Distribution of Seats in the New 2021 Czech Government Coalition in Terms of Coalition Theories and Power Indices of Political Parties[1]

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Abstract

This study is theoretically anchored in the office-seeking approach and coalition theory of political science. It is based on the most widespread theories of portfolio distribution in executive and legislative bodies (proportionality, power index, voting weights), and it tests these theories using data related to coalition negotiations in the Czech Republic for the new 2021 government coalition, a case of a surplus majority government. The study investigates the distribution of ministerial positions in the government, the office of President (Speaker) of the Chamber of Deputies, and the chairs of permanent parliamentary committees. The analysis also explores the types of electoral coalitions formed; the SPOLU coalition was a superadditive coalition, while the PirSTAN coalition was only an additive coalition. Grounded in the theory of electoral games, the Shapley-Shubik and Banzhaf power indices and the theory of coalition formation are applied in order to analyse the possible minimal winning coalitions that could be formed following the 2021 elections to the Chamber of Deputies.

Key words: Czech Republic; political parties; coalition theory; coalition formation; coalition government; office-seeking; voting weights; Gamson's Law; Shapley-Shubik; Banzhaf power index.

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1. Introduction

Among the issues that political scientists attempt to explain by applying the office-seeking approach and coalition theory are appointments to cabinet departments (the Czech version of which is called the Office of the Government), ministerial positions, and parliamentary positions. Such issues can also be approached from the perspective of game theory. Political parties' negotiating strategies are limited by various power indicators, but their actual share of power does not always correspond with their electoral results and the number of parliamentary seats they occupy. For this reason, an analysis may also aim at a more comprehensive view of the distribution of appointments to executive positions or parliamentary committees, taking into account not only power indicators but also the political aspects of the final distribution. The formation of a new Czech government coalition under Prime Minister Petr Fiala in 2021 is an appropriate case for analysis. The coalition consists of the highest number of political parties yet to make up a Czech government coalition – five parties, which stood for election in two electoral coalitions (SPOLU and PirSTAN). This is the first ever Czech government coalition since the Czech Republic gained independence in 1993, which can be characterized as a surplus majority government consisting of more parties than necessary to achieve a majority.

The primary aim of the study presented here is to trace the distribution of government positions in terms of office-seeking and to explore its correlation with the power indicators of the individual coalition parties. The study further outlines the hypothetical possible alternative government coalitions that could emerge in the case of a government crisis, cabinet reshuffle etc. The analysis also focuses on the types of electoral coalitions that were formed (SPOLU and PirSTAN), which predetermined the subsequent formation of a government coalition.

The text is structured as follows. The first section provides a review of relevant literature and a theoretical conceptualization of the phenomenon of office-seeking, coalition theories, and the most frequently used power indicators for coalition formation – the Shapley-Shubik negotiating power index, the Banzhaf power index, Gamson's proportionality hypothesis, and several others. The paper then presents the methodology used for the study, the data, and the research questions. This is followed by the presentation of the analytical results, including an interpretation of the political circumstances in which the government coalition was formed and the various government and parliamentary positions were distributed. The conclusion highlights and discusses a number of key findings and outlines potential questions for future research.

2. Theoretical conceptualization

Office-seeking by political parties has received considerable attention from political scientists, including from the perspective of policy-seeking. This dilemma is aptly expressed by Helboe Pedersen in the title of his paper 'What do Parties Want? Policy versus Office' (2012). It has also been explored by numerous other studies (see Posey, 1994; Warwick, 2005; Strøm, Müller & Bergman, 2008; Wagner & Meyer, 2014; Mizrahi, Shlomo, Yuval, & Cohen, 2014; Michelangelo, 2016). Although political parties do not abandon their political interests and electoral manifesto, they need to occupy offices in order to implement their commitments (Mershon, 1996), as 'similarly, policy can be pursued both as an end in itself and as a means to achieve office' (Budge & Laver, 1986, p. 486).

The phenomenon of office-seeking also correlates with the type of government that is in office, making it essential to consider typologies of government coalitions. Czech political scientists have explored this issue both from a theoretical perspective (see Klíma, 1998; Fiala, 2003; Říchová, 2006; Just, 2012; Cabada, Charvát, & Stulík, 2015) and in case studies analyzing executive coalitions (Balík, 2006; Švec, 2010; Svačinová & Chytilek, 2009; Charvátová, 2020). From the perspective of power indices for political parties (the Shapley-Shubik and Banzhaf indices), there has also been an analysis of the distribution of government and parliamentary positions in the period 1992–2009 (Svačinová & Chytilek, 2009). An innovative approach comes from political economics, in a study focusing on the concentration of political power in the Prague City Assembly and mayoral team. This study draws on game theory and analyzes the strategies of the players (i.e., office-seeking political parties) from the perspective of the value of their output function (Dlouhý, 2016, p. 1).

When involved in coalition negotiations, political parties choose strategies with regard to their input conditions and political preferences (Strøm, 1990; Svačinová & Chytilek, 2009). The rationality of actors is associated with their expectation that they possess complete information about the other actors, and that this information is mutually shared. A party adapts its game strategy in order to become a part of an emerging coalition. It attempts to maximize its gains (in the form of offices held), but it is also aware of its negotiating power and its limitations (Riker, 1967). However, the final number of offices gained may diverge substantially from the party's electoral performance, expressed in the number of seats and its negotiating power. This has recently been reflected in the distribution of government positions within the new Czech government coalition headed by Prime Minister Petr Fiala (2021). Political circumstances also play a role. Especially in Europe, research has explored the correlation between the usual type of coalition formed and the political system; different types of political systems offer different levels of motivation for parties to participate or not to participate in government. Parties operate differently in polarized systems

(with a tradition of majority governments) than in systems that tend to produce majority government coalitions. An extensive analytical study (Strøm, Müller, & Bergman, 2008) has demonstrated that in many European countries, parties are not always motivated to participate in the government if they are able to implement some of their manifesto commitments while in opposition. In other words, entering the government does not necessarily create a stronger position for political decision-making; indeed, government participation brings certain risks, potentially compromising a party in the eyes of voters (Strøm, Müller, & Bergman, 2008). An extensive body of literature, ranging from classic studies to more recent research, has explored this issue (Leiserson, 1968; Axelrod, 1970; de Swaan, 1973; Lijphart, 1984; Luebbert, 1984; Strøm, 1990; Schofield, 1995; Colomer, 2000; Strøm, Müller, & Bergman 2008; Pedersen, 2011).

