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Coalition Formation and the German Party System

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ABSTRACT

The article uses a thick synthetic analytical framework, derived from the established coalition literature to examine the process of coalition formation in the context of the German party system at the time of the 2009 federal election. It argues that increasing party system fragmentation and fluidity long term effects of the critical changes that took place between 1983 and the mid 1990s. These changes have shifted coalition power away from the smaller parties, and in particular the FDP, and towards the two Volksparteien. In terms of the coalition game, the article argues that outcomes cannot be explained by pure office-seeking but that these motives do become important once the desire to avoid unnecessary co-ordination costs, achieve ideological adjacency and reduce ideological range to a minimum has been satisfied. The article concludes by asserting that, rather than being a re-constitution of the default coalition model in Germany, the logic of the 2009 Black-Yellow coalition is consistent with more recent coalition games and therefore is a reflection of change rather than continuity.

INTRODUCTION

Students of German politics greeted the start of election year in 2009 with a sense of anticipation. Opinion polls over the previous two years¹ of the incumbent Grand coalition showed a decline in support for both government parties and one that was particularly steep for the SPD². The polls indicated that an enforced change in the

composition of the government, although not inevitable, was very probable after federal elections on the 27th of September.

The decline in support for the Grand coalition meant that a number of other coalition options became increasingly credible alternatives as the election approached. Because of the restrictions imposed by political parties on themselves, some coalition options – such as Social-Liberal (SPD-FDP)³, Red-Red (SPD-Left Party) and ‘Traffic Light’ (SPD-Greens-FDP) – had been either ruled out publically or were considered highly unlikely options. Nevertheless, at the start of 2009 there remained six politically feasible coalition options: a continuation of the Grand coalition (CDU/CSU-SPD), Black-Yellow (CDU/CSU-FDP), Black-Green (CDU/CSU-Greens), ‘Jamaica’ (CDU/CSU-FDP-Greens), Red-Green (SPD-Greens), and Red-Red-Green (SPD-Left Party-Greens). Black-Green was considered the most likely alternative to the incumbent coalition.

The outcome of the 2009 federal election did indeed result in a defeat for the Grand coalition. The smaller parties performed very well, with the FDP winning 93 seats (up from 61 in 2005), the Left Party - formerly the PDS - 76 seats (up from 54 in 2005) and the Greens 68 (up from 51 in 2005). This meant that the small parties now controlled 237 seats of the 622-seat Bundestag. The two Volksparteien, on the other hand, did less well. Within this context, the CDU/CSU’s seat share actually went up from 226 to 239 seats, despite winning only 33.8 per cent of the vote, down 1.4 per cent on the 2005 election. Compared to this, the SPD was, as expected, the high profile loser in the election, winning just 23 per cent of the vote, down 11.2 per cent from 2005 and giving the party just 146 seats, down from 222 in 2005.

At the start of October, the CDU/CSU and FDP commenced coalition negotiations and, on October 28th 2009, following the signing of a formal coalition

agreement between the parties, Angela Merkel was re-appointed Federal Chancellor at the head of the new Black-Yellow coalition. Compared to the formation of the Grand coalition four years earlier, the new Black-Yellow coalition was the obvious option given the distribution of party weights following the election and the lack of any obvious alternative options. Given this context, however, the length and difficulty of the subsequent coalition negotiations between the CDU/CSU and FDP took many by surprise and indicated that this was not a simple return to the tried-and-tested 'Black-Yellow model' of the 1960s, 1980s, and 1990s. This article argues that the reasons for this lie in the changed dynamics of the German party system over the last thirty years. In doing so, the article also provides a re-examination of the context within which the formation of the Black Yellow coalition took place that throws light upon the logic of coalition formation more broadly in Germany.

The rest of this article is structured as follows. First, I present a 'thick' synthetic framework to explain the process of coalition formation in 2009, derived from the established coalition literature. Second, the article maps the German party system in 2009, with an emphasis on the historical context and the changing dynamics of party politics in the Federal Republic. Third, I assess the nature of the coalition game in 2009 in the light of the changes that have taken place. Finally, the article concludes with a summary of the data and main arguments.

SACRIFICING PARSIMONY FOR EXPLANATION: ANALYSING COALITION FORMATION IN GERMANY

As noted above, this article deploys a thick synthetic framework to explain the process of coalition formation in Germany in 2009. The framework is still reasonably

abstracted and there is no reason why it could not be deployed in any 'strong' party system in which levels of party system fragmentation make coalition government necessary. However, it does not possess the elegance and parsimony of a 'classic' coalition model, is more explanatory than predictive and anyway is not, in the strictest sense, a model at all.

The framework is premised on the assumption that the players of real-world coalition games are party elites but that their strategic calculus is subject to a bounded rationality imposed upon them by three factors. First, the players have imperfect information and the costs of processing that information is often high and sometimes beyond their capabilities. Second, there are significant institutional constraints imposed upon the players, not just in terms of the wider 'rules of the game' associated with – in this instance – German party politics, but also in terms of the beliefs, norms, and standard operating procedures (SOPs) associated with the political parties that they lead and the subsequent transaction costs associated with their influence on the game. Third, the players' calculi are skewed by 'pure time preference', in which premiums are placed on payoffs accruing nearer in time and those that are more remote in time are discounted. Let us look at each of these in turn.

The first point, about imperfect information and the costs associated with information processing, is an empirical objection to the common use of 'core theory'⁴ and the calculation of dimension-by-dimension medians⁵ or DDMs, in analysing players' strategies during the process of coalition formation. Core-theoretical models are deployed to analyse the relative policy positions of political parties at $T1$ – immediately before or after the election⁶ – and seek to identify the 'political heart'⁷ of players' preference curves in n dimensional policy space. DDM approaches will often

focus on the period between $T2$ (the start of coalition negotiations) and the $T3$ (the signing of the formal coalition agreement or government declaration) and compare the 'latticing'⁸ of players' initial preference curves as well as the positioning of the eventual government declaration in policy space. This retroductive process is a very powerful tool for, for instance, determining which party was most effective in making sure that its policy preferences were included in the eventual government declaration but is less convincing in inferring the relative power of parties at $T1$. This is because, as touched upon above, it is at least questionable to assume that players are cognitively capable⁹ of making the sort of multi-dimensional calculus envisaged by these models; certainly not in the absence of the kind of analytical tools, such as 'wordscore' or 'wordfish', that are deployed so effectively by political scientists to map such space¹⁰. Moreover, even if they did have this capacity it is hard to credit that they would be willing to incur the kind of deliberation costs that such multi-dimensional calculations would incur within complex party hierarchies¹¹.

This leads us to the second point, the constraining impact of the institutional context in which coalition players operate. As already noted, some of these relate to the rules of the game of German party politics and do not really need any substantive reiteration here¹². Just as important are the beliefs, norms, and SOPs of the political parties that the players lead. Beliefs and norms are obvious constraints: for instance, the SPD's scope for co-operation with the Greens in the 1980s and 1990s was restricted by widespread opposition within the party to a strategy of co-operation¹³, as is the party's current room for manoeuvre with the Left Party¹⁴. Similarly, recent moves by CDU elites to co-operate with the Greens have not been universally welcomed by CDU members or voters¹⁵. Of course, elites also share a notion of what

conforms to a 'logic of appropriateness'¹⁶ and often hold many of these beliefs themselves. However, the 'curvilinear disparity' between elite beliefs and those of mid-level cadre in particular is well documented¹⁷ and implies that some of these constraints are to all intents and purposes exogenous to the coalition game and as a result imposed upon players by an often recalcitrant party with the potential to sanction leaders when their strategic choices as players move away from the settled preferences (or indeed prejudices) of the parties they lead¹⁸.

