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Political Debate about Economic Issues: Some Insights from the Polish Parliament, 1991–2019

Tematyka gospodarcza w debacie politycznej: Kilka spostrzeżeń na podstawie wystąpień poselskich w polskim parlamencie, 1991–2019

Abstract

Political decisions on economic policies are often at the centre of academic and media attention. There has, however, been much less focus on the political debates that form the context in which these decisions are made. This paper examines the presence of economic issues in the Polish parliamentary debates in 1991–2019. First, the main economic topics that attracted political attention are identified, and the way(s) in which they changed, during this period is examined. Text mining reveals that economic issues have featured prominently in Polish parliamentary debates. However, when examined individually, most economy-related terms exhibit relatively low frequencies. Second, economic topics in the speeches of MPs from the two major political camps, viz. Law and Justice (PiS) and Civic Platform (PO), which have since come to dominate the Polish political scene, are compared and contrasted for the post-2005 period. As is documented, the relative presence of words pertaining to economic topics uttered by MPs from these two camps have been similar in recent years. Ditto for the frequencies of the keywords they have used.

Keywords: Poland, Economic Policy, Political Speech, Political Ideology, Text Mining.

JEL: C49, C88, D72, D78

Streszczenie

Decyzje polityczne dotyczące polityki gospodarczej często znajdują się w centrum uwagi środowisk akademickich i mediów. Znacznie mniej uwagi poświęca się natomiast debatom politycznym, które tworzą kontekst, w którym decyzje te są podejmowane. W niniejszym artykule analizujemy obecność kwestii gospodarczych w codziennej debacie parlamentarnej w Polsce w okresie 1991–2019. Po pierwsze, wskazujemy kluczowe tematy ekonomiczne będące przedmiotem zainteresowania ze strony klasy politycznej. Korzystając z narzędzi analizy tekstu, pokazujemy, że kwestie gospodarcze stanowią ważny punkt odniesienia w polskiej debacie parlamentarnej. Jednak większość słów związanych z „gospodarką" występuje w niej raczej rzadko. Po drugie, patrząc na okres po 2005 roku, porównujemy obecność tematów gospodarczych w wystąpieniach posłów należących do Prawa i Sprawiedliwości (PiS) i Platformy Obywatelskiej (PO). Przeprowadzone analizy wskazują, że względna częstotliwość używania słów związanych z tematyką gospodarczą przez przedstawicieli głównych ugrupowań politycznych była w ostatnich latach podobna. Te same były również słowa kluczowe, których używali posłowie z dwóch przeciwnych obozów gdy odwoływali się do tematów gospodarczych.

Słowa kluczowe: Polska, polityka gospodarcza, debata polityczna, ideologia polityczna, analiza tekstu.

JEL: C49, C88, D72, D78

1. Introduction

When analysing the intersection between politics and economics, many media pundits and professional economists devote a lot of attention to economic policy decisions and their consequences (Geddes, 1995; Margalit, 2019; Boettke and Powell, 2021). While the focus on assessing the actual impacts of political actions is completely understandable, the paucity of commentary on political debates on economic issues is striking. This is somewhat surprising, as political debates not only set the context for political decision making; they also elucidate areas of political attention and conflict, and the extent to which economic themes are involved.

Examining the importance of economic issues in national politics more closely has an additional advantage in that it can reveal whether political interest in the economy goes beyond the vague declarations made during press conferences or at various international fora. Indeed, there has been scant evidence on whether economic topics have seriously entered national political debates at all. This is important because it can be assumed that the political will to tackle economic problems, as well as the tools used to do so, ultimately depend on the importance that voters attach to them, i.e. they are shaped by national politics. In this context, it can be particularly interesting to peruse the parliamentary debates, as they are the most obvious avenue for politicians to apprise their constituents on where they stand on various issues (Martin and Vanberg, 2008). Moreover, adopting this perspective can provide insight into the extent to which political parties differ from one another in terms of the specific economic topics they raise in parliament. Accordingly, analysing legislative debates should enable the dominant themes in political discussions to be identified and their evolution over time to be observed. This in turn would enable those issues that might have been of particular concern to voters to be examined.

This paper offers some insights on these matters and documents the presence of economic issues in Polish parliamentary debates. To this end, the parliamentary debates are examined and the relative amounts of attention paid to various topics evaluated (Quinn et al., 2010). An additional aim is to assess the relative frequencies of words associated with economic topics in the parliamentary speeches of MPs from different political camps, with a special emphasis on PiS and PO, and to look at the specific terms they use.

Poland is a natural setting for undertaking this sort of research. On the one hand, Poland experienced an abrupt shift from a centrally planned economy to a market economy, which was initially accompanied by a decline in output, after the collapse of the communist dictatorship in 1989 (Kornai, 1994; Blanchard and Kremer, 1997; Roland and Verdier, 1999). The country experienced unprecedented economic growth soon afterwards (Piątkowski, 2018). Whether this transformation has left its mark on legislative speeches is therefore a matter of academic interest. On the other hand, economic issues have been identified as factors that have triggered and sustained political polarisation (Stewart et al., 2021). This is important in the present context as many commentators have described Poland's political scene as deeply polarised (Radkiewicz, 2017; Tworzecki, 2019; Zybała, 2019). Furthermore, political discourse has become a serious mean of political competition in Poland

(Annusewicz, 2010; Marzecki, 2013), especially given the growing role of the media (Szkudlarek-Śmiechowicz, 2010; Piontek et al., 2013).

The present study draws on and adds to several strands of research. First, it is part of the emerging literature on narrative economics (Shiller, 2017), although a comprehensive analysis of the narratives that have appeared in Polish political discourse over the past thirty years is outside its scope. The present study merely indicates a potential starting point for such an analysis by documenting the key economic concepts that have appeared in parliamentary debates and showing the extent to which they have gained or lost in popularity. The evidence herein presented may prove helpful in identifying the key economic concepts central to the political debate at any given time. The results can thus provide useful information on the factors and considerations that have contributed to the dominant narratives about the state of the economy and facilitate explanations as to why this may have been the case.

