Polarisation in Dutch Parliamentary Voting: A Social Network Approach to Polarisation

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Abstract

Despite a substantial body of research on polarisation, systematic quantitative research into the degree of elite polarisation in multi-party legislatures has been conducted sparsely. Using a social network analysis of Dutch parliamentary voting spanning over 53 years, the current research aims to identify how elite polarisation in a multi-party legislature has evolved over time. Applying modularity as a measure of polarisation, this study examines coalition-opposition divides and their development, as well as bottom-up identified dividing lines, contributing to the academic understanding of elite behaviour in multi-party legislative systems. The study finds no evidence for a dividing line between coalition and opposition, contradicting previous findings. Generally, no evidence is found for increasing trends of polarisation, although weakly supportive evidence for a U-shaped trend since the 1970s indicates periodic shifts in the degree of polarisation. Of all issue categories, agriculture is found to be the most polarised topic in most cabinet periods between 1994 and 2024, for which data on issue category was available. Finally, it is discussed that citizen estimates of elite polarisation differ substantially from the findings of this study, suggesting that for judgment of the degree of polarisation in parliament, perceptions of polarisation may play a larger role than elite ideological polarisation in parliamentary voting patterns.

Keywords: elite polarisation, voting networks, modularity, Dutch politics, multi-party legislature, legislative behaviour

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The theme of polarisation is one of defining importance in many current democracies, and much scholarly literature is devoted to finding its causes and consequences for society. Recent reports from the Netherlands Institute of Social Research (SCP) from 2022 and 2024 suggested that over 70 percent of Dutch citizens think polarisation is increasing between societal groups, but also and notably between political elites (Miltenburg et al., 2022; Kunst et al., 2024). Citizens see growing divides between opinions, which result in more negative feelings towards others (Miltenburg et al., 2022). The researchers find that citizens attribute much of this perceived opinion and affective division to political elites, who increasingly divide and 'roughen' the debate (Kunst et al., 2024).

A substantial part of the scholarly literature addresses elite polarisation, the degree to which political elites are divided. Generally, this research posits that elite polarisation is increasing since the 1980s, although differences between countries exist (Boxell et al., 2024; McCarty et al., 2006; McCarty & Shor, 2016). While some have argued that some degree of elite polarisation is beneficial, as ideological standpoints supposedly become more pronounced and identifiable (Levendusky, 2010), others have argued for its detrimental effect on democratic stability, stimulating increasingly negative feelings among the electorate towards other groups of voters perceived as ideologically different (Iyengar et al., 2019).

However, findings on elite polarisation originate mostly from the United States, in practice a two-party legislation. Hence, the dynamics of elite polarisation in multi-party legislative systems like the Netherlands, which differ substantially from two-party systems, given the different dynamics of coalition forming and collaboration, remain underexplored. In this paper, I attempt to put the idea of increasing elite polarisation in the Netherlands to the test, by conducting a longitudinal study of elite polarisation spanning just over 53 years. For this, I construct the social networks of party voting in parliament from 1971 to 2024, reflecting which party votes together with which other parties, how often and in which compositions. I look specifically at party voting instead of MP voting, as Dutch MPs vote in line with their party nearly always, and hence reflect largely the same voting patterns (Louwerse et al., 2018). For this analysis, I use the Dutch Parliamentary Behaviour Dataset (Louwerse et al., 2018). Ultimately, the current paper aims to answer the following question:

How has elite polarisation, as reflected in the voting networks of parties in the Dutch parliament, evolved between 1971 and 2024?

The Dutch parliament presents a particularly intriguing case for examining elite polarisation, given its longstanding multi-party system and persistent tradition of coalition governance (Louwerse et al., 2018; Otjes & Louwerse, 2013). Although political-historical analyses concerning research on speech, wording and interruptions suggest periodic shifts in polarisation (Walter & Van Praag, 2022), systematic quantitative tracking of these developments over time has not yet been undertaken. Specifically social network analysis, mapping relationships between parties and highlighting fine-grained patterns of behaviour or collaboration within larger structures, would add to the present body of knowledge by giving fine-grained quantitative analyses of relationships between (groups of) parties in parliament.

Addressing the development of elite polarisation in the Netherlands has distinct relevance to both society and science. First, it provides quantitative insights into the processes of elite polarisation, offering valuable information in determining its effects on Dutch democracy and society (Dekker, 2022). Moreover, it helps evaluate the impact of populist parties on parliamentary dynamics, a development often pointed out to be on the rise in recent decades, elaborating our knowledge of populist parties' influence on democracy. Finally, initiating research on elite polarisation in multi-party contexts allows for the extension of results previously found in mostly two-party legislations, validating both findings and methods.

Theory

Elite polarisation and its consequences

Polarisation is the division of a given population into segments or clusters, each moving to or being on (increasingly more extreme) opposite ends of a spectrum (Dekker, 2022; Flache & Macy, 2011). Polarisation can happen on a multitude of dimensions (e.g. income, education, politics), and much research on polarisation is done on political polarisation: the division of a given population into segments or clusters, based on opinions and stances towards political topics in the broadest sense of the word (Dekker, 2022). Political polarisation can happen among the general public (mass polarisation), but also among policy makers, parties and politicians (elite polarisation). For both types, a distinction is made between affective polarisation (based on feelings of affect or contempt towards the other) and ideological polarisation (based on disagreement in opinion stances) (Ross Arguedas et al., 2022).

As this current research maps the polarisation in the Dutch parliament through voting, I measure ideological elite polarisation. Concretely, elite polarisation is conceptualised as a high distance or division between different political parties, while similar parties have become

more internally consistent, based on how they vote (Druckman et al., 2013; McCarty et al., 2006). Although it has been argued that some degree of elite polarisation benefits society as it delineates party stances more clearly (Levendusky, 2010), others have pointed to the potentially detrimental effects of fierce elite polarisation, given its impact on voter affective polarisation, supposedly endangering democratic stability (Iyengar et al., 2019; Wagner & Harteveld, 2024). Voter affective polarisation has been found to rise in multiple western countries (Bougher, 2017; Boxell et al., 2024; Iyengar et al., 2012; Mason, 2015), although findings from European countries are less consistent than findings from the US; some authors argue that voter affective polarisation in EU countries is overall very high (Reiljan, 2020), while others suggest this varies greatly between countries (Boxell et al., 2024).

In the US, much research points to the presence of elite polarisation (Lauderdale, 2013; McCarty et al., 2006; McCarty & Shor, 2016) and its effect on voter affective polarisation (Boxell et al., 2024; Reiljan, 2020; Ross Arguedas et al., 2022), for example in climate change debates (Merkley & Stecula, 2021), or the COVID-19 crisis (Ross Arguedas et al., 2022). Results are less consistent for other Western contexts, specifically those with multi-party legislative systems. For European issues, some research found the public electorate to be more polarised than the European Parliament MPs (Goldberg et al., 2021), while other findings suggest the entrance and rise of populist parties into many European parliaments is indicative of increasing elite polarisation (Bischof & Wagner, 2019). However, systematic quantitative research on the degree of elite polarisation in Western legislatures is sparse despite the availability of quantitative methods already used in the US legislative context.

Voting and networks

In parliamentary democracies, most of legislation is voted for (Hug, 2013). In most of these legislatures, MPs can vote on motions, amendments, and bills. There are some slight differences between these three parliamentary concepts, but for practicality and following Louwerse and colleagues (2018), I use the term *proposals* as the collective term for motions, amendments and bills: in essence, all three concepts describe statements parties take a political stance towards though voting against or in favour of it. This way, when parties vote over proposals, these votes can be seen as ideological markers, that can serve as a tool to infer ideological orientation of a specific party in parliament.

Since most legislatures hold detailed records of all proposals and votes in parliamentary settings, the analysis of voting on these proposals has become an increasingly popular tool for researching political behaviour (Hug, 2013; Louwerse et al., 2018). As voting on proposals is a formally recorded act and can be seen as a type of behaviour, looking at

these votes gives unique insights into a highly complete subset of political behaviour (Hug, 2013). Additionally, in most, if not all, parliamentary democracies, voting is aimed at acquiring majorities, marking the importance of cooperation among parties and MPs. Such cooperation through voting can be studied well through network analysis, as parliaments are, in essence, (complex) social networks (Porter et al., 2005; Puccio et al., 2016), and the ties between parties are highly relevant for cooperation and voting outcomes.

Research findings on parliamentary network analysis align well with theoretical differences between two-party and multi-party legislatures. First, while in two-party legislatures, one party is in power and the other is in opposition, multi-party legislatures have to deal with coalition forming, creating situations where multiple parties share power even though they may ideologically disagree on some issues. Second, two-party legislatures are more common to negotiate majorities on an issue-by-issue basis, while most multi-party legislatures follow a coalition-opposition divide model, where multiple issues are negotiated beforehand when forming the coalition (Hix & Noury, 2016). For multi-party legislatures, considering the opposition-coalition divide is therefore highly relevant (Otjes & Louwerse, 2013). However, while much research has been done on elite polarisation in two-party legislative systems, the dynamics of elite polarisation and coalition-opposition dynamics in multi-party legislatures remain relatively underexplored.

Previous network research of the US Parliament from 1973 to 2016 shows an increase in polarisation, indicated by less multi-party proposal co-sponsorship (i.e., the joint submission of proposals) (Zhang et al., 2008), more single-party co-sponsorship (Payne, 2021), and more negative political ties, which clearly signal political differences (Neal, 2020). Additionally, research on the two-party US legislature suggests that network dynamics explain parliamentary (in)stability and can predict changes in the majority party for the House and Senate (Waugh et al., 2009). In other research it is found that networks of American MPs resemble so-called small-world networks (Tam Cho & Fowler, 2010), meaning that each MP (node) in the network could be reached through relatively few steps, while there is a high level of clustering (Watts & Strogatz, 1998), indicating that links in such political environments are widespread and relatively diverse, while maintaining a high clustering of different groups.

