

Analysing Polarisation in Political Texts

Unai GÓMEZ-HERNÁNDEZ

University of Edinburgh - KU Leuven

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Outline

- Polarization in theory
- Polarization in practice
- Sentiment analysis
- Break
- Wordfish
- Wordscores
- Latent Semantic Scaling (LSS)
- Wrap-up

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What is polarisation?

- Buzzword.
- Concept diffusion: if everything is polarisation then nothing is polarisation.

Ideological Polarization

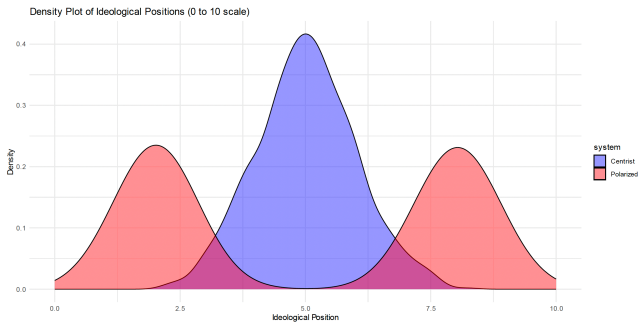
$$Polarisation = \sqrt{\sum v_i * \left(\frac{x_i - \bar{x}}{5}\right)^2}$$

v_i % vote share for each party i

x_i ideological position of each party i

\bar{x} average ideological positions of all parties

Ideological Polarization



Affective polarisation

$$WAP_i = \sqrt{\sum_{g=1}^g V_g * (Like_{ig} - \overline{Like_i})^2}$$

$$Distance_i = \sqrt{\sum_{\substack{m=1 \\ p=1}}^j s_p * (Outgroup\ dislike_{imj} - Like_{maxij})^2}$$

What is polarisation then?

- Actor-based measurements of polarisation.
 - Ideological polarisation: party positions on a scale (usually left-right scale).
 - Affective polarisation: citizens' feelings towards political parties (like-dislike).
- We will be focusing on text-based measurements of polarisation.

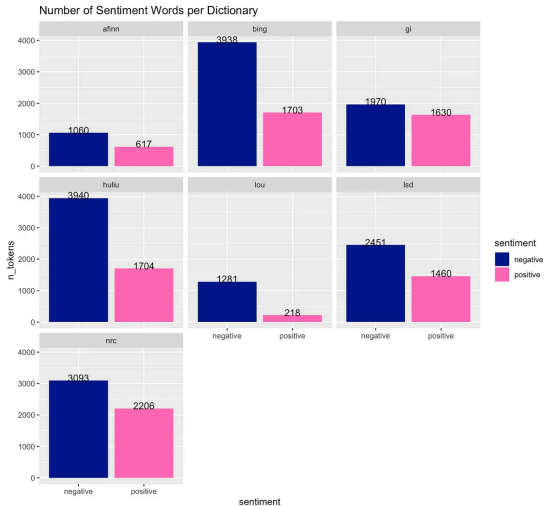
Two types of polarisation measurements

- Sentiment analysis.
- Scaling techniques.

Sentiment analysis

- Value assignment to texts based on different words according to a specific criterion (positive-negative in our case).
- Different sentiment dictionaries or lexicons.
- Dictionaries used: AFINN, BING, NRC, LOUGHRAN-MCDONALD.

Sentiment analysis



Scaling techniques

- Value assignment to texts based on their own characteristics.
- Three main techniques: Wordfish, Wordscores, Latent Semantic Scaling (LSS).

Scaling techniques

- Wordfish is an unsupervised scaling model based in one dimension: word-frequency.
- It does not require more input than the documents that need to be scaled.

Scaling techniques

- Wordscores is a supervised scaling model based in a previously defined dimension.
- It requires some reference documents against which a corpus can be scaled.

Scaling techniques

- Latent Semantic Scaling (LSS) is a semi-supervised scaling model based in a previously defined (small) set of words.
- It requires some reference words against which a corpus can be scaled.

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Our workshop today: from theory to practice

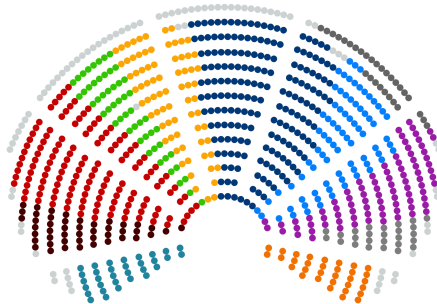
- Hypothetical scenario: inform the new chair of the delegation of the European Parliament to China about the resolutions the European Parliament has produced on China in the last years.
- Real-world examples
- Text corpus to be used: digitized political resolutions produced by the EP from 1994 to 2024.

Knowing our context

- 705 Members or “MEPs” coming from 27 EU Members States.
- Elected every five years.
- Biggest democratically elected demos in the world.
- Co-legislator in the law-making process of the European Union.
- Also creates “political resolutions” . Non-binding but highly political text.

Our database: European Parliament resolutions

Strasbourg
10.02.2025



Our database: European Parliament resolutions

European Parliament

2019-2024



TEXTS ADOPTED

P9_TA(2023)0469

EU-China relations

European Parliament recommendation of 13 December 2023 to the Council and the Vice-President of the Commission / High Representative of the Union for Foreign Affairs and Security Policy concerning EU-China relations (2023/2127(INI))

The European Parliament,

- having regard to the European Council conclusions on China of 30 June 2023,
- having regard to the joint communication from the Commission and the High Representative of the Union for Foreign Affairs and Security Policy of 12 March 2019 entitled ‘EU-China – A strategic outlook’ (JOIN(2019)0005),
- having regard to the EU strategy for cooperation in the Indo-Pacific from 16 September 2021 and the EU Strategy on Central Asia from 17 June 2019,
- having regard to the UN Framework Convention on Climate Change (UNFCCC) and the Paris Climate Agreement, which entered into force on 4 November 2016,

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- Luis Remiro (2024).
- Camilo Cristancho (2024).