



Pieces of the puzzle? Coalition formation and tangential preferences

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ABSTRACT

The similarity of parties' policy preferences has long been considered an important determinant of whether they form a government coalition. That similarity has typically been assessed based on parties' respective locations in a policy space. The degree to which parties care about different issues may, however, also vary. Parties that care about different issues may actually be the most compatible partners, as their tangential preferences would allow them to engage in policy logrolling and enable them to preserve their distinctiveness in the eyes of voters. This analysis tests arguments regarding the role of tangentiality and its interaction with policy proximity on the party composition of governments formed in Western Europe from 1945 to 2019. The findings show that parties that emphasise the same issues are more natural coalition partners provided the ideological differences between the parties are sufficiently similar.

KEYWORDS Coalition formation; coalition government; preference compatibility; parliamentary democracies; Western Europe

Theories of coalition formation have typically emphasised how the preferences of politicians for office or policy influence which coalitions form. The implications of office-seeking theories of coalition formation primarily involve the size of the coalition; minimal winning coalitions are, e.g. expected to be more likely to form than surplus coalitions (Riker 1962). Policy-seeking theories, on the other hand, tend to suggest which parties are likely to form a coalition. In general terms, parties that are in close ideological proximity are expected to form coalitions together (Axelrod 1970; de Swaan 1973; Leiserson 1968).

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An empirical examination of policy-seeking theories has generally proceeded by considering the ideological distance of the parties in a uni-dimensional space. While a reasonable approach – as the socio-economic cleavage tends to be the most salient across a large number of countries – focusing on a single issue dimension leaves a lot unsaid. Parties seek to differentiate themselves on issue areas beyond the socio-economic left-right dimension and a significant component of any electoral campaign involves competition about pushing particular issues to the fore.

Our goal here is to examine in greater detail how policy preferences shape coalition formation, considering that parties differ in their assessment of the salience of different policy issues. When studying government composition, coalition theorists have almost exclusively considered preference compatibility in terms of ideological closeness, despite the fact that the question of which coalition forms is in some ways analogous to a jigsaw puzzle, i.e., it is easier to form coalitions whose constituent parties ‘fit together.’ As a result, the empirical literature has disregarded the fact that parties prioritising different issues may be a great fit for one another. The intensity of individual parties’ issue preferences may affect the composition of coalitions that form in parliamentary democracies, as argued by earlier work on issue salience (Budge and Keman 1990; Luebbert 1986; Strøm *et al.* 1994). More precisely, if parties rank the policy issues they care about in a diametrically opposed way – their preferences are tangential – then a simple solution to the coalition formation problem may exist: the parties simply grant each other policy-making autonomy in the issue areas they, and they alone, care about by dividing the ministerial portfolios that match those issue areas accordingly. On the one hand, tangential preferences would make portfolio allocation easier as the parties’ preferences for portfolios do not overlap and the degree of mutual satisfaction between coalition partners should also make such coalitions more durable. Looking ahead to future elections, the adoption of a ministerial government mode of coalition governance (Laver and Shepsle 1990, 1996) based on such a logrolling allocation of portfolio jurisdictions across partners would allow the leaders of coalition parties to avoid making compromises in the policy areas they care most about.

Below we consider how divergence in the policy priorities of potential partners affects the likelihood that they form a coalition government. In our analysis, we estimate the effect of tangentiality on the party composition of governments formed in Western Europe from 1945 to 2019 while controlling for the effect of other variables that have been identified as important in the literature. The effect of tangentiality is expected to be conditional on the ideological differences between the coalition partners. Our results show that, on average, tangential preferences among potential partners make their coalition *less likely*, although, in line with the log-rolling

argument developed below, we find some evidence suggesting that preference tangentiality reduces the impact of ideological differences.

Issue salience and coalition formation

Political competition is often framed in terms of competition between different ideas or policy positions. Voters are assumed to have a greater propensity to vote for parties or candidates that offer policies that match their own preferences while political parties are seen as being more likely to cooperate with – or form coalitions with – ideologically proximate parties. It has, however, long been recognised that there is more to political competition than simply adopting ideological positions. Over half a century ago, Stokes (1963) noted that skilful political leadership involved manipulating the salience of policy issues, and more recent work has shown that seeking to influence the salience of issues constitutes an important part of political campaigns.¹ According to the salience theory of party competition, parties distinguish themselves by selectively emphasising different policy issues in their communication to voters, rather than by adopting opposing positions on a similar slate of issues (Budge and Farlie 1983). In this view, parties should only be perceived as offering different policy options when they do not speak about the same issues, and they would be seen as moderating their policy stances and converging in their policy preferences when they start emphasising (and de-emphasising) the same issues (Budge *et al.* 2001).² In any case, a party's ability to choose its policy positions may be more limited than assumed in much of the literature on spatial competition, in large part because activists are likely to want to preserve the identity of the party they dedicate their time and energy to. In the short-run, parties and candidates would indeed appear to have greater flexibility in changing the salience of policy issues in their campaign communication than in outright shifts in policy positions (Petrocik 1996; Wagner 2012).

Recent empirical research on issue competition has, however, shown that there is significant issue overlap among parties. This is in part due to the fact that viable government parties feel compelled to publish a comprehensive manifesto in order to be perceived as credible decision-makers across a wide range of policy issues (Green-Pedersen and Mortensen 2015).³ On the one hand, large parties have greater resources to address more issues, and on the other hand, even when they would rather not emphasise issues that are not beneficial to them, outgoing incumbents feel forced to engage with those brought up by the opposition in order to defend their deeds in government: most, therefore, end up covering a wider array of issues in their manifestos (Van Heck 2018).

Despite this observed level of overlap in issue coverage, what is at the heart of issue competition theory is the idea that attention to various issues differs across parties. While parties have strategic motivations to cover a large spectrum of issues, their incentives are to differentiate themselves from competitors in the eyes of voters, as establishing their own distinctive brand on the market is crucial to increase or maintain their electoral appeal. A substantial literature has demonstrated how voters are indeed influenced by differing issue salience (Bélanger and Meguid 2008; Rabinowitz and Macdonald 1989), which is closely linked with the idea of ‘issue ownership’. The idea is that parties can claim ownership over issue areas through, e.g. a long-standing emphasis on, or demonstrated competence in dealing with this issue.⁴ Given that issue ownership is valuable – as it renders a party’s efforts at manipulating issue salience more effective in electoral terms – parties can be expected to guard or maintain their issue ownership. One way of doing so is, of course, to give the issue a pride of place in the party’s campaigns and rhetoric but, lest the party lose credibility, it also requires the party to take steps to fulfil its promises when an opportunity presents itself, as when it takes a seat in government. Given parties’ interest in establishing or maintaining issue ownership in the electoral market, it is, therefore, important to also assess whether the variation in issue emphases influences who gets into government.

