

Summer Institute in Computational Social Science
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Analyzing Hungarian Parliamentary Debates with ManifestoBERTa

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Introduction

- Previously a leader in post-communist democratization, Hungary has undergone significant **political transformations** and **ideological shifts** (Herman, 2016)
- Recent challenges include **democratic backsliding**, heightened by anti-immigration discourse and populist rhetoric (Kornai, 2012; Bocskor, 2018; Bozoki, 2015)
- Hungary is seen as an ideal case of **high political polarization** (Vegetti, 2018)

Aim of our project

Explore which issues are more salient, how parties prioritize these topics, and the linguistic and sentiment polarity patterns in parliamentary speeches

Research Questions

- **Issue Salience:** How prominent are different topics in the parliamentary debates? (Wagner & Meyer, 2014)
- **Party Differences:** What are the differences between political parties in terms of the topics they address?
- **Language Complexity:** How complex is the language used in the parliamentary debates? (Spirling, 2016)
- **Sentiment Analysis:** How does sentiment polarity differ across some specific topics?

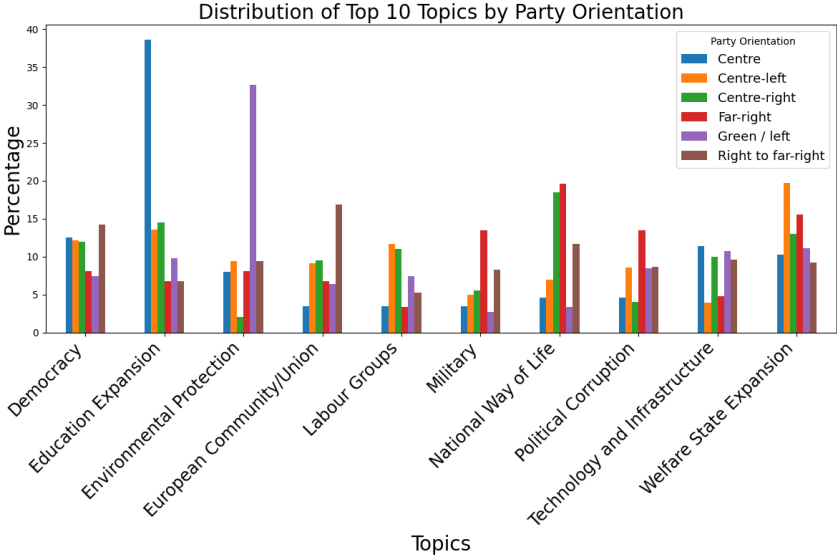
- **ParlaMint:** A comprehensive project compiling comparable parliamentary corpora across various countries and languages with English translations
- **Hungarian parliamentary debates:** analyzing debates from 2022 and 2023
 - Translated versions of the debates in English