For multi-party contexts, research on individual MP voting found that in Finland, opposition clusters by party, while coalition parties cluster together, confirming the theoretical divide between opposition and coalition in multi-party legislatures (Louwerse et al., 2018; Puccio et al., 2016). For the Italian legislature, the exit of one coalition party halfway through

a cabinet period was followed by less cooperative coalition voting, indirectly indicating that in multi-party legislatures, coalition forming aligns coalition parties in their voting behaviour (Maso et al., 2014). Contrarily, opposition party voting behaviour in Italy has been found to be more dependent on motion content (Maso et al., 2014). For the Netherlands, the coalition-opposition dividing line is interesting, given the traditional and rigid disparity in power between coalition and opposition (Otjes & Louwerse, 2013). Recently, it has been suggested that coalition unity has been decreasing (Schnabel, 2022), although quantitative research on this supposedly decreasingly rigid dividing line has not been conducted.

Dutch politics and elite polarisation

The Dutch legislature is bicameral and has multiple parties, ranging from 9 to 17 parties between 1971 and 2024. Given its many parties, there has always been a need to form coalitions of at least two, but in some instances up to five parties (Louwerse et al., 2018). It has been argued that the traditional division of power between coalition and opposition is rigid, resisting change even despite political instances for reform, as was the case for the *Gedoogconstructie* in 2010 with the PVV (Otjes & Louwerse, 2013).

Existing literature points towards two peaks in parliamentary polarisation: polarisation peaked at the end of the 1960s, extending into the 1970s, in a wider European trend of (student) protests, civil rights movements and wage conflicts. Traditional parliamentary seat distributions changed, and ideological differences between parties were delineated more clearly than in the preceding era (Bosmans & Van Kessel, 2011). However, it has been argued that despite these developments, political elites still maintained a pragmatic stance towards politics and policy, aligning with Dutch political tradition (Bijsmans, 2002).

This period of polarisation was later followed by a relatively quiet period between the 1980s to the end of the millennium. With the fall of the Purple Cabinets in 2002 and the rise of Pim Fortuyn and later Geert Wilders' PVV, polarisation took a rise again that has been argued to have been a lasting influence in Dutch political culture (Lucardie, 2012). It has been argued that after 2002, coinciding with a decrease in traditional political parties in most of Western Europe, the Dutch parliamentary system, as well as coalition forming, has become increasingly unstable (Pellikaan et al., 2018). Most notable was the emergence of right-wing populist parties (e.g., LPF, PVV) and the break with the custom of one traditional dominant party initiating the coalition formation (Pellikaan et al., 2018). Others, however, have pointed out that, while some issues became more salient (like integration) and partisanship increased, elite polarisation, as measured in their ideological stances, did not increase drastically (Oosterwaal & Torenvlied, 2010).

In more recent times, the Rutte cabinets have been argued to be characterised by increasing polarisation between the coalition parties instead of along traditional coalition opposition lines, based on qualitative interpretations of MPs' parliamentary questions, proposals and interruptions (Schnabel, 2022). In general, some have stated that larger trends do not establish increases in polarisation in Dutch political elites, as similar patterns of speech and voting were also present in the past (Dekker, 2022).

There is little literature available on what issues are more polarising in a specific period, especially concerning quantitative comparisons of issues. However, the sparse literature that is available builds on the idea of a depolarising tendency in the Dutch parliament after the 70s, becoming more polarised with the rise of right wing populist parties like Pim Fortuyn's LPF. Generally, it is argued that in the 70s, the main polarising topics were that of housing, inclusion, nuclear power and economic redistributions (Bijsmans, 2002). Following this period, the 80s and 90s are characterised by decreasing polarisation, specifically on these previously polarising trends and more broadly in their classic left-right orientations (Adams et al., 2012). Polarisation later increased, markedly in the area of migration and integration, integration into the European union, and culture, especially after 2002 (Oosterwaal & Torenvlied, 2010; Silva, 2018). In more recent years, the relevance of migration and integration seems still present, with the expressively anti-immigration party PVV positioned in the coalition. Next to that, issues of housing, agriculture, and rising prices are brought up as polarising issues by some (Schnabel, 2022), but in general the existing literature does not allow for specification of a clear consensus on which issues are most polarising.

Hypotheses

While substantial research has been conducted on elite polarisation in two-party legislative systems like the US, the application of these findings to multi-party systems remains relatively underexplored. Some European multi-party legislatures have been studied, yielding valuable insights into dividing lines in parliament and the development of these dividing lines over time through social network analysis. However, for the Dutch legislative system, systematic quantitative research on the development of polarisation over time, particularly using social network analysis of voting, is notably absent. This current research attempts to fill this research gap, by constructing a longitudinal measure of polarisation in the Dutch parliament based on cluster forming as measured by modularity. Based on the literature discussed above, I expect three distinct patterns in voting behaviour in parliament.

First, as research points to the defining properties of coalition agreements in multi-party legislations, both in the Netherlands (Louwerse et al., 2018) and other legislatures (Hix & Noury, 2016; Maso et al., 2014; Puccio et al., 2016), I expect that the most defining ridge in parliament is that of opposition and coalition (hypothesis 1). However, given the supposed decline of traditional party stability since 2002 (Pellikaan et al., 2018), I expect that this ridge is becoming more diffuse from that time on (hypothesis 2).

Second, following parliamentary history pointing towards two distinct polarisation peaks in the Netherlands (Bosmans & Kessel, 2011), I expect the overall development of polarisation from 1971 to 2023 to be U-shaped, peaking in the 1970s and between 2002 to 2006, while being relatively low in the middle and decreasing in extremity from 2010 onwards (hypothesis 3).

Third, I expect that issues marked in political historical literature as most polarising in a specific period, are also found to yield the highest polarisation scores in social network analysis for that period. However, due to the multitude of issues that are at some or more periods seen as highly polarised, formulating falsifiable hypotheses is troublesome. Instead, expectations of which issues are most polarising in certain periods – that is, based on the available literature, integration, culture, housing, and agriculture – are taken as a reference point for the interpretation of the results of my analysis.

Methods

Data

For my research I use The Dutch Parliamentary Behaviour Dataset, comprised by Tom Louwerse and colleagues (2018) and made publicly available under a Creative Commons 4.0 License. The dataset was published in 2018 but has recently been supplemented with data up until December 31st 2024. It spans all parliamentary motions, amendments and roll calls since 1945 in the Dutch House of Representatives, *De Tweede Kamer,* and includes a total of 138233 proposals and voting outcomes between 1971 and 2024, spanning 20 cabinet periods. As the number of proposals rapidly increased from 1971 onwards, I chose to take this year as the starting point of my research. From that time on, sponsoring and voting on a proposal has increasingly become an instrument for political strategy (Louwerse et al., 2018). Therefore, I suppose the intentions and strategies to sponsor a proposal (i.e., the intentions the sponsoring party had when sponsoring a specific proposal), differ minimally between cabinet periods and thus reflect similar information. Also, individual MPs vote in line with their affiliated party nearly exclusively from 1970 onwards, allowing for an analysis of interparty differences without the need to take into account individual MP voting patterns (Louwerse et al., 2018).

Finally, as the absolute number of proposals increases from 1970 onwards, data from this period and onward yield the richest data and allow for quantitative methods of research.

In terms of content, the dataset contains a voting matrix, with for each proposal indicated which parties voted for (1) or against (0), were absent (8) or were not elected into parliament at that time (9). Moreover, the contents of each proposal are also described, together with a date, the resulting vote outcome and a categorisation. There are 17 proposal subcategories, reflecting the political area, and a proposal is labelled with one of these subcategories. Subcategories are available from 1995 onwards, spanning a total of 11 cabinets.

Modularity

To calculate the degree of polarisation based on parliamentary voting networks, one ideally identifies clusters with many connections within each cluster and few connections with other clusters (Interian et al., 2023). Hence, polarisation measures for voting networks in parliament should specifically measure the disparity between intra- and intergroup connections (Zhang et al., 2008). The concept of modularity, denoted by *Q,* reflects exactly that: the extent to which partitioned clusters in the network have more ties within their cluster than ties to other clusters. With many intragroup ties but few intergroup ties, modularity is high, while modularity is lower when the numbers of intra- and intergroup ties are more equal (Zhang et al., 2008). Formally, the modularity *Q* is 'the fraction of the edge weight contained within the specified communities minus the expected total weight of such edges' (Zhang et al., 2008, p. 2). As a formula, the modularity *Q* is calculated by

$$Q = \frac{1}{2m}\sum_{i,j}\left(A_{ij} - \frac{k_i k_j}{2m}\right)\delta(g_i, g_j)$$

with m being the total weight of all edges, A_{ij} being the entry in the adjacency matrix (0 if unconnected, 1 if connected), k_i being the weighted total of edges connected to i, $k_i k_j/2m$ being the expected weight of an edge between i and j in a random graph with the same total edge weight per node, and $\delta(c_i,c_j)$ being the indication of similar groups, with 1 indicating that nodes i and j are in the same cluster, and 0 indicating they are not (Waugh et al., 2009; Zhang et al., 2008). In an intuitive approach, modularity 'looks at how much more the members of each [community] are likely to be connected to each other compared to the overall connection probability between an arbitrarily chosen pair' (Sinha, 2014, p. 3).