Another phenomenon that enters the issue of coalition formation is the question of 'who gets what in coalition governments' (2011), working with the hypothesis that parties usually get the government portfolios related to themes they emphasized in their electoral programmes (Bäck, Debus, & Dumont, 2011, pp. 441–478). A number of studies deal with the formation of coalitions, when the study of coalition politics has traditionally focused on Western Europe. One of the better-known works is *Coalition Governments in Western Europe* (Müller & Strøm, 2000). Among the newer ones is *Coalition Governance in Western Europe* from 2021 (Bergman, Torbjörn, Back, & Hellström, 2021). However, one can also note the relatively new work *Coalition Governance in Central Eastern Europe* (2019), which provides information and analyses of the coalition life cycle, from pre-electoral alliances to coalition formation, portfolio distribution and governing in coalitions (Bergman, Ilonszki, & Müller, 2019). Worth noting is the work with the characteristic title 'Early Marriages Last Longer: Pre-electoral Coalitions and Government Survival in Europe' (2015), which uses examples of Western and Eastern European government coalitions to confirm the hypothesis that successful pre-electoral coalitions show a significantly lower degree of instability if they form a government coalition together (Chiru, 2015, pp. 165–188).

To end this theoretical part, let us recall that in political science the ideal and most stable type of coalition is considered to be a *minimal winning coalition* (Axelrod, 1970; de Swaan, 1973; Lijphart, 1984; Schofield, 1995). A coalition of this type consists of parties that share the greatest area of common ground in their manifestos or are ideologically close to each other in terms of their positions on the right–left axis. A characteristic feature of a minimal winning coalition is intense rivalry among its members, who are competing for the support of the same voters. The parties in such a coalition are also dependent on each other, as the creation of a future ideologically based minimal winning coalition is dependent on the success of them all (Schofield, 1995).

2.1. Indices of electoral power

The notion of an electoral game focusing on coalition-forming is adopted from game theory, a discipline of applied mathematics. The roots of game theory reach back to the seminal work *Theory of Games and Economic Behavior* by John von Neumann and Oskar Morgenstern (1944). This concept involves a zero-sum cooperative game which determines the basic axioms of possible forms of coalitions. An electoral game is a cooperative nonconstant-sum game, in which the players' interests are not necessarily different; if one player makes a gain, the other player does not necessary incur a loss. When investigating electoral negotiations, political scientists construct differentiated power indices based on the fact that the mere distribution of positions among individual political parties is not an adequate indicator of the parties' power and influence (Fiala, 2003).

Among the most frequently applied power indices are Gamson's model of proportional prediction and Shapley's power vector. These were modified to create the Shapley-Shubik index, which is used to measure the power of players in an electoral game. Other widely used indices, named after their originators, are the Johnston, Coleman, Deegan-Packel and Banzhaf power indices. A full overview of the various power indices used in political science research can be found in a large body of literature (Deegan & Packel, 1978; Straffin, 1994; Felenstahl & Machover, 2004; Turnovec, 2007; Pacelli & Taylor, 2008; Svačinová & Chytilek, 2009; Dlouhý & Fiala, 2015).

It is important to bear in mind that all the models of electoral power are merely statistical representations of a particular situation. They help players to assess their position in terms of implementing their demands or to prevent other players from implementing theirs. This means that power indices do not take into consideration the varying opinions and preferences of the players. They are not able to explain the negotiating positions taken by coalition actors in terms the more effective possible minimal winning coalitions (Riker, 1962).

2.2. The conceptual framework of the study

It is usual to distinguish two traditions in approaches to coalition theory: American and European.[1] The American approach is associated with William H. Riker (1962). It applies game theory in the form of zero-sum games, in which a party that does not enter the government loses the game. It is based on the model of the individual rationality of each actor (political party) and the assumption that each actor always attempts to maximize its participation in executive power. It assumes that minimal winning coalitions will be formed in which the votes of each coalition partner are necessary in order to achieve a majority. If one of the partners withdraws from the coalition, it loses its legislative majority (Balík,

2006, p. 54). Post-electoral negotiations are primarily viewed as a struggle for government positions (office-seeking) rather than as an attempt to implement a political manifesto (policy-seeking).

The European model emphasizes empirical research. It incorporates analyses of a wide spectrum of political circumstances (political traditions and cultures, ideological positions of political parties, relationships among actors, specific circumstances in which coalitions emerge etc.). As has been mentioned above, this approach also explores correlations between the usual types of coalition and different political systems, which create different degrees of motivation for a political party to participate in government.

It is evident from the outline given above that the European tradition of empirical research is an appropriate framework for the case study presented here. This approach makes it possible to consider the relationships between the participants in coalition negotiations as well as the overall political context (Švec, 2010), and it represents a basis for explaining the emergence of a government coalition or the unwillingness of some political parties to participate in it (Říchová, 2006, pp. 120–121).

3. Aims, research questions, methodology

This case study does not offer predictive hypotheses. Instead, its aims are as follows:

- to analyse the SPOLU and PirSTAN electoral coalitions as an input factor which subsequently determined the emergence of the government coalition;
- to describe and analyse the distribution of positions in government and in key parliamentary committees across the government coalition that was formed after the 2021 elections to the Czech Republic's Chamber of Deputies, applying Gamson's proportional predictive model;
- to predict hypothetical alternative variants of minimal winning coalitions that could be formed from the current distribution of seats in the Chamber of Deputies in the case of a political crisis, cabinet reshuffle etc. The alternative variants will be based on the power indices of the individual political parties, applying the Shapley-Shubik and Banzhaf indices.