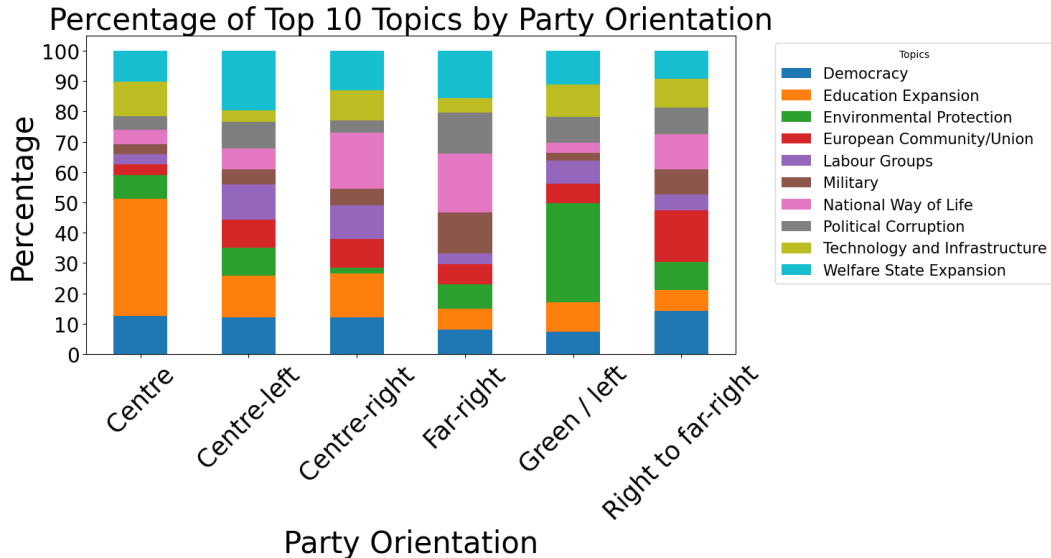


- **Manifesto Project:** An academic project that collects, analyzes, and categorizes political party manifestos to study party ideologies and strategies
- Used a **Manifestoberta** model fine-tuned on approximately 1.6 million annotated statements from the Manifesto Project's Corpus
 - This model can categorize any type of text into 56 different political topics according to the Manifesto Project's coding scheme
 - We analyze Hungarian parliamentary speeches from 2022 and 2023
- Used **Flesch Reading Ease** score for text complexity between 0 and 100
- Used **VADER** (Valence Aware Dictionary and sEntiment Reasoner) classifying sentiment polarity between -1 and 1

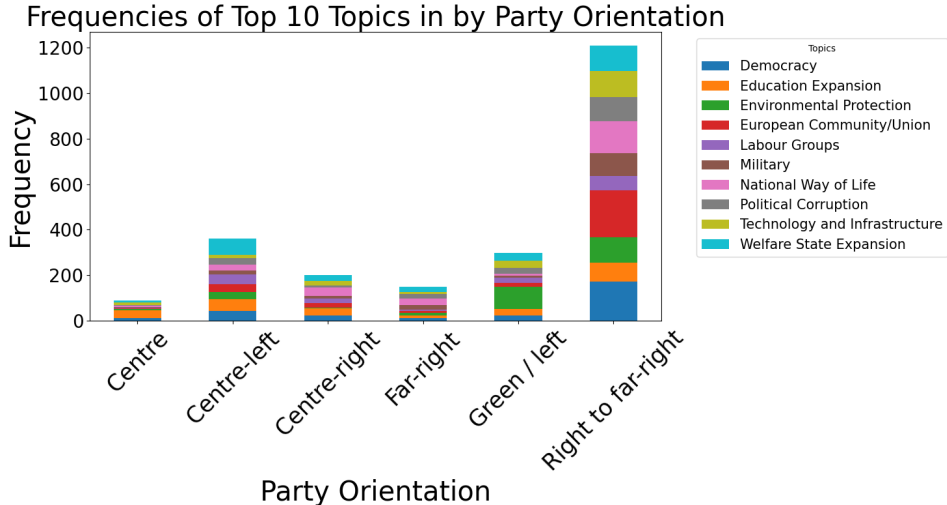
Data preparation

- Removed all contributions by the Speaker & all interjections
- Excluded non-partisan MPs (e.g. ethnic minority rep.)
- Coded each speech according to the Manifesto typology
- Determine primary topic of each speech by taking highest-ranked topic
- Focused on top 10 topics present in the sample
(excluding *Political Authority*: too common)
- Coded parties by political orientation
→ Fidesz (incumbent): *Right to far-right*