In multi-party parliamentary democracies, no single party generally wins a legislative majority and parties need to coalesce to form a viable government. Portfolio allocation is central to that government formation process given that the control of relevant ministerial portfolios is a crucial link between party policy and government action. Furthermore, at the end of their term in office, governing parties will be held accountable by voters for their performance in delivering promises made before the election. In this regard, Bäck *et al.* (2011) show that coalition parties tend to distribute portfolios in accordance with the relative emphasis each partner dedicated to the issue areas in their election manifestos. Doing so allows them to benefit from the agenda-setting powers and resources of the portfolio holder, which is expected to improve their chances of implementing their preferred policies in the issue areas that they care the most about.

Importantly, if parties involved in government formation strategically seek out and claim the portfolios they consider the most important, it is reasonable to think that those same considerations will be on the minds of party leaders when they decide which parties to negotiate with. The standard assumption in the coalition formation literature is that parties will, on the one hand, seek to maximise the number of portfolios that they occupy and, on the other hand, seek to obtain the most favourable

policy outcome. Empirically, the latter is typically operationalised in terms of forming coalitions that are ideologically compact on the socio-economic left-right dimension. However, in their electoral manifestos, parties promote policy positions on bundles of issues that reflect the program they would enact if they were to win an outright majority in parliament and form government on their own. Coalition bargaining is therefore likely to involve compromises over parties' positions on each of those bundles of issues rather than on an all-encompassing policy dimension, making things more complicated for party leaders. In addition, a party's preference for coalition partners may be affected if the party considers some policy areas more salient than others, i.e., two ideologically similar potential coalition partners may be evaluated very differently if the party anticipates getting its preferred choice of portfolios in a coalition with one of them but expects to have to settle for less desired portfolios with the other. For example, a social democratic party choosing whether to form a coalition with an equidistant, in ideological terms, center-right party or a socialist party may find it preferable to opt for negotiating with the center-right party as the latter might be less likely to lay claim to the Social Affairs portfolio than the socialist party would be. In other words, rather than expecting to have to reach compromises over the bundles of issues found in their manifestos, parties may instead estimate each possible coalition with regard to its logrolling potential over those sets of policy issues, in which one party would give up its position on one of them in exchange of getting its way on another (Laver 1983). Indeed, unless they share exactly the same positions, each party considering participation in a coalition government generally distrusts its ability to enforce its preferred policies outside of the portfolio remits it is likely to control (Laver and Shepsle 1990; 1996; Strøm *et al.* 1994).⁵ Therefore, parties may seek coalition partners which distinct, and, thus, compatible portfolio preferences (Budge and Keman 1990).

Luebbert (1986) was the first scholar to develop the idea that issue salience could affect coalition formation through political parties seeking to form coalitions that allowed parties to lay claim to portfolios consistent with their issue emphasis. He described bargaining relationships between parties as *tangential* when parties emphasise issues that are distinct enough that differences in policy positions would not make them incompatible; *convergent* those where parties value the same policy areas and advocate similar solutions; and, finally, *divergent* those cases where parties either care for the same issues but take opposite positions or emphasise different policy priorities but take positions that make their implementation incompatible.⁶ For a coalition to form, policy compromises between parties with quite different positions would need to be made, which would be visible to party activists and voters. Alternatively, such compromises could also

be implicit, when parties would agree to disagree and put the issue on hold. Clearly then, party leaders would prefer either convergent or tangential partners to divergent partners, which would require compromises on salient issues. Interestingly, Luebbert (1986) suggested coalitions made of parties with tangential policy preferences were even more likely to form than ideologically compact ones. According to him, party leaders would be incentivized by their rank-and-file to privilege keeping their policy distinctiveness rather than giving policy influence to parties with convergent preferences, which, by virtue of sharing similar preferences, are likely to be direct competitors in the electoral arena. This led Laver and Schofield (1990) to highlight Luebbert's (1986) theory as the only policy-driven coalition theory that did not predict the ideological compactness of coalition governments.⁷

A simple way to ensure that gains from trade between partners that care about different issues are realised is to distribute ministerial portfolios according to each partner's policy priorities and to organise cabinet decision-making, as well as coalition governance, according to the principle of ministerial government (Laver and Shepsle 1990; 1996; Strøm *et al.* 1994). In a cabinet where policies are compartmentalised by area, government policy is not the product of a compromise between coalition partners in each policy area but becomes the collection of the constituent parties' ideal points in each of their jurisdictions (Falcó-Gimeno 2014).⁸ Indeed, looking at the potential effects of the tangentiality of preferences between coalition members on coalition governance mechanisms, Falcó-Gimeno (2014) finds that comprehensive coalition agreements or control of coalition partners' ministers by watchdog junior ministers are less frequent when tangentiality between partners is high. This is because policy logroll agreements when tangentiality governs the allocation of portfolios are self-enforcing, as each party happily cedes control over portfolios that it values less to partners that value them more, in exchange for the opportunity to implement its preferred policies in its portfolios (de Marchi and Laver 2020; Falcó-Gimeno 2014). Crafting and implementing costly control mechanisms to limit the potential for coalition partners' ministerial drift in such coalition cabinets can then be avoided.