The impact of the constraints imposed by beliefs and norms is most obvious in the pre-election statements, described in the introduction to this article, that German party elites often issue prior to elections ruling out particular coalition arrangements¹⁹. More subtle and, from the perspective of this article, important are the impact of SOPs as a constraint upon the kind of multi-dimensional calculus discussed earlier. For even if, as already discussed, players were able to make complex multi-dimensional calculations at *T1* the process by which one or more parties are able to reach their goal(s) at *T3* changes the rules of the game profoundly. (Indeed, it would not be too strong to wonder whether the process after *T1* is not a different game entirely). Here I draw upon a number of well-established studies of complex organisations that analyse how strategies are implemented from the initial decision phase to that of implementation²⁰. The literature reveals that the process of formal negotiations involves trust-building through (a) delegating and monitoring on the part of the leadership and (b) formalising and scoping on the part of the party professionals tasked with bringing about the merger in practical terms²¹. Both of these processes involve a degree of risk-taking; for instance in coalition negotiations it may mean giving ground on an important policy objective or even giving way completely in the

allocation of a key policy portfolio. It is here, when parties become, as it were, 'preferred bidders', that the kind of DDM analysis discussed above can come into its own, especially as the formalising and scoping process reduces the information and transaction costs involved and makes the kind of multi-dimensional calculations envisaged in these approaches a little less costly and therefore more likely. But, as will be made clear later in this section, at *T1* the strategic calculus is by necessity a far simpler matter, which is why, although strongly explanatory in many ways, DDM models are not effective in predicting real-world coalition outcomes²².

This leads us to the third point; that players in the coalition game are subject to pure time preference. Again, as already noted, the concept of pure time preference refers to the process by which players will place a premium on payoffs accruing nearer in time and discount those that are more remote in time. The exact size of a discount rate is somewhat arbitrary, although cost benefit analyses for large capital-intensive or long-term investment projects will refer to various formal benchmarks in order to set such a rate²³. In the economics literature there is a significant strand of thought that questions the ethics of such rates²⁴ but what is important for the purposes of this article is that any kind of time discounting has a profound impact on the kind of cost-benefit analysis that coalition players must make at *T1*. All things being equal, pure time preference has three effects.

The first effect of pure time preference is that it shifts the balance between office seeking and policy-oriented payoffs with office-seeking payoffs having more immediate utility and being weighted by players accordingly. At the same time, however, coalition players do not work to a common benchmark and there will be variance in the degree of this shift between political parties; depending on the kind of

normative constraints discussed earlier. This is consistent with empirical work²⁵ that operationalises formal modelling put forward by Sened²⁶ and demonstrates that not only do German political parties display a mix of office seeking and policy-oriented payoffs but that the exact mix of these two kinds of payoff varies from party to party.

The second effect is that, whilst policy-seeking as a whole is discounted to some degree, it also follows that the constellation of policy choices is impacted as well. As a result, policy choices that involve relatively long-term utility flows or those that incur immediate costs will be discounted against those that yield more immediate payoffs (the so-called 'low hanging fruit' such as tax cuts or rises and other forms of high profile or media-friendly measures). This point is not developed in this article but the Black-Yellow coalition's direction of travel in policy terms is discussed elsewhere in this volume.

The third effect is more relevant to this article: that all things being equal it follows that players will prefer to enter into coalition arrangements of which the parties they represent have had previous experience rather than choose potential coalitions that have not been road-tested, as it were, at least at the state level and preferably at the federal level. As discussed earlier, the process of coalition negotiations from *T1* through *T2* to *T3* is costly, both in terms of information-processing and also in terms of the organisational resources that are required.

So, in the light of the arguments made above, this article deploys a synthetic framework, based on the following four assumptions:

- First, that coalition formation is subject to two clear numerical formation criteria derived from established coalition models. The first is von Neumann and Morgenstern's²⁷ notion of the 'minimal winner', in which players will aim

to become members of a winning coalition that is the smallest feasible winner, given real-world constraints such as the indivisibility of formal party groups within the legislature. The second is Leiserson's²⁸ 'bargaining proposition', which argues that players will favour coalitions with the smallest number of partners within them, in order to reduce transaction and co-ordination costs. In this article, I use (1) a 'strict' interpretation of the bargaining proposition, in which a minimal winner that conforms to the proposition trumps a surplus majority coalition that also does so; and (2) a 'relaxed' interpretation in which the minimal winner condition is relaxed.

- Second, these numerical formation criteria are modified through the recognition of ideological adjacency. More specifically, I draw upon de Swaan's²⁹ notion of the minimal-connected winner with the smallest ideological range (MCW). In order to ensure a majority, the MCW must include the party that controls the median legislator: the Mparty. The party that controls the median legislator within the coalition is the MpartyK. Any party is Mparty and MpartyK is assumed to be decisive in determining the coalition's potential composition, program, and stability.
- Third, coalition players are not capable of complex multi-dimensional calculations at *T1* and therefore the location of the Mparty and to a lesser extent the MpartyK along the Downsian left-right dimension originally used by de Swaan is highly significant. It is accepted that the restriction of the decision space to this single dimension does not reflect the true dimensionality of West European politics³⁰ but there is a great deal of evidence that, despite the changes that have taken place within party systems over the last decades, left-

right placement remains the best single predictor of real-world coalition outcomes³¹.

- Fourth, all strategic decisions are subject to 'pure time preference' and players will prefer to enter into familiar coalition arrangements rather than choose unfamiliar potential coalitions.

As will become apparent in our analysis of the 2009 coalition game, the first three assumptions are easy to read-off against the distribution of party weights and real-world coalition outcome, whilst assumption four requires some contextual analysis and is a jumping off point for further research in the future. Nevertheless, having established our analytical framework, let us first move on examine the context of the German party system in 2009.

THE GERMAN PARTY SYSTEM IN 2009

Figure One presents the percentage shares of the second vote won by political parties in federal elections over the period 1949 to 2009. Taken in the round the data seems to demonstrate three phases of electoral support. First, the data indicates a concentration of voter preferences over the period 1949 to 1961, in which smaller parties such as the German Party and the German Reich Party (DRP) on the right and the German Communist Party (KPD) on the left fell away as popular support coalesced around the two Volksparteien and, to a far lesser extent, the FDP. The next phase, from around 1961 to 1983, was a period of centrist politics in which voters overwhelmingly supported the two Volksparteien, to the extent that their combined vote in the 1976 federal election was 91.2 per cent. The FDP continued to perform reasonably well, polling as much as 10.6 per cent in 1980 and - in the absence of other

small parties in the Bundestag - parlaying these modest levels of electoral support into de facto 'kingmaker' status between the two Volksparteien. At the same time, there were occasional 'noises off' from the NPD and the legal successor to the KPD³², the DKP, but no small party garnered enough electoral support to scale the Federal Republic's 5 per cent barrier to entry into parliament. The third phase begins in 1983 and, to all intents and purposes appears to have continued to the present day. It is of course characterised by the entry of two new political parties that were sufficiently popular to challenge what had appeared to be a stable political settlement and consolidate their respective positions within the German party system. The first new entrant, the Greens, entered the Bundestag following the 1983 federal election and this was followed by the entry of the PDS (now the Left Party) in 1990, as a result of German unification.

Figure One about here

The impact of these new entrants on the dynamics of the German party system was profound but was also to produce mixed fortunes for the established parties. Moreover, the full effects of these changes were not all immediately apparent in the 1980s and 1990s and have had more profound effects in recent federal elections.

Initially, the fact that both parties at least started off as flanking parties on the left-right dimension presented the SPD with a thorny strategic dilemma. Even before the arrival of the Greens, the SPD had been forced to develop a programmatic profile that was sufficiently centrist to appeal to the median voter whilst still possessing enough redistributive elements to maintain the support of its core blue-collar Stammwählerschaft³³. The SPD's subsequent 'Janus-faced' programmatic profile was already the source of intra-party tensions in the 1970s and the entry of the Greens in

1983 compounded the SPD's difficulties because it introduced a new domain of contestation around post-materialist issues as well as stretching the ideological distance on the left—right axis along which the SPD had to compete³⁴. The resulting 'red-green model' of political co-operation³⁵ between the SPD and Greens emerged in the late 1980s and early 1990s and stressed the selective emphasis of 'new politics' issues (such as environmental protection, group rights, and gender equality) around which the two parties could find common ground whilst initially ignoring many of the high politics issues, such as defence and security, that divided them³⁶. However, just as the SPD began successfully to address the challenge of the Greens, the emergence of the PDS in the new German states re-emphasised the left-right dimension whilst also introducing a new territorial cleavage into political contestation³⁷ that has only recently begun to resolve itself³⁸. But these developments were not all bad news for the SPD. The entry of two left-of-centre parties into the Bundestag shifted the centre of ideological gravity of the German party system to the left and, in shape of the Greens, presented the SPD with at least one viable alternative coalition partner. By the mid 1990s this increase in the SPD's potential coalition options was to enhance the SPD's coalition power compared to a CDU/CSU that, although not facing an electoral challenge from the right equivalent to that faced by the SPD on the left, at this point in time only had the FDP or – in extremis – the SPD itself as a potential coalition partner.