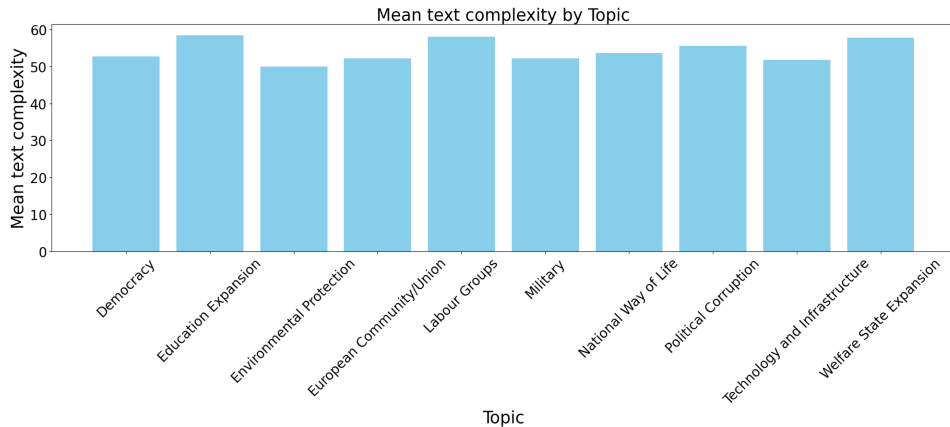




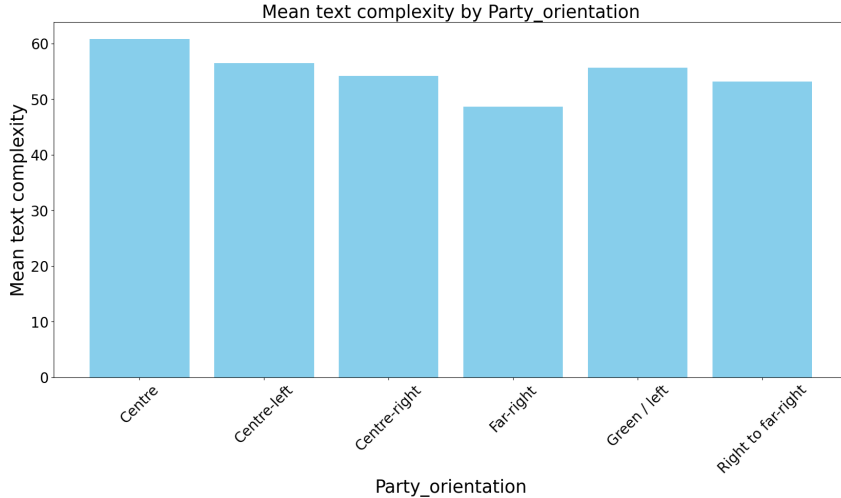
Differences across parties