The data for the analysis were taken from the Czech Republic Government Office (2021) and the Czech Statistical Office – Volby.cz (Český statistický úřad, n.d.). The share of offices held by the individual parties is calculated from the input *Coalition Agreement* on the distribution of seats (Vláda České republiky, 2022). These sources, including the agreement, are available on the websites of the Czech government and the political parties themselves. Data on the history of electoral support for the parties in both electoral coalitions, and the electoral

support models for SPOLU and PirSTAN, are taken from the Public Opinion Research Centre (Centrum pro výzkum veřejného mínění – CVVM), which is a department in the Institute of Sociology of the Czech Academy of Sciences (CVVM IS CAS), the STEM Empirical Research Centre (Středisko empirických výzkumů STEM), and the KANTAR.CZ agency for Czech Television.

The analysis of the distribution of government offices applies Gamson's indicator of the proportionality principle (1961). This is based on the assumption that a political party entering a coalition expects that all the actors will demand a proportion of positions equal to the proportion of seats that they bring to the coalition (Gamson, 1961, p. 376). The formation of a coalition on the basis of such proportionality is an easy-to-understand principle for the distribution of positions, and it can be expected that all the participants will agree on it (De Winter, 2005, p. 190; Svačinová & Chytilek, 2009, p. 4). A generally agreed advantage of Gamson's Law is its intuitive comprehensibility, its ex-post regularity, and its independence from the negotiating process (Fréchette, Kagel, & Morelli, 2005, p. 366; Svačinová & Chytilek, 2009, p. 4).

The Shapley-Shubik index is used as an indicator of the political power of a hypothetical coalition member, applying the notion of a pivot (i.e., a party whose participation makes a non-winning coalition into a winning one) and taking into consideration all permutations of possible coalitions (Shapley & Shubik, 1954). The index is expressed as a value between zero and one, which denotes the number of variations for which a particular party is a pivot. An actor's negotiating power should thus be reflected in the number of positions it acquires (Felenstahl & Machover, 2004, p. 9). Banzhaf's power index expresses the power of a player whose withdrawal from a winning coalition would turn it into a non-winning coalition (Banzhaf, 1965). This index works only with minimal winning coalitions, quantifying the total number of critical withdrawals for a coalition member. Both indexes are calculated using the software Computer Algorithms for Voting Power Analysis, which is available on the University of Warwick website (Warwick website, n.d.).[2]

4. The Czech government coalition

The Czech government coalition was formed on the basis of electoral results which gave seats in the Chamber of Deputies to two electoral coalitions and two other political groupings. The subsequent division into groups of deputies, i.e., the number of elected deputies from each political party, is shown in Table 1. The ODS party leader Petr Fiala was appointed to head the negotiations on the formation of the new government. On 22 October 2021 the new government was formed; consisting of five parties (ODS, STAN, KDU-ČSL, TOP 09, Pirates), it commanded 108 votes in the Chamber of Deputies. The government coalition

can be classified as a surplus majority government, having more members than are necessary to give a majority. The surplus member is the Pirate Party, which has just four deputies.

Political parties and movements in the Chamber of Deputies and the number of parliamentary mandates gained in the 2021 elections

ANO	ODS	STAN	KDU-ČSL	SPD	TOP 09	Pirates
72	34	33	23	20	14	4

Source:
Poslanecká sněmovna Parlamentu České republiky, n.d.

4.1. The SPOLU and PirSTAN electoral coalitions

The government coalition consists of two electoral coalitions, SPOLU and PirSTAN. Previous successful electoral coalitions in the Czech Republic were ODS/KDS in the 1992 elections[3], followed by the coalition of KDU-ČSL and US-DEU in the 2002 elections. In the past, the possibility of forming electoral coalitions was limited by the fact that the five per cent electoral threshold applied separately to each party in the coalition, so for example an electoral coalition with two members would need a threshold of ten per cent, but in 2021 the Constitutional Court changed this rule, such that it is now sufficient for a two-member coalition to obtain eight per cent of the votes, and eleven per cent for multiple coalitions.

The motivation for forming an electoral coalition is to maximize electoral gains by creating a higher-quality entity that will attract more votes than would be the case if the coalition members remained separate. Depending on their electoral performance, types of electoral coalitions can be distinguished (Kamiński, 1997):

- *a subadditive coalition,* which gains fewer votes than its members would have expected to gain had they remained separate; the parties in the co-alition fail to attract the votes of their original electorate and also fail to attract new voters;
- *an additive coalition,* which gains essentially the same number of votes as its members would have expected to gain had they remained separate; the voters maintain their original preferences regardless of the possible negative consequences of collaborating with another party or parties, and each party manages to retain its original ideological or manifesto profile in the eyes of voters despite its participation in the coalition;
- *a superadditive coalition,* which gains more votes than its members would have expected to gain had they remained separate; such a coalition attracts new voters by creating a higher-quality political grouping in response to political demand.

The electoral coalition SPOLU (meaning 'together') was a multi-party coalition; based on the proportions of the candidates from the individual parties, it can be described as a grouping of one medium/large party (ODS) and two smaller parties (KDU-ČSL and TOP 09). The PirSTAN coalition consisted of one medium/large party (the Pirates) and a smaller partner (STAN). These proportions were reflected in the composition of the candidate lists, but not in the percentages of mandates actually obtained, which are shown in Table 2. Comparing the parties' percentage shares of candidates in the top five places on the lists (the so-called electable positions) with the number of mandates obtained, within the SPOLU coalition KDU-ČSL obtained eight per cent more mandates than would have corresponded with their share of candidates in the top five places, while ODS obtained 6.5% fewer mandates and TOP 09 obtained 2.5% fewer mandates than their corresponding shares. Expressed in numbers of deputies, KDU-ČSL obtained an extra six mandates, TOP 09 lost one mandate, and ODS lost five mandates (see Table 4). Preferential voting substantially altered the situation within the PirSTAN coalition: the STAN movement gained almost 54% more mandates from the top five places than expected, entirely marginalizing the Pirates by obtaining 22 mandates at their expense. The Pirates have just four mandates – the smallest number of mandates held by any party in the history of the Chamber of Deputies.