Second, the study draws on and adds to the large body of studies that analyse the dynamics of political agendas and debates. On the one hand, these works have estimated the ideological positions of political parties (for an early contribution, see Laver et al., 2003) or politicians (Diermeier et al., 2012). On the other hand, the existing research has classified political speeches by policy topics to show, e.g., how the centre of attention in political debate shifts over time (Quinn et al., 2010). While these studies adopt an approach similar to that adopted here, to the best of the authors' knowledge, none of them focuses on economic issues or carry out a systematic quantitative analysis of words and phrases pertinent to economic topics.

Third, the study contributes to the growing body of literature that uses text as an input to economic and political research (for reviews of the relevant literature, see Wilkerson and Casas, 2017; Gentzkow et al., 2019). Text data have been used in a wide variety of applications, including analyses of central bank communications (Ferrara and Angino, 2022), media bias (Groseclose and Milyo, 2005), and financial market volatility (Manela and Moreira, 2017). However, to the best of the authors' knowledge, no study has yet used text data to quantify the prominence of economic issues in legislative debates. The present study additionally illustrates another method of processing and analysing unstructured text data; one that allows economists to glean insights that would be extremely time-consuming to extract manually and which would probably subjectify the results. This method uses expert coding to extract text data from extensive parliamentary records and analyse them with a view to identifying key themes or policy priorities, thereby enriching economic research with political insights. While the present focus is on a more general description of parliamentary discussion, this dataset can be subjected to more detailed and sophisticated analyses.

Fourth, this study contributes to existing studies on political debate in Poland. A relatively common approach is to focus on what MPs say in parliament and to the media, but there are also studies on the platforms of political parties (Woźniak, 2017). That said, the available studies mostly employ qualitative and descriptive analyses, and not statistical tools or novel quantitative methods (e.g. text mining). Moreover, they cover the political discourse on narrow topics, e.g. migration (Lesińska, 2016), education (Dziedziczak-Foltyn, 2009), European issues (Jabłońska, 2009;

Lesiewicz, 2009), or inequalities (Woźniak, 2012). The present study therefore supplements these works, and in the process, offers insights that have not been thoroughly analysed.

The remainder of the paper is organised as follows. The next section presents the dataset and outlines the empirical strategy. The section after that presents the results. The final section comprises a discussion and conclusion.

2. Data and Empirical Approach

The main source of data is the Polish Parliamentary Corpus (PPC). This is a collection of linguistically analysed documents from the proceedings of the bicameral Polish parliament.[1] The focus here is on stenographic transcripts of Sejm (lower house) sittings in 1991–2019. This chamber was chosen on account of its essential role in the legislative process. The Senate (upper house) is smaller, is vested with less executive oversight, and its decisions can be overruled by the Sejm. Consequently, the vast majority of the debate covered by the media takes place in the Sejm. Moreover, most members of the executive government are Sejm MPs. Finally, it is worth noting that the Party that had a Sejm majority also had a Senate majority during the period under analysis. It is therefore reasonable to assume that the topics and the character of the debates in the two chambers were similar.

As for the choice of 1991–2019 as the period to be investigated, the lower boundary corresponds to the end of communism in Poland in 1989. While the first elections took place in June 1989, 65% percent of the seats in the Sejm (299) were reserved for the Polish United Workers' Party and its satellites. The first fully free elections were held in 1991. The upper boundary (2019), in turn, corresponds to the end of the Term VIII of the Sejm.[2] The data covers all Sejm sittings in the selected period.

This dataset enables parliamentary speeches to be allocated to the sittings in which they were made and assigned to the MPs who made them. Polish parliamentary debates can therefore be followed by looking at specific dates (or some periods) or political parties. Most importantly, the dataset is flexible enough to enable narrowly defined topics to be selected for further analyses and for changes or new trends over the last 30 years to be studied.

The dataset comprises 716,810 statements (157 million words) from MPs. This amounts to approx. 6 GB of textual data. Automated text mining tools are therefore essential.[3] Large and diverse data always have some quality issues, and this corpus is no exception. Texts from early terms were not published in an electronic format, and so had to be digitised using optical character recognition (OCR) software, which

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[1] http://clip.ipipan.waw.pl/PPC (accessed 19 October 2024). The main analytical tool was the Python programming language. The lxml library was used to load data from the Polish Parliamentary Corpus.

[2] Term I: 1991–1993; Term II: 1993–1997; Term III: 1997–2001; Term IV: 2001–2005; Term V: 2005–2007; Term VI: 2007–2011; Term VII: 2011–2015; and Term VIII: 2015–2019.

[3] To illustrate the impracticality of manual analysis, reading this material at an average speed of 250 words per minute would require approximately 436 continuous days.

is prone to error.[4] Moreover, the focus was on parliamentary sittings, as committees have a more conversational nature, and interpellations (and queries) are delivered in writing, which would merit a separate analysis.

The main method of measuring the popularity of a given topic was to count the number of word occurrences. This is fully reproducible and easiest to understand. More specifically, the main indicator is the number of statements containing the studied term divided by the number of statements made in the Sejm sittings of a particular year. This gives the average probability of a statement containing a term. Alternative metrics, e.g. the number of times a term is used divided by the number of statements in which it is used or by their length, lead to qualitatively similar results. Although Polish is an inflected language, collocations and fixed expressions have to be used, as stems on their own are unreliable. For example, the word for 'city' can have several inflected forms: 'miasto' (nominative, singular), 'miastu' (dative, singular), and 'mieście' (locative, singular) etc., as well as *its* denominal adjective, 'miejski', and its inflected forms. However, despite its phonological similarity and shared etymology, 'miejsce' (place), along with its denominal adjective 'miejscowy' (local), is considered a different word. And it should go without saying that 'miej' (2nd person singular imperative form of 'mieć' [to have]) is completely unrelated; any similarities are purely coincidental.