Figure Two about here

The emergence of the Greens was also to rob the FDP of its kingmaker status and prompt speculation that the Greens themselves might be able to assume this role themselves. However, as well become apparent below, this last assumption was based on an underestimation of the longer term effects unleashed by the structural changes

discussed above. Figure Two presents levels of party system fragmentation over the period 1949 to 2009, measured via Herfindahl-Hirschman indices³⁹ (or HHIs), which are calculated by squaring the seat share of each party and then summing the resulting scores)⁴⁰. The figure demonstrates that what looks like three periods of party system development in Figure One could be interpreted as being actually four periods, in which the timeline since 1983 is made up of two phases. Thus, in a pattern similar to the electoral data in Figure One, Figure Two demonstrates that the period 1949 to around 1965 was characterised by rising HHI scores; from 0.2498 in 1949 to 0.4187 by 1957. We then see a period of relative party system concentration from 1965 to 1987, in which HHIs easily outstripped the mean for the entire period (0.3695) and reached a high of 0.4457 (close to the nominal HHI score for an effective 'two-party majoritarian' system of around 0.5000) before dropping gently back in the 1970s and early 1980s. As would be expected, the arrival of the Greens has an impact on levels of fragmentation and, by 1987, the HHI score had declined to 0.3571. What is less expected is that German unification and the emergence of the PDS had less of an *immediate* impact than one might anticipate and HHIs for the five elections between 1987 and 2002 trend just below the overall mean. What is noticeable, however, is that HHIs for the three elections since 2002 display a strong trend towards further fragmentation, with the HHI scores falling from 0.3568 in 2002 to 0.2907 in 2005 and finally 0.2520 in 2009.

As already touched upon, some might argue that this period since 2002 represents a fourth distinct period in the development of the German party system. However, I would argue that in historical terms, this is just the working through of the longer term effects unleashed by the changes that took place between 1983 and 1990. In effect the sudden increase in party system fragmentation that became visible from

2002 onwards was the result of what evolutionary and institutional economists call 'positive feedback' effects⁴¹. Over the two decades from the early 1980s onwards, this positive feedback resonated between the 'demand side' of party politics, as it were, in which partisan dealignment and voters' slow disenchantment with the established parties opened up enough viable political space for the Greens in particular⁴² and later the PDS⁴³ to emerge, and the 'supply side', in which the persistence and consolidation of these new political competitors opened up new domains of political contestation, thus further eroding voters' confidence in and support for the established parties. Over this period, these feedback effects transformed the German party system from the cosy triangular dynamic of the 'Pappi model'⁴⁴, through what was sometimes thought of as a 'two-bloc' system⁴⁵, towards what Niedermayer has described as a 'fluid party system'⁴⁶ that more accurately reflects the complex society that Germany has become⁴⁷. As will be discussed below, in such a configuration there was no longer a kingmaker; just two large, albeit diminished, Volksparteien and three smaller parties occupying niche positions within the political space defined by the dominant left-right and secondary libertarian-authoritarian axes⁴⁸. It was under these conditions that the 2009 coalition game was played.

THE 2009 COALITION GAME

Given that we have established that the increased fluidity of the German party system was unleashed by the process of change that was heralded by the emergence of the Greens in 1983 and of the PDS in 1990, I now use 1983 as the start of a timeline to analyse coalition formation in Germany; with an emphasis on the 2009 coalition process.

Figure Three about here

Figure Three presents the number of minimal winning coalitions and coalitions with swing generated by the distribution of party weights after the eight federal elections that have taken place since 1983, including the 2009 outcome. These are purely numerical criteria but demonstrate that the scope for potential minimal winning coalitions has widened over the period, as has the number of coalitions in which the defection of one party transforms a winning coalition into a losing coalition, or vice versa. By definition, the total of such coalitions with swing includes all minimal winners and not just strict minimal winners but it will also include surplus majority coalitions. Thus the figure demonstrates a trend towards a more fluid configuration of coalition options in the German party system, despite the shortening of minimal winning options in 2009. But to what extent have the individual parties benefitted from these developments?

Table One presents the normalised Banzhaf scores⁴⁹, which measure potential voting power in terms of the coalitions that can form given the distribution of party weights in a given legislature, for the political parties following federal elections since 1983. These scores include those for the 2009 election, which are in bold for ease of reference. The table demonstrates how the relative coalition power of the established parties has shifted since 1983, to the detriment of the FDP in particular. As already noted, the cosy dynamic of the old Pappi model allowed the FDP to exercise disproportionate power in relation to its seat share. However, as discussed above, the entry of the Greens into the Bundestag in 1983 heralded the end of the Pappi model and this is evident in the Banzhaf scores for the 1983 election, where the FDP and the Greens enjoyed the same Banzhaf score as the SPD (0.1667 out 1), with the CDU/CSU

clearly the formateur with a score of 0.5. The 1987 and 1994 federal elections produced identical scores but the emergence of the PDS at the first all-German federal in 1990 produced a new configuration, with the Greens becoming a dummy player and the PDS sharing the same score (0.1667) as the SPD and FDP. Yet again, the CDU/CSU remained the party with the most coalition power (0.5). Dummy status within the party system changed in 1994, when the PDS became the dummy and the Greens regained the level of coalition power it had enjoyed in the 1980s, whilst the CDU/CSU still remained dominant. This ongoing CDU/CSU dominance was brought to an end following the 1998 election, when the SPD gained a Banzhaf score of 0.5, the CDU/CSU dropped to 0.1667, the same score as the FDP and Greens, and the PDS remained the dummy. In 2002, both the PDS and FDP became dummies and the CDU/CSU, SPD, and Greens all shared a Banzhaf score of 0.3333. This was the only instance in which the Greens came close to enjoying the potential coalition power enjoyed by the FDP during the years of the Pappi model. In 2002 the situation changed yet again, with the two Volksparteien both enjoying Banzhaf scores of 0.5 and the three smaller parties all tied on 0.25. The scores following the 2009 federal elections are CDU/CSU 0.5, SPD 0.1667, FDP 0.1667, Greens 0, and Left Party 0.1667.

Table One about here

In numerical terms the overall pattern since 1983 appears to be one of trendless fluctuation, in which either the CDU/CSU (between 1983 and 1994 and after the 2009 election) or the SPD (in 1998) had the highest Banzhaf score and the smaller parties' fortunes shifted from election to election. However, there are actually two trends that are evident from the data. First, although the relative coalition power of the CDU/CSU and SPD has fluctuated since 1983, during this period both Volksparteien have enjoyed

Banzhaf PIs of up to 0.5. This is far higher than during the period of the Pappi model, when they both scored 0.3333, along with the FDP. Second, the FDP was reduced to dummy status following the 2002 election; something that did not happen during the years of the Pappi model. Dummy status also befell the Greens in 1990 and the PDS after the 1994, 1998 and 2002 elections. The impact of these two trends has been to produce an environment in which there is no established kingmaker (the Greens' temporary status following the 2002 election was not maintained in 2005) and in which, on the basis of the experience of previous elections, the smaller parties are forced to operate under conditions of uncertainty about their future coalition power. At the same time, at least one of the two Volksparteien has been dominant after seven out of eight elections. This pattern, established since 1983, represents a far more asymmetrical relationship between the two Volksparteien and the smaller parties than had previously been the case, even when the seat share of the two Volksparteien was far higher than it is today.