Table 2:
**Representation of political parties on candidate lists
and the number of mandates obtained (%)**

Parliamentary elections 2021	Coalition parties	Share of candidates: total	Share: top ten places	Share: top five places	Share: leaders	Mandates obtained
SPOLU	ODS	54.23	51.25	53.28	64.28	47.88
	KDU-ČSL	25.44	27.37	24.43	24.42	32.39
	TOP 09	22.32	21.37	23.28	14.28	19.71
PirSTAN	Pirates	54.09	61.42	64.28	71.42	10.81
	STAN	45.90	38.57	35.71	28.57	89.19

Sources:
Český statistický úřad, n.d.; Poslanecká sněmovna Parlamentu České republiky, n.d.

Table 3 shows the types of coalitions from the perspective of electoral gains. In January 2021 the polling agencies began to publish not only respondents' preferences for individual parties, but also electoral models showing the strength of support for electoral coalitions.[4] These were based on the expected electoral behaviour of politically engaged citizens (who intended to vote), combined with party preferences (STEM), or they were based on the probability that respondents would vote (CVVM). The KANTAR.CZ agency used two electoral models – one for party preferences and another simultaneously for coalitions (KANTAR.CZ). All the available polling data for individual parties are presented in Table 3 and

compared with the electoral models for coalitions in the same period (CVVM, 2021; KANTAR, n.d.; Česká televize, 2021; STEM, 2021).

Table 3:
Development of electoral preferences of individual political parties and electoral coalitions

Political parties	KANTAR Jan 2021	KANTAR Feb 2021	KANTAR March 2021	KANTAR April 2021	STEM April 2021	KANTAR May 2021	KANTAR June 2021
ODS	10.5	9.5	9	11.5	8.7	11.5	11.5
KDU-ČSL	4.5	4.5	4	3.5	3.5	4	7.5
TOP 09	4.5	5.5	6.5	6.5	4.1	6.5	3
Total	**19.5**	**19.5**	**19.5**	**21.5**	**16.3**	**22**	**22**
SPOLU	19.5	17.5	19	21.5	16.6	21.5	23.5
Pirates	21	22	20	19	18.6	16.5	14
STAN	9.5	13	12	11	11	11.5	13
Total	**30.5**	**35**	**32**	**30**	**29.6**	**28**	**27**
PirSTAN	29.5	34	30	27	27.9	26	24

Political parties	STEM June 2021	CVVM July 2021	KANTAR August 2021	STEM August 2021	STEM Sept 2021	STEM – end Sept 2021	Election result 2021
ODS	10.9	-	11.5	13.0	11.5	10.3	
KDU-ČSL	3.2	-	4.5	4	3.8	5.1	**SPOLU**
TOP 09	3	-	5	4.1	4.1	4.8	
Total	**17.1**	**-**	**21**	**21.1**	**19.4**	**21.2**	**27.79**
SPOLU	17.4	21.3	21	21.7	20	21.4	
Pirates	15.5	-	12.0	11.3	11.4	10.6	**PirSTAN**
STAN	8.7	-	10.5	7.8	6.9	6	
Total	**24.2**	**-**	**22.5**	**19.1**	**18.3**	**16.6**	**15.62**
PirSTAN	24.1	21	21	18.7	18	17.4	

Sources:
Český statistický úřad, n.d.; CVVM, 2021; KANTAR, n.d.; STEM, 2021.

At the beginning of 2021, the PirSTAN coalition was the clear favourite for the upcoming elections. Its popularity reached a peak of 34% in a KANTAR.CZ poll taken in February 2021, and the sum of support for both parties individually was as high as 35% in the same month. By contrast, SPOLU experienced its lowest polling figures (just 17.5%) in February 2021. The turning-point came in May 2021, when support for PirSTAN (and particularly for the Pirates as an individual party) began to wane. The SPOLU coalition began to gain popularity, with figures topping 20%. In terms of individual parties, the dominant partner in SPOLU was ODS, whose popularity was growing steadily. From May onwards, support for KDU-ČSL and TOP 09 began to drop below five per cent. The best result for TOP 09

was five per cent (in August), and for KDU-ČSL 5.1% (in September). However, the actual result achieved by SPOLU was more than six per cent better than had been predicted by any electoral model or the sum of individual party preferences. SPOLU can thus be considered a superadditive coalition, which responded to political demand by creating a higher-quality political grouping. Even the last STEM poll, taken ten days before the elections (which put support for SPOLU at 21.4%), did not capture the last-moment surge that may have reflected emotions in the immediate run-up to the elections (see Fournier, Nadeau, Blais, Gidengil, & Nevitte, 2004; Bengtsson, Hansen, Harðarson, Narud, & Oscarsson, 2011). SPOLU evidently managed to secure the support of floating voters just before the vote; around 360,000 more votes were cast in 2021 than in the 2017 elections, and SPOLU may well have gained the support of these extra voters. A further key factor was the very high level of support received by SPOLU in Prague and its metropolitan area (40.02%).

The excellent performance of all three parties in SPOLU disproved the fear that participation in the coalition would weaken the parties' individual identities. This applied particularly to the smaller partners (KDU-ČSL and TOP 09), whose polling figures had been under (or just above) the five per cent electoral threshold for a long time. TOP 09 was defending seven mandates from the previous elections; it ended up with a 100% gain, obtaining 14 mandates. KDU-ČSL recorded a gain of 130%, leaping from ten mandates to 23. Of the SPOLU partners, ODS made the smallest gain (36%), with 34 mandates compared to 25 in the previous elections (Table 4).

Table 4:
**The impact of the electoral coalitions on mandates:
a comparison of the 2017 and 2021 elections**

Political parties	Number of parliamentary mandates 2017	Number of parliamentary mandates 2021	Difference in percentage	Difference in mandates
ANO	78	72	-7.69	-6
ODS	25	34	+36	+9
STAN	6	33	+162	+27
KDU-ČSL	10	23	+130	+13
SPD	22	20	-9.09	-2
TOP 09	7	14	+100	+7
Pirates	22	4	-396	-18

Sources:
Český statistický úřad, n.d.; Poslanecká sněmovna Parlamentu České republiky, n.d.