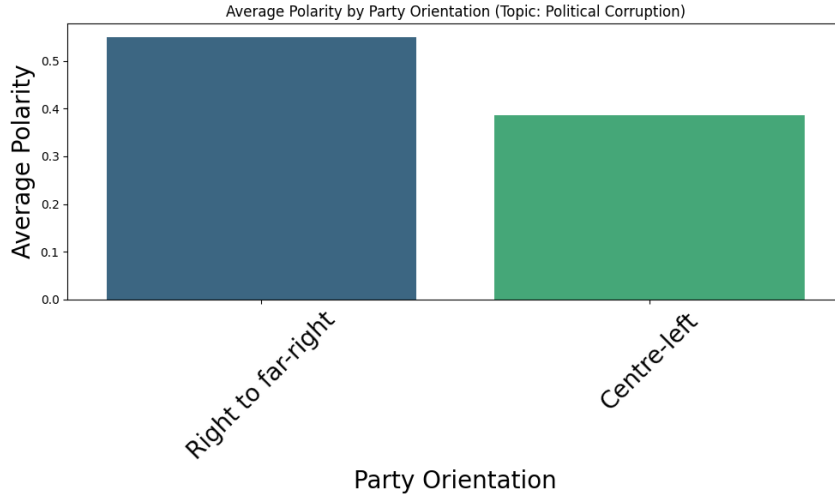
Language Complexity



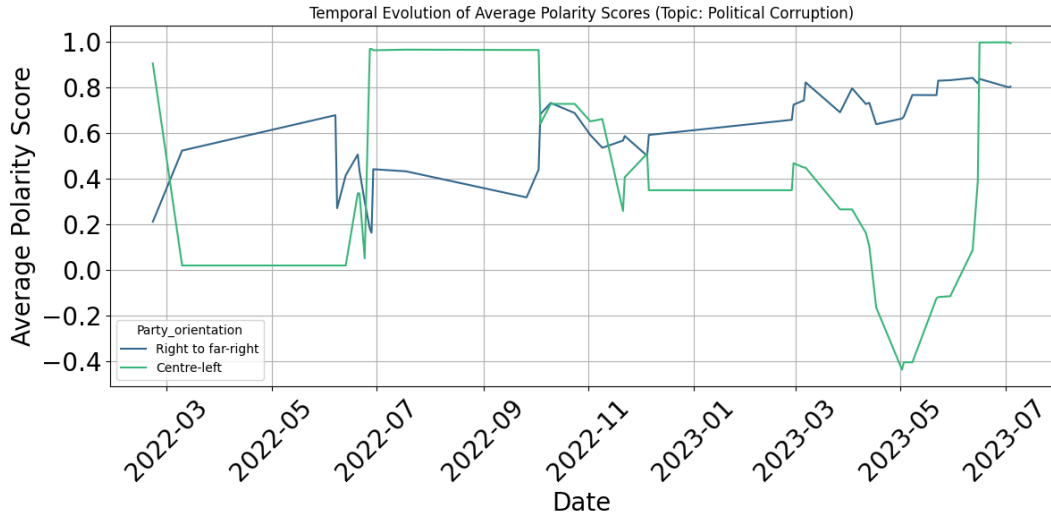
Language Complexity by Party Orientation