So, how did these developments play out in real-world politics? And how well do the four assumptions set out earlier in this article perform in focusing our analyses? Table Two sets out real world coalition outcomes following federal elections since 1983 as well as the degree to which these outcomes conform to the first three assumptions of our theoretical framework. Again, the data for the 2009 federal election are in bold for ease of reference.

Let us start with our first assumption; that coalition formation is subject to two clear numerical formation criteria derived from Neumann and Morgenstern's notion of the minimal winner and Leiserson's bargaining proposition. The outcome of the 2009 coalition game does not conform to a strict interpretation of the minimal winner,

which would be a coalition made up of the CDU/CSU-Left Party, with a surplus majority of three. Both the CDU/CSU-Left Party option and the real-world Black-Yellow outcome conform to the bargaining proposition but, as Black-Green is trumped by a minimal winner, the strict interpretation of the bargaining proposition is not fulfilled. This result is not very surprising and not out of line with results from the previous seven elections, where there was only one strict minimal winner (the Black-Yellow coalition formed after the 1994 election) and five outcomes (Black-Yellow in 1983, 1990, and 1994; Red-Green in 1998; the Grand Coalition in 2005) that fulfil the strict application of the bargaining proposition where the outcome is not trumped by a two-party minimal winner. On the other hand, all eight outcomes conform to the relaxed bargaining proposition, indicating that whilst 'pure' office-seeking alone cannot explain coalition outcomes in Germany, the desire to avoid the co-ordination costs associated with a multi-party coalition is a powerful factor in real—world coalition choices.

We now move on to assumption two, that any numerical formation criteria are modified through the recognition of ideological adjacency and that players will aim to join the MCW with the smallest ideological range. Table Two demonstrates that all of the coalition outcomes since 1983 were ideologically adjacent and six out of eight outcomes were MCWs with the smallest ideological range (the exceptions being the Black-Yellow coalition formed after the 1983 election and the Grand Coalition formed after 2005). So once again, the 2009 outcome is broadly consistent with the general pattern and this pattern indicates that, whilst pure office-seeking is not a factor in German politics, if broad policy agreement can be achieved with potential coalition partners, then numerical formation criteria become important and parties will aim to join coalitions that avoid the generation of surplus majorities.

Our third assumption, that the location of the Mparty and to a lesser extent the MpartyK along left-right dimension is significant, is also confirmed by the data. Table Two demonstrates that the Mparty is included in all real-world coalition outcomes during the period. Moreover, in keeping with the shift in coalition power towards the two Volksparteien, although the FDP was Mparty at the start of the period, it lost its median status following the 1998 federal election. Since then one of the two Volksparteien has been Mparty (the SPD following the 1998, 2002, and 2005 elections, and the CDU/CSU following the 2009 elections). In addition, the relative size of the two Volksparteien means that the position of MpartyK has been combined with that of MpartyK on three occasions: the SPD in 1998 and 2002 and the CDU/CSU in 2009. Despite its many years as the kingmaker of the German party system, this theoretically decisive position was never achieved by the FDP and once again demonstrates the growing asymmetry in coalition power between the two Volksparteien and the smaller parties.

Our fourth assumption, that all strategic decisions are subject to the players' pure time preference, can only be more explored through a more contextual approach. It will be recalled that I argue that the impact of pure time preference on the coalition game is threefold: (1) that it will shift the balance between office seeking and policy-oriented payoffs and that the degree of this shift varies between parties; (2) that policy choices that involve long-term utility flows or incur immediate costs will be discounted against those that yield more immediate payoffs; and (3) that players will prefer to enter into familiar coalition arrangements rather than choose unfamiliar potential coalitions.

The balance between office seeking and policy-oriented payoffs and the policy choices that underpinned the winning coalition are dealt with elsewhere in this volume. The third effect is more relevant to this article: that all things being equal it follows that players will prefer to enter into coalition arrangements of which the parties they represent have had previous experience rather than choose potential coalitions that have not been road-tested, as it were, at least at the state level and preferably at the federal level. As discussed when this framework was put forward, the process of coalition negotiations from *T1* through *T2* to *T3* is costly, both in terms of information-processing and also in terms of the organisational resources that are required. As Table Two demonstrates, the real-world outcome of the Black-Yellow coalition fulfils many of our expectations, given the distribution of party weights following the 2009 federal election. However, Black-Yellow also possessed one clear advantage over other potential coalition options: it is, in historical terms, the default coalition arrangement at the federal level of German politics. After a period between 1949 and 1956 in which the CDU/CSU and FDP governed in coalition with a number of smaller parties, a short-lived Black-Yellow prototype enjoyed office between 1961 and 1962. There then followed a brief interregnum, followed by a longer period of Black-Yellow government between 1962 and 1966 and, of course, from 1982 to 1998. This cumulative total of around 21 years in office was far higher than the 13 years enjoyed by the Social-Liberal coalitions of 1969 to 1982, the two Red-Green coalitions' seven years in office between 1998 and 2005, or the seven years of Grand Coalitions between 1966 and 1969 and 2005 and 2009. As a result of this default status, it could be expected that, as formateur, the CDU/CSU's prioritisation of Black-Yellow sharply reduced the information costs at *T1* and the organisational costs associated with

delegation and monitoring, formalising and scoping, between *T2* and *T3*. At the same time, however, this article does *not* assume that the formation of the Black-Yellow coalition was path-dependent. Clearly there was a greater and earlier degree of routinisation between *T1* and *T2* than would have been possible with some other coalition options but the strategic environment in which this Black-Yellow formed and its ideological composition was not the same as in, say, 1962 or 1982.

This last point is of key interest, given the difficult birth and early life of the Black-Yellow coalition. The negotiations themselves were characterised by a striking amount of hostile press briefing⁵⁰ and the first year of the coalition was characterised by high-degrees of inter- and intra-party conflict, to the extent that, by the following summer, German voters felt that Merkel had lost control of the Black-Yellow coalition and that the coalition's days were numbered⁵¹. It is plausible to assume that the coalition's troubles are in part a reflection of unrealistic expectations on the part of the players about the extent of its routinisation compared with other coalition options. Black-Yellow may have been the more familiar coalition choice but it would never be a return to the status quo ante before the changes of the 1980s and 1990s. The FDP was no longer kingmaker and could not expect to extract the degree of leverage it often enjoyed during the years of the Kohl governments. Moreover, even if Merkel had wanted to accommodate the FDP, she was unable to exert the same level of control over the CDU and its sister party that Kohl exercised and was therefore unable to silence conservative critics of the FDP on issues such as tax and foreign policy⁵². In addition, some of this criticism was, in itself, a reflection of a realisation amongst CDU and CSU politicians – including Merkel herself - that the FDP of 2010 was also a different kind of partner, more right wing in programmatic terms (and therefore less

'available' to alternative suitors such as the SPD) and sharper-toned in terms of its presentational and leadership style to the more centrist and emollient FDP of the Genscher years⁵³. Exploring some of these points in more detail would be an interesting and potentially fruitful avenue for future research.