Ministerial government is based on the notion that the (party of the) minister is the decisive actor within her own portfolio. When tangentiality between parties is high, allowing partners to divide portfolios according to how salient they are to each of them, each minister finds herself in the best possible position to deliver on the party's most important electoral promises without having to seek a compromise with coalition partners (which are not interested in influencing policy in areas that they do not care about). The party would then have a recognizable impact on government policy regardless of whether the coalition is ideologically compact

or not. In reality, of course, cabinet ministers are unlikely to dictate policy within their portfolio without interference from their coalition partners. However, cabinet ministers are likely to be able to take some advantage of their position – as the literature on oversight within coalition cabinets suggests – and likely more so when preference tangentiality is high as coalition partners have less incentive to engage in oversight in such circumstances. Moreover, coalition parties appear more likely to be able to claim ownership of the issue area when occupying a given portfolio. Duch and Falcó-Gimeno (2022), e.g. provide evidence that cabinets characterized by a high degree of tangentiality allow each coalition partner to preserve their distinctiveness in the eyes of voters, and, thus, facilitate responsibility attribution, by showing that the party of the finance minister is more easily singled out as responsible for the state of the economy under such an arrangement. In addition, Greene *et al.* (2021) show that, despite the disadvantages they face (Klüver and Spoon 2020), junior parties can contain the electoral costs of governing in a coalition if they control the portfolio most salient to them. Thus, to credibly claim credit for particular government policies, one's ideal coalition partner is one whose evaluations of portfolio salience are diametrically opposed to one's own evaluations (Luebbert 1986).⁹

If tangentiality guides the government formation as Luebbert (1986) maintained, the parties will fit together much as pieces of a jigsaw puzzle with each party getting the portfolios that it cares about while ceding less desirable portfolios to its coalition partner(s), thus making coalition formation easier.

Hypothesis 1: All else equal, a coalition is more likely to form if the tangentiality of the coalition partners' policy preferences is high.

But given the empirically well-established effect of ideological proximity on which parties form government (de Swaan 1973; Martin and Stevenson 2001), it seems reasonable to expect that tangentiality is unlikely to operate independently of ideological differences. The logic of logrolling depends on there being gains from trade across issue areas – parties support policies related to issues they do not care much about in order to get policy concessions on issues they do care about. Thus, ideologically similar parties have little to gain from logrolling as the allocation of portfolios has a limited impact on policy. Tangential preferences will, however, be important if the potential coalition partners have different policy preferences. As the ideological differences within a coalition increase, tangentiality creates greater opportunities for logrolling by allowing the parties to avoid compromises on issues that they care about. Thus, ideologically distant parties are unlikely to form a coalition together *unless* the tangentiality of their policy priorities is significant. In sum,

tangentiality should have no effect when the potential coalition is ideologically cohesive – any allocation of policy portfolios will result in the same policy outcome in the absence of ideological differences. Tangentiality will, however, facilitate the formation of coalitions when ideological differences are present as now differences in salience across portfolios allow for logrolling across policy issues.

Hypothesis 2a: The effect of tangentiality on the likelihood of a coalition forming increases as the ideological differences between the coalition partners increase.

While Luebbert's (1986) insight about issue salience has sometimes been associated with logrolling, it is important to note that the logic he suggested is quite distinct from the policy logrolling we discuss above. In his view, one of the parties' main concerns was to maintain a distinct identity from their coalition partners in the eyes of voters. Such a concern would loom large when the parties forming a coalition were ideologically similar, since in such circumstances it becomes important to differentiate oneself from one's coalition partners. This, the argument goes, would be achieved by being able to claim stewardship of portfolios that the party, and its voters, care about – even when there are limited policy consequences of holding the portfolio. Thus, the logrolling in Luebbert's (1986) account can be seen as largely symbolic. Moreover, Luebbert's (1986) logic suggests that the relationship between ideological differences and tangentiality is the opposite of our hypothesis 2.a: given Luebbert's (1986) assumption about the parties' concerns about the electoral costs of coalescing, tangentiality should have the largest effect in ideologically compact coalitions where the coalition partners face the greatest risk of appearing identical in the eyes of the voters.

Hypothesis 2b: The effect of tangentiality on the likelihood of a coalition forming increases as the ideological differences between the coalition partners decrease.

To recap, hypotheses 2.a and 2.b conflict with one another and, effectively, present a critical test for distinguishing between our perspective that concern about policy and opportunities for policy logrolls will shape the formation of coalitions against Luebbert's (1986) argument that the parties' concerns about maintaining a distinct identity will be paramount.

Data and methods

To examine our hypotheses, we use the Party Government in Europe Database (PAGED) that contains detailed information collected by country experts about coalition formation, governance, and termination in

thirteen Western European countries from 1944 to 2019 (Bergman *et al.* 2021; Hellström *et al.* 2021).¹⁰ We examine government formation in Western European parliamentary democracies where no single party had a majority in parliament. We model coalition formation using conditional logit models, i.e., we construct all the potential coalitions that could theoretically form in each bargaining situation using the information on the legislative representation of parties along and identify the potential coalition that formed (Martin and Stevenson 2001).¹¹

The PAGED database contains information about the party composition of all bargaining rounds. While our primary question is whether tangentiality affects which coalition forms, a similar logic ought to apply to which coalitions are seriously considered by actors involved in government formation; these are indeed the coalition formulas for which voters know that party delegations are negotiating and thus those for which there is an expectation in the media and the public that policy differences could be bridged. Thus, we also consider a model that includes all coalition formulas that were actually attempted, regardless of whether these ended up being formed.¹²

In those cases where multiple attempts are made at forming a coalition, we also consider whether the coalitions that eventually form differ in terms of tangentiality from those that were attempted but did not form. We further estimate a model on the sample of coalitions that formed following failed attempts. This model is not substantively interesting as such but serves as a baseline of comparison for the model that considers which coalition among the attempted ones formed, i.e., the question is whether the formed coalition differs more from all the potential coalitions or from those that were attempted but unsuccessful. Narrowing the analysis to those formal attempts at forming coalitions focuses on those occasions where anticipated or actual portfolio allocation is likely to have had a role in making a specific coalition formula successful or not. In other words, if differences in policy priorities were to have limited effects on which coalitions, among all potential ones, are actually tried on, they could still be influential in determining which formula ends up being successful as bargaining parties are only then in a position to claim their preferred portfolios.

It is important to note a couple of things about our expectations and limitations regarding these additional analyses. First, focusing only on formation opportunities where previous bargaining rounds have failed, restricts the sample significantly and will result in greater uncertainty in our estimates. Second, when asking which coalition formed out of those attempted, a naive version of the tangentiality argument might suggest that the most tangential coalition would be the one to form. There are, at least, a couple of reasons why we might not expect to find this result. First, if tangentiality is important, we would expect all attempted coalitions to have a high degree of tangentiality and, therefore, the variance on

our dependent variable to be very small and, hence, the standard errors to be quite large. Second, the formation attempts occur sequentially and not simultaneously, and it is easy to imagine situations where tangentiality might be observed to have the opposite effect. For example, if tangentiality is very important, the first formation attempt ought to involve the potential coalition that has the greatest tangentiality. If that formation attempt is unsuccessful for some other reason, say, because the party leaders do not get along, we would move on to the coalition with the second highest tangentiality, and so on. Thus, if tangentiality is very important and affects the order in which coalitions are attempted, the end result would be that tangentiality is estimated to have a negative effect when focusing on this subsample of potential coalitions.