Latent Dirichlet Allocation (LDA) was used to identify statements related to economic issues (Blei et al., 2003). LDA assigns words to topics, and topics to articles (here political speeches). An article can consist of multiple topics, and a word can occur in statements that reference several topics (with varying degrees of probability). LDA was run with 10 topics and default hyperparameters in Python's *gensim*. In order to identify key words that appear in speeches related to economics, the analysis focused on the most commonly occurring words that occurred in the LDA-selected topic that contained the greatest number of inflected forms and denominals (e.g. verbs, adjectives) of the terms 'economics' (POL: *ekonomia*, *ekonomiczny*) and 'economy' (POL: *gospodarka*, *gospodarczy*). This is referred to as the economics-related topic throughout the remainder of this text. The final list is a combination of expert-chosen words, which all appear in the top 5,000 words that appear in the economics-related topic, and those spotted in the top thousand[5] words most likely to appear in this topic.

The final list of words deemed important for economics-related topics is as follows (in alphabetical order; Polish translation in brackets):[6] agricultural (*rolny*), allowance (*zasiłek*), bank (*bank*), budget (*budżet*), consumer (*konsument*),

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[4] An examination of the number of unique words used during parliamentary speeches in each term does not reveal any significant deviation for the first terms. Thus, at least from this perspective, the problem with the quality of the data transformed by OCR does not appear to be substantial.

[5] Many words in the topic were stopwords e.g. prepositions which needed to be filtered out – both general stopwords like pronouns and domain-specific stopwords related to the procedures of parliamentary debate.

[6] As mentioned above, Polish is an inflected language. The focus was therefore on regular expressions with allowances for different inflectional and derivational forms. For example, to capture the presence of 'agriculture', all the words containing the sequence 'roln' were counted.

credit (*kredyt*), crisis (*kryzys*), currency (*walutowy*), debt (*dług*), demand (*popyt*), deregulation (*deregulacja*), development (*rozwój*), economics (*ekonomia*), economy (*gospodarka*), emissions (*emisje*), energy (*energia),* entrepreneurs (*przedsiębiorcy*), equalities (*równości*), euro (*euro*), export (*eksport*), finance (*finanse*), fund (*fundusz*), gap (*luka*), natural gas (*gaz*), highway (*autostrada*), import (*import*), inequalities (*nierówności*), inflation (*inflacja*), infrastructure (*infrastruktura*), industry (*przemysł*), innovations (*innowacje*), investment (*inwestycje*), labour (*praca*), macroeconomics (*makroekonomia*), market (*rynek*), pensions (*emerytury*), pricey (*drożyzna*), privatization (*prywatyzacja*), poverty (*bieda, ubóstwo*), recession (*recesja*), savings (*oszczędności*), sector (*sektor*), stock market (*giełda*), supply (*podaż*), taxes (*podatki*), trade (*handel*), transition (*transformacja*), unemployment (*bezrobocie*), valorization (*waloryzacja*), and VAT (*VAT*). As a comparison, the most common Polish stopwords, such as that (*że*) and but (*ale*), were also taken into account. Some terms are a combination of two or more words: treasury (*skarb państwa*), state-owned companies (*spółki skarbu państwa*), GDP (*produkt krajowy brutto*), economic growth (*wzrost gospodarczy*), economic development (*rozwój gospodarczy*), economic crisis (*kryzys gospodarczy*), and could not therefore be placed in the dictionary of single words. In addition to the statistics for each of the above words, a joint index was computed. This divides the number of statements containing one or more of the terms enumerated above by the number of statements made in the Sejm in a particular year.[7]

3. Results: Debate about Economic Issues in General

First, the joint index is reported. Figure 1 depicts one-year data and four-year averages (to smooth out the effects of highs/lows in particular years). As the four-year averages show, economic terms appeared in approximately 60–70% of parliamentary statements, and this figure has been fairly stable over time. To assess the relative frequency with which 'economic words' are used, it is useful to compare this with the presence of the two popular stopwords 'that' (*że*) and 'but' (*ale*). The frequencies of words related to actual events were additionally checked in order to have an additional reference point against which to assess how high the frequency of a word would need to be in order to qualify as high/low. In particular, the occurrence of the word 'flood' (*powódź*) in the debates from the second half of 1997 were examined. This revealed the frequency with which the flood that occurred in the summer of 1997 was referenced in the parliamentary speeches of MPs. The highest frequency of most common stopwords, e.g. 'that' (*że*), was 82% (indicating that 4/5 of statements contained this stopword), compared with 56% for 'flood' (*powódź*), (indicating that just over half the statements referenced the 1997 flood). The economic terms enumerated above, when examined in total, appear with a frequency of 60–70% in parliamentary speeches. This is clearly not low. As is shown below, however, most of the terms have a much lower frequency when examined individually.

Figure 1.

Joint index illustrating the occurrence of economic terms in parliamentary debates in Poland, one-year data and 4-year moving average, 1991–2019
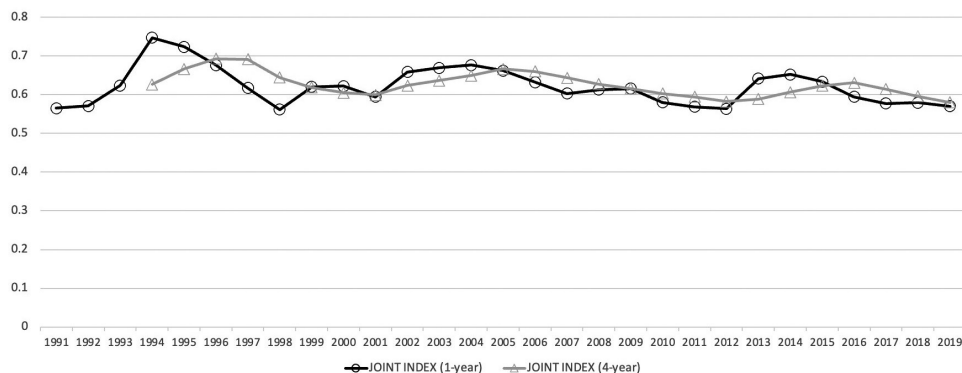
Note: The index captures the number of statements which contained any of the economic terms enumerated above divided by the number of statements made in the Sejm in a particular year.