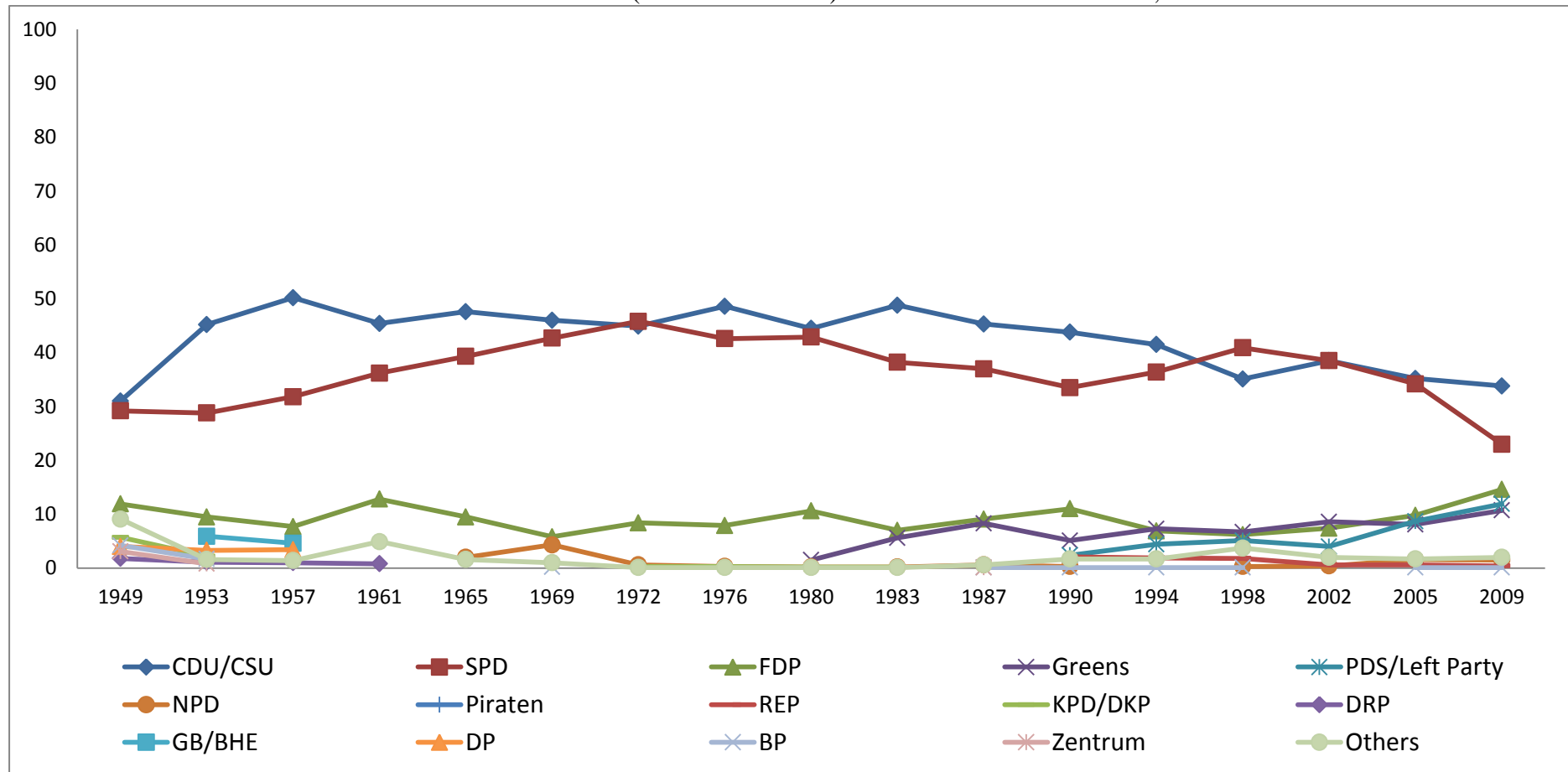
CONCLUSION

Although there certainly was an air of inevitability about the formation of the Black-Yellow coalition, a re-examination of the context within which the formation of the coalition took place did throw light upon the broader logic of coalition formation in Germany and yielded useful insights into the development of the German party system and the changes it has undergone over the last thirty years. The article's analysis of the German party system in 2009 grounds it in its historical context and demonstrates that the increasing fluidity of the German party system is part of the long term effects of the critical changes that took place between 1983 and the mid 1990s, with the entry into and consolidation within the party system of the Greens and the PDS (later the Left Party). These changes have shifted power relations within the coalition game away from the smaller parties, and in particular the FDP, and towards the two Volksparteien. This is, of course, something of a counter-intuitive point, given the overall decline in the Volkspartei vote and subsequent seat share but it is worth bearing in mind when assessing the specific circumstances of the formation of the Black-Yellow coalition in 2009.

Using a thick synthetic framework, derived from the established coalition literature, the article demonstrates that the logic behind Black-Yellow is consistent with the patterns evident from previous coalition games that have taken place since

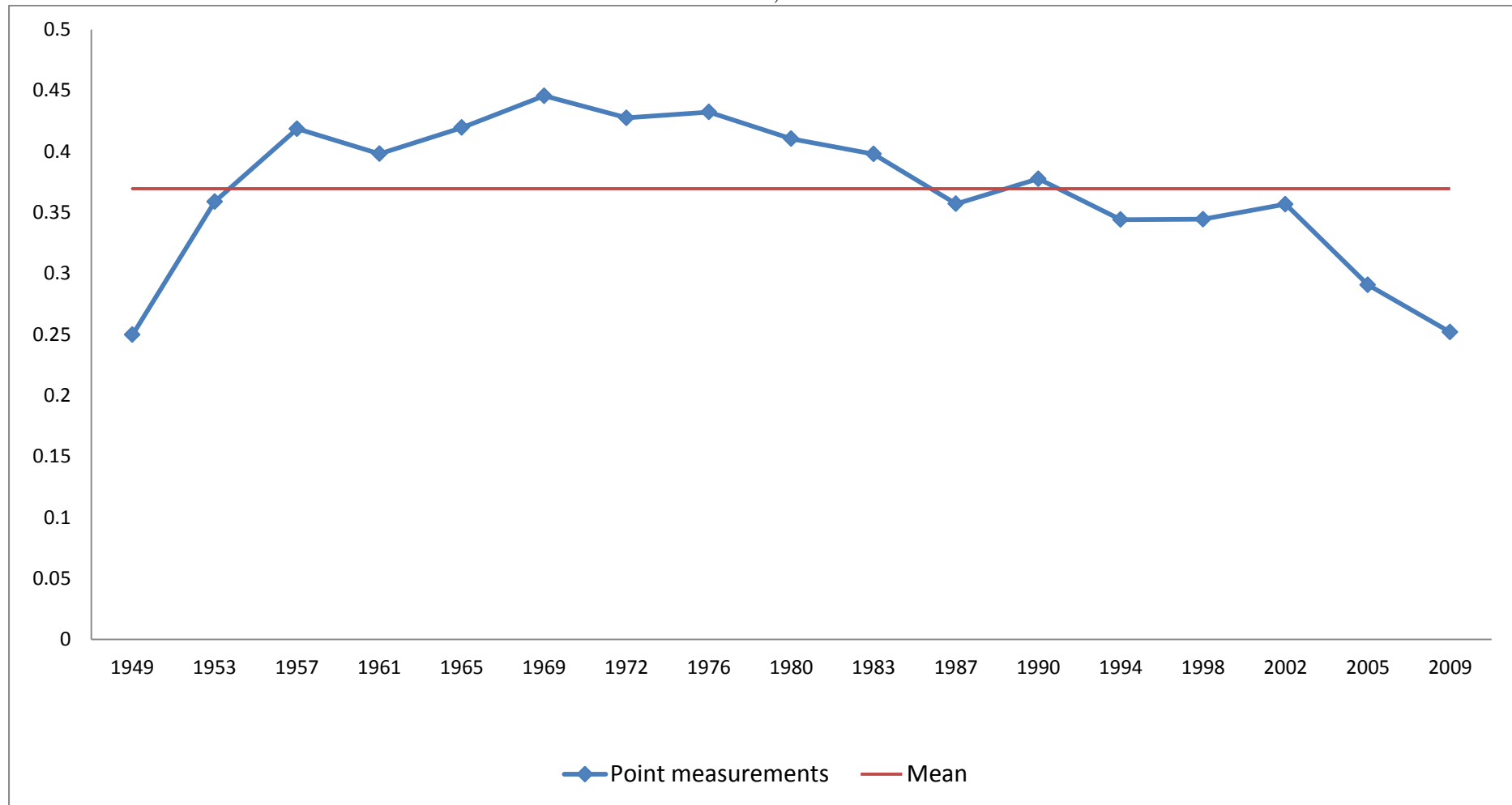
1983 but that these patterns are a function of increased party system fragmentation, the erosion of the FDP's kingmaker function, and the failure of either of the other smaller parties to take up the mantle of kingmaker for themselves. Within this context, coalition formation cannot be explained by pure office-seeking accounts but the desire to avoid unnecessary co-ordination costs is important. On the other hand, ideological adjacency and a desire to reduce ideological range to a minimum, is also very important and – if these conditions can be satisfied – it is then that numerical formation criteria become important. However the article argues that real-world strategic calculations are not as elegant or as sophisticated as some coalition models would have us believe and as a result, players are subject to a bounded rationality. This bounded rationality is in part due to the formal-institutional, informational and cognitive, as well as normative constraints upon the players in the coalition game. It is also due to pure time preference, which skews players' utility functions in ways that can be modelled but not necessarily captured empirically. Nevertheless, it is argued that pure time preference will drive players to make small-c conservative choices of coalition option over untested alternatives. Ironically, in the case of the calculations that led to the formation of the Black-Yellow coalition in 2009, this desire for the tried and tested may have led players to over-estimate the degree of routinisation associated with Black-Yellow and underestimate the degree to which the dynamics of a coalition between the CDU/CSU and FDP, like those of the party system more generally, had fundamentally changed.