Modularity and partitioning

To obtain a modularity score, one first needs to partition a network (i.e., divide the network into exclusive clusters, with no overlap of nodes between clusters). To obtain this partition, two methods can be used: one can divide all nodes in the network into clusters based on a specific characteristic (I will call this the *top-down* partitioning), or one can use an algorithm to maximise the modularity Q, using the algorithm to determine the partition that yields the highest possible modularity (I will call this the *bottom-up* partitioning). The main advantage of the top-down partitioning is that it allows for the analysis of subgroup cohesion: when a certain characteristic allows for the division of nodes into clusters – like membership of either the coalition or opposition – top-down partitioning makes it possible to calculate the modularity scores of such a divide, reflecting how close-knit (or polarised) the clusters are. Alternatively, the main advantage of the bottom-up partitioning is its independence of assumptions: one does not need to assume characteristics or divide nodes a priori, but can analyse what clusters are most modular only through the available data. Specifically for research on political behaviour, the independence from assumptions on political orientation allows for novel analyses on ideological stances, as most research on political ideology is done in the sphere of political historical research, entailing interpretative methods. In my current research, I will use both partitioning methods, to analyse the differences between a coalition-opposition partition (top-down) and the maximum modularity yielding partitions (bottom-up).

Modularity maximisation

To obtain a bottom-up partitioning, I use the fast and greedy algorithm (Newman, 2004). This algorithm starts by grouping a network with N nodes into N communities. For each step, two communities that yield the highest increase (or lowest decrease) in modularity for the network are merged, and this is continued until only two clusters are left, as a modularity score cannot be computed for only one cluster. The maximum-modularity yielding partition is then finally determined by seeing at which stage in the joining of communities, and therefore which partition, the modularity is highest. Using this algorithm, one can determine the maximum modularity yielding partition for any given network, reflecting which clusters can be identified and the degree to which the identified clusters are distinct from one another. For my current analysis, each cabinet period makes up one network, based on which the modularity score can be calculated and compared over time.

Modularity maximisation has a few notable benefits over alternative measures of polarisation. Compared to the more standard measure of DW-Nominate (Poole & Rosenthal, 1985) and the McCarthy, Poole and Rosenthal (MPR) method (McCarty et al., 2006), which

both use the scaling of votes on proposals and MPs on one or two spectra, modularity maximisation does not necessitate a priori assumptions on cluster division. Instead, it is based exclusively on the data under study (Waugh et al., 2009). In their study on US parliamentary politics, a two-party legislature, Waugh and colleagues (2009) show that modularity maximisation is better capable of highlighting within-party polarisation than the standard MPR measure, possibly translating to better highlighting within-cluster polarisation in multi-party legislatures. Moreover, compared to other network segmentation methods such as the Walktrap Algorithm (Pons & Latapy, 2005), modularity maximisation based on the Fast and Greedy Algorithm (Newman, 2004) is more intuitively interpretable, while yielding similar results: while the Walktrap Algorithm uses random walks to partition the network, the Fast and Greedy Algorithm uses modularity scores specifically to partition the network to obtain a maximum modularity.

However, one prominent downside of modularity measures is that high modularity scores are also found in random graphs (i.e., graphs that are constructed randomly and supposedly have no interpretable structure in them), troubling computations of statistical significance (Guimerà et al., 2004; Traag et al., 2013). However, the computation of modularity does create a relative comparison of the network under study vis-à-vis a similar, random network, but does not supply any formal statistical significance (Zhang & Chen, 2017). Although significance testing does allow for a formal determination of how exceptional the modularity of the partition is, this is mostly relevant for generalisation of findings in sample data. As my data concern census rather than sample data (i.e., *all* proposals and votes in the period under study are included), the generalisation to other contexts is not of primary importance. Therefore, I will not test for significance of the emergent partitions.

Adjacency matrices

To calculate the modularity scores for both bottom-up and top-down partitions, I first divide the voting data into non-overlapping periods, each spanning from the start of a specific cabinet period until the day before the start of a new cabinet period. This yields 20 separate periods in time (see Table I in the Appendix), containing on average 6912 (SD = 6415) proposals. For each of these periods, a list is comprised of parties that voted at least once for or against a proposal, which I deem indicative of their presence in parliament at that specific time. An overview of all parties in parliament in each cabinet period, as well as the coalition-opposition partition can be found in Appendix tables II to IV. These parties are then included in a weighted voting matrix M, with element M_{ij} reflecting the voting agreement between parties i and j. In line with Maso and colleagues (2015), voting agreement is calculated by the

number of similar votes (both in favor of or both opposing a certain proposal), divided by the total number of proposals two parties *i* and *j* have both voted over, albeit differently[1]. This yields an agreement score M_{ij} ranging between 0 and 1. As the degree of agreement between any party with itself is 1 and offers no interesting information, these agreement scores are removed from the matrix.

Finally, in the instance that two parties were in parliament in the same cabinet period, yet do not have any motions they have both voted over (for example, through the merger of Christian parties KVP, ARP and CHU into CDA, the KPV, ARP and CHU have no shared votes with the CDA, despite being in parliament in the same cabinet period), the element M_{ij} will be set to 0; otherwise, one would have to divide by 0, as there are 0 proposals they voted in together.

Analyses

In order to test my hypotheses, I will perform a specific set of analyses. First, both a top-down partition, based on the coalition-opposition divide, and a bottom-up partition, based on the Fast and Greedy Algorithm, will be determined for all 20 cabinet periods, both for a combination of all proposals and for each subcategory specifically. To compare differences between categories and periods, I will plot all modularity scores over time, either for all proposals and for each proposal subcategory, to identify any in- or decreases in the modularity scores of the network partition. This is then assumed to be indicative of in- or decreases in the polarisation between groups of parties in parliament. I will analyse and compare the top-down and bottom-up modularity scores (hypothesis 1), analyse whether the coalition-opposition divide is decreasing in delineation (hypothesis 2), and see how the bottom-up partitions develop over time (hypothesis 3). Finally, I will compare the developments in maximum modularity scores of different subcategories over time, to see which subcategories yield the highest polarisation. Additionally, qualitative interpretations of network plots will be given throughout all analyses.

Results

In total, 20 cabinets with an average duration of 978 days (*SD* = 580) were included in the analysis, counting up to a total period under analysis of 53 years and 210 days. In this period, votes were cast on 138233 proposals, averaging 6912 proposals per cabinet period (*SD* = 6415). The total number of proposals consisted of 96900 motions, 31672 amendments,

[1] Notably, this computation enables excluding scores of absence from parliament at the time of voting, which otherwise would disproportionately affect smaller parties, as they have less MPs and hence are present in parliament less to vote on proposals (Louwerse et al., 2018).

6674 bills, and 1208 proposals attached to other minor categories. 1779 proposals had no category. When taking into account the duration of cabinet periods, the relatively highest number of proposals (as reflected in the average number of proposals voted over per day in a cabinet period) was cast in the cabinet Rutte III (21123 votes in 1537 days), and the least in cabinet Biesheuvel I (468 votes in 429 days). As apparent from Figure 1 below, the average number of proposals voted on per day is increasing over time. All votes on proposals have been cast by MPs affiliated to parties, with a total of 77 parties having cast at least one vote in the period under study. In terms of subjects, the most prevalent subcategory was that of financial matters (22.9 percent of all proposals), while the least prevalent subcategory was that of housing (2.0 percent of all proposals) (Figure 2). 1196 proposals had no subcategory. Importantly, data on proposal subcategory is only available from the cabinet Kok I onward, spanning 11 cabinets and 117123 proposals.

Hypotheses

The first hypothesis, based on previous literature on Dutch politics, posits that the most defining ridge in parliament is that of coalition versus opposition. This hypothesis is not supported by the data. In Figure 3, the modularity scores for different cabinet periods are plotted, based on coalition-opposition (orange) and bottom-up (blue) partitioning, respectively. Notably, the bottom-up partition is substantially and consistently higher than a partition based on coalition versus opposition. Interestingly, the coalition-opposition divide can be considered remarkably low, considering the widespread idea that coalition bonds are strong in the Dutch parliament (Louwerse et al., 2018). Moreover, this partition mostly yields *negative* modularity scores, indicating that for these predefined groups, there are more connections between groups than within groups, indicating that this hypothesis is not supported by the data.

The second hypothesis predicted that the coalition-opposition divide would become more diffuse over time, as the importance of coalition unity was suggested to have declined in recent years. The results of my analysis do not support this. The only two positive modularity scores for a coalition-opposition partition, indicating the only times the coalition and opposition clusters had more within-cluster ties than between-cluster ties, belong to the cabinet Biesheuvel I (1971-1972) and Schoof I (2024-present), respectively (Figure 3). Interestingly, the cabinet Schoof I, which has been said to be a troublesome coalition and precisely indicative of decreasing coalition unity, has the second highest modularity score when partitioned based on coalition divide, showing that these supposed collaborative troubles are not supported by the data. These findings also do not support my second

Figure 1

Average number of proposals voted over per day, for each cabinet period, reflecting the relative increase in voting over proposals in parliament over time.