When the PirSTAN electoral coalition was formed, it appeared to be the favourite for the 2021 elections. However, throughout the period during which opinion polls were compiled, support for PirSTAN remained essentially the same

as the sum of support for its two members individually, and support for the coalition gradually waned until the elections. The election results confirmed that PirSTAN was merely a simple additive coalition. The weaker partner was the Pirate Party. From January to April 2021, the party polled around 20% as an individual entity. From May onwards, support for the Pirates began to weaken, reaching its lowest point in September, just before the elections (KANTAR 10.6%). STAN likewise lost support, with its polling figures dropping from 13% in February to six or seven per cent in September. This fall in support was less dramatic than the slump experienced by the Pirates, and it appears to have been alleviated by the last-minute decisions of some floating voters; this, combined with preferential voting, entirely changed the balance of power within the PirSTAN coalition and the numbers of mandates obtained. STAN was defending six mandates from the previous elections; it made a 160% gain, ending up with 33 mandates. The Pirates suffered a 396% drop, losing 18 mandates out of its previous 22 (Table 4).

4.2. Government coalition, profit prediction according to bargaining power – real distribution

The government coalition headed by Prime Minister Petr Fiala was appointed on 17 December 2021 and won a vote of confidence in the Chamber of Deputies on 13 January 2022. Its members were ODS, STAN, KDU-ČSL, TOP 09 and the Pirate Party. It can be characterized as a surplus majority coalition, comprising more members than are necessary for a majority. The surplus member is the Pirate Party, with four mandates; even if the Pirates withdrew from the coalition, it would still command a majority in the Chamber of Deputies. The government rests on the mandates of 108 deputies, and it assigned 18 ministerial positions and ten chairs of parliamentary committees (see Table 5).

The strongest party (ODS) played the key role in forming the government. It gained a higher percentage of positions than would have corresponded with its proportion of deputies, taking the highest number of ministerial positions (six). The Pirates likewise gained a higher than proportional number of positions (more than four times higher). This was due to two factors. The first was the distribution of positions within the government coalition; the PirSTAN coalition gained four per cent more than its proportional share, and ministerial positions were assigned to the Pirate Party at the expense of its electoral coalition partner STAN, because STAN (as the second strongest party in the government coalition) took the position of Deputy Prime Minister. The second factor involved political circumstances; the real distribution of ministerial positions within the PirSTAN block of the government coalition did not correspond with the principle of proportionality, but instead reflected the guarantee given by STAN to the Pirates in the electoral coalition agreement. According to Gamson's proportionality principle,

the lower proportion of ministerial positions assigned to the SPOLU block of the government coalition was evidently compensated for by the allocation of the position of President (Speaker) of the Chamber of Deputies, the third-highest role in the Czech Republic's political system, to TOP 09. This created a situation in which KDU-ČSL had the lowest number of ministerial positions compared with its proportional share – both within the SPOLU grouping and within the government coalition as a whole. KDU-ČSL thus showed the greatest willingness as a coalition partner – and this willingness was not rewarded in the distribution of the parliamentary committee chairs.

Table 5:
Government/parliamentary committees: Gamson's law prediction and real distribution

Government: 18 members	ODS	STAN	KDU-ČSL	TOP 09	Pirates	SPOLU	Pir STAN
No. of deputies	34	33	23	14	4	71	37
Gamson's Law	31.48	30.55	21.29	12.96	3.70	65.73	34.25
No. of ministers %	33.33	22.22	16.66	11.11	16.66	61.10	38.90
No. of ministers	6	4	3	2	3	11	7

No. of committees: 10	ODS	STAN	KDU-ČSL	TOP 09	Pirates	SPOLU	Pir STAN
Gamson's Law	31.48	30.55	21.29	12.96	3.70	65.73	34.25
No. of committees %	30	20	20	30	-	80	20
No. of committees	3	2	2	3	-	8	2

Sources:
Český statistický úřad, n.d.; Poslanecká sněmovna Parlamentu České republiky, n.d.

Gamson's Law can also be applied to the distribution of the parliamentary committee chairs. According to the *Coalition Agreement,* the government parties distributed among themselves the chairs of nine (or ten) out of 18 parliamentary committees. The *Coalition Agreement* does not mention the chair of the Organizational Committee, which is customarily held by the President (Speaker) of the Chamber of Deputies; this is the tenth chair. The distribution of the committee chairs was impacted by the fact that none of the chairs went to the Pirates; this reflected practical executive considerations, as the Pirates only have four mandates, with one deputy serving as a government minister and another deputy as the Vice-President of the Chamber of Deputies. SPOLU thus took almost 15% more committee chairs than proportional predictions would have indicated. It is worth noting that TOP 09 proved able to negotiate itself into a strong position within the SPOLU block; the party was granted three committee chairs, 18% more than its proportional claim. ODS occupied essentially a proportional number of chairs (just 1.5% more than its proportional claim), and KDU-ČSL occupied fewer chairs

than its proportional claim (as was also the case with the ministerial positions, though its shortfall in parliamentary committees was only 1.5%).

This brief outline shows that both in ministerial positions and in parliamentary committees, ODS exploited its position as the strongest party in the government coalition. TOP 09 proved highly capable in the negotiations, as reflected in the numerical data and in political terms. KDU-ČSL showed the greatest coalition willingness, taking the lowest number of positions in comparison to its proportional claims. Leaving aside a speculative evaluation of the ministerial positions and committee chairs allocated to KDU-ČSL, which lack a substantial degree of power or prestige (agriculture, environment, labour and social affairs, the Committee for European Affairs, the Committee for Social Policy), a more exact explanation can be seen to lie in the number of mandates obtained by KDU-ČSL, which marked a substantial improvement over the party's usual performance. KDU-ČSL saw a 130% growth in the number of mandates obtained compared with the previous elections; see Table 4. This was the highest percentage growth out of all the members of SPOLU. With 23 deputies, KDU-ČSL equalled its highest ever number of mandates (2002). In the 2002 elections, the party was likewise part of an electoral coalition (with US-DEU), and KDU-ČSL voters used preferential votes in the same manner as STAN voters did 19 years later within the PirSTAN coalition: the party gained 22 mandates out of 31 instead of the 14 mandates that would have ensued from the candidate lists without preferential voting, thus making substantial gains at the expense of their coalition partner US-DEU.