FIGURE ONE. PARTIES AND ELECTORAL SHARES (PERCENTAGES) IN FEDERAL ELECTIONS, 1949-2009



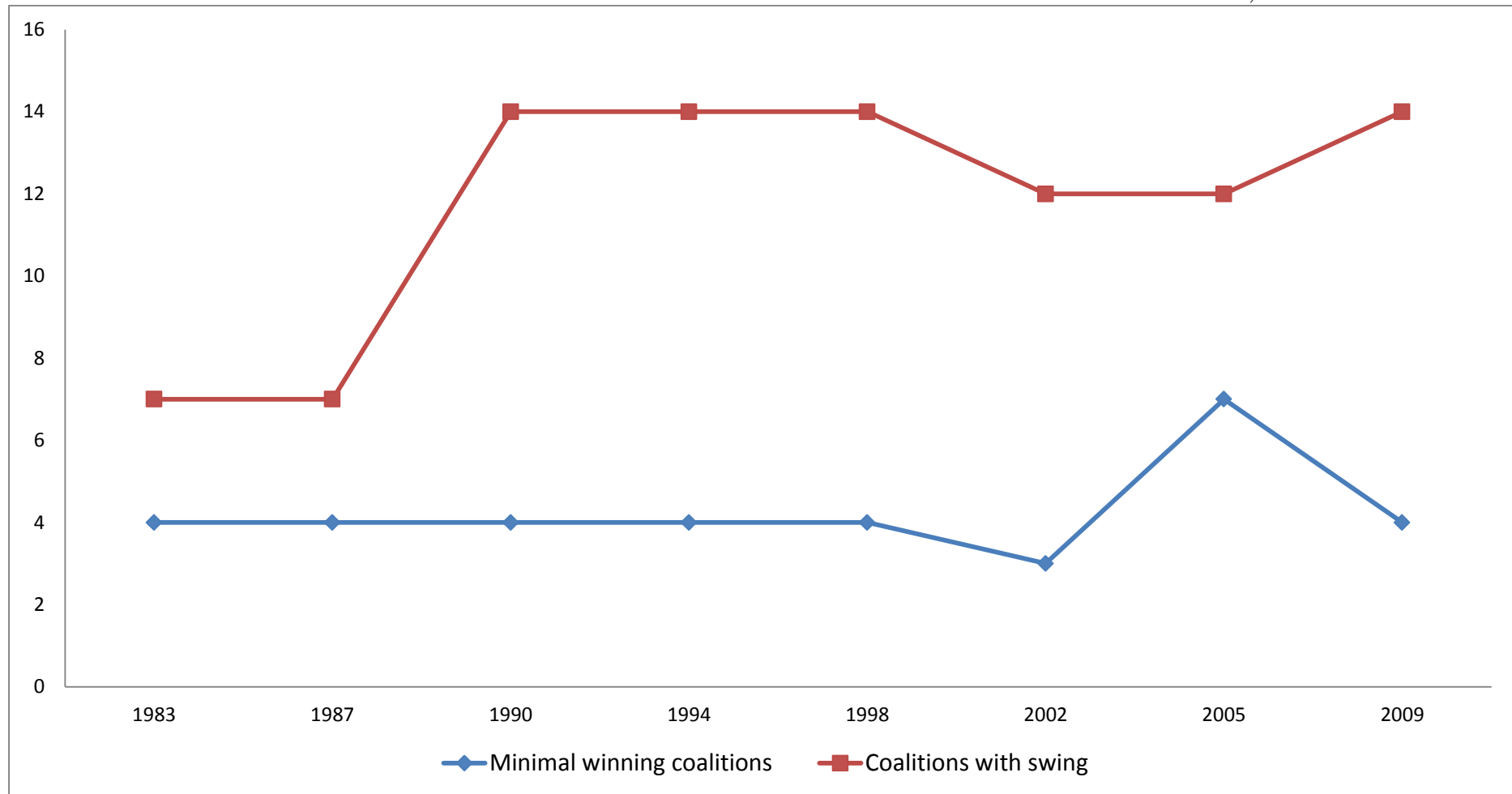
Source: <http://www.wahlrecht.de>

FIGURE TWO. PARTY SYSTEM FRAGMENTATION IN GERMANY, 1949-2009



Source: <http://www.wahlrecht.de>

FIGURE THREE. MINIMAL WINNING COALITIONS AND COALITIONS WITH SWING IN THE BUNDESTAG, 1983-2009



Source: <http://www.wahlrecht.de>

TABLE ONE. NORMALISED BANZHAF SCORES FOR POLITICAL PARTIES FOLLOWING FEDERAL ELECTIONS, 1983-2009

<u>Election</u>	CDU/CSU	SPD	FDP	<u>Party</u>	Greens	PDS/Left Party
1983	0.5	0.1667	0.1667		0.1667	N/A
1987	0.5	0.1667	0.1667		0.1667	N/A
1990	0.5	0.1667	0.1667		0	0.1667
1994	0.5	0.1667	0.1667		0.1667	0
1998	0.1667	0.5	0.1667		0.1667	0
2002	0.3333	0.3333	0		0.3333	0
2005	0.5	0.5	0.25		0.25	0.25
2009	0.5	0.1667	0.1667		0	0.1667

Source: calculated from data sourced at <http://www.wahlrecht.de>

TABLE TWO. COALITION OUTCOMES FOLLOWING GERMAN FEDERAL ELECTIONS, 1983-2009

Election:		06/03/83	25/01/87	02/12/90	16/10/94	27/09/98	22/09/02	18/09/05	27/09/09
<u>CDU/CSU</u>		244	223	319	294	245	248	226	239
<u>SPD</u>		193	186	239	252	298	251	222	146
<u>FDP</u>		34	46	79	47	44	47	61	93
<u>Greens</u>		27	42	8	49	47	55	51	68
<u>PDS/Left Party</u>		---	---	17	30	35	02	54	76
<u>Total Seats</u>		498	497	662	672	669	603	614	622
<u>Decision rule</u>		250	249	332	337	335	302	308	312
<u>Coalition</u>		CDU/CSU-FDP	CDU/CSU-FDP	CDU/CSU-FDP	CDU/CSU-FDP	SPD-Greens	SPD-Greens	CDU/CSU-SPD	CDU/CSU-FDP
<u>Change</u>		None	None	None	None	Total	None	Partial	Partial
<u>Assumption 1</u>	<u>Minimal Winner</u>	SPD-FDP-Greens	CDU/CSU-Greens	SPD-FDP-PDS	CDU/CSU-FDP	CDU/CSU-FDP-Greens	CDU/CDU-Greens	SPD-Left Party-Greens	CDU/CSU-Left Party
	<u>Strict Bargaining Proposition (BP)</u>	CDU/CSU-FDP	CDU/CSU-Greens	CDU/CSU-FDP	CDU/CSU-FDP	SPD-Greens	CDU/CDU-Greens	CDU/CSU-SPD	CDU/CSU-Left Party
	<u>Relaxed BP</u>	CDU/CSU-FDP	CDU/CSU-FDP	CDU/CSU-FDP	CDU/CSU-FDP	SPD-Greens	SPD-Greens	CDU/CSU-SPD	CDU/CSU-FDP
<u>Assumption 2</u>	<u>Adjacent?</u>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	<u>MCW</u>	SPD-FDP-Greens	CDU/CSU-FDP	CDU/CSU-FDP	CDU/CSU-FDP	SPD-Greens	SPD-Greens	SPD-PDS/Left Party-Greens	CDU/CSU-FDP
	<u>▷MCW/Smallest ideological range</u>	CDU/CSU-FDP	CDU/CSU-FDP	CDU/CSU-FDP	CDU/CSU-FDP	SPD-Greens	SPD-Greens	SPD-PDS/Left Party-Greens	CDU/CSU-FDP
<u>Assumption 3</u>	<u>▷Mparty</u>	FDP	FDP	FDP	FDP	SPD	SPD	SPD	CDU
	<u>▷MpartyK</u>	CDU/CSU	CDU/CSU	CDU/CSU	CDU/CSU	SPD	SPD	SPD	CDU

Source: Forschungsgruppe Wahlen, 1983, 1987, 1990, 1994, 1998, 2002, 2005, 2009

NOTES

¹ Forschungsgruppe Wahlen, 2007, 2008, 2009.