Source: Own elaboration based on the Polish Parliamentary Corpus data.

The fluctuations in the joint index can be traced using the one-year data. As can be observed, the index increased in 1991–1994, 1998–2004, and 2012–2014, and decreased in 1994–1998, 2004–2012, and 2014–2019.[8] It might be interesting to note that the former periods coincide with times of relative anxiety over future economic prospects. For example, the period 1991–1994 is marked by an initial decline in output following the collapse of the communist regime and by an unemployment rate that oscillated between 13.6% and 14.8%.[9] The period 1998–2004, in turn, is characterised by increasing unemployment (from roughly 10% to approximately 20%). Finally, the period 2012–2014 is characterised by an unemployment rate that obstinately remained around 10% after increasing in the aftermath of the 2008–2009 Global Financial Crisis. As regards periods when the frequencies of economic terms are in decline, they tend to overlap with periods of decreasing unemployment (with the exception of the period 2008–2011). The fact that increasing frequencies of economic terms in parliamentary debates reflect, at least to some extent, public concerns about the economy can be further illustrated by the fact that these terms enter political discussions more often when the indices of social expectations are falling or remain low (Koźmiński et al., 2017). On the other hand, the overall decline in the frequencies of economic terms in parliamentary speeches, aligns with phases of economic growth and relative stabilisation. For example, during the 2003–2007 economic boom, GDP growth was relatively high and there were improvements in both internal and external economic factors. This observation is in line with the argument that the focus of political discourse tends to shift from core economic issues to other areas during such phases.

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[8] Regardless of these fluctuations, however, the index was always in the 56–75% range.

[9] We refer to the World Bank data on unemployment (share of total labour force).

The evidence so far suggests that parliamentary debates, and in particular, the manner in which they deal with economic topics, reflect underlying macroeconomic trends. To further illustrate that parliamentary debates are not disconnected from what is happening in the economy, it suffices to note that the economic themes that emerge accurately reflect the relative intensities of the economic events to which they relate. This can be clearly seen, e.g., for the following words: 'unemployment', 'crisis', or 'recession'. While none of these is the most popular word in parliamentary debates, the frequencies with which MPs use them during their speeches mirror economic developments. This is illustrated in Figure 2, which depicts the frequency with which the word 'unemployment' appears in parliamentary debates along with the actual unemployment rate.

Figure 2.
Occurrences of the word 'unemployment' and the actual unemployment rate
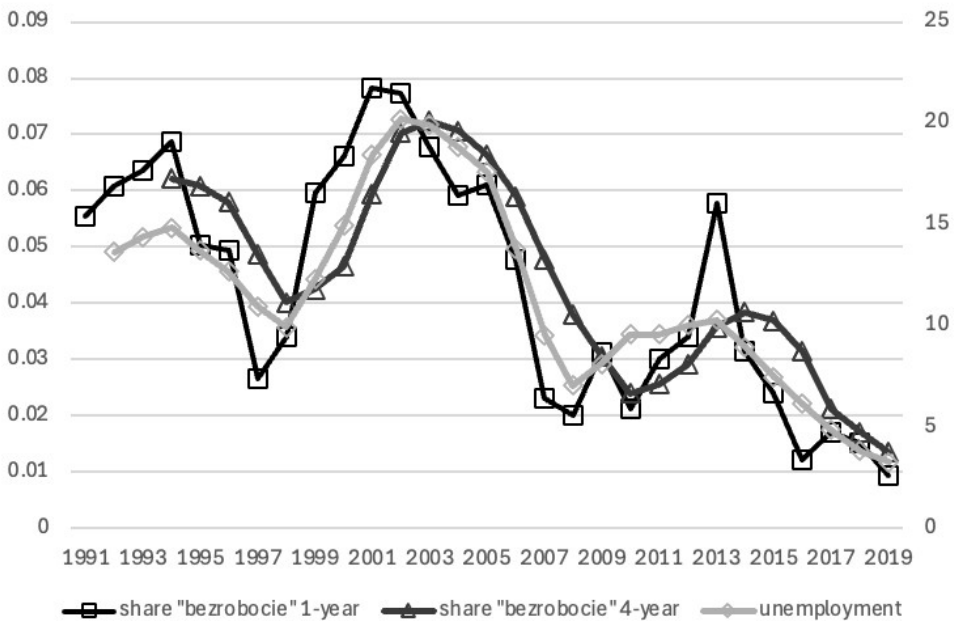
Note: *'Bezrobocie'* 1-year (left scale) refers to the frequency of the word 'unemployment' in parliamentary debate for each year covered by the study. 'bezrobocie' 4-year (left scale) refers to the presence of the word 'unemployment' in parliamentary debate as captured by 4-year averages. Finally, 'unemployment' (right scale) refers to the actual unemployment rate as reported by the World Bank.

Source: Own elaboration based on the Polish Parliamentary Corpus and World Bank data.

As reported, the depicted phenomena exhibit a very similar pattern, which indicates that the unemployment rate and the parliamentary debates concerning it have followed a parallel trajectory. Moreover, changes in the frequency of the word 'unemployment' in political debate appears to anticipate (at least to some extent) changes in the unemployment rate. Although this requires a thorough analysis, it

aligns with the principles of narrative economics, which hold that the way in which economic events are described can shape them (Shiller, 2017). This also seems to conform to the view proposed by Koźmiński et al. (2017), who argue that the social sentiment (which should be reflected in the political debate) shapes the Polish economy to a much greater extent than vice versa.

Next come graphs illustrating the frequencies of four groups of words, beginning and ending with those most and least frequently used in parliamentary debates (Figures 3–5). All depict one-year data. Figure 3 depicts the frequencies of the three most commonly used 'economic words', viz. 'labour',[10] 'finance', and 'economy'. As reported, the frequency of the first varies between 34% (at the end of the period under study) and 57% (when unemployment peaked in 1994). The frequency of the word 'finance' is relatively stable, hovering around 25%. The word 'economy', by contrast, exhibits a downward trend, but the initial frequency was as high as 30% and the final value was still around 15%.