In the case of PirSTAN, the gap between the Pirates' proportional claim and the actual distribution of ministerial positions (both within the entire government coalition and within PirSTAN) was a consequence of political circumstances. The coalition agreement probably took into consideration the number of mandates obtained due to the unusually high level of preferential voting. A second factor may have been the course of the election campaign; according to some analysts, the ANO movement chose a highly confrontational approach, directed mainly against the Pirate Party (see e.g., Aktuálně.cz, 2021; iRozhlas, 2021). This, combined with the Pirates' own not entirely effective campaign, evidently influenced the electoral results.[5] The final distribution of ministerial positions can thus be explained by the fact that it was influenced by the political commitments of the government parties to the Pirate Party. A further role may have been played by the repeated declarations of unity by both electoral coalitions, SPOLU and PirSTAN, which described themselves as a united democratic opposition to the Prime Minister and ANO leader Andrej Babiš, going so far as to rule out any possibility of post-election cooperation with ANO (see e.g. Surmanová, 2021; Aktuálně.cz, 2021; Echo24.cz, 2021).

4.3. Hypothetical possibilities for the formation of minimal winning government coalitions in the Czech Republic

If we take the American approach to the theory of coalition-forming and apply it to the composition of the Czech Chamber of Deputies following the 2021 elections, we find seven variants of Riker's minimal winning coalitions (Table 6). According to the measured indices, the strongest party is ANO, which has a Shapley-Shubik power index of 46.66% and a Banzhaf index of 75%. ANO is an essential component of five minimal winning coalitions (Table 7). KDU-ČSL is capable of participating in four coalitions. Four parties (ODS, STAN, TOP 09, SPD) can participate in three coalitions. The Pirates are the only parliamentary party that (with just four mandates) lacks the power to turn any winning coalition into a non-winning coalition by withdrawing from it.

There are two winning coalitions (ANO/STAN, ANO/ODS) which could hypothetically form an effective cabinet (Leiserson, 1968; de Swaan, 1973; Švec, 2010); the fewer the number of partners in the coalition, the more viable the cabinet (and the coalition) will be (Leiserson, 1968; de Swaan, 1973; Švec, 2010; Colomer, 2000, p. 8). In the case of the ANO/STAN coalition, this would not be a coalition of political parties, but of two political movements without clearly defined ideological or manifesto profiles, which could theoretically make it easier for them to collaborate; from a purely power-based perspective, such a coalition would be a rational choice.

Table 6:
Possible minimal winning coalitions in the Chamber of Deputies

Minimal winning coalition	Number of coalition MPs	Ability to participate in a coalition
ANO + STAN	105	ANO x 5
ANO + ODS	106	KDU-ČSL x 4
ANO + SPD + TOP 09	106	ODS x 3
ANO + KDU-ČSL + TOP 09	109	SPD x 3
ANO + KDU-ČSL + SPD	115	TOP 09 x 3
ODS + STAN + KDU-ČSL + TOP09	104	
ODS + STAN + KDU-ČSL + SPD	110	

Sources:
Český statistický úřad, n.d.; Poslanecká sněmovna Parlamentu České republiky, n.d.

For the other coalitions, with three or more members, the higher number of parties in the coalition reduces the number of positions available to each, as well as increasing the probability of conflicts and raising negotiating costs (Leiserson, 1968). If we accept the hypothesis that SPD is an anti-systemic party (see

Capoccia, 2002; Sartori, 2005), three possible variants for winning coalitions would be excluded; there are thus only four variants of minimal winning coalitions. Further, if we accept the assumption that the vehemence of the campaign against ANO and its leader Andrej Babiš by both electoral coalitions (SPOLU and PirSTAN) makes it impossible for either coalition to collaborate with ANO, the only minimal winning coalition that can exist in the Chamber of Deputies consists of ODS, STAN, KDU-ČSL and TOP 09.

Table 7:
Government/parliamentary committees: Gamson's law prediction and real distribution

Political parties	Total no. of 200 deputies No. of mandates	Shapley-Shubik power index	Banzhaf power index
ANO	72	46.66	75
ODS	34	16.66	25
STAN	33	16.66	25
KDU-ČSL	23	6.66	12.5
SPD	20	6.66	12.5
TOP 09	14	6.66	12.5
Pirates	4	0	0

Sources:
Český statistický úřad, n.d.; Poslanecká sněmovna Parlamentu České republiky, n.d.

5. Final considerations

Partial conclusions have been presented at the end of each section above. A general conclusion can be summarized as follows: the analysis of electoral coalitions found that SPOLU is a strongly superadditive coalition which succeeded in responding to current political demands and created a higher-quality grouping. SPOLU is the first ever case of this type of electoral coalition in the political system of the Czech Republic. The PirSTAN coalition was merely an additive coalition, its support commensurate with the sum of the support of both members. This represented a repetition of the result achieved by the KDU-ČSL/US-DEU coalition in 2002, which was the Czech Republic's first additive electoral coalition.[6]

   Interesting insights can be gained from the preferential voting within the PirSTAN electoral coalition (2021) and the KDU-ČSL/US-DEU electoral coalition (2002), which substantially impacted the distribution of power within each coalition – though when taking into account the top five positions on the regional candidate lists, the percentage drop in the number of mandates gained by the Pirates (-53.47) was greater than that of US-DEU (-24.8). The two coalitions were also similar in terms of their type. KDU-ČSL and STAN are parties with a strong

representation in municipal and regional politics, which can rely on voters' personal familiarity with their candidates, thus enabling them to gain preferential votes. By contrast, US-DEU and the Pirates can be characterized as liberal parties with a primarily urban support base, and the electorate of both parties (though representing two distinct groups) feel a bond with their party that is based more on its manifesto or ideological profile. US-DEU and the Pirates became members of government coalitions, but the position of US-DEU (albeit the weakest government party) was different because it formed part of a minimal winning coalition and was essential to the functioning of the 2002–2006 government. However, the ultimate fate of US-DEU, which eventually ceased to exist, indicates the potential risks of participating in a government coalition if a party has only a small number of mandates. The latter factor limits a party's options because the party receives a set amount of funding from the state budget for each mandate, so a substantial loss of mandates brings with it a substantial financial loss. A further aspect of this issue concerns the wages of deputies' assistants and (particularly) the cost of running deputies' constituency offices, which help to organize and support the parties' activities within the constituency or the wider region.