Finally, our inclusion and closer inspection of failed attempts allow us to compare our results with Ecker and Meyer (2020) who showed that the formation duration of attempted coalition formulas increases when coalition partners hold policy areas similarly salient. The opportunity for policy logrolls offered by the tangentiality of preferences of coalition partners does, therefore, appear to make formation easier, or at least shorter. On the other hand, those authors found that, on its own, policy compactness does not influence formation duration, but has an expected positive effect on the likelihood of a coalition to be attempted.

For each potential coalition, we construct variables describing the key characteristics that have been shown to be important in determining which coalition forms. In addition to these characteristics of the potential coalitions, we construct two different measures of tangentiality for each of these coalitions.

First, we consider the measure originally proposed by Falcó-Gimeno (2014), which makes use of the data of the Manifesto Project (MARPOR) and Bäck *et al.*'s (2011) assignment of each MARPOR category to one of thirteen policy jurisdictions that correspond to portfolios commonly found in most countries.¹³ The measure is created by calculating, for each portfolio policy jurisdiction, the standard deviation of the salience scores of the parties in each potential coalition and then taking the average of the standard deviations across all the issue bundles:

$$T = \frac{\sum_{i \in I} \sqrt{\frac{\sum_{p \in PC} (s_{pi} - \bar{s}_{i,PC})^2}{|PC|}}}{|I|}, \quad (1)$$

where I is the set of issue dimensions, PC is the set of parties belonging to a particular potential coalition, s_{pi} is party p 's salience score on issue bundle i , and $\bar{s}_{i,PC}$ denotes the average salience score of the parties in the

potential coalition PC on issue bundle i . T thus takes a large value when the parties assign different importance to the different issue dimensions. This is when the preferences of the coalition members should be more compatible, opening the door to mutually beneficial policy log-rolls.

Second, we consider another version of this measure that weighs each issue dimension by the average salience the members of the potential coalition attach to that issue dimension. That is, the salience of a bundle of policy issues that the members of a three-party coalition assign salience scores 8, 9, and 10 would be expected to have a bigger impact on coalition formation than another policy jurisdiction that they assign the scores 2, 3, and 4 to. The standard deviation of the salience scores is the same on both issue dimensions but the mean salience is different – and differences in salience across coalition partners are expected to matter less when the parties do not assign a high degree of salience to the issue dimension.

$$T_w = \frac{\sum_{i \in I} w_{i,PC} \sqrt{\frac{\sum_{p \in PC} (S_{pi} - \bar{S}_{i,PC})^2}{|PC|}}}{|I|}, \quad (2)$$

$$\text{where } w_{i,PC} = \frac{\sum_{p \in PC} S_{pi}}{\sum_{p \in PC} \sum_{i \in I} S_{pi}}$$

Note that, given how crucial portfolio allocation is to coalition formation, both theoretically and practically for party leaders considering government participation, our test assumes that the tangentiality of the parties' policy preferences can be captured by the tangentiality of their ministerial portfolios. Ministerial portfolio policy remits however often encompass a large number of issue categories from the MARPOR scheme. It is possible that the aggregation of MARPOR categories into portfolios obscures tangentiality that occurs at a lower level of aggregation.¹⁴ Nonetheless, as Green-Pedersen (2019, 27) puts it, '...political parties, tend to position themselves similarly on all policy problems relating to a policy issue. A left-wing party would favour public solutions to all health-related problems'. This is likely to apply to most of the policy issues traditionally bundled together in ministerial portfolios.

We control for a range of variables familiar from the literature on coalition formation. *Incumbent Cabinet*, *Incumbent Party*, and *Incumbent PM* are indicator variables for whether the potential coalition, respectively, is the same as the incumbent government coalition, contains an incumbent party,

or the incumbent Prime Minister party. *Largest Party* indicates whether the potential coalition contains the largest party in the legislature. *Seat Share* and *Seat Share*² control for the size of the coalition, i.e., the share of seats in the legislature controlled by the parties in the potential coalition. We include the quadratic term as we expect size to affect the likelihood of coalition forming in a curvilinear fashion, i.e., coalitions that control very few seats and coalitions that control almost all the seats in the legislature are unlikely to form. Controls for the ‘type’ of potential coalition are also included: the baseline category is a surplus coalition and two indicator variables, *Minority* and *MWC*, are included for potential coalitions that are, respectively, minority governments and minimal winning coalitions. *No. Parties* controls for the number of parties in the potential coalition. Finally, two measures of the ideological composition of the coalition are included in our models. *Ideological Range* measures the distance between the leftmost and rightmost party of the potential coalition on the left-right dimension, and *Median Party* identifies whether the coalition includes the party of the median legislator, based on the MARPOR rile (left-right) index.

Results

Table 1 reports the results of the conditional logit estimation of the effect of salience compatibility on coalition formation, using the weighted and unweighted versions of the tangentiality measure. In line with the standard approach in the literature, our first two models estimate the effects of the covariates in predicting the coalition that formed in each coalition opportunity. Models 3 and 4 add the failed formation attempts to the formation opportunities analysed in the first two models. Models 5 and 6 then restrict the analysis to the comparison of the coalition that eventually formed with previous and therefore failed, attempts at forming a coalition in the same formation opportunity. The final two models, as discussed above, serve as a baseline of comparisons for models 5 and 6.

The results in Table 1 suggest that parties are more likely to form coalitions with partners that consider the same issues salient. For ease of comparison, the coefficients for tangentiality (both weighted and unweighted) are shown in Figure 1. Contrary to the expectations set in hypothesis 1, then, greater tangentiality *reduces* the probability that a potential coalition forms. Coalitions that are ideologically compact remain more likely to form when we control for the effect of tangentiality. This finding is consistent across all models, except when we consider which coalitions form among those attempted, but the estimated coefficients are then not statistically significant at conventional levels. As we argued above, that is not surprising given the restricted number of potential coalitions included in these models.

Table 1. Coalition formation and preference compatibility (conditional logit).