Figure 3.
Occurrences of the words 'labour', 'finance' and 'economy'; one-year data
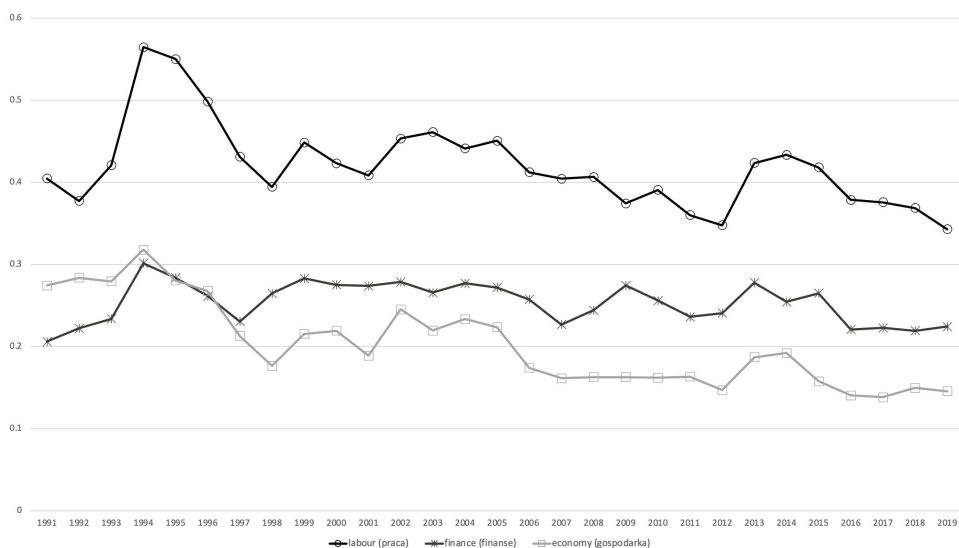
Source: Own elaboration based on the Polish Parliamentary Corpus data.

Obviously, these words might have been used in very different contexts. For example, the word 'finance' might have been used in discussions on public debt financing, infrastructure investment expenditure, sources of funding for criminal activities, or the need to provide adequate funding for kindergartens in small towns or rural areas.

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[10] When considering 'labour', phrases concerning parliamentary sittings or ministerial work were omitted, as they contain the same element in Polish (e.g.: labour market [*rynek pracy*]; parliamentary sittings [*prace parlamentarne*]; and ministerial work [*prace rządu*]).

Similarly, the word 'economy' might have been used to refer to the global economy, Poland's economic performance, or to local development.[11] Nevertheless, it is assumed that these two words are not likely to be used in a non-economic context.

Figure 4 illustrates another group of economic terms ('budget', 'development', 'taxes', 'entrepreneurs', 'market', 'investment', 'agricultural' and 'fund'), whose frequencies in parliamentary debates varied between 6% and 30% throughout the period under analysis. These words thus qualify as frequent points of reference in parliamentary debates. The word 'budget' clearly exhibits a downward trend; the peaks correspond to those indicated above for the overall index. The frequencies of the other words in legislative discussions are relatively constant. It is interesting to note that the use of the words 'agricultural' and 'fund' peaked (at 17% and 12% respectively) on or before 2004. This is consistent with the fact that agricultural issues were contentious in Poland's negotiations to join the EU and that the national political debate discusses EU funding with increasing frequency during this period.

Figure 4.

Occurrences of the words 'budget', 'development', 'taxes', 'entrepreneurs', 'market', 'investment', 'agricultural', and 'fund'; one-year data
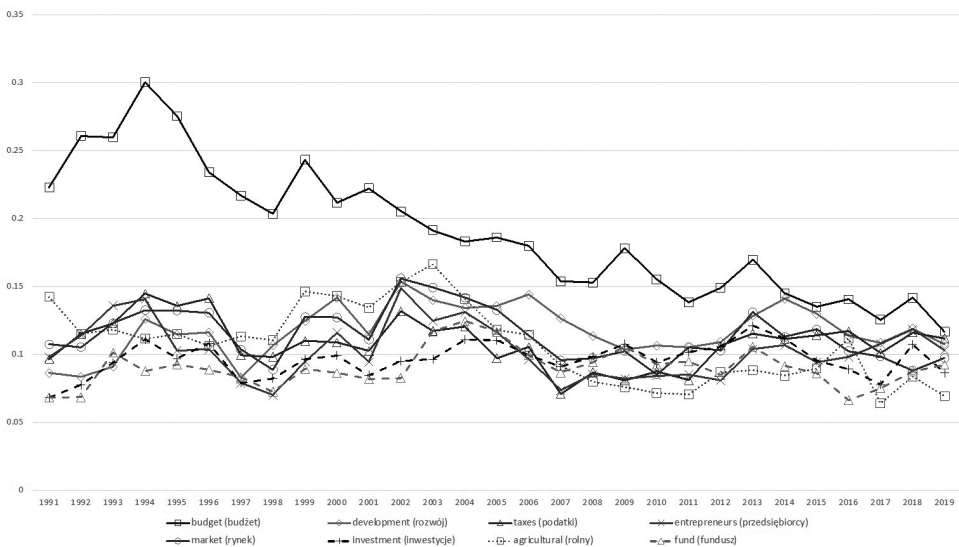
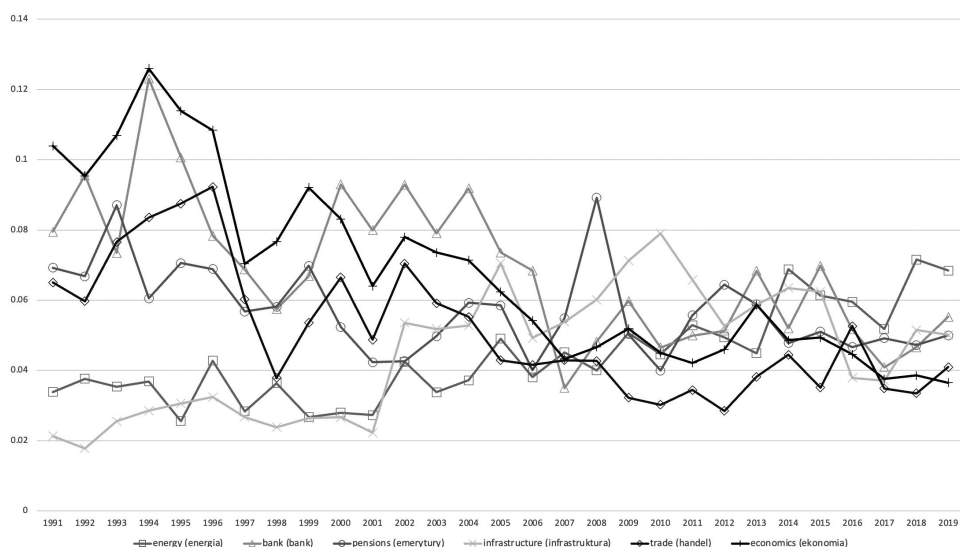*Source*: Own elaboration based on the Polish Parliamentary Corpus data.