A further finding of the analysis concerned the consistently excellent performance of KDU-ČSL when competing as part of an electoral condition. Thanks to preferential voting, KDU-ČSL proved to be the most successful member of the SPOLU coalition in 2021 (see Table 1). It obtained 23 mandates, equal to its previous record, which it had achieved in 2002 as part of an electoral coalition with US-DEU. Just for comparison, as an independent party KDU-ČSL had its best result of 20 parliamentary mandates in 1998, in the era of the significant personality of chairman Josef Lux. The party's average number of mandates obtained in the other five parliamentary elections (campaigning as a separate entity) was just 14.[7]

Viewed in terms of Gamson's Law, the distribution of ministerial positions and chairs of parliamentary committees has to be interpreted in the light of political circumstances, i.e., the results of preferential voting, the nature of the campaign, and the declared political goals of the parties. More detailed conclusions were presented at the end of the relevant section above. In brief, it can be stated that the distribution of positions to ODS corresponded most closely with the principle of proportionality, TOP 09 achieved the best result, and KDU-ČSL achieved the worst result compared with its proportional claim. With regard to the real distribution of ministerial positions compared with the coalitions' proportional claims, the PirSTAN coalition achieved a four per cent better distribution than the SPOLU coalition, but it was weaker in the distribution of committee chairs; SPOLU had a proportional claim to 65% of committee chairs, but it actually took 80% of the chairs (chairing eight out of ten committees). STAN as an individual party took a lower than proportional number of ministerial positions, surrendering a large part of its share to its coalition partner the Pirates, who occupied a substantially higher than proportional number of ministerial positions.

The final part of the analysis concerned the possible minimal winning coalitions and the power indices of the political parties. Applied to the composition of the Chamber of Deputies following the 2021 elections, the Banzhaf index showed that seven minimal winning coalitions could have been formed. ANO had the highest index, being an essential component of five minimal winning coalitions. KDU-ČSL was essential for four minimal winning coalitions, and three parties (TOP, ODS, SPD, STAN) for three. The Pirates had a value of zero for both the Shapley-Shubik and Banzhaf indices, and its four mandates make it entirely dispensable for the purposes of forming a minimal winning coalition.

Future research could potentially explore a number of issues connected with the distribution of ministerial positions, particularly with a focus on the distribution of specific ministries. Gamson's Law merely operates with a prediction and a result, but clearly the political and economic importance of individual ministries is a relevant qualitative criterion. Research could focus on which political parties occupy which ministerial positions. Of particular interest would be appointments to the more powerful ministries (finance[8], interior, industry and trade, defence) or the more prestigious ones (foreign affairs etc.). However, other factors may also play a role besides the size of ministerial budgets; these may include the ministry's purview and prestige, as well as the different manifesto priorities of individual parties, which may have a stronger motivation to occupy some ministries than others.[9]

A further avenue for future research could involve the creation of ministerial positions without portfolio, which expand the cabinet and may influence voting within it. Likewise, it would be interesting to explore the appointment of political deputy ministers and ministerial secretaries; these political appointments do not fall within the purview of legislation governing the civil service. Another area of potential investigation would be whether government parties create new positions in the executive, whether this secondary distribution of offices forms part of coalition agreements, and the rules that apply to such appointments.

6. Conclusion

The primary goal of this study was to arrive at a better description of the Czech case using extensive data, interpreted using an analytical-theoretical framework.

From the point of view of the overlap of the case with the theory, the relevance of the European empirical analytical approach and interpretation of the formation of electoral and government coalitions was clearly confirmed. It is an approach that allows considering the relationships between the participants in coalition negotiations and the overall political context (e.g., Schofield, 1995; Müller & Strøm, 2000; Bergman, Back, & Hellström, 2021).

In the opinion of the author, in the case of the Czech government coalition, it also turned out that the application of the proportionality hypothesis principle is a suitable indicator for the analysis and interpretation of the distribution of governmental and parliamentary functions, when each participant entering a coalition expects that all actors will demand a share on the principle of proportionality, that is, the share they brought to the coalition (Gamson, 1961, p. 376; De Winter, 2005). The advantage of the proportionality hypothesis proved to be its straightforward empiricism and comprehensibility (Fréchette, Kagel, & Morelli, 2005; Svačinová & Chytilek, 2009), which created a suitable initial premise for the application of political circumstances that explained the distribution of seats in the Czech government.

The contribution of the study to empirical knowledge of Czech politics was presented in the previous chapter. A case with a more general meaning pointing to possible causality can be derived from it. It is represented by the result of preferential voting in the electoral coalitions KOALICE (2002), formed by US-DEU and KDU-ČSL, and PirSTAN (2021), formed by Pirates and STAN. The distribution of mandates to the individual parties of both coalitions is very similar (as detailed in the previous chapter). The Pirates and US-DEU suffered significantly in the preferential vote and defended a small number of parliamentary mandates, especially in Prague and the Central Bohemia region. Here, the Pirates won three mandates out of a total of four representatives and the US-DEU five mandates out of eight. It is possible to formulate the thesis that a coalition of political parties with the predominant characteristics of an urban-type liberal party (with a loose link between voters and candidates, e.g., US-DEU, Pirates) with a more conservative-type party (with a voter base in smaller towns/villages and probably a more direct connection between voters and candidates, e.g., KDU-ČSL, STAN), leads to preferential voting that favours parties of the second type.

