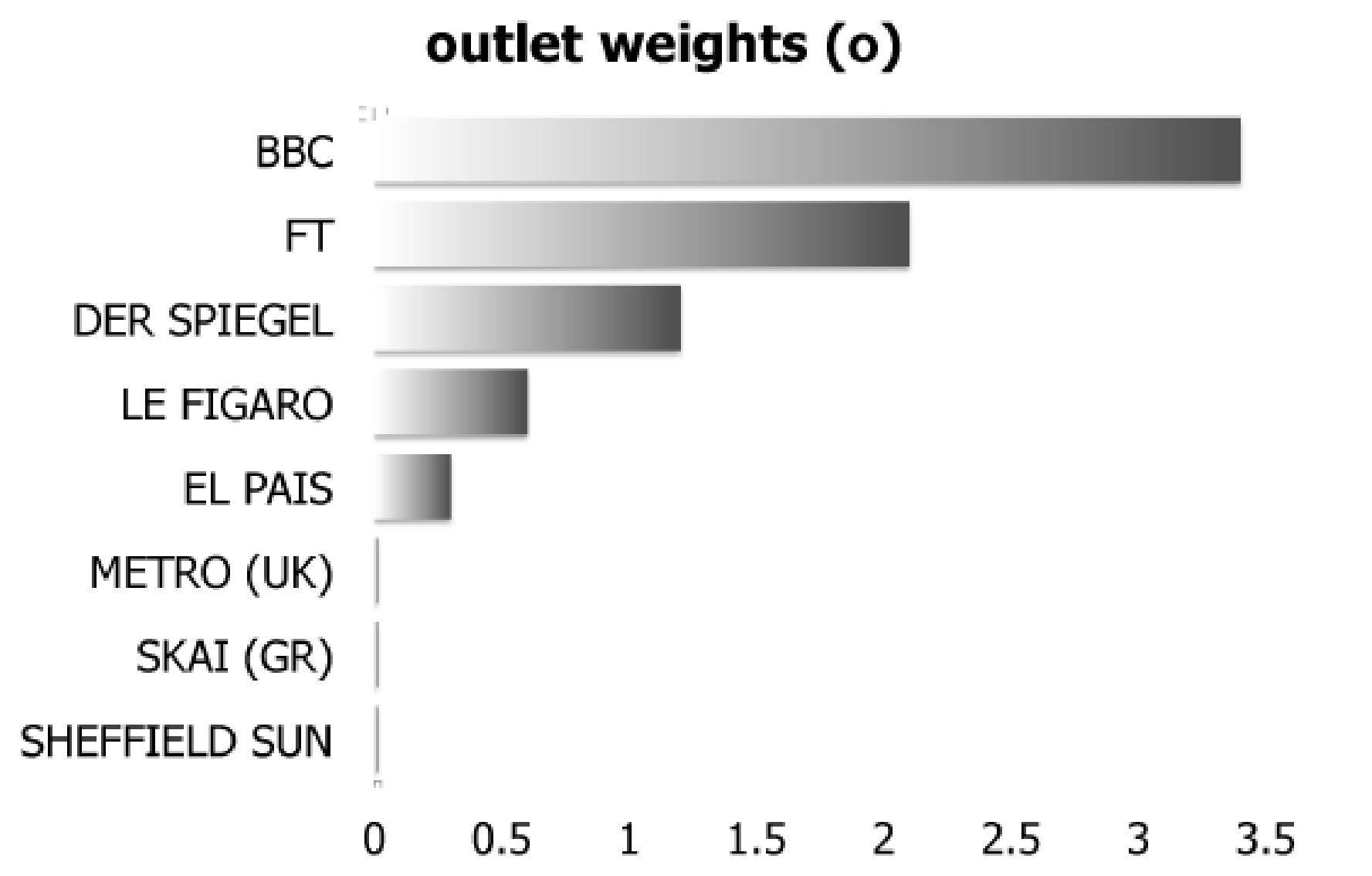
- news summaries written in English
- extracted from the **Open Europe Think Tank**
- daily aggregat1ion of news about the EU
- focused on current affairs, politics, economy
- each summary is a few paragraphs long
- each summary is attached to ≥1 news outlets
- **1913 days**, 94 months
- avg. 14 news/summary
- features: **8413 unigrams** + **19045 bigrams**
- **435 news outlets**

