WHY INDEPENDENCE? TRENDS, CAUSES AND EFFECTS OF SECESSIONIST PARTIES' DISCOURSE

By

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Abstract

Recent decades have witnessed a surge of secessionist politics in multinational democracies, political parties being the main actors in fuelling pro-independence demands. Although the academic literature has started to study party strategies and discourse in a multidimensional political space, limited attention has been given to how secessionist parties make their case for constitutional change – and the causes and consequences of their choices. This thesis identifies an increasing trend towards the articulation of socioeconomic arguments for constitutional change cross-case (Belgium, Canada, Spain, and the UK) and over time (1990-2020), particularly when parties are in office. Constitutional change is increasingly presented as means of improving people's lives rather than as an end in itself. Despite this clear trend suggesting parties find this rhetoric useful to boost public support for independence, the results of experimental surveys show that party frames do not seem to influence public opinion. Instead, pre-existing beliefs and national identity largely explain constitutional preferences. These findings suggest that secessionist parties might trade office-seeking goals over policy when choosing their campaigns. By presenting independence as a means of achieving better standards of living, secessionist parties likely aim to increase their electoral appeal and to enhance their reputation as competent ruling parties vis-à-vis their state-wide competitors.

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Introduction

In a series of lectures given in 1985, the world-renowned British historian Eric Hobsbawm argued that nations and nationalisms were outdated phenomena, defeated by the ideas of liberalism, cosmopolitanism and "the new supranational restructuring of the globe" (Hobsbawm 1990, p.181). By the end of the 1980s, the struggles for decolonisation had virtually finished, and the times of fascism and extreme state nationalism of the interwar period were long gone. Furthermore, most sub-state nationalisms in Western countries were fully democratic and engaged in supra-state integration and multilevel governance. Therefore, Hobsbawm's remarks were perfectly reasonable when, quoting Hegel, he said that the owl of Minerva was circling round nations and nationalisms – signalling their decline (Hobsbawm 1990, p.183).

However, just after Hobsbawm's lectures were published in 1990, the USSR collapsed and multiple nationalist movements filled the ideological void left by Soviet socialism. Up to 15 new states came into being in 1991, preceding the dissolution of Yugoslavia and a fierce nationalist war waged along ethnic lines. The former communist world, however, was not the only territory where nationalism was reigning again. No fewer than 31 new countries have been recognised by the United Nations since 1990, and multiple nationalist movements have either appeared or reignited on the world stage. The number of active secessionist movements in 2011 was 55, an annual number equivalent to the era of decolonisation and more than double the interwar period (Griffiths 2016, p.51). Even in the Western world, where identities were expected to be subordinated to other political considerations, nationalism and secession have been at the forefront of day-to-day politics in many – if not most – multinational states.

In the past 30 years, Belgium, Canada, Spain, and the UK – the countries and the timeframe covered by this PhD thesis – have faced strong secessionist challenges, including independence referendums in Quebec (1995), Scotland (2014), and Catalonia (2017). The Basque Country also tried but failed to achieve a sovereignty agreement with Spain in the early 2000s amidst ETA's political violence. Beyond these secessionist attempts, other forms of minority nationalism have changed the constitutional landscape of these countries, particularly with the full federalisation of

Belgium due to Flemish nationalism's demands (1993) and the devolution settlements put in place in Scotland and Wales in 1998. These dynamics demonstrate the importance of studying secessionist movements in multinational countries, as these phenomena challenge the stability and the very existence of established states, with broader political and socioeconomic implications for citizens, businesses, and other states and international organisations.

This doctoral thesis focuses on the main actors fuelling these secessionist dynamics: the pro-independence sub-group of Stateless Nationalist and Regionalist Parties (SNRPs). Although we should not underestimate the importance of social movements, NGOs or the media, political parties are central to territorial politics in Western democracies (Alonso 2012; Barrio and Rodrí-guez-Teruel 2017; Dardanelli 2017). All these actors can shape public opinion and galvanise grassroots activists. However, unlike NGOs or the media, political parties also have the capacity to win elections and implement policy programmes, including programmes for change of constitutional status. The political strategies parties employ to achieve this two-fold goal – winning elections and convincing people of the policies they propose – revolve around discourse, namely, "a mass process of public persuasion" (Schmidt 2008, p.310) aimed at legitimising political ideas among the public.