	Formed		Attempted		Formed among attempted		Formed when failed	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Tangentiality (unweighted)	-0.29*** (0.064)		-0.28*** (0.056)		0.049 (0.41)		-0.44*** (0.11)	
Tangentiality (weighted)		-0.12*** (0.032)		-0.12*** (0.028)		0.048 (0.20)		-0.19*** (0.053)
Ideol. Range	-0.021*** (0.0057)	-0.023*** (0.0058)	-0.018*** (0.0054)	-0.019*** (0.0055)	0.034 (0.035)	0.033 (0.030)	-0.018 (0.011)	-0.019* (0.011)
Largest Party	0.28 (0.21)	0.30 (0.21)	0.20 (0.19)	0.22 (0.19)	-0.41 (0.75)	-0.42 (0.72)	-0.11 (0.40)	-0.078 (0.40)
Ind. Incumb.	-0.96*** (0.29)	-0.98*** (0.29)	-0.73*** (0.24)	-0.75*** (0.24)	0.28 (1.26)	0.28 (1.10)	-0.23 (0.49)	-0.30 (0.48)
Ind. Incumb. PM	0.19 (0.24)	0.18 (0.24)	0.27 (0.19)	0.27 (0.19)	-0.46 (0.91)	-0.46 (0.81)	0.036 (0.39)	0.051 (0.38)
Seat Share	0.21*** (0.028)	0.21*** (0.028)	0.13*** (0.019)	0.13*** (0.019)	0.46** (0.18)	0.46** (0.18)	0.23*** (0.055)	0.23*** (0.055)
Seat Share ² /100	-0.16*** (0.022)	-0.16*** (0.022)	-0.072*** (0.014)	-0.072*** (0.014)	-0.32*** (0.13)	-0.32*** (0.12)	-0.15*** (0.043)	-0.15*** (0.042)
Inc. Cabinet	2.32*** (0.20)	2.33*** (0.20)	2.03*** (0.18)	2.03*** (0.18)	0.0075 (0.70)	0.032 (0.69)	0.73 (0.50)	0.75 (0.50)
Minority	-0.63* (0.33)	-0.60* (0.33)	0.17 (0.28)	0.20 (0.28)	1.22 (1.82)	1.26 (1.73)	-0.58 (0.54)	-0.55 (0.54)
Minimal Winning Coalition	0.83*** (0.22)	0.83*** (0.22)	1.31*** (0.19)	1.33*** (0.19)	0.10 (0.92)	0.093 (0.91)	0.35 (0.38)	0.36 (0.38)
Single-Party	0.099 (0.37)	0.41 (0.34)	0.57 (0.35)	0.88*** (0.32)	3.18** (1.36)	3.22** (1.33)	-0.11 (0.65)	0.37 (0.59)
No. Parties	-0.56*** (0.13)	-0.62*** (0.13)	-0.13 (0.11)	-0.17 (0.11)	-2.29*** (0.68)	-2.28*** (0.71)	-0.78*** (0.25)	-0.86*** (0.25)
Median Party	-0.14 (0.17)	-0.14 (0.17)	0.056 (0.14)	0.054 (0.15)	1.10 (0.90)	1.08 (0.82)	-0.29 (0.28)	-0.29 (0.28)
No. Potential Gov.	48698	48698	72448	72448	191	191	18379	18379
No. Form. Opp.	286	286	286	286	77	77	77	77
Log Likelihood	-767.6	-770.5	-1302.1	-1305.3	-313	-313	-267.3	-269.1

With regard to the other independent variables in our model, the results are largely in line with well-established findings in the literature and we therefore spare the reader an extensive discussion of these familiar results.

In [Table 2](#) we further explore the role of tangentiality on government formation to examine the two conflicting hypotheses about how the similarity of the parties' ideological preferences conditions the effect of salience compatibility. Thus, the measures of tangentiality are interacted with the ideological range of the coalitions. Models 1-2 consider the full sample of formation attempts, while models 3 and 4 focus on post-election formations only.¹⁵

The marginal effects of tangentiality and ideological range are graphed in [Figure 2](#). It is clear from the left panel that ideological differences condition the effect of tangentiality. However, the effect of tangentiality is only statistically significant when the ideological differences are small to moderate. Amongst ideologically homogeneous potential coalitions, counter to both Luebbert's (1986) and hypothesis 2.b, those that display a greater level of tangentiality would be less likely to form. However, this negative effect of tangentiality declines as ideological differences within the coalition become larger. Thus, the results are more supportive of our argument focusing on the importance of policy and policy logrolls (hypothesis 2.a). In turn, the right panel in [Figure 2](#) clearly shows that

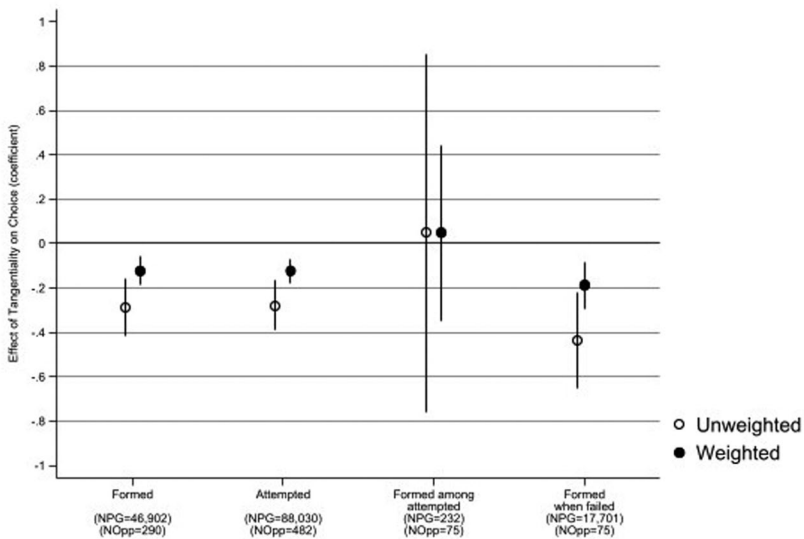


Figure 1. Effect of tangentiality on government formations and attempted formations (95% CI).

Note: Estimates from models 1–8 in [Table 1](#).

Table 2. Coalition formation and preference compatibility (conditional logit – interaction models).