Figure 5 depicts those economic terms for which the final frequency ranges between 4% and 7%. Interestingly, some have gradually become less frequent

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[11] This clearly indicates that future research could explore e.g. the use of these terms in these different contexts.

in parliamentary debates ('bank', 'pensions', 'trade' and 'economics'),[12] while others have become more frequent ('infrastructure' and 'energy'). The downward trend for the former group is interesting as it shows that, while these concepts are often central to academic discussions on economics, the same cannot be said of their place in parliamentary debates. The upward trend for 'infrastructure' and 'energy', on the other hand, reflects the growing interest in these topics and the investments being made in transport and energy infrastructure.

Figure 5.
Frequencies of the words 'energy', 'bank', 'pensions', 'infrastructure', 'trade', and 'economics'; one-year data

Source: Own elaboration based on the Polish Parliamentary Corpus data.

Finally, Figure A1 (Appendix) illustrates those economic terms whose frequencies in the 2019 parliamentary debates were 4% or less. Although the many overlapping lines make it hard to interpret, the key message is clear. These words make up the vast majority of those analysed here. This suggests the conclusion that most of the words that constitute natural reference points for economists appear in the national political debate far less frequently than the three leading words 'labour', 'finance', and 'economy'. In fact, some of them appear only occasionally.[13]

　　Five of these words ('credit', 'industry', 'privatisation', 'treasury', and 'unemployment') exhibit a clear downward trend. While their initial frequencies were around

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　　[12]　The last of these recorded the most precipitous decline (from around 10% to 4%), beginning as the most frequently used word in the group and finishing as the least frequently used.
　　[13]　This raises the question as to how this has come about. A look at academic debates devoted to these themes, their arguments, impact, etc. could offer some interesting conclusions.

6%–8%, these fell in the second half of the period under study. This is understandable for the terms 'privatisation' and 'treasury', as they were closely linked to the transition from a centrally planned economy to a market economy. The prominence of state-owned enterprises in parliamentary debate predictably declined in tandem with their number. Similarly, the term 'industry' can be expected to be used less frequently in light of the ongoing restructuring of the economy towards services. As for 'unemployment', as mentioned above, its frequency clearly reflects the peak in the unemployment rate in 2001–2005 and its fall thereafter. A similar decline can be observed for the term 'credit', although this is somewhat surprising along with increasing household indebtness rate. Other words presented in Figure A1 [e.g. 'export', 'import', 'poverty', 'consumer', '(in)equality', and 'allowance'] have always played a relatively lesser role in parliamentary debates (only occasionally exceeding 4%). A periodically upward trend is observable for 'deregulation' (*deregulacja*), 'innovations' (*innowacje*), 'investment' (*inwestycje*), 'GDP' (*PKB*), 'development' (*rozwój*), and 'VAT' (*VAT*).

The trends shown in this figure can also be instructive in highlighting the frequencies with which MPs raised issues that have featured prominently in academic debates at particular times. The use of the word 'crisis' can be particularly symptomatic in this context. As can be seen, it peaks during the financial crisis that began in late 2007, although it never exceeds 10%. This indicates once again that the two debates (economic and parliamentary) clearly differ in emphasis.

4. Results: Debates on Economic Issues and Other Topics

An alternative way to see the importance of economic issues in parliamentary debates is to compare the occurrences of 'economic words' with those of words that can be associated with different topics. To this end, the number of times particular words were used in parliamentary debates was analysed. The focus is on 1993 and 2015, representing one year from the first and final full parliamentary terms under study. These years also mark the beginning and end of the entire parliamentary term. The comparison should therefore not be biased by the phases of the electoral cycle. The words were chosen as follows: (i) all the words used in the 2015 debates were sorted in descending order of occurrence; and (ii) proceeding from the top of the list, the occurrences of those words that could easily be linked to a specific topic (e.g. 'defence') in 1993 and 2015 were counted. The results are reported in Table 1.

Table 1.

Occurrences of selected 'economic words' words and words related to other topics

Words	Number of occurrences in 1993 (occurrences of all tokens: approx. 20.8 m)	Number of occurrences in 2015 (occurrences of all tokens: approx. 18.3 m)
Finance	34 204	26 426
Agriculture	26 970	20 210
Economy	40 555	13 516
Budget	35 473	13 672
Investment	11 171	11 401
Market	13 396	9 967
Poland	60 208	67 300
Europe	14 317	27 448
Education	17 835	18 122
Kids	7 963	16 970
Defence	17 961	16 579
Safety	13 839	16 241
Health	13 963	13 491
Environment	11 216	11 126

Note: 'Finance' numbers the inflected forms of '*finans*'; 'Agriculture' numbers words beginning with '*roln*'; 'Economy' numbers words beginning with '*gospodark*' or '*gospodarcz*'; 'Budget' numbers the inflected forms of '*budżet*' (excluding those of '*budżetówk*'); 'Investment' numbers words beginning with '*inwest*'; 'Market' numbers '*rynek*' and the inflected forms of '*rynk*'; 'Poland' numbers words beginning with '*polsk*'; 'Europe' numbers words beginning with '*europ*'; 'Education' numbers the inflected forms of '*edukac*', '*szkol*', '*przedszkol*', '*szkoł*', '*szkół*', or '*uniwersyt*'; 'Kids' numbers words beginning with '*dziec*'; 'Defence' numbers words beginning with '*obron*', '*armi*', '*wojsk*', '*wojn*', or '*wojen*'; 'Safety' numbers the inflected forms of '*bezpiecz*' (excluding those of '*ubezpiecz*'); 'Health' numbers words beginning with '*zdrow*' (excluding those beginning with '*zdroworozsądkow*'); 'Environment' numbers words beginning with '*środowisko*' or '*klimat*'.