This thesis studies the way secessionist parties make their case for constitutional change, the conditions explaining why parties choose some frames over others, and the effects of this discourse on people's attitudes towards secession. The dissertation is a collection of three research articles, each of them covering one of the items outlined above: the description and analysis of party discourse – first article –, an analysis of its causes – second article – and an exploration of its consequences – third article. The next section introduces the topic of secessionist movements and multinational states and places this thesis in relation to the wider literature on territorial party politics. Section Two outlines the main contributions of the articles, and Section Three discusses the research and policy implications of these findings. Finally, Section Four concludes this introduction and identifies avenues for future research.

1. Secessionist politics and democratic multinational states: an overview

The phenomenon of minority nationalism in plural societies

Governing modern states is increasingly difficult due to the rise of a complex multi-level governance network involving other states, multinational companies, organised interests, and international organisations (Peters and Pierre 2006; Lodge and Wegrich 2014). The problem-solving capacity of states is not as clear as 75 years ago, in the aftermath of World War II. Some authors even speak about the "hollowing out" of the state through its re-scaling of powers upwards, downwards, and sideways (Jessop 2013). This reality is shared by most Western democracies, which are trying to effectively manage the challenges and opportunities of these transformations. However, ethnic and culturally diverse countries are also dealing with an additional challenge from below: the sub-state nationalist mobilisation by peoples claiming their right to self-determination (Bossacoma 2020).

Unlike those countries that are composed of a single nation, in multinational states two or more self-aware national groups coexist within a single polity (Keating 2001; Dieckhoff 2016). Usually – albeit with exceptions, such as the Belgian case[1] –, a majority group dominates the central institutions and is concerned with the territorial integrity of the state with which it so strongly identifies (Coakley 2011). The minority group or groups, however, advocate for the promotion of their own identity and seek to achieve or enhance their self-government to freely pursue their cultural, economic, and political goals. Therefore, the relationship between the majority and minority communities is often problematic: while the former attempts to foster a sense of loyalty towards the state as the embodiment of a shared identity, minority nationalists resist assimilation and actively pursue an alternative national project (Norman 2006; Basta 2021). As with other form of nationalism, they attempt to promote the unity, autonomy, and identity of the nation they claim to represent (Smith 1991, p.73).

The demands minority nationalists put forward to achieve their goals range from obtaining some sort of cultural autonomy to outright independence (Dandoy 2010; Massetti and Schakel 2016). Secession or independence is understood as "a process of withdrawal of a territory and its population from an existing state and the creation of a new state on that territory"(Pavkovic and Radan 2007, p.1). While any form of territorial contestation might be a source of political conflict, secession is highly problematic because implies the break-up of the multinational country. Secessionist

[1] Flemish people make up the majority of Belgians, but Flemish nationalists claim that the state is dominated by a French-speaking elite.

politics in Western democracies have been a source of democratic instability in many countries such as those covered by this thesis, namely, Belgium, Canada, Spain, and the UK. Independence referendums have taken place in three of these four countries, threatening the very existence of the multinational polity. In Belgium, tense communal relations have caused severe political deadlock, bringing the country to the brink of collapse. Moreover, far from being a once-in-a-generation issue, the constitutional debate seems to be a permanent feature of multinational states. As the Spanish philosopher Ortega y Gasset stated about Catalan nationalism, the territorial dispute "cannot be solved, it can only be borne"[2].

As a result, minority nationalist movements adapt their strategies to changing contexts such as the varying nature of the devolved settlements or the degree of national recognition by the centre (Lecours 2021; Basta 2021). This is particularly true for secessionism, as it is the most radical form of sub-state nationalist mobilisation. Secession involves choosing one identity over others, is associated with many costs – specially of an economic nature – and is an unprecedented phenomenon in Western countries: there is not a single case of a successful independence among advanced democracies in the current international order (Lecours 2021, p.16). Facing these difficulties and the state's counter-secessionist strategies, secessionists need to put forward powerful political campaigns to achieve their goals. Hence, the way secessionist movements make their case for independence is highly consequential for them in their competition with state-wide actors for the hearts and minds of the citizens they both target.