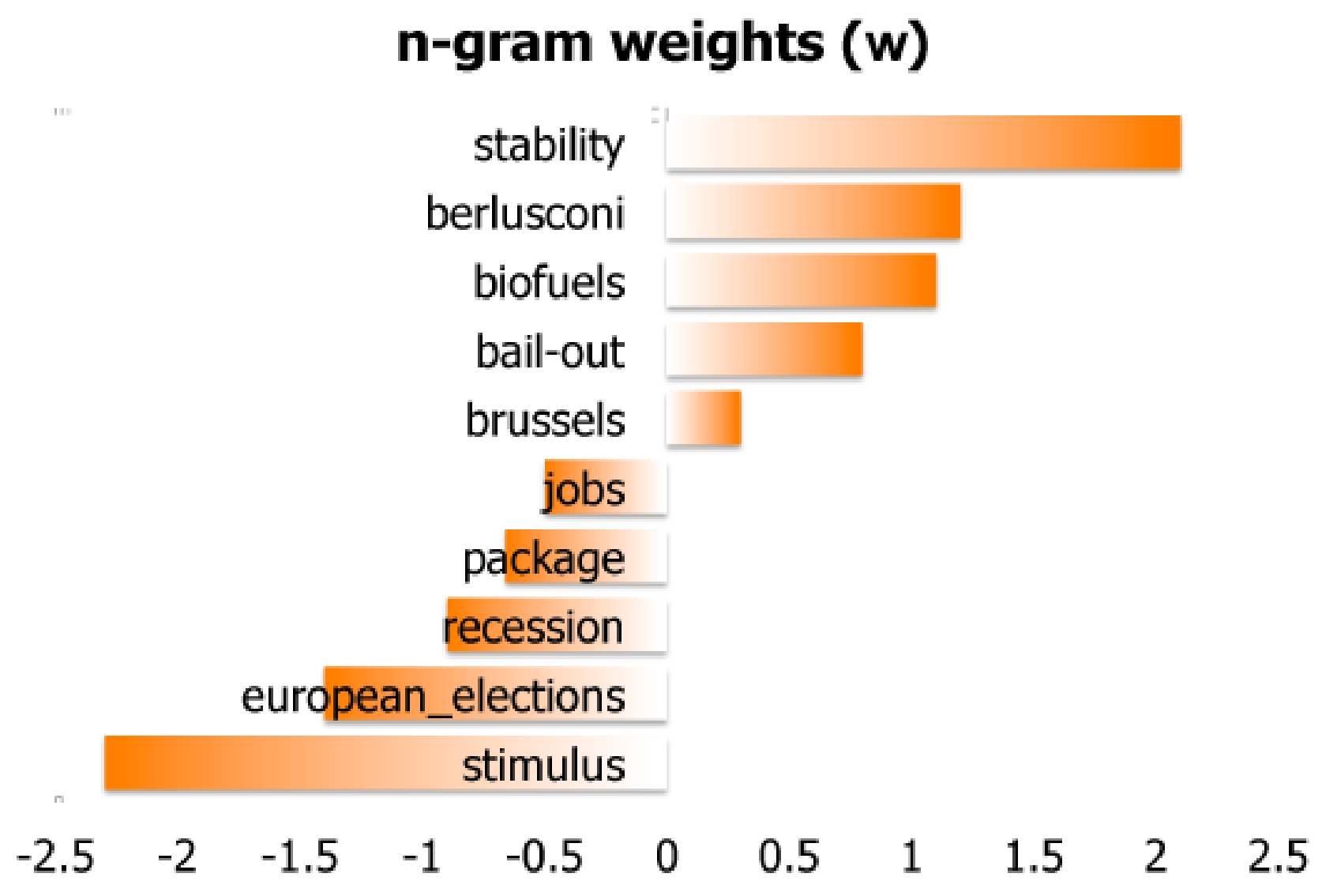
$$f \; : \; X \; \rightarrow \; Y$$

{(, OUTLET)} ESI*

prediction — outlet x word daily frequencies — bias term

$$y = o\,X\,w + \beta$$

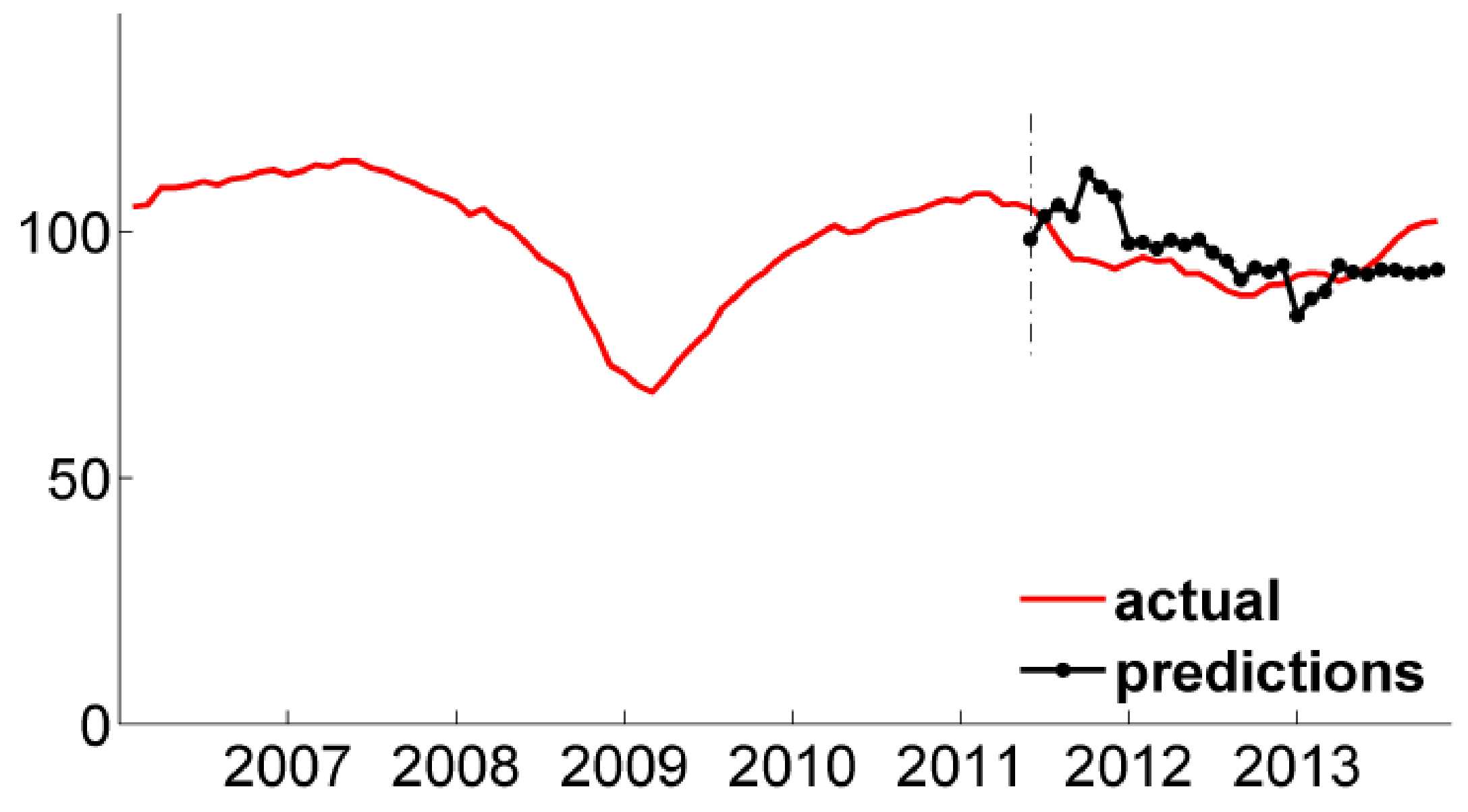




***ESI = Economic sentiment indicator**

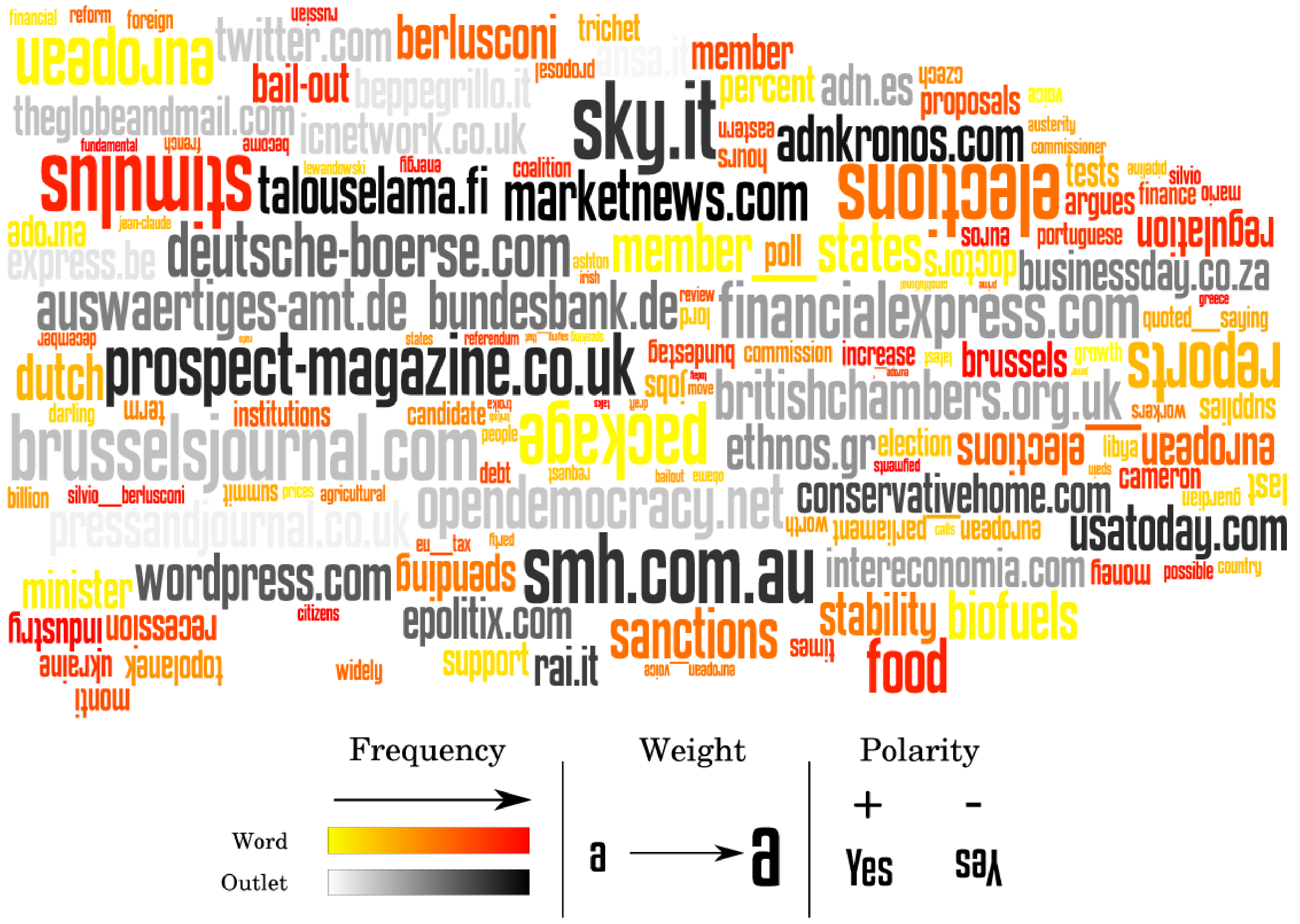
- composite indicator often seen as an early predictor for future economic developments
- consists of five confidence indicators with different weights: industrial (40%), services (30%), consumer (20%), construction (5%) and retail trade (5%)
- any socioeconomic indicator can be used in this framework

Forecast



Linear regression: 9.253 (9.89%)
Bilinear reression: 8.209 (8.77%)

RMSE (error rate %) in a forecasting setup on 30 data points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