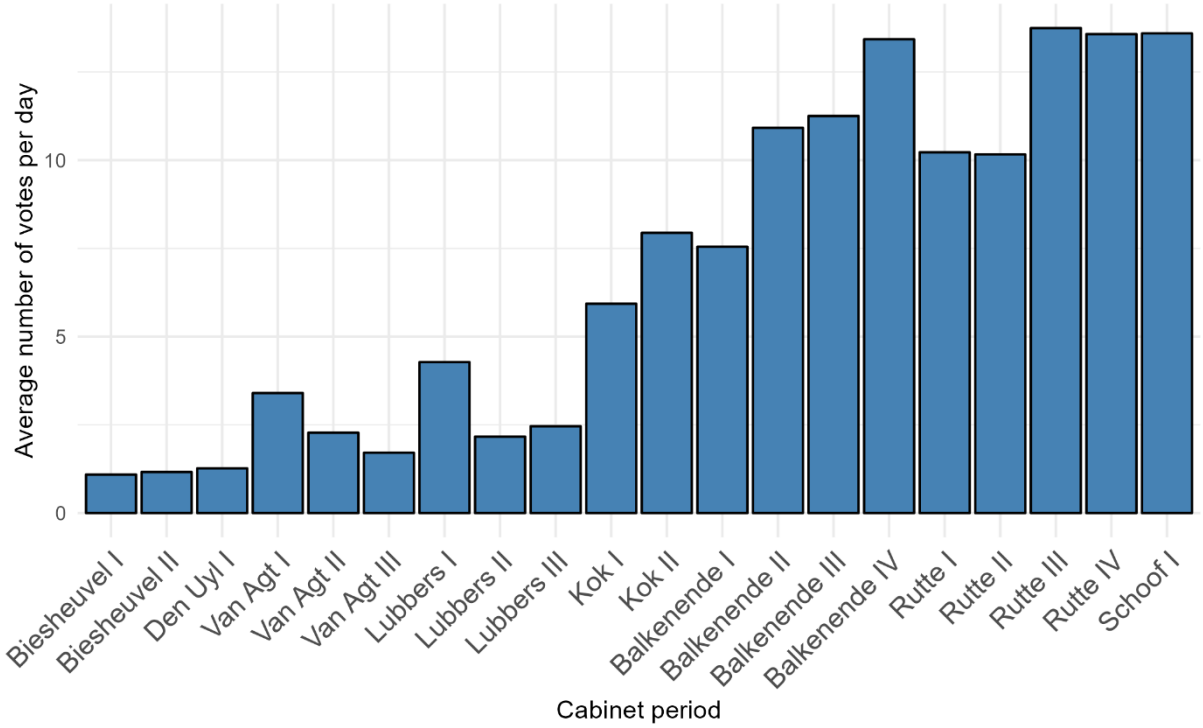
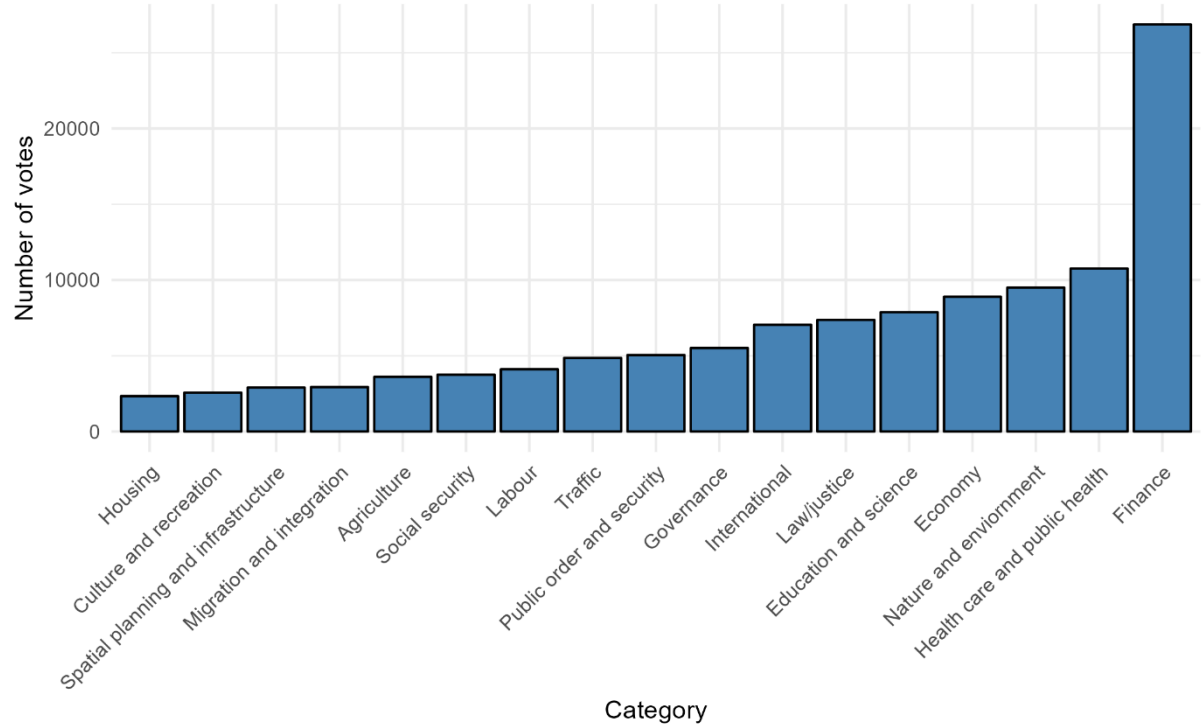


Figure 2

Total number of proposals per subcategory, for the cabinets Kok I – Schoof I (1994-2024)

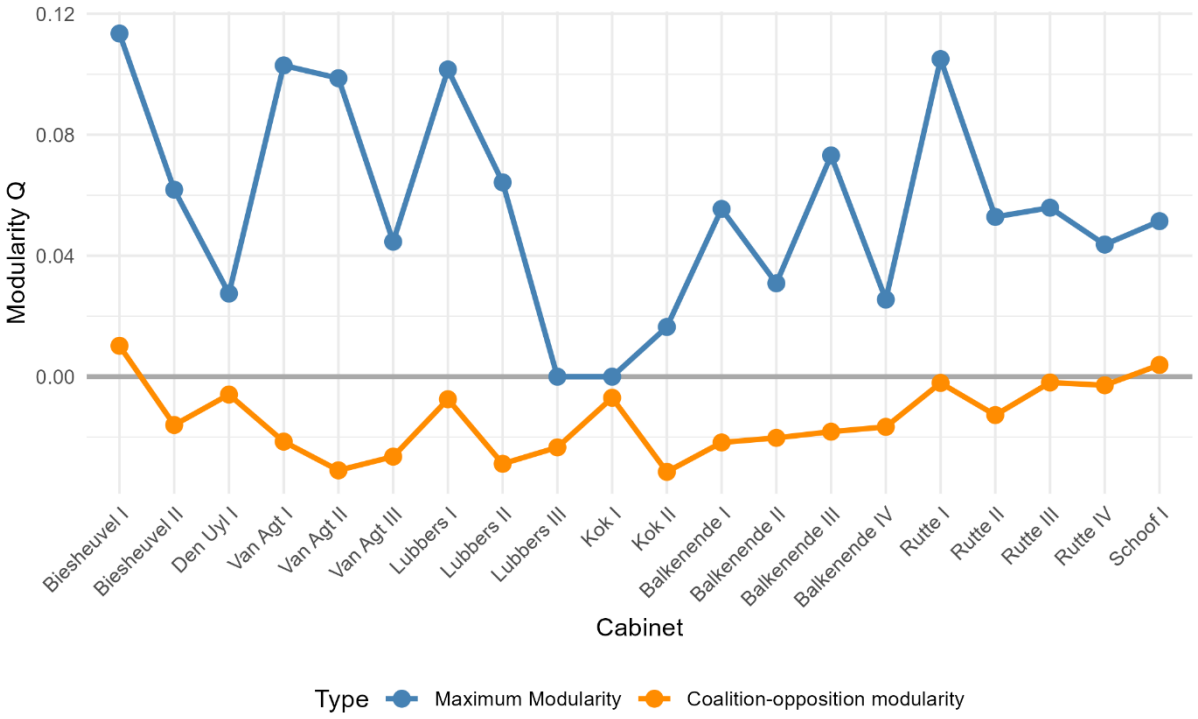


hypothesis: over a 53-year period, one of the most internally consistent coalitions is at the end of the period. This does not allow for the conclusion that coalition unity is deteriorating over time. Finally, modularity scores between these extremes at the beginning and end stay predominantly stable, which does not align with the idea of deteriorating coalition unity in voting. One may wonder whether the results look different when broken down by proposal subcategory, since some subcategories may be more precarious and hence more polarising than others; this will be discussed below.

Contrasting against the coalition-opposition and left-right partitions, the bottom-up partition mostly yields substantially higher modularity scores. Although it is determined by definition that the bottom-up partition yields the highest modularity (i.e., it is chosen to maximise the modularity), the difference between the bottom-up vis à vis top-down partition is evident. For the bottom-up partition, it can be concluded that, compared to similar research in other legislatures, the Dutch parliament yields substantially less fierce modularity scores: the maximum modularity is never above 0.120 (M = .056, SD = .034), while other research has found modularity scores of around .500 for the Finnish parliament (Puccio et al., 2016), or maximally .363 in the US parliament and .278 in the US senate (Waugh et al., 2009).

Figure 3

Maximum modularity and coalition-opposition modularity over time (1971-2024)



However, such comparisons are somewhat troublesome, given the fact that these other findings are based on voting networks at the MP level instead of the party level: presumably, MPs in other countries also vote in line with their party considerably often, meaning that some degree of the high modularity scores can be attributed to party affiliation. Also, the networks of MPs contain more nodes than networks of parties, which may increase modularity scores slightly, as networks with more nodes yield higher modularity scores more easily; there is simply more opportunity to form clusters. Nonetheless, high modularity scores are also found in smaller networks: Newman (2006) finds a modularity score of around .400 in Zachary's (1977) Karate Club Network

Notably, the cabinets Biesheuvel I (1970-1971) and Rutte I (2010-2012) respectively yield the highest modularity scores (Figure 4), but even these modularity scores can be considered rather small and do not allow for a detailed distinction between clusters. Although small, the broad pattern of maximum modularity scores does, to a relatively moderate extent, support hypothesis 3, arguing for a U-shaped trend in polarisation over time. Indeed, polarisation seems to be relatively higher in the 1970s, declining in severity halfway through the 1980s and rising again in the 2000s, after the cabinet Kok II. However, it is important to note that the differences displayed in Figure 3 still show little variation: the difference between a modularity score Q of .105 and .055 (as is for example the case with the cabinets Rutte I and Rutte II) is still rather small.