Stateless Nationalist and Regionalist Parties: strategy and discourse

The existence of SNRPs as a distinct party family is widely accepted in the literature (Gomez-Reino, De Winter and Lynch 2006; Hepburn 2009; Elias and Tronconi 2011). This party family focuses on mobilising the centre-periphery cleavage of political competition to aggregate and articulate the interests of stateless nations (Rokkan and Urwin 1983; Hepburn 2009). Although they can be either left-wing or right-wing,

[2] Ortega y Gasset made this statement as an MP during the discussion of the 1932 Catalonia's Statute of Autonomy (*Congreso de los Diputados, Diario de Sesiones, 13 May 1932*). The original words in Spanish are the following: "*el problema catalán […] es un problema que no se puede resolver, que sólo se puede conllevar*".

religious or secular, authoritarian or liberal, rural or urban, all of them pursue the territorial empowerment of the region they claim to represent. Historically, SNRPs were born out of the tensions between the political centre and the distinctive peripheries – in terms of culture, economics, and politics (Rokkan and Urwin 1982; Rokkan and Urwin 1983). Sociologically, they gather support from those citizens who feel more attached to their region than their state (Serrano 2013; Burg 2015; Muñoz and Tormos 2015).

The classic scholarship on party politics typically classified SNRPs as niche actors, with little interest in competing on issue dimensions beyond their core business – constitutional change (Meguid 2005; Adams *et al.* 2006; Meguid 2008). Furthermore, they were seen as "ethnic entrepreneurs" and overly concerned about identity and the protection of the ethnocultural group they claim to represent (Tursan 2003; Chandra 2005). However, from the late 2000s, a growing body of scholarship has shown that secessionist parties do not focus exclusively on centre-periphery relations (Hepburn 2009; Elias 2009; Elias and Tronconi 2011) and place great emphasis on other dimensions of political competition such as the economy and left-right politics (Elias, Szöcsik and Zuber 2015; Alonso, Cabeza and Gómez 2015; Massetti and Schakel 2015). Increasing pressures to be electorally successful and to enhance their credibility vis-à-vis their state-wide competitors pushes them to expand their "issue package" beyond constitutional change (Alonso, Cabeza and Gómez 2017).

The existing literature establishes that SNRPs behave strategically to achieve their vote, office, and policy goals (Strom 1990). This strategic behaviour operates in a multidimensional political space, involving two main axes of competition: the left-right axis and the centre-periphery one (Alonso 2012; Elias, Szöcsik and Zuber 2015). SNRPs actively manipulate how they *position* themselves on both dimensions, the *salience* given to each of these dimensions, and the way they *frame* their position to voters (Meguid 2008; Alonso 2012; Rovny 2013; Elias, Szöcsik and Zuber 2015). The combination of these elements produces four main strategic options available to parties: a uni-dimensional strategy, based on competing on one axis while attempting to reduce the salience of the other (Elias, Szöcsik and Zuber 2015); a blurring strategy, which involves taking up a clear position on one axis but blurring their position on the other (Rovny 2013; Elias, Szöcsik and Zuber 2015); a subsuming strategy, based on reframing issues associated with the least important dimension in core dimension

terms (Rovny and Edwards 2012; Elias, Szöcsik and Zuber 2015); and a two-dimensional strategy, which involves taking up a clear position on both axes of competition (Elias, Szöcsik and Zuber 2015).

Most of the recent studies on SNRPs strategies have built upon this previous work, based on analysing how SNRPs combine both dimensions of political competition in their campaigns (Alonso, Cabeza and Gómez 2015; Massetti and Schakel 2015; Field and Hamann 2015; Abts, Dalle Mulle and Laermans 2019; Elias 2019; Howe, Szöcsik and Zuber 2022). However, the knowledge we possess about how and why SNRPs pursue their goals – constitutional change – is surprisingly limited. The way parties make their case for constitutional change has been mainly analysed through case studies (Elias 2019; Elias and Franco 2021), but we lack a more systematic and comparative approach. There are some comparative datasets on secessionist strategies and discourse such as those produced by Griffiths and Martinez (2020) and Elias et al. (2021). However, these datasets have yet to be exploited.

The conditions explaining why parties choose some frames over others have also been underexplored in the literature, and no attempts at theorisation about this topic have been made. Existing studies either focus on one or a few cases, or only cover one type of frame – ignoring others (Dalle Mulle 2016; Dalle Mulle 2017; Dalle Mulle and Serrano 2019; Elias 2019; Elias and Franco 2021). A growing number of case studies establishes that minority nationalist parties increasingly focus on the economy and welfare rather than identity when making their case for constitutional change (Dalle Mulle 2016; Dalle Mulle and Serrano 2019; Elias 2019; Elias and Franco 2021). Scholars argue that these framing strategies might help secessionist parties achieve their goals, which include the capacity to sway public opinion in favour of independence. However, the actual effects of secessionist parties' rhetoric on people's attitudes towards independence have not been explored yet.