	All formations		Postelection formations	
	(1)	(2)	(3)	(4)
Tangentiality (unweighted)	-0.38*** (0.088)		-0.33*** (0.12)	
Tangentiality (weighted)		-0.18*** (0.046)		-0.17*** (0.064)
Ideol. Range	-0.037*** (0.012)	-0.036*** (0.010)	-0.035*** (0.016)	-0.040*** (0.013)
Tangentiality (unweighted) x Ideol. Range	0.0030 (0.0021)		0.0022 (0.0029)	
Tangentiality (weighted) x Ideol. Range		0.0016* (0.00099)		0.0018 (0.0013)
Largest Party	0.28 (0.21)	0.30 (0.21)	-0.045 (0.29)	-0.035 (0.29)
Incl. Incumb. Party	-0.96*** (0.29)	-0.98*** (0.29)	-1.07*** (0.36)	-1.08*** (0.36)
Incl. Incumb. PM	0.19 (0.24)	0.18 (0.24)	-0.086 (0.33)	-0.10 (0.33)
Seat Share	0.21*** (0.028)	0.21*** (0.028)	0.24*** (0.040)	0.24*** (0.040)
Seat Share ² /100	-0.16*** (0.022)	-0.15*** (0.022)	-0.17*** (0.030)	-0.17*** (0.030)
Inc. Cabinet	2.34*** (0.20)	2.34*** (0.20)	2.37*** (0.26)	2.38*** (0.26)
Minority	-0.64* (0.33)	-0.61* (0.33)	-0.71 (0.50)	-0.69 (0.50)
Minimal Winning Coalition	0.82*** (0.23)	0.83*** (0.22)	1.06*** (0.31)	1.08*** (0.31)
Single-Party	-0.32 (0.45)	0.059 (0.40)	0.096 (0.57)	0.30 (0.49)
No. Parties	-0.56*** (0.13)	-0.60*** (0.13)	-0.81*** (0.18)	-0.85*** (0.18)
Median Party	-0.16 (0.16)	-0.15 (0.17)	-0.074 (0.23)	-0.084 (0.23)
No. Potential Gov.	48698	48698	27077	27077
No. Form. Opp.	286	286	171	171
Log Likelihood	-766.5	-769.2	-415.4	-415.9

an increase in ideological differences is an impediment to the formation of coalitions composed of parties that care about the same issues (i.e., tangentiality is low). As tangentiality increases, however, that well-documented negative effect of ideological distance declines and, eventually, becomes statistically insignificant.¹⁶ This could be suggestive of a greasing effect of tangentiality for the less policy compact coalitions.

While the results indicate that the importance of tangentiality follows a logic that resembles our focus on concern about policy outcomes – as opposed to Luebbert's (1986) emphasis on party identity – we are, nevertheless, left with a puzzle. That is, while the interaction between ideological differences and tangentiality can be understood in the light of our theoretical argument, we do find, on the whole, that parties appear to seek out

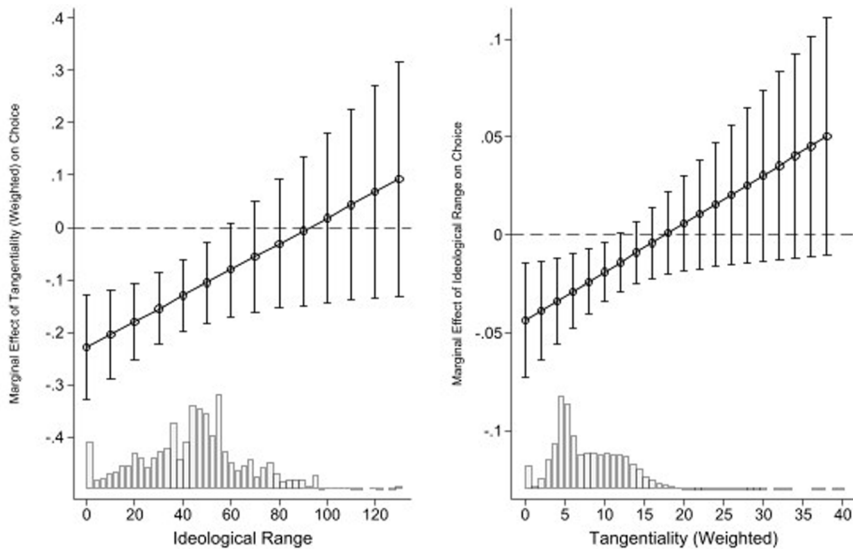


Figure 2. Conditional marginal effects of tangentiality and ideological range—weighted tangentiality (95% CI).

Note: Estimates from model 1 in Table 2.

coalition partners that consider the same issues salient and show little or no interest in coalition partners which they could ‘trade issues with.’

Conclusion

While the vast literature on coalition formation emphasising the policy-seeking motivations of parties has tended to focus on their ideological proximity, Luebbert’s (1986) classification of bargaining relationships among parties according to their rankings of policy priorities introduced another potential factor influencing which of them end up forming a government. Even though the notion of tangentiality of preferences has received renewed attention in recent years, there have not been any studies systematically examining whether this characteristic affects coalition formation.

Our findings indicate that tangentiality directly influences the formation of coalitions, but its effect is the opposite of the one we expected: coalitions that score high in terms of tangentiality are *less likely, and not more likely, to form*. This is an important result, as it suggests that prior work that has operated on the assumption that greater tangentiality – by making bargaining over policy among parties easier whilst helping each of the coalition partners keep their distinct identity – would favour the formation of a specific coalition may need to be revisited. Thus, rethinking the role of tangentiality in coalition government, whether regarding

coalition formation or other aspects of coalition governance, is an important part of our research agenda. While we have not explored it here, it is not unreasonable to think that parties may resolve the trade-off between maintaining their distinct identity and forming an ideologically compact coalition in different ways in different contexts. We hope to explore this in future work. Second, our results point to a trade-off between tangentiality and ideological compactness: while a high degree of tangentiality does reduce the likelihood of a coalition forming, we do find that this negative effect becomes smaller as the ideological range of the coalition increases. In addition, we found that tangentiality seems to reduce the negative effect of ideological distance on coalition formation, suggesting that tangential preferences can somehow compensate for the lack of agreement in terms of positions when parties are considering potential partners to form a coalition with.