The lowest bottom-up modularity scores belong to the cabinets Lubbers III and Kok I respectively (Figure 5): each modularity closely approaches 0. Looking at their network visualisations, it can be seen that to yield the maximum modularity, the penultimate partitioning, right before all parties would be joined into one cluster, was chosen as the maximum modularity yielding partition. Hence, the networks do represent a certain degree of ideological differences, but this can be interpreted as practically uninformative. Therefore, these results suggest that, for the cabinets Lubbers III and Kok I, no informative clusters can be distinguished in voting behaviours and inferred ideological positions.

Finally, I proposed that the issues marked as most polarising in specific periods, also yield the highest modularity, offering some suggestions for potentially polarising topics while abstaining from formulating falsifiable hypotheses: previous literature does not allow for this, and instead below is a general exploration of the differences in modularity for the specific subcategories. This was done by taking a closer look at voting contents, splitting out all proposals according to the category of the proposal voted for. From the cabinet Kok I onwards, each proposal is labelled with one of 17 policy categories and for each of these

Figure 4

Network plots of the highest modularity-yielding cabinets, Biesheuvel I (top, Q = .113) and Rutte I (bottom, Q = .105)

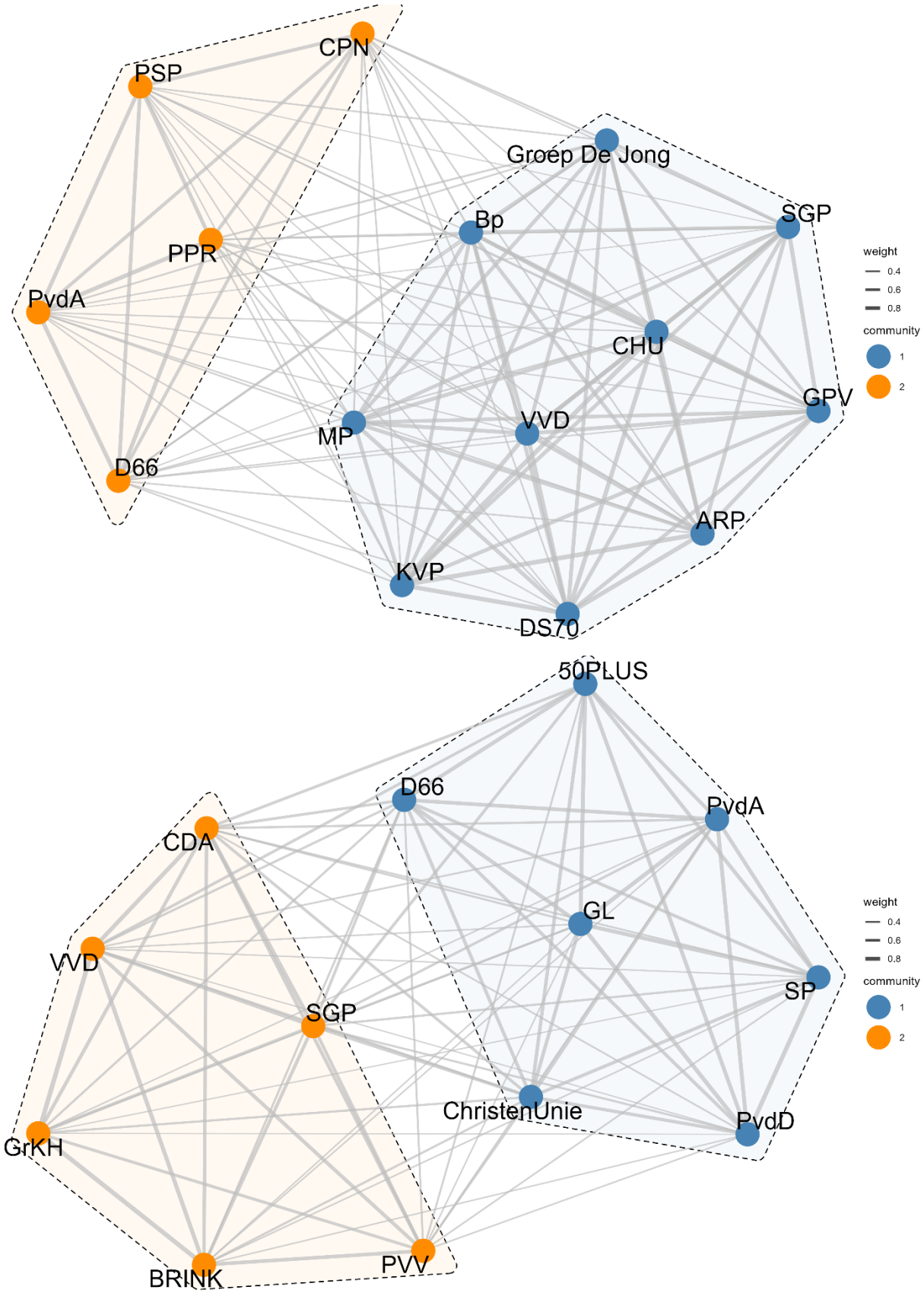


Figure 5

Network plots of the lowest modularity-yielding cabinets, Lubbers III (top) and Kok I (bottom), both closely approaching a modularity of Q = *0*

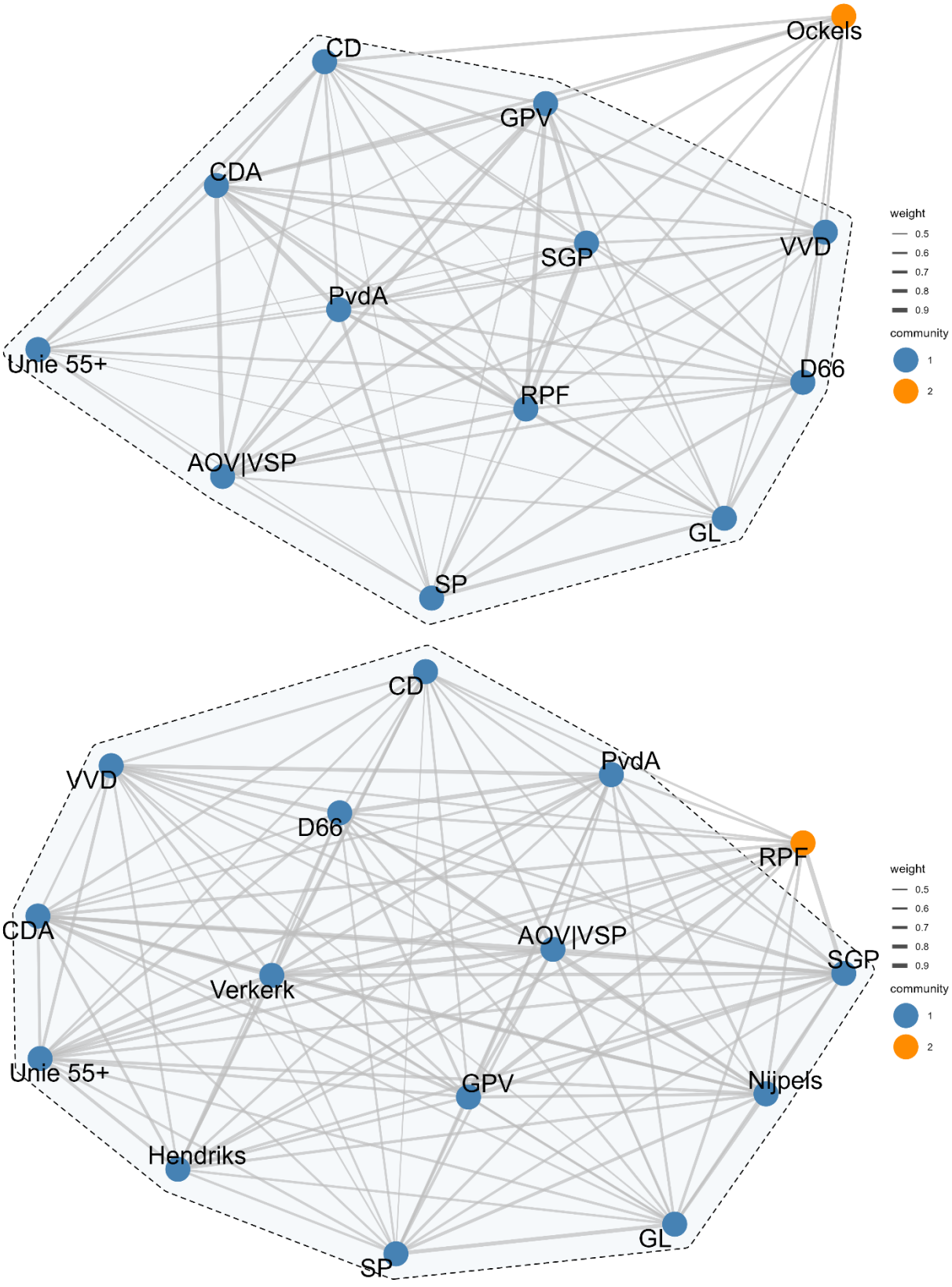
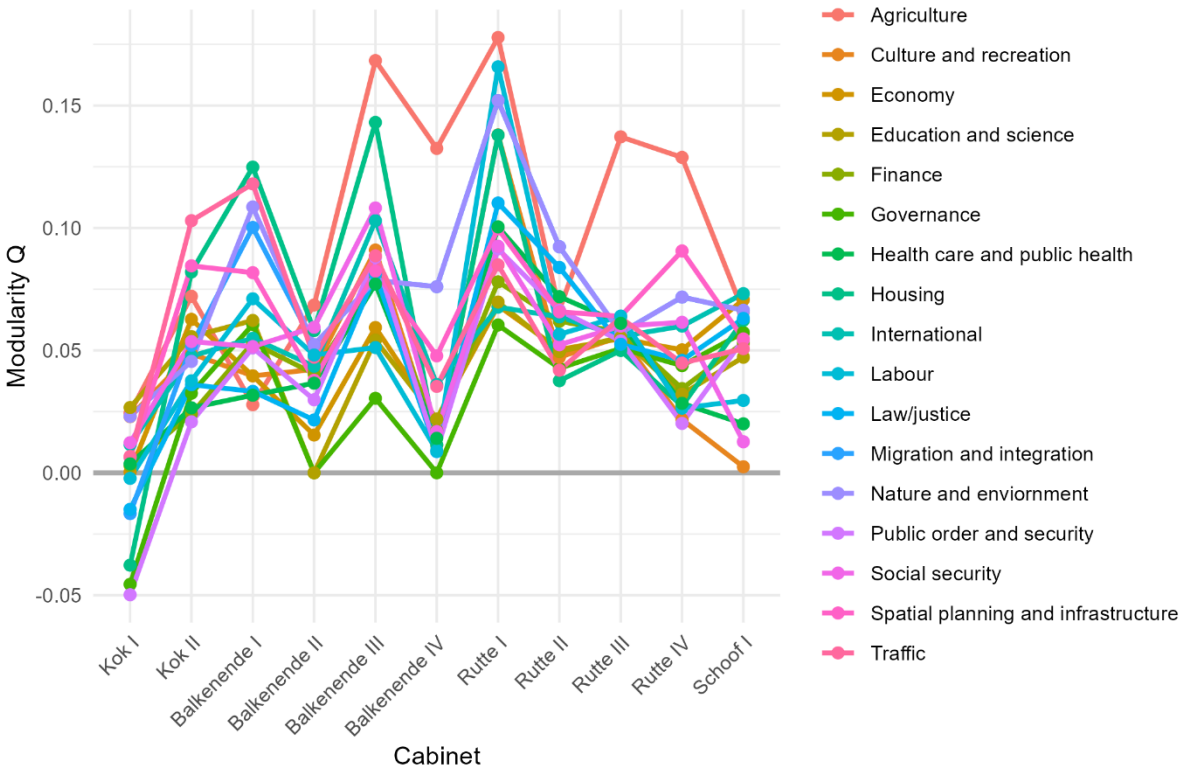