² Lees, C. (2011) 'The paradoxical effects of decline: assessing party system change and the role of the Catch-all parties in Germany following the 2009 Federal election', in *Party Politics* (forthcoming).

³ There was a renewal of interest in the Social-Liberal option during the brief tenure of Kurt Beck as Chairman of the SPD from 2006 to 2008 but this came to nothing. Nevertheless, the possibility of a Social-Liberal coalition being formed in the future, or even the more implausible coalition between the SPD, FDP, and Greens, cannot be ruled out unequivocally.

⁴ See Hanson, R. A. (1972). *Majority Rule And Policy Outcomes: A Critique Of The Calculus Of Consent*. PhD Thesis. Minneapolis: University of Minnesota; Hanson, R. A. and Rice, P.M. (1972). 'Committees, representation and policy outcomes' *Annals of the N.Y. Academy of Sciences*.

⁵ Laver, M. and Shepsle, K. 'Coalitions and Cabinet Government', in *American Political Science Review* 84 (1990): 873-90.

⁶ See Schofield, N. (1995) 'Coalition politics: a formal model and empirical analysis', in *Journal of Theoretical Politics* 7: pp. 245-81; also Schofield, N. (1993) 'Political competition and multi-party coalition government', in *European Journal of Political Research* 23: pp. 1-33.

⁷ Schofield, N. (1996) 'The heart of a polity', in Schofield, N. (ed.) *Collective Decision-Making: Social Choice and Political Economy*. Boston MA: Kluwer: pp. 183-220.

⁸ See Debus (2008) 'Office and policy payoffs'.

⁹ Rubinstein, A. (1998). *Modelling bounded rationality*. Cambridge MA: MIT Press.

¹⁰ See, for instance, the many fine examples in Debus, M. (2009) (ed.) 'Estimating the policy preferences of political actors in Germany and Europe: methodological advances and empirical applications'; special issue of *German Politics*, 18 (3).

¹¹ Simon, H. (1991). 'Bounded Rationality and Organizational Learning', in *Organization Science* 2(1): pp. 125-134.

¹² Gordon Smith identified four key rules of the game that, in his famous phrase, contributed to a 'politics of centrality'. First, Germany's system of proportional representation (augmented by a five percent hurdle to representation), which promotes a pattern of coalition government, limits the number of viable parties within the party system, and serves to shut out parties of the extreme right and left. Second, the idea of the *Partienstaat*, which raised the public esteem of political parties in the early post-war years, gave them a direct stake in the maintenance of the State and the enhancement of its legitimacy, and thus discouraged the emergence of the 'anti-system' sentiment within the parties that helped undermine the Weimar Republic. Third, 'Chancellor democracy' and the principle of *Richtlinienkompetenz*, which established the office of Federal Chancellor as *primus inter pares*, avoiding the constitutional tussles between Chancellor and President that characterised the Weimar years. Fourth, the rule that requires the Bundestag to give a 'constructive vote of no confidence' before voting out an incumbent Chancellor. These four elements serve to narrow the ideological range of 'relevant' parties (parties that are considered to be *koalitionsfähig*), enhance the status of the Federal Chancellor as leader of the governing coalition, and increase the opportunity costs of either exit from an existing coalition or the formation of rival coalitions (see Smith, G. (1981) 'Does Western German democracy have an 'efficient secret'?' *West European Politics* 4, 2. (May).

¹³ Lees, C. (2000) *The Red-Green Coalition in Germany; Politics, Personalities, and Power*. Manchester: Manchester University Press.

¹⁴ Hough, D., Koß, M., and Olsen, J. (2007) *The Left Party in Contemporary German Politics*. London: Palgrave.

¹⁵ See, for instance, Korte, K-R. (2010) 'State Parliament elections in NRW'. *AICGS briefing*. Available at <http://www.aicgs.org/analysis/c/korte042910eng.aspx>.

¹⁶ March, J. G. and Olsen, J. P., (1984) 'The new institutionalism: organizational factors in political life', in *American Political Science Review* 78: p. 738.

¹⁷ Kitschelt H. and Hellemans, S. (1990) 'Beyond the European Left'. Durham NC: Duke University Press; May, J. D. (1973) 'Opinion structure of political parties: the special law of curvilinear disparity', in *Political Studies* 21 (2): pp. 135-51.

¹⁸ This is a relaxation of the unitary actor assumption that underpins the kind of coalition modelling that uses point measurements in n-dimensional space. This does not mean, however, that using such

spatial point measurements is a redundant approach: see, for instance, Kam, C., Bianco, W., Sened, I., and Smyth, R. (2010) 'Ministerial selection and intraparty organisation in the contemporary British parliament', in *American Political Science Review* 104 (2): pp. 289-306.

¹⁹ Lees (2011) 'The paradoxical effects of decline'.

²⁰ Most of this organizational studies research looks at company mergers (see Schoorman, F. D., Mayer, R. C., and Davis, J. H. (2007) 'An integrative model of organizational trust: past, present, and future'. *Academy of Management Review*, 32: 344-354; Serva, M. A., M. A. Fuller and R. C. Mayer (2005) 'The reciprocal nature of trust: a longitudinal study of interacting teams', *Journal of Organizational Behaviour*, 26: 625-648; and Schoorman, F. D., Mayer, R. C., and Davis, J. H. (1996) 'Organizational trust: philosophical perspectives and conceptual definitions. *Academy of Management Review*, 21: 337-340). However, more recent party politics research has used this model to look at party mergers (Lees, C., Hough, D. and Keith, D. (2010) 'Towards an analytical framework for party mergers – operationalising the cases of the German Left Party and Dutch GroenLinks', in *West European Politics*, Vol. 34 (forthcoming)). However there is no a priori reason for not applying the basic findings of this research to other complex decision-making processes.

²¹ Lees, Hough and Keith, (2010) 'Towards an analytical framework' Op Cit.

²² Shikano and Linhart (2010) 'Coalition formation as a result of policy and office motivations': p. 120.

²³ See Frederick, S., Loewenstein, G. And O'Donoghue, T. (2002) 'Time discounting and time preference: a critical review', in *Journal of Economic Literature* 40 (2): pp. 351-401; also Anand, S. and Sen, A. (2000) 'Human development and economic sustainability', in *World Development* 28 (12): pp. 2029-2049; Arrow, K. 'Inter-generational equity and the rate of discount in long term social investment', paper presented to the IEA World Congress (December) and available at www.econ.stanford.edu/faculty/workp/swp97005.htm

²⁴ See Solow, R. (1974) 'The economics of resources and the resources of economics', in *American Economic Review* 64 (2): pp. 1-14; also Harrod, R. (1948) *Towards a Dynamic Economics*. London: Macmillan.

²⁵ Shikano, S. and Linhart, E. (2010) 'Coalition formation as a result of policy and office motivations in the German federal states', in *Party Politics* 16 (1): pp. 111-130; see also Linhart, E. and Shikano, S. (2007) 'Die große Koalition in Österreich: schwierigkeiten bei der Bildung, Stabilität und Alternativenlosigkeit', in *Österreichische Zeitschrift für Politikwissenschaft* 36: pp. 185-200; Gianetti, D. and Sened, I. (2004) 'Party competition and coalition formation: Italy 1994-96', in *Journal of Theoretical Politics* 16: pp. 483-515..