Our results on the conditional effects of ideological compactness and tangentiality are essentially in line with Klüver and Bäck (2019), who found that the effect of ideological conflict on the drafting of coalition agreements is weaker if the preferences of the coalition parties are tangential, but do not seem to match those of previous empirical work (Ecker and Meyer 2020; Falcó-Gimeno 2014) when it comes to the direct effects of tangentiality. However, finding that tangentiality runs counter to the logic of logrolling when trying to predict which coalitions form out of all potential combinations of parties is not necessarily incompatible with its influence on the need to establish coalition control mechanisms, or on how easy or difficult it is to hammer out a coalition agreement among a small subset of parties. There is indeed a crucial difference between what drives the choice of partners and what determines the content of the agreement or how they will control each other. For instance, the fact that more interests are shared may require more time to write down the specific details of the policies agreed upon (instead of agreeing to disagree). It is also likely to increase parties' incentives to allocate junior ministers in salient jurisdictions controlled by a partner (Greene and Jensen 2016),¹⁷ even if the latter is overall preferred to any other potential partner that would not care about the same issues. In addition, Green-Pedersen *et al.* (2018) showed that the impact of prime minister parties on their government's declared policy program is lower when there is less overlap in policy priorities with its coalition partners. In other words, when tangentiality between coalition parties is higher, the dominance of the PM party over the government is reduced. For this reason, and even though increases in parliamentary fragmentation may have constrained them to form broader coalitions in recent decades, formateurs parties would therefore have an incentive to choose partners that display an array of policy priorities as similar to theirs as possible.

Finally, we can suggest possible explanations for the negative effects of tangential preferences for the formation of coalition governments that we plan to examine in future work. First, coalitions face a variety of constraints when it comes to making and implementing policy, of which time and budgetary ones are possibly among the most important. During government formation, coalition parties must prioritise the policies they will implement collectively as a government because their time in office and the resources at their disposal are limited. Hence, party leaders may privilege partners with overlapping policy preferences because those issues that are salient to all coalition parties are simply more likely to be implemented by the government (especially if the ideological conflict between partners is also small), whilst those that are not can easily be left on the side. In the same spirit, allowing individual parties with different spending preferences free rein within their portfolios may not be feasible given the constraints imposed by the budget, leaving coalitions of like-minded partners broadly agreeing on spending priorities the most likely outcome.¹⁸

Second, one reason why we see that formed governments are less tangential could be that parties that have an interest in forming a coalition together strategically adjust their program before the election to talk about the issues their future partners care about, even if they do not sincerely care about them. Green-Pedersen (2019) has indeed shown that in order to present voters with a cohesive government alternative, mainstream parties tend to adjust their election program and mention issues that parties that share the same left-right positions (their likely partners belonging to the same ideological bloc) find salient. As a result of such strategic considerations, the coalitions that are most likely to form based on ideological closeness would systematically exhibit lower levels of tangentiality. In the same vein, party leaders may think citizens do not view policy log-rolls in a positive way as they would tend to lead to coalitions of strange bedfellows. Fortunato and Stevenson (2013) have shown that when parties enter government coalitions, the ideological distance between these partners is reduced in the minds of voters. Despite their preferred party having 'won' office, this may lead some voters to abandon it at the next election, as compromising with ideologically distant parties may be seen as a failure in defending these voters' interests. Singh and Thornton (2016), for example, show that voters of parties that form ideologically heterogeneous coalitions display negative perceptions of democratic performance on par with those of those who voted for opposition parties. As a result, despite an ability to deliver on policy promises in areas that are salient for their constituent parties and their voters, coalitions made of parties with tangential preferences may only rarely come about because party leaders anticipate that they will carry the negative image of policy incoherence and compromises that their supporters would find distasteful or signs of weak leadership.

Notes

1. See e.g. Dragu and Fan (2016) for a formal treatment of electoral competition where parties can influence the salience of different issue dimensions.
2. An important implication of salience theory for the present research is that it considers two parties addressing the same set of policy issues with the same level of attention to each of them in their manifesto as being in full agreement with each other. Parties would be seen as very different from each other if they covered completely different sets of issues in their campaign platforms – and moderately distant if they discussed the same issues but with different levels of attention.
3. See Tresch *et al.* (2018) for a comparison of manifesto data and press releases published by parties in this regard. They find that a party's manifesto reflects its ideal government program, and as such understandably contains policy proposals on a very large set of issues, including those that competing parties give a lot of attention to. Press releases tend to be less constrained and more focused on the issues owned by the party itself.
4. Note that following Budge and Farlie (1983), Seeberg (2020) recently showed that issue ownership in the eyes of voters is also related to policy positions: the party that shares the position of the median voter on an issue is more likely to be considered by voters as the one they prefer to handle the issue in question. Parties however add credibility to their position on an issue by making the latter more salient in their manifesto.
5. Note, however, that the argument does not require portfolio dictators of the form assumed in Laver and Shepsle (1996). Instead, it would be sufficient for the holder of the portfolio to gain some advantage in policy-making or implementation, which is a reasonable assumption given the wealth of literature demonstrating how coalitions constrain and monitor cabinet ministers (Bowler *et al.* 2016; Indridason and Kristinsson 2013; Martin and Vanberg 2014; Thies 2001). Alternatively, the ability to claim credit for policies may be enhanced by occupying a given portfolio.
6. As noted by one of our reviewers, the latter definition is very unhelpful as it conflates the potential effects of issue position divergence and salience divergence.
7. The logic of Luebbert's argument has also been explored formally by Demirkaya and Schofield (2015).
8. Note that Volden and Carrubba (2004) referred to a policy logrolling logic to predict the occurrence of oversized coalitions. Their theory, however, concentrates on legislative logrolls to pass bills and does not allow for pre-commitment to particular policy outcomes. As a result, each bill is voted on independently and parties that have had their policy preferences satisfied early in the term have an incentive to defect from the legislative coalition. In anticipation of such opportunistic behaviour, formateurs will form oversized coalitions, as opposed to minimum winning coalitions, to avoid defections leading to premature government dissolution and the end of the policy logroll. We instead focus on the structure-induced equilibria suggested by Laver and Shepsle (1990, 1996) that allow stable coalitions to form in multidimensional policy spaces by providing discretion to ministers within their policy jurisdiction. The portfolio allocation stage of the coalition formation then provides a credible commitment to the envisaged policy logroll.