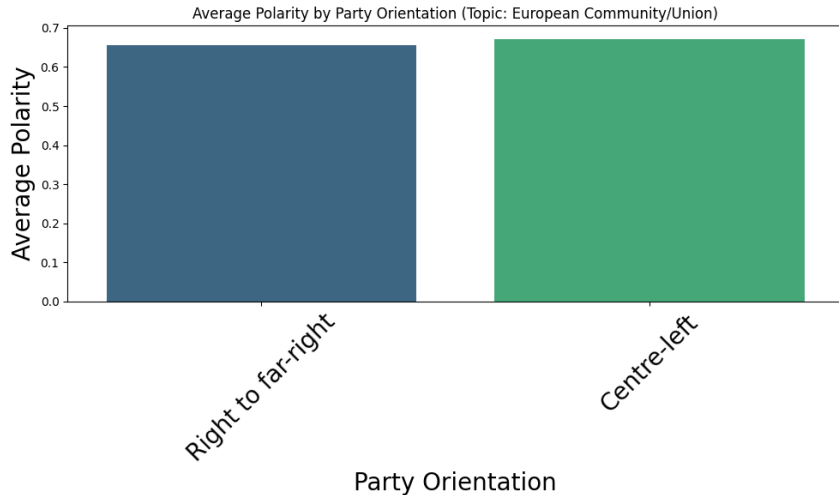
Political Corruption



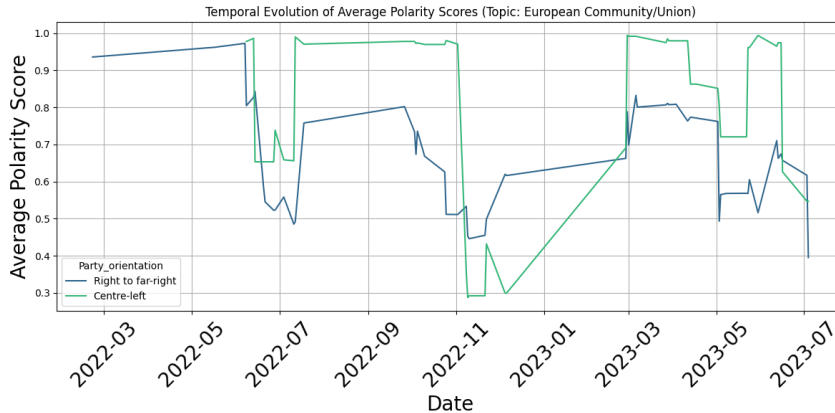
Political Corruption

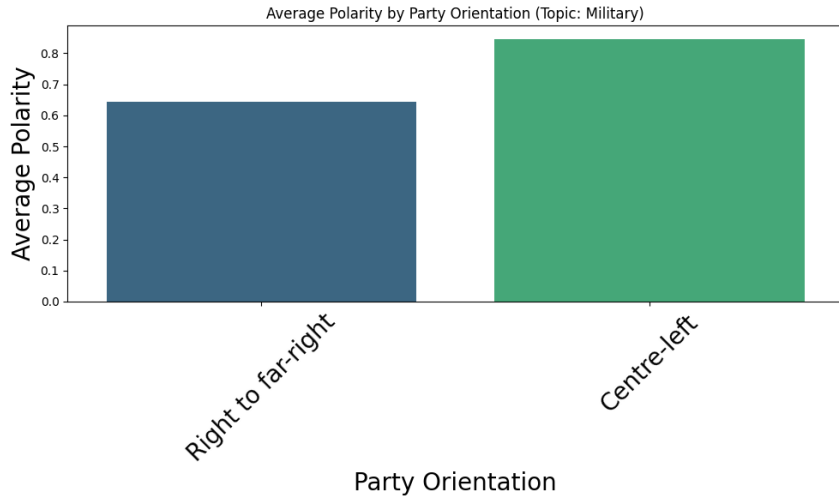


European Community/Union

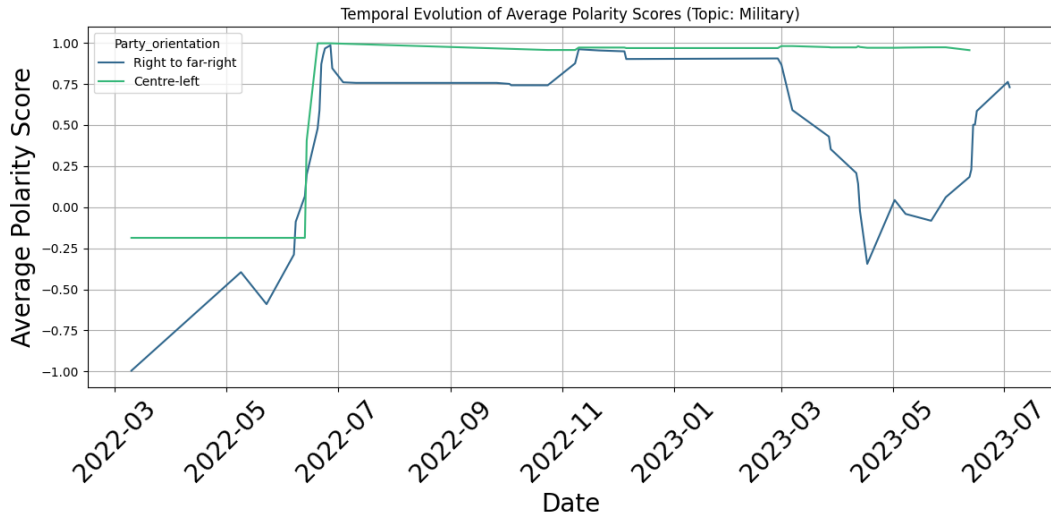


European Community/Union





Military



Limitations

- ManifestoBERTa is trained on Manifestos not on political/institutional debates
- Translated speeches to english
- VADER trained on social media text, not on political speech
- Weight each sentences in the debates

Thank You for Your Attention!

References

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