Figure 6

Maximum modularity over time, split out into categories, showing a general pattern corresponding to an increase in polarisation from the cabinet Kok I onwards.

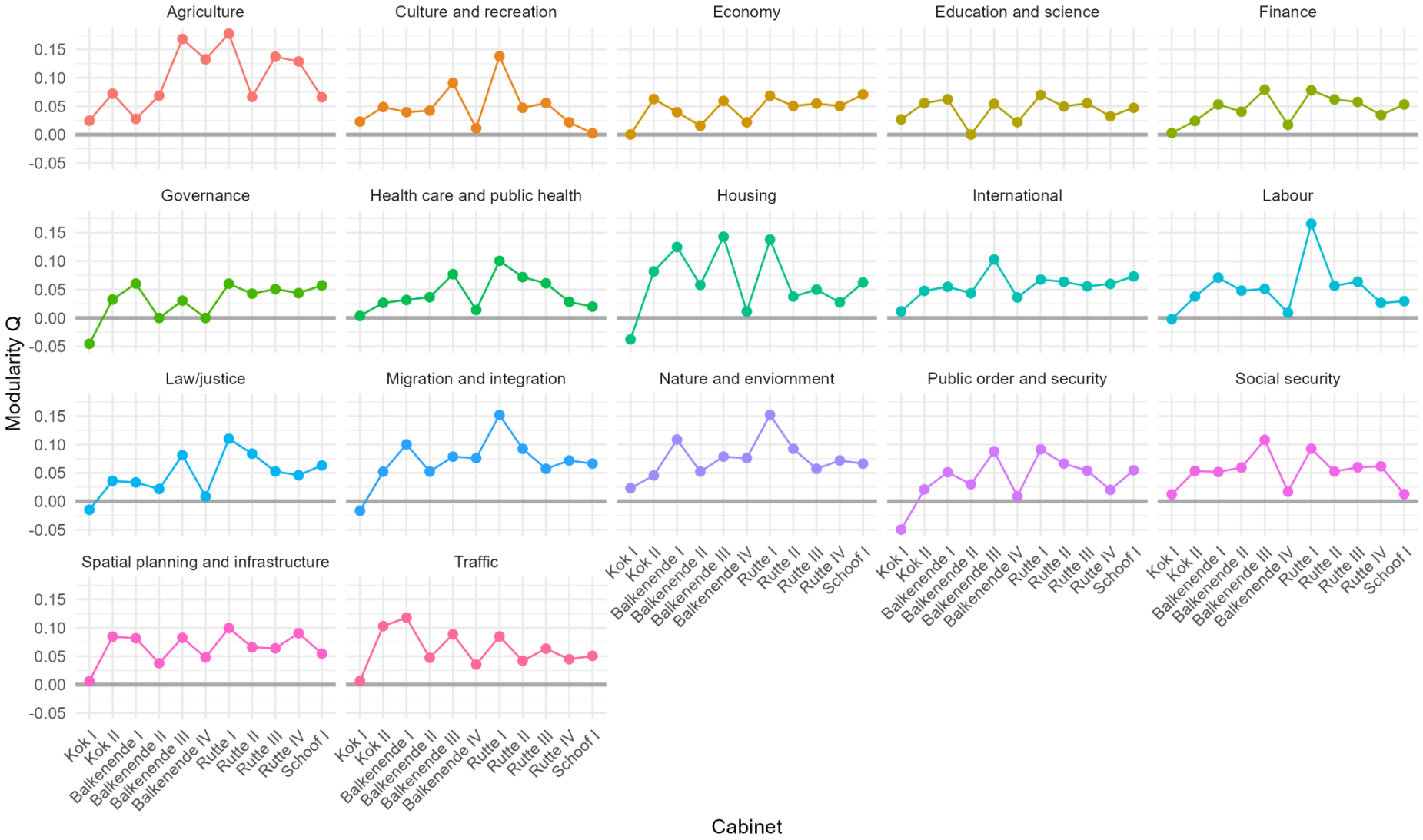


categories, a network and corresponding maximum modularity score (computed with a bottom-up partitioning) can be computed. An overview of modularity scores for each of these categories for the different cabinets is presented in Figure 6 (as an overview, to show the general pattern of all categories combined) and in Figure 7 (faceted, to highlight individual developments). Importantly, Figures 6 and 7 display subcategory modularity scores from 1994 (Kok I) onwards, and therefore contain a timescale different from Figure 3, as subcategory content is only available from 1994 onwards.

Firstly, the broad inverted U-shaped trend corresponds, just as argued above, to the expectations derived from hypothesis 3: polarisation is less fierce during the 1990s (Kok I and II), and starts rising after 2000, with peaks experienced during the Balkenende cabinets and the cabinet Rutte I. Considering the subcategory-specific modularity scores, we can see that the highest modularity-yielding subcategory differs between cabinet periods: the highest modularity scores are found for education and science (Kok I), infrastructure (Kok II), housing (Balkenende I), agriculture (Balkenende II – Rutte I and Rutte III-IV), nature and environment (Rutte II) or international affairs (Schoof I). Migration, an important, supposedly

Figure 7

Maximum modularity over time, split out into categories to highlight subcategory-specific time developments.



polarising topic, especially since the rise of Pim Fortuyn (LPF) and later Geert Wilders (PVV) (Oosterwaal, 2009; Silva, 2018) never yields the highest modularity. The fact that agriculture yields the highest modularity in five out of eleven cabinet periods is an interesting finding, which will be examined in more detail in the discussion.

Discussion

Despite the availability of quantitative methods to examine opinion polarisation among political elites in parliament, such analyses have, up to the present research, not been undertaken for the Dutch parliament. By incorporating methods of social network analysis, namely the concept of modularity and modularity maximisation, I aimed to answer how elite polarisation, as reflected in the voting networks of political parties in the Dutch parliament, evolved between 1971 and 2024. Based on previous literature, I formulated three hypotheses: I expected that (1) the most defining ridge in parliament is that between coalition and opposition, that (2) this ridge is becoming less pronounced over time, that 3) the level of polarisation is U-shaped between 1970 and 2006, decreasing in extremity thereafter. Finally, I identified how modular voting networks were for different proposal subcategories and across cabinet periods, to determine which subcategories yielded the highest modularity.

The data do not support the first hypothesis: the coalition-opposition partition has negative modularity scores in 18 out of 20 cabinets under study, practically reflecting the fact that the coalition and opposition clusters are more tied between their clusters, than within their clusters. Therefore, clear polarisation, or clusters sharply divided by a ridge between them, is not found in the data. These results conflict with the general idea that coalition and opposition are divided, as argued for in other research (Hix & Noury, 2016; Otjes & Louwerse, 2013). Especially Hix and Noury's (2016) paper contrasts with the current findings: they argue that, especially in multi-party legislatures as opposed to two-party legislatures, the coalition-opposition divide is strongest because the governing parties do not negotiate issue-by-issue; instead, they agree on a larger set of issues beforehand. Although such an a priori agreement is also customary in Dutch politics, the current findings do not show convincingly that the coalition parties agree on all topics beforehand, or that opposition parties disagree sharply with them on these topics.

However, in 17 of all 20 cabinet periods, the bottom-up partitioning yields a partition where all coalition parties are contained within the same cluster, together with some other parties. Only for the cabinets Den Uyl I, Van Agt I and Van Agt III, the coalition parties are not all in the same cluster. As the far majority of cabinet periods do show some consistency in their coalition party voting behaviours – they are after all most of the time in the same cluster

– it may suggest that parliamentary coalition behaviour in the Netherlands reflects not governing against the opposition, but governing in collaboration with (differing parts of) the opposition. Indeed, as the best fitting partition for most cabinets entails both opposition and coalition parties, and quite often both left- and right-leaning parties, the maximum modularity yielding partition is a mixed composition. This may mean that some parties in the opposition are willing to cooperate, but, given the weak modularity, it also means that different parties in the opposition are in differing compositions willing to cooperate. This is an important part of democratic collaborative efforts necessary to sustain a pluralistic method of political decision making, and the fact that the results show this may be the case for most periods in the last 53 years is positive for Dutch democracy.