Finally, other research possibilities can be pointed out. There is an opportunity to test the hypothesis about the stability of the Czech government coalition, which is now half way through its four-year mandate. As part of a general theoretical concept, one can use the often-cited study with the characteristic title 'Early marriage lasts longer: pre-election coalitions and government survival in Europe', which, using the example of Western and Eastern European government coalitions, confirms the hypothesis that successful pre-election coalitions show a significantly lower degree of instability if they jointly form a government coalition (Chiru, 2015, pp. 165–188).

Endnotes:

1. For more details on the differences between the American and European traditions in their approach to coalition-forming, see Laver & Schofield, 1998; Říchová, 2006.
2. Power indices are calculated using the program Computer Algorithms for Voting Power Analysis, which is available via the University of Warwick website (Warwick website, n.d.). Besides the Shapley-Shubik and Banzhaf indices, the program also offers a wider range of indices (e.g., Penrose and Colman etc.)
3. In 1992, a coalition of ODS and KDS entered the elections to the Czech National Council as well as the elections to the People's Chamber and the Chamber of Nations of the Federal Assembly of the Czecho-Slovak Federative Republic. Due to an absence of data on electoral preferences, this coalition does not form part of the present study, and it is mentioned here solely for the sake of completeness.
4. Party preferences, and especially electoral models for coalition results, should be viewed with the awareness that different polling agencies use different methodologies, though these do not differ substantially. The STEM agency has noted a difficulty with its model, which is based solely on the expected behaviour of a subset of politically engaged citizens (who intend to vote), and which is not able to take into account how other possible factors may impact the electoral results (e.g., last-minute emotions). The CVVM agency's electoral model takes into account respondents' answers to a number of questions concerning electoral participation, choice of party, and degree of certainty (or hesitation, in the case of voters weighing up which party to vote for). KANTAR.CZ worked with two different groups of respondents – one for the model of party preferences, and the other for the model of coalitions. However, none of the respondents stated that they would not vote, and none of them considered it likely that they would change their choice of party or coalition. For more details, see the links to the agencies in the References.
5. For comparison, this table shows the development of electoral preferences for the KDU-ČSL/US-DEU (KOALICE) coalition from 2002. The result shows that it was also an additive coalition.

Political parties	STEM January 2002	CVVM March 2002	CVVM April 2002	Election Result 2002
KDU-ČSL	6.4	9	8.5	KOALICE
Unie svobody	3.7	6	6	
ODA	0.3	no data	no data	
DEU	0.2	no data	no data	14.27
Sum	10.6	15	14.5	
4KOALICE	11.9	17	no data	

Sources: Český statistický úřad, n.d.; CVVM, 2021; STEM, 2021.

6. The aim of this study was to analyse the election campaigns of the political parties. The characterization of the Pirates' campaign as 'not entirely effective' is based on an analysis conducted by the party itself, extracts from which appeared in the media, as well as on comments by political analysts. These comments and observations are widely known and were frequently reported in the media, so no specific sources are given here.
7. Number of mandates obtained by KDU-ČSL: electoral period 1993–1996: 15; 1996–1998: 18; 1998–2002: 20; 2002–2006: 23; 2006–2010: 13; 2010–2014: 0 (the party failed to reach the five per cent threshold); 2013–2017: 14; 2017–2021: 10; 2021–2025: 23 (PS PČR České republiky, n. d.)
8. The last two governments headed by ODS prime ministers (Mirek Topolánek 2007–2009, Petr Nečas 2010–2013) somewhat unusually appointed representatives of other coalition parties to the position of Finance Minister. Although no direct causal connection exists, both governments were eventually forced to resign. A more usual situation is when the prime minister and the minister of finance are colleagues from the same party. Another exception to this rule was Andrej Babiš (ANO), who was the minister of finance in the government headed by Social Democratic Prime Minister Bohuslav Sobotka (2014–2017). In the following elections (2017),

the Social Democrats (ČSSD) suffered their worst-ever electoral result, obtaining their lowest-ever number of mandates in the Chamber of Deputies.

9. A clear example of this is the dispute between ČSSD and US-DEU over the Regional Development Ministry, which represented an obstacle to the August 2004 reshuffle of Prime Minister Stanislav Gross's government. Although this ministry lacked prestige, it was potentially of great economic importance, as it was responsible for distributing EU funds via subsidy programmes, so the position went to a ČSSD minister. US-DEU was given the Ministry of Justice – a more prestigious portfolio, but one with less economic importance. See e.g., *Nová vládní sestava* (České noviny, 2004).

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Supplement 1:
Abbreviations of political parties
and coalitions

ANO 2011	Action of Dissatisfied Citizens (Akce nespokojených občanů)
DEU	Democratic Union (Demokratická unie)
KOALICE	Coalition – electoral coalition (KDU-ČSL, US-DEU)
KDU-ČSL	Christian and Democratic Union – Czechoslovak People's Party (Křesťanská a demokratická unie – Československá strana lidová)
KDS	Christian Democratic Party (Křesťanskodemokratická strana)
ODA	Civic Democratic Alliance (Občanská demokratická aliance)
ODS	Civic Democratic Party (Občanská demokratická strana)
Piráti	The Czech Pirate Party, or Pirates (Česká pirátská strana – Piráti)
PirSTAN	Pirates and Mayors – electoral coalition (Piráti a Starostové)
SPD	Freedom and Direct Democracy (Svoboda a přímá demokracie)
SPOLU	Electoral coalition – ODS, KDU-ČSL, TOP 09
STAN	The Mayors and Independents (Starostové a nezávislí)
TOP 09	Tradition, Responsibility, Prosperity 09 (Tradice, Odpovědnost, Prosperita 09)
US	Freedom Union (Unie svobody)
US-DEU	Freedom Union (Unie svobody) – Democratic Union (Demokratická unie)

Source: The author.