²⁶ Sened, I. (1996) 'A model of coalition formation: theory and evidence', in *Journal of Politics* 58: pp. 350-72.

²⁷ von Neumann, J. and Morgenstern, O. (1944). *Theory of Games and Economic Behaviour* Princeton; Guildford: Princeton University Press.

²⁸ M. Leiserson, 'Factions and Coalitions in One-Party Japan: An Interpretation Based on the Theory of Games,' *American Political Science Review*, Vol. 62, No. 3 (1968), pp. 770-787.

²⁹ de Swaan, Abram. 1973: *Coalition Theories and Cabinet Formation*. Amsterdam: Elsevier.

³⁰ Debus, M. (2008) 'Office and policy payoffs in coalition governments', in *Party Politics* 14: pp. 515-38.

³¹ See Warwick, P. (2001) 'Coalition policy in parliamentary democracies; who gets how much and why?', in *Comparative Political Studies* 34: pp. 1212-36; also Budge, I. and Laver, M. (1993) 'The policy basis of government coalitions: a comparative investigation', in *British Journal of Political Science* 23: pp. 499-519; and Budge, I. and Laver, M. (1992) 'The relationship between party and coalition policy in Europe. A synthesis', in Laver, M. and Budge, I. (eds.) *Party Policy and Government Coalitions*. New York: St Martin's Press.

³² The Kommunistische Partei Deutschlands, or KPD, was banned in the Federal Republic in 1956 after a ruling by the Federal Constitutional Court.

³³ Padgett, S. 'The new German electorate', in Padgett, S. (ed.), (1993): *Parties and Party Systems in the New Germany*. Dartmouth.

³⁴ See Poguntke, T., (1993): *Alternative Politics: The German Green Party*. Edinburgh: Edinburgh University Press; also Papadakis, E. (1984): *The Green Movement in West Germany*. Croom Helm.

³⁵ Lees (2000) *The Red-Green Coalition in Germany*.

³⁶ Lees, C. (2010) 'The SPD's coalition moment?' in Policy Network's *Progressive Coalitions for a Fragmented Left* series. www.policy-network.net .

³⁷ Hough, Koß and Olsen (2007) *The Left Party in Contemporary German Politics*.

³⁸ Lees (2011) 'The paradoxical effects of decline'.

³⁹ Herfindahl, O. C. (1950) 'Concentration in the US steel industry'. Unpublished doctoral thesis. (Columbia University); Hirschman, A. O. (1964) 'The paternity of an index', in *American Economic Review* Vol. 54, No. 5 (September): 761-2.

⁴⁰ HHIs normally range from 0-1000 and the HHI increases as the number of firms in a market decreases and the disparity in their sizes increases. Conversely, HHIs approach Zero under conditions in which large numbers of firms of roughly equal size operate. To demonstrate how HHIs work in the analysis of party systems, let us look at three ideal types: (1) one-party rule; (2) a classic two-party majoritarian system; and (3) a 'pure' multi-party system, all set in a fictional legislature of 100 seats with a simple 'decision rule' (i.e. the criteria for commanding a legislative majority) of 50 per cent + one seat. Under conditions of one-party rule, the ruling party controls all 100 seats and this yields the maximum possible HHI of 1000. Multi-party systems of all kinds yield scores of less than 1 and our ideal-type two-party majoritarian system (based on the ruling party controlling 51 seats and the opposition party 49 seats, with no third parties) would yield an HHI of 500, whilst a pure multi-party system (100 parties, each holding one seat each) would yield an HHI of 1.

⁴¹ Arthur, A., (1989) 'Competing, technologies, increasing returns, and lock-in by historical events'. *Economic Journal* 97: 642-5; Mokyr, J., (1991) 'Evolutionary biology, technological change and economic history'. *Bulletin of Economic Research* 43: 127-147.

⁴² Dalton, R., McCallister, I., and Wattenberg, M., (2002) 'The consequences of partisan dealignment', in Dalton, R. and Wattenberg, M. (eds.) *Parties without partisans: electoral change in advanced industrial democracies*. Oxford: Oxford University Press; Dalton, R., (1996) *Citizen Politics: Public Opinion and Political parties in Advanced Industrial Democracies* 2nd Edition. Chatham, N.J.: Chatham House.; Müller-Rommell, F., (1984) 'Die Grünen im Licht von neuesten Ergebnissen der Wahlforschung', in Kluge, T. (ed.) *Grüne Politik*. Frankfurt: Fischer; Rönsch, H-D., (1980) 'Die Grünen: einmaliges Wahlrisiko oder soziale Bewegung?', *Gewerkschaftliche Monatshefte*, 31: 500-511.

⁴³ Hough, D., (2001) *The Fall and Rise of the PDS in Eastern Germany*. Birmingham: Birmingham University Press; Kaase, M. and Klingemann, H-D., (1994) 'The cumbersome way to partisan orientations in a 'New' Democracy: the case of the former GDR', in Jennings, M. et al (eds.) *Elections at Home and Abroad*. Ann Arbor: University of Michigan Press.

⁴⁴ Pappi, F., (1984) 'The West German Party System', *West European Politics* 7: pp. 7-26.

⁴⁵ Lees, C. (2005) 'The German Party System(s) in 2005 – a return to *Volkspartei* dominance', in Clemens, C. and Saalfeld, T. (eds.) special issue of *German Politics* on 2005 German Federal Elections, Vol. 15. No.4 (2006): 361-375.

⁴⁶ Niedermayer, O., (2006) 'Das Parteiensystem Deutschlands' in Stöss, R.; Hass, M.; and Niedermayer, O. (Hrsg.) *Die Parteiensysteme Westeuropas*. Wiesbaden: VS Verlag für Sozialwissenschaften: pp. 109-34.

⁴⁷ Rattinger, H., (2000) 'Die Bürger und ihre Parteien', in Falter, J. et al (eds.) *Wirklich ein Volk?* Opladen: Leske und Budrich; Gluchowski, P. and von Wilamowitz-Moellendorff, U., (1997) 'Sozialstrukturelle Grundlagen des Parteienwettbewerbs in der Bundesrepublik Deutschland' in Gabriel, O. et al (eds.) *Parteiendemokratie in Deutschland*. Opladen: Westdeutsche Verlag; Rohe, K., (1997) 'Entwicklung der politischen Parteien und Parteiensysteme in Deutschland bis zum Jahre 1933' in Gabriel, O. et al (eds.), *Parteiendemokratie in Deutschland*. Opladen: Westdeutsche Verlag.

⁴⁸ Lees (2011) 'The paradoxical effects of decline'.

⁴⁹ Banzhaf scores are a function of the Banzhaf power index, which is also known as the Penrose-Banzhaf index. The index is designed to measure the probability of changing an outcome when voting rights amongst actors are not equally distributed. The index counts the number of critical voters who, if they were to change their vote from 'yes' to 'no', would cause a measure to fail. This is a swing vote. The score is expressed as a fraction of all of such swing votes each actor could cast. See Banzhaf, J.F. III (1965) 'Weighted voting doesn't work: a mathematical analysis', in *Rutgers Law Review*, 19: pp. 317-43; also Penrose, L (1946) 'The elementary statistics of majority voting', in *Journal of the Royal Statistical Society* 109 (1): pp. 53-57.

⁵⁰ Hawley, C. (2009) 'Angela Merkel's 'project haze''. Spiegel Online.

⁵¹ See for instance an ARD poll for July 2010: 77 per cent feel Merkel has lost control and 62 per cent expected it to fail in the near future.

(http://www.tagesschau.de/multimedia/bilder/crbilderstrecke140_mtb-1_pos-11.html)

⁵² See <http://www.theneweconomy.com/news/international-affairs/article377.html>. Accessed 15/02/2010.

⁵³ See <http://in.reuters.com/article/idINIndia-46545420100228>