Moving forward to hypothesis 2, it is rather remarkable that all three cabinets that have their coalition partitioned in different clusters (Den Uyl I, Van Agt I and Van Agt III) are from the earlier periods currently under study: the partitioning into different clusters may suggest that especially in the earlier days under study, the 70s and 80s, the coalition was less consistent than later, suggesting that the ridge is not becoming less pronounced over time; if any, it was not that pronounced previously either. Taken together with an only slightly fluctuating opposition-coalition modularity score over time, I find in this voting data no evidence to support the idea that coalition unity is decreasing over time, as suggested in previous research (Pellikaan et al., 2018). Similarly, an increase of polarisation within coalitions, as suggested by Schnabel (2022), also seems unlikely given the voting data currently under study: for all Rutte cabinets, the coalition parties are all in one cluster (although joined by other parties), reflecting that in a relative sense, they vote in line with each other more so than with at least some part of the opposition.

Developments in the modularity per cabinet period over time do show some support for my third hypothesis, although this support is weakly supportive: modularity scores seem to be higher in the 70s and 00s, being lower in the intermediate period and the period after 2010. Broadly, these results align to a certain extent with existing historical research arguing for this U-shaped polarisation trend (Bosmans & Van Kessel, 2011), but it has to be noted that these modularity scores are low and do not differ drastically. If we assume the differences in modularity to be too small to be meaningful, the current data allow for the argument that in ideological differences between parties measured by voting over proposals, we see no meaningful ideological polarisation over time, aligning with the general conclusions offered by Dekker & Den Ridder (2022). If argued this way, the current results bring some quantitative support to this line of political historical research on Dutch party polarisation;

perhaps parties are not and have not been that polarised after all. Alternatively, when arguing that the differences in modularity are meaningful, we still find no clear increasing polarisation over time, but rather an up-and-down trend contained within a certain bandwidth. Hence, neither interpretation of the modularity scores allows for the conclusion that party ideological positions are becoming more polarised.

Interpreting the results of the subcategory-specific modularity scores, it has to be remarked in general that each subcategory contains some sort of 'precariousness' in it, meaning that each subcategory is to some extent polarising, simply because opinions on them sometimes differ sharply. Interpreting general, short changes in subcategory modularity scores may therefore be not very informative. However, two patterns remain rather consistent throughout the time under study and deserve our attention: that (a) agriculture yields the highest modularity score in five out of eleven cabinet periods under study, and that (b) migration and integration never yields the highest modularity score. As the available literature often points to migration and integration as the defining topic of post-Fortuyn politics, it is rather remarkable that it is never the most polarising topic, according to the current measures. While modularity scores are never very low, they are also never very high. Contrarily, agriculture has rather consistently high modularity scores, despite being mentioned as a polarising topic in previous literature sparsely.

While this exploratory interpretation does not aim to form conclusions, one suggestion may conceal both peculiar findings: while migration as a general topic has two sides for left- and right-wing parties (i.e., the left may be in favour motivated by wellbeing and human rights, but opposed given the increasing competition on the labour market and housing, while the right may be in favour motivated by more availability of labour, but opposed given safety and cultural affairs), agriculture may be clear-cut left and right. Perhaps agricultural issues align exclusively well with right-wing and populist political perspectives, and misalign exclusively well with left-wing and elitist political perspectives. This way, political parties are on the issue of agriculture aligned more by their left-right ideology, than on, for example, the issue of migration and integration.

Interpretations

The important question that needs to be addressed in light of my first and second hypotheses not, and my third hypothesis only being weakly supported by the current data, is what makes it that the previous findings in the literature are not replicated here. An important clarification, I find rather small modularity scores and even smaller differences between them. Hence, significance testing was troublesome and has not been performed for reasons

addressed earlier. Nevertheless, considering hypotheses 1 and 2, the overarching finding is that there seems to be evidence for neither hypothesis. As my hypotheses on the Dutch situation specifically are mostly based on historical and political research and do not include quantitative methods, it may be that results do not align since their methods interpret largely different elements. In this fashion, one possibility would be that some issues and periods are more salient than others, which could influence qualitative interpretations of political dynamics. Taking merely the quantitative facts into account, disregarding interpretative contents, could allow for a guard against discrepancies in salience. Alternatively, it could also be its weakness: after all, some issues are more salient and influential in determining political debate. While of course it is good that quantitative methods like those used in this paper take into account all issues, ignoring the relative weight of issues does, perhaps wrongfully, equalise low- and high-stakes proposals. Both methods have their flaws and fortunes, and much is to say for a bundling of methods to acquire adequate conclusions. Hence, stating that polarisation is not increasing over time may be a bridge too far, but then so is stating that polarisation is increasing. Future research using mixed methods containing both voting networks and relative weight assignment to issues may allow for more precise conclusions on this matter (see *future research*).

One final important implication concerns perceived polarisation: research found that over 70 percent of Dutch citizens perceive society to be polarising, and this is to a great extent attributed to political elites (Miltenburg et al., 2022; Kunst et al., 2024). When combined with the findings of this research, we are presented with a puzzle: on one hand, political elites are perceived to become more polarised (and have an effect on citizen perceptions), but on the other hand, we find no serious changes in polarisation over the last 53 years. Based on this discrepancy, it may be argued that what matters for citizen perceptions is not the actual votes, which reflect in that sense ideological stances, but how ideological stances are presented and set apart from others. It may indeed be that in matters of this regard, style, not sincerity, is the vital thing. Surely, the current research does not allow for conclusive remarks on this matter, but the discrepancy nonetheless points towards a necessity of further inquiry. This could take the form of systematic comparisons between participant perceptions of party voting behaviour and actual voting behaviour, or experimental research on the effect of political rhetoric on perceptions of polarisation.

Limitations

My current research has four notable limitations that need to be addressed. First, the research uses proposals as ideological markers that a party can be for or against. By using a

dichotomisation of ideology – one is either pro or contra – some richness of information on the complicated stance parties have to take is lost: more complicated issue positions may not be reflected as precisely in simple yes and no voting. Although the number of proposals has substantially increased over time, offering a higher number of votes and hence more measuring instances and thereby more accurate indications taken altogether, it is still a limitation that the current study was not able to model more ambiguous voting behaviour, such as abstaining from voting while being in parliament.

Second, the periods under which modularity scores are calculated are rather long, spanning entire cabinet periods, ranging between 159 (Van Agt III) and 1816 (Rutte II) days. Hence, fine-grained pictures of polarisation developments were not possible, which would have been possible if the analyses reflected polarisation scores based on weeks or perhaps years. The reason for not choosing such intervals was twofold: first, cabinet periods offer specific periods with a certain ideological momentum, with specific parties that are in parliament during that entire time and hence offer naturally present periods. Second, existing literature often typifies cabinet periods as a whole, while the typification of years most often entails specific discussions that were rather momentarily important. Nonetheless, future research may look into smaller intervals to uncover short-length changes in modularity (see *future research*).

Third, under the current analysis it was not possible to take into account proposal contents, apart from the subcategory it was listed under. It is very well possible that a substantial number of proposals concerns so-called *hamerstukken* or formalities: proposals with little ideological value in them, like proposals on budgetary decisions that have already been handled ideologically in previous proposals (Louwerse et al., 2018). In this light, it may be that the agreement is overestimated, as *hamerstukken* may make it look as if there is more agreement than there actually is; they dilute the effect of more polarising topics. Especially given the exponential rise in proposals over the last 53 years, it may be the case that the share of proposals that have relatively little ideological value in them has increased, troubling comparisons over time as the value of a proposal in general has changed over time. However, checking for *hamerstukken* is difficult. Supposedly, they can be disregarded by selecting proposals that are near-unanimously voted on and removing them from the analysis, but this would also mean that proposals with ideological value in them but enjoying a wide consensus in parliament, would also be disregarded. Hence, the threat of such analyses is that it may overestimate polarisation, as data indicating consensus could potentially be removed from the analysis. Future research may take this into account.

Fourth, the networks under study were rather small, ranging between 9 and 24 parties in a single network. This troubled significance testing of modularity scores (together with the low modularity scores in general), troubling the drawing of substantial conclusions. Other research on modularity in multi-party parliaments (e.g. Maso et al., 2014; Puccio et al., 2016) uses networks based on the votes of individual parliamentarians, as opposed to networks on the party-level. However, the Dutch parliament did not allow for such methods, as MPs' individual votes are nearly always in line with the party vote (Louwerse et al., 2018). Hence, MP-voting networks would display firstly and foremostly party membership, which is not the end goal of polarisation measurements, and would alternatively be a methodological gimmick to increase the number of network agent, without adding much extra information.

Alternatively, one could look at the collaborative submission of proposals instead of the votes themselves, to uncover collaborative links at the MP level instead of the party-level. Although this practice has not been applied to the Dutch context, other multi- and two-party legislations have been studied in this way (Fowler, 2006; Tam Cho & Fowler, 2010; Zhang et al., 2008) However, such methods disregard the 'collectiveness' of voting on proposals: MPs can, as individual MPs, selectively and within their own domain, submit proposals, with or without collaboration, while the voting over proposals is a complete action. Each MP or party votes, and thereby chooses a side on (nearly) all specific political issues at hand. The voting over proposals thereby becomes a clear and complete indication of policy preference, as opposed to the submission of a proposal, which leaves out many parties/MPs and instead only focuses on those who are specialised in a topic. Nonetheless, the study of collaborative submission of proposals offers interesting insights into parliamentary behaviour, which I will explain in the following section.

