Master in Data Science and Advanced Analytics

EU Parliament Voting trends: Synergists and Antagonists

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Context:

Academic literature suggests that political polarization, though accelerating in the last two decades, has been rising since the late seventies, indicating a long-term structural change in liberal democracies. As polarization increases, building consensus for substantial reforms becomes harder, impeding economic and social progress. While polarization can boost political engagement, it often leads to irreconcilable positions, making agreements difficult and slowing social and economic development.

Research gap and objectives:

This thesis aims to fill the knowledge gap on how polarization in the European Parliament has evolved in recent years and to identify the topics where this polarization is most relevant, particularly in voting patterns across different legislative areas (immigration, economy, etc.) and the role of the Eurosceptics members, as pointed by Börzel et al. (2023) and Hix et al. (2009). The Research Question is: "How has political polarization in the European Parliament evolved over the past five years, and how do these trends compare to patterns observed in other democracies in key legislative areas?". The main research objectives are: "to analyze the trends of political polarization in the European Parliament over the past five years" and "assess the levels (with an index) of antagonism and collaboration between parliamentary groups across key legislative areas".

Methodological approach:

This research aims to measure the polarization in the European Parliament by examining deputies' voting patterns on various bills between 2019 and 2024 (9th term). With the necessary permissions, data from the public platform HowTheyVote.eu will be utilized, complemented by additional bill data directly collected from the European Parliament's website. The research activity is natural science-based, and the research output will be modeling the political relationships between Members of the European Parliament and uncovering the dynamics of political alliances and opposition. The data science methodology will involve data cleaning, followed by the analysis of co-occurrence voting patterns among Members of the European Parliament. The primary goal is to infer the co-voting network and estimate its polarization by employing Natural Language Processing on bill content, Clustering bills by legislative areas, and performing Network Analysis on the voting outcomes.

Expected results and contributions:

The expected outcome is a Polarization Index to measure polarization based on Members of the European Parliament's voting patterns, offering insights into the structural dynamics of the European Parliament. This analysis will explain the behavior of groups and members, identifying areas of synergy and conflict. The main limitation is that the analysis covers only one legislative mandate (9th term), but the results aim to support the creation of a scientific paper.

Bibliographical references:

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Hix, S., Noury, A., & Roland, G. (2009). Voting patterns and alliance formation in the European Parliament. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *364*(1518), 821-831. https://doi.org/10.1098/rstb.2008.0263

Reiljan, A. (2020). 'Fear and loathing across party lines' (also) in Europe: Affective polarisation in European party systems. *European Journal of Political Research*, *59*(2), 376-396. https://doi.org/10.1111/1475-6765.12351