Source: Own elaboration based on the Polish Parliamentary Corpus data.

As per the evidence presented above, economic terms are shown to have been used less frequently in 2015 than in 1993 (refer the statistics for 'finance', 'economy', 'agriculture', 'budget', 'investment', and 'market') note that they are nevertheless an important point of reference in parliamentary debates. This is apparent when the usage of these terms in the 2015 parliamentary debates is compared with the usage of those that can also refer to other topics ('defence', 'education', 'health', 'kids', 'safety', and 'environment'). The words 'finance' and 'agriculture' were used most frequently, after 'Poland' and 'Europe'.

5. Results: Economic Issues in Speeches of MPs from Different Political Parties

The coverage of economic issues in the speeches of MPs from different political parties is presented here in order to examine the economic debate in the Polish parliament from yet another angle. The focus is on the period 2005–2019, which corresponds to four terms (V–VIII) of the Sejm (2005–2007, 2007–2011, 2011–2015, and 2015–2019). During that time, the Polish political sphere was generally dominated by the two centre-right parties, PiS and PO. PiS was in power from 2005 to 2007, and PO was the main opposition party. PO was the governing party in 2007–2011 and 2011–2015, while PiS constituted the core opposition. PiS returned to power in 2015. Although the two parties were expected to form a coalition in 2005, this never happened. In fact, they have become fierce opponents, and this has had consequences for political debate and the public sphere (Zagała, 2020). In this context, it is interesting to examine whether they differ in terms of the economic themes they address during parliamentary speeches.

First, the frequency with which the two parties discussed economic topics was compared. For each party, the words identified above as pertaining to the semantic field of 'economy' were summed and divided by the number of political speeches its MPs delivered. Table 2 shows the results. Several interesting points emerge. First, on average, economic themes were more frequent in the speeches of PiS MPs (1.65 vs 1.31). This, however, masks important differences between the terms. In three of the four Sejm terms analysed, PiS MPs used 'economic words' more often than PO MPs. The biggest difference between the two parties can be observed for Term V, when PiS MPs referred to economic topics more than twice as often as PO MPs. For other terms, however, the two parties scored much more similarly. In addition, a relatively large decrease in the use 'economic words' on the part of PiS MPs can be observed. In fact, the score for Term VIII is less than half that observed for Term V. This is in line with the evidence presented above, which suggests political attention tends to shift towards non-economic topics when the economy is in good shape.

Table 2.

Presence of economic terms in the speeches of MPs from the two main opposing camps

Political party	Parliamentary term				Mean
	V	VI	VII	VIII	V–VIII
PiS	2.483	1.359	1.551	1.214	1.652
PO	1.173	1.254	1.685	1.121	1.308

Source: Own elaboration based on the Polish Parliamentary Corpus data.

Interestingly, the ten most common 'economic words' are used with equal frequency by MPs from both parties during each of the four Sejm terms. The list always includes the top words identified above ('labour', 'finance', 'economy', 'budget', 'market'). So, at least from this perspective, the two parties do not exhibit any significant differences.

Several factors may explain this convergence. One may be that economic debates are conducted at a fairly general level in the Sejm. MPs from the two major parties need only reference key concepts to make their points (even when they are opposed). Secondly, parliamentary debates are generally polemical. A speech on a given topic, covering similar themes, by an MP from one of the two major parties is invariably met with a rebuttal from an MP from the other party. Additionally, as both parties are competing to win over a similar electorate, they have an incentive to strategically emphasise the same economic themes in deference to its concerns. Poland's EU membership might also have induced the two major parties to tailor their economic discourse to align with broader issues or programs. Furthermore, the professionalisation of political communication, with an increased reliance on media strategies and public relations, might have led to a homogenisation of the language used by politicians.

The sentiment (reflecting the emotional tone of speech) of the statements containing the most frequently used 'economic words' was then analysed with a view to uncovering implicit value judgements. Both entire speeches and single sentences were scanned for these words and for any of the 10 words listed above that were adjacent to an 'economic' one.[14] The rationale behind this exercise is that MPs from various parties may put a more positive or negative slant on economic matters depending on whether they are in the governing party or the opposition. Again, no meaningful differences between PO and PiS were observed (both parties have adopted a stance that is very close to neutral).[15] This alignment suggests that, despite their political rivalry, PiS and PO have developed a discourse on economic matters that is axiologically similar. This possibly reflects a consensus on the importance of certain economic policies or on how to strategically tailor them to public expectations.[16]

6. Discussion and Concluding Remarks

This article makes use of the increasing availability and importance of textual data to show several options for analysing the significance of economic themes in Polish political discourse. It shows that the parliament's interest in economic issues has fluctuated over time. Moreover, the attention devoted to economic issues increases or decreases with the state of the economy. An examination of Poland's economic background between 1991–2019 therefore provides valuable context. First, Poland underwent an economic transformation after the fall of communism in 1989. The country was subjected to economic 'shock therapy', which transitioned it from

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[14] Different sliding windows (paragraphs, sentences, etc.) were also considered for this analysis. The outcome, however, remained qualitatively the same.

[15] *Note*: the focus was on the most popular 'economic words' and the most frequently used words that occur with them. An analysis expanded to include less common words may well yield different results.