Future research

Based on the research findings and its limitations, I propose three specific directions for future research worth further inquiry. First, the study of individual proposal submissions is interesting in terms of collaborative dynamics. Taking into account the dynamics of who collaborates with whom, on what subjects and with what underlying connections, such research can allow for the determination of the willingness to collaborate *across the aisle*. When asking what it is in the Dutch political landscape that makes it seem polarised when it may not be the objective ideological standpoints, a suggestion this paper tries to argue for, it would additionally be interesting to see how the sponsoring of proposals has developed over time, who collaborates with whom, and whether this may have an effect on how citizens perceived polarisation among parliamentarians. The Dutch Parliamentary Behaviour Dataset

(Louwerse et al., 2018) contains detailed submission recordings of all proposals from 1995 onwards, having this data available for who may seek to undertake such research.

Second, given the rather broad interval periods of the modularity scores in the current research, future studies may analyse the development of modularity on shorter intervals, like days or weeks. Presumably, modularity scores become more volatile when analysed in shorter interval – as what is voted over, be it something less or more precarious and therefore more or less polarising, differs from day to day or week to week. In this light, tracing developments in modularity scores, and thereby the degree of polarisation in parliament, may be especially interesting when combined with time series analyses. Potentially, influential periods like cabinet resignations or the voting over precarious proposals can be both identified and predicted with time series analyses, offering novel insights into dynamics of political behaviour.

Third, as the current study does not take into account proposal content apart from category, employing methods of content analysis in combination with voting network analysis would facilitate a more fine grained analysis. Specifically, elements of the DECIDE-model, developed at the Interuniversity Centre for Social Science and Methodology (ICS) (Stokman & Oosten, 1994), perhaps offer a solution. By determining each agent's position and salience, together with the proposal's salience, one could weigh the relative influence a proposal has on specific parties, offering more detailed insights into the voting patterns in parliament over time. Especially given the limitation that some proposals may be more precarious or important than others, a weighing of salience could offer important additional information to the current research findings.

Conclusion

This study set out to examine how polarisation in the Dutch parliament, as reflected and measured in voting networks over the last 53 years, has developed. Against expectations and previous literature, the divide between coalition and opposition turned out to be uninformative when talking about polarisation: it seems we cannot say that coalition and opposition vote in line with their 'group' exclusively, and neither can we say that this has meaningfully changed over time. Moreover, bottom-up clustering shows that while coalition parties often vote together, they do so alongside opposition parties too, suggesting that collaboration across ideological lines is in fact a feature of Dutch politics, not an anomaly. In terms of polarisation in general, the current study finds low modularity scores for most, if not all, cabinet periods, further indicating that political parties in parliament vote in line with

different parties at different times. Some slight support for a U-shaped polarisation pattern over time can be found, but it is important to note that modularity scores are small and their differences are even smaller.

If voting behaviour indeed mirrors ideological stance, these findings imply that ideological polarisation has remained limited, or at least, did not increase. This challenges the commonly held assumption that Dutch parliamentary politics are becoming more ideologically divided. Taking this into account, the most important implication of these findings is the need for caution with quick assumptions about the state and developments of polarisation in parliament; we need further research, that combines both interpretative and quantitative methods to fully understand if and how parliament polarises, and, importantly, how we perceive this polarisation: while citizens increasingly perceive political elites as polarised, the empirical evidence from parliamentary voting does not support such a trend. This paradox hints that political style, rather than ideological substance, may be driving perceptions of division. Perhaps, the parliament is not polarising after all, we simply think it is.

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Appendix

Table I

Cabinet periods, their duration and the number of proposals in that specific cabinet period (Louwerse et al., 2018)

Cabinet	*Start date*	*End date*	*Duration in days*	*Number of proposals*
Biesheuvel I	7-6-1971	8-8-1972	429	468
Biesheuvel II	9-8-1972	10-5-1973	275	320
Den Uyl I	11-5-1973	18-12-1977	1683	2134
Van Agt I	19-12-1977	10-9-1981	1362	4632
Van Agt II	11-9-1981	28-5-1982	260	592
Van Agt III	29-5-1982	3-11-1982	159	272
Lubbers I	4-11-1982	13-7-1986	1348	5766
Lubbers II	14-7-1986	6-11-1989	1212	2624
Lubbers III	7-11-1989	21-8-1994	1749	4302
Kok I	22-8-1994	2-8-1998	1442	8554
Kok II	3-8-1998	21-7-2002	1449	11507
Balkenende I	22-7-2002	26-5-2003	309	2332
Balkenende II	27-5-2003	6-7-2006	1137	12413
Balkenende III	7-7-2006	21-2-2007	230	2588
Balkenende IV	22-2-2007	13-10-2010	1330	17857
Rutte I	14-10-2010	4-11-2012	753	7698
Rutte II	5-11-2012	25-10-2017	1816	18457
Rutte III	26-10-2017	9-1-2022	1537	21123
Rutte IV	10-1-2022	2-7-2024	905	12283
Schoof I	3-7-2024	31-12-2024[a]	170	2311

[a] The cabinet Schoof I did not resign on 31-12-2024 (frankly, it did this morning while I was rewriting this), but the Dutch Parliamentary Behaviour Dataset has at the present moment only been updated until the 31st of December 2024

Table II

*Composition of coalition and opposition in the Dutch parliament (*Tweede Kamer*), for the cabinets Biesheuvel I – Kok I (Louwerse et al., 2018)*

Cabinet	*Coalition parties*	*Opposition parties in parliament*
Biesheuvel I	KVP, CHU, ARP, VVD	SGP, CPN, PvdA, PSP, Bp, GPV, D66, MP, PPR, Groep De Jong
Biesheuvel II	KVP, CHU, ARP, VVD, DS'70	SGP, CPN, PvdA, PSP, Bp, GPV, D66, DS70, MP, PPR, Groep De Jong, RKPN
Den Uyl I	PvdA, D66, PPR, KVP, ARP	CHU, SGP, CPN, VVD, PSP, Bp, GPV, DS70, RKPN, Scholten, Van der Spek, Huijsen, Nooteboom, CDA
Van Agt I	CDA, VVD	SGP, CPN, PvdA, PSP, Bp, GPV, D66, DS70, PPR, Scholten, Van der Spek, RPF
Van Agt II	CDA, PvdA, D66	SGP, CPN, VVD, PSP, GPV, PPR, Van der Spek, RPF, EVP, CP
Van Agt III	CDA, D66	SGP, CPN, PvdA, VVD, PSP, GPV, PPR, RPF, EVP, CP
Lubbers I	CDA, VVD	SGP, CPN, PvdA, PSP, GPV, D66, PPR, Scholten, Van der Spek, RPF, EVP, CP, Scholten/Dijkman, Janmaat, Wagenaar
Lubbers II	CDA, VVD	SGP, PvdA, PSP, GPV, D66, PPR, RPF, CD, GL
Lubbers III	CDA, PvdA	SGP, VVD, GPV, D66, RPF, CD, GL, Ockels, AOV|VSP, SP, Unie 55+
Kok I	PvdA, VVD, D66	SGP, GPV, CDA, RPF, CD, GL, AOV|VSP, SP, Unie 55+, Hendriks, Nijpels, Verkerk

Table III

*Composition of coalition and opposition in the Dutch parliament (*Tweede Kamer*), for the cabinets Kok II – Rutte II (Louwerse et al., 2018)*

Cabinet	*Coalition parties*	*Opposition parties*
Kok II	PvdA, VVD, D66	SGP, GPV, CDA, RPF, GL, SP, ChristenUnie, LPF, LN
Balkenende I	CDA, VVD, LPF	SGP, PvdA, D66, Groep De Jong, GL, SP, ChristenUnie, LN, Groep Wijnschenk
Balkenende II	CDA, VVD, D66	SGP, PvdA, GL, SP, ChristenUnie, LPF, Groep Lazrak, Groep Wilders, Groep Nawijn
Balkenende III	CDA, VVD	SGP, PvdA, D66, ChristenUnie, GL, SP, LPF, Groep Lazrak, Groep Wilders, Groep Nawijn, Groep van Oudenallen, Groep Eerdmans-van Schijndel, GRSCH, PVV, PvdD
Balkenende IV	CDA, PvdA, CU	SGP, VVD, D66, GL, SP, PVV, PvdD, Verdonk
Rutte I	VVD, CDA [PVV][a]	SGP, PvdA, D66, GL, SP, ChristenUnie, PvdD, BRINK, GrKH, 50PLUS
Rutte II	VVD, PvdA	SGP, D66, CDA, GL, SP, ChristenUnie, PVV, PvdD, 50PLUS, BONTES, Van Klaveren, Van Vliet, GrBvK, Klein, GrKÖ, Houwers, Monasch, DENK, FVD

[a] The square brackets indicate that during cabinet Rutte I, the PVV was not formally part of the coalition, but supported the coalition from parliament to reach a parliamentary majority. It can still be considered a coalition party in the practical sense, because agreements on policy lines were made beforehand, as is customary to Dutch coalition formations.

Table IV

*Composition of coalition and opposition in the Dutch parliament (*Tweede Kamer*), for the cabinets Rutte III – Schoof I (Louwerse et al., 2018)*

Cabinet	*Coalition parties*	*Opposition parties*
Rutte III	VVD, D66, CDA, CU	SGP, PvdA, GL, SP, PVV, PvdD, 50PLUS, DENK, FVD, vKA, Van Haga, Groep Krol/vKA, Krol, BIJ1, BBB, Volt, JA21, Fractie Den Haan, Groep Van Haga, Omtzigt
Rutte IV	VVD, D66, CDA, CU	SGP, PvdA, GL, SP, PVV, PvdD, DENK, FVD, BIJ1, BBB, Volt, JA21, Fractie Den Haan, Groep Van Haga, Omtzigt, Gündoğan, Ephraim, GroenLinks-PvdA, Nieuw Sociaal Contract
Schoof I	VVD, PVV, NSC, BBB	SGP, D66, CDA, SP, ChristenUnie, PvdD, DENK, FVD, Volt, JA21, GroenLinks-PvdA