9. The underlying logic here is closely related to the studies of O'Leary *et al.* (2005) and Ecker *et al.* (2015), where the allocation of portfolios is seen as a sequential process in which the parties take turns picking portfolios. Parties with different rankings of preferred portfolios are more likely to be satisfied with the outcome of portfolio allocation as each of them will concentrate on its own preferences rather than claim one of the ministerial jurisdictions the others hold dear. Although spelling out a specific sequential method of portfolio allocation could make our analysis more realistic, it would also make it computationally extremely complex as government formation in fragmented party systems implies the consideration of thousands of potential coalitions. We also refrain from assuming that one allocation method, in particular, was in place across the board as in-depth studies show that several procedures have been used in our sample of countries over the long period analysed. In addition, neither of these works considers the possibility that the coalition parties pick portfolios strategically. The sequential selection of portfolios resembles draft processes such as those used by some sports leagues. Brams and Straffin (1979), however, show that processes of sequential selection are not guaranteed to yield a Pareto optimal solution.
10. The countries are Austria, Belgium, Denmark, Finland, Germany, Greece, Iceland, Ireland, Italy, the Netherlands, Norway, Portugal, and Sweden. We exclude Spain and the United Kingdom, which are included in the PAGED dataset, due to the preponderance of single-party majority coalitions. We also remove caretaker cabinets from our analysis as well as cabinets that formed as a result of pre-electoral coalitions, which in most cases had joint programs, and governments formed in Belgium after the first split of unitary parties along linguistic lines.
11. Estimating conditional logit models requires the full set of covariates to be available for all parties. This creates some challenges as ideological positions are not available for some of the parties represented in the legislature. Dropping all coalition formation opportunities where some information is missing would reduce the number of observations by a significant amount. To avoid losing too many observations, we drop all parties (i) that won less than 5% of the seats in the legislature, (ii) were missing data on ideological position, and (iii) were not members of the government that formed as these parties are unlikely to have played a significant role in the coalition formation process. If, after dropping these parties, there is still information missing for some of the covariates for some of the remaining parties, then we remove the formation opportunity from our analysis. This leaves us with 286 coalition formation opportunities and a total of 48,698 potential coalitions.
12. We model this by considering each bargaining attempt involving a different party composition to be a separate 'formation opportunity'. It bears noting that the sequence of formation attempts within a formation opportunity is not independent, i.e., a new formation opportunity only occurs if the previous one failed. Our model does not account for this interdependency as it is difficult to imagine conditions under which it would make a significant difference. It is worth keeping in mind that including failed attempts will likely give more weight to complex bargaining situations. On the other hand, restricting our observations to the successful outcomes when previous attempts failed could obscure the hypothesised relationship if the gov-

ernments that eventually emerged were the product of idiosyncratic aspects of failure-ridden processes. In this regard, including the coalition formulas that were considered as the most feasible and/or desirable helps account for the potential bias that results from focusing only on successful formation attempts.

13. The portfolio jurisdictions are Foreign Affairs, Interior, Justice, Finance, Economy, Defence, Labour, Education, Health, Agriculture, Environment, Social Affairs and Industry; see [Table A1](#) in [Appendix A](#) for the MARPOR categories attached to each of these portfolios.
14. Note in this regard that Mölder (2017) showed that the similarity in emphasis across all single MARPOR categories between parties predicted coalition composition better than alternative aggregated measures of ideological distance.
15. The role of the tangentiality of preferences is likely to be greater in post-electoral formations than in inter-election changes of government, as our main variable of interest is inferred from a comparison of manifestos drafted ahead of general elections and because the party composition of inter-election cabinets tends to owe in large part to the reasons why the previous cabinet ended but no elections ensued. Since we here replicate only models 1 and 2 of the preceding analysis adding the interaction term, this additional analysis on the subset of post-election formations allows us to check whether this expectation is verified or not.
16. Note however that the set of potential coalitions for which this level of tangentiality can be found is fairly small.
17. These authors find that ‘watchdog’ junior ministers are not only coalition maintenance mechanisms established when ideological differences between coalition parties are greater but also follow the salience the parties attach to the issues under the portfolios’ remit.
18. See also Volden and Carrubba (2004); van der Rijt (2008) for a similar argument on the budgetary constraints over policy logrolls, reminding us that government policy is an integrated whole rather than the sum of independent, separated issues. Note that the size of the budget is, of course, endogenous to the problem of coalition policy. However, the presence of a budget, at minimum, implies that there is no such thing as ‘perfect tangentiality’. Even if a party does not care about a particular policy area, it is likely to care about the cost of whatever policies are implemented.

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Appendix A

Table A1. Attachment of MARPOR categories to ministerial portfolios.

Type of portfolio	Attached MARPOR category
Foreign	per101: Foreign Special Relationships: Positive per102: Foreign Special Relationships: Negative per103: Anti-imperialism per106: Peace per107: Internationalism: Positive per108: European Community: Positive per109: Internationalism: Negative per110: European Community: Negative
Defence	per104: Military: Positive per105: Military: Negative
Interior	per201: Freedom and Human Rights per202: Democracy per203: Constitutionalism: Positive per204: Constitutionalism: Negative per301: Decentralisation per302: Centralisation per303: Governmental and Administrative Efficiency per304: Political Corruption per605: Law and Order per607: Multiculturalism: Positive per608: Multiculturalism: Negative
Justice	per201: Freedom and Human Rights per202: Democracy per203: Constitutionalism: Positive per204: Constitutionalism: Negative per303: Governmental and Administrative Efficiency per304: Political Corruption per605: Law and Order
Finance	per402: Incentives per414: Economic Orthodoxy
Economy	per401: Free Enterprise per403: Market Regulation per404: Economic Planning per405: Corporatism per406: Protectionism: Positive per407: Protectionism: Negative per408: Economic Goals per409: Keynesian Demand Management per410: Productivity per412: Controlled Economy per413: Nationalisation per415: Marxist Analysis
Labour	per504: Welfare State Expansion per505: Welfare State Limitation per701: Labour Groups: Positive per702: Labour Groups: Negative
Education	per506: Education Expansion per507: Education Limitation
Health	per504: Welfare State Expansion per505: Welfare State Limitation per706: Non-economic Demographic Groups
Agriculture Environment	per703: Agriculture and Farmers per416: Anti-growth Economy per501: Environmental Protection

(Continued)

Table A1. Continued.

Type of portfolio	Attached MARPOR category
Social Affairs	per503: Social Justice per603: Traditional Morality: Positive per604: Traditional Morality: Negative per606: Social Harmony per705: Underprivileged Minority Groups per706: Non-economic Demographic Groups
Industry	per401: Free Enterprise per402: Incentives per403: Market Regulation per404: Economic Planning per405: Corporatism per406: Protectionism: Positive per407: Protectionism: Negative per408: Economic Goals per409: Keynesian Demand Management per410: Productivity per412: Controlled Economy per413: Nationalisation per414: Economic Orthodoxy