[16] This part of the analysis relies on the English translations of the parliamentary speeches. TextBlob and vaderSentiment libraries for Python were used to analyse underlying sentiments and value judgementsthe sentiment.

a centrally planned to a market economy in the early 1990s. This was a period of substantial economic hardship, e.g. unemployment and inflation soared, but it laid the groundwork for future growth. The economy then began to recover, marked by an increase in privatisation, foreign investment, and integration into global markets. A pivotal moment came in 2004 when Poland joined the European Union. This accelerated economic development through e.g. access to structural funds and an expansion of trade. Remarkably, Poland was the only EU country to avoid a recession during the 2008 global financial crisis, attesting to the resilience of its economy. The 2010s saw continued economic expansion, albeit at a moderated pace. Significant social programs were introduced, which provided financial support to families and stimulated domestic consumption. The unemployment rate decreased substantially, and Poland's GDP per capita steadily increased, narrowing the gap with more affluent EU nations.

Against this backdrop of economic stability and growth, the fact that the focus of political discourse has shifted from economic issues to other areas of concern should come as no surprise. As foundational economic challenges have become less pressing, politicians have redirected their attention towards social policies, national identity, and judicial reforms during the period under study. This shift could explain the decline in the use of economic terms in the parliamentary speeches analysed here. This may be indicative of a broader phenomenon where economic prosperity enables political discourse to expand into diverse areas, reflecting evolving public interests and concerns. The present study, therefore, not only sheds light on the Polish political landscape, but also contributes to a general understanding of how the state of the economy can influence thematic priorities in political communication.

Clearly, the portrayal presented here is largely limited to descriptive analysis. That said, it may serve as an invitation and inspiration for further works. Future research can extend and complement the present analysis along several lines. First, the approach adopted here can be successfully adapted to analyse parliamentary debates in other countries. Indeed, researchers may wish to look at the ParlaCLARIN project, as it creates databases of parliamentary discussions, and the ParlaMint project (in progress), which will harmonise corpora (Erjavec et al., 2022). As datasets are growing and improving in quality, these sorts of analyses may become mainstream in the future.

Second, the present analysis indicates the declining importance of certain economic terms in political debate, future analyses may establish the reason(s) behind this phenomenon. Investigating the preferences of the electorate with a view to explaining the importance attributed to particular topics of public debate is one way of extending the present analysis. Another way would be to identify those themes (including non-economic themes) that have become more important in political discourse.

The approach adopted here can additionally be supplemented with a more rigorous sentiment analysis, thereby improving our understanding of those specific narratives about the economy on which politicians place greater emphasis (Shiller, 2017). This, in turn, may shed some light on shifts in the way the economy is described and thus provide interesting insights into the rationale for political decision making.

Furthermore, the approach adopted here, along with the results obtained, may prove useful in verifying the accuracy of political party classifications. Economic

topics, and the positions that political parties hold on them, are commonly used to assign those parties to particular categories. However, the extent to which this assignment, which is often based on expert coding and analyses of political platforms announced before elections, is consistent with what is observed in the speeches of politicians, remains an open question. The present study can therefore be extended in order to see how well MPs' statements correspond to what can reasonably be expected on the basis of the expert categorisation of their parties.

Finally, the authors contend that further research along the lines developed here can elucidate the extent to which parliamentary debates on the economy are used by the political class to entrench political divisions. This brings the present study close to the vast strand of literature that analyses various aspects of political polarisation. The language used, and the narratives told, can either intensify or attenuate political tensions and conflicts. It may be instructive to see the role of parliamentary speeches on the economy in this context.
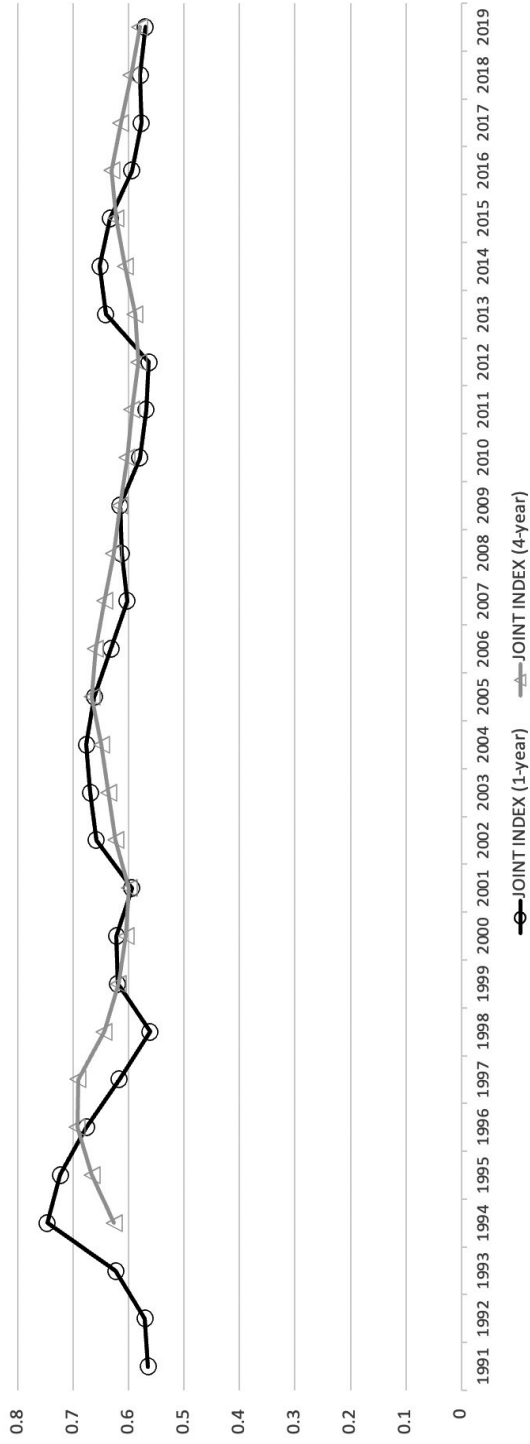
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Appendix

Figure A1.
Words appearing in the parliamentary debate in 2019 with an incidence rate of around 4% or lower; one-year data

Source: Own elaboration based on the Polish Parliamentary Corpus data.