2. Outline of the thesis and main contributions

This thesis is divided into three research articles which address the way SNRPs make their case for constitutional change – Article One –, the conditions explaining these rhetorical choices – Article Two – and the effects of this rhetoric on people's attitudes towards independence – Article Three.

Article One: SNRPs' positioning and framing

The first article, entitled *"improving people's lives": the socioeconomic turn in party justifications for constitutional change*[3], analyses the way secessionist parties make their case for constitutional change. It maps how parties position themselves on the constitutional question and how they frame their position cross-case – Belgium, Canada, Spain, and the UK – and over time (1990-2020). Positioning and framing are understood as elements of party discourse – which, in turn, is an expression of strategic behaviour. SNRPs' positioning refers to how parties move within the political space – expressing demands that range from cultural autonomy to full independence (Steenbergen and Scott 2004; Elias, Szöcsik and Zuber 2015). SNRPs' framing deals with how parties define and justify constitutional change to voters (Chaney 2013; Basile 2015). These frames are based on three broad categories, following the seminal work by Rokkan and Urwin (1983): identity, socioeconomic, and political frames.

The data source are party manifestos, and the article is based on an original dataset covering 93 manifestos of nine pro-independence parties. This dataset has been built for this PhD project by the author. Many case studies suggest that parties are increasingly making an "instrumental" case for constitutional change, based on delivering economic and political benefits to the population (Dalle Mulle 2016; Dalle Mulle and Serrano 2019; Elias and Franco 2021). This article is one of the first attempts to perform a systematic mapping that allow us to generalise across cases to understand SNRPs' strategies more broadly. Only Elias et al. (2021) have put forward a similar dataset of framing strategies by regional parties. This work represents a significant progress in the study of territorial party politics. My dataset differs from *FraTerr* (Elias *et al.* 2021) in the coverage and the coding scheme. I include key cases in the study of territorial politics that are not covered by *FraTerr* – the Basque Country, Flanders, and Quebec. Furthermore, my coding scheme is simpler because I have opted to prioritise width – coverage – over depth. Unlike *FraTerr*, my dataset has been built for a PhD project with limited human and material resources. The decision to simplify the coding scheme aimed to make the coding effort more manageable.

[3] Published in *Nationalism and Ethnic Politics* (online first). DOI: https://doi.org/10.1080/13537113.2023.2228119

It can be inferred from the results that secessionist parties are highly responsive to public opinion and the political context, and rarely take maximalist positions that would undermine their credibility in the electoral market. Although all these parties are officially committed to the independence of the region they claim to represent, they nonetheless combine secessionist and devolutionist demands in their campaigns. Hence, pro-independence parties often take a gradualist approach and advance devolutionist claims as a steppingstone towards the ultimate goal of full sovereignty. Their constitutional position is flexible, practising what other authors have called "the art of the possible" (Brown Swan 2018). An original contribution of the article is to identify patterns that begin to explain SNRPs' strategies. In particular, devolutionist demands are prominent in regions displaying either a low support for independence or when a broad consensus for devolution and state reform exist. Instead, pro-independence demands are hegemonic during periods of high territorial contestation and wide support for sovereignty. The perception that reforms within the existing state are unfeasible also pushes parties to adopt an outright pro-independence stance (Lecours 2021).

Concerning how SNRPs frame their position, political arguments are the most employed, but the results identify a trend towards a socioeconomic case for constitutional change in recent years. Conversely, identity frames are the least employed and decrease in frequency over time. Secessionist parties prefer to frame self-government as an opportunity to boost the economy and to build a better welfare system for the population they claim to represent. Political promises such as a better governance and a vibrant democracy in the event of constitutional change are also prominent. Framing strategies do not dramatically differ depending on the nature of SNRPs' demands – either devolution or independence. As strategic actors aimed at maximising their vote, office, and policy goals, parties expect these frames to appeal to a broader range of voters beyond their core base of nationalist supporters. A fine-grained analysis of their strategies shows that SNRPs often subsume constitutional change into the left-right axis of political competition: constitutional change is presented as means of improving people's lives – rather than as an end in itself. This is an important finding since it shows that the constitution is not always the primary dimension of SNRPs' electoral strategy.

Article Two: Explaining SNRPs' framing strategies

While article one identifies and analyses secessionist parties' discourse, article two attempts to explain these rhetorical patterns. Entitled *Identity, money, or governance? Explaining secessionist parties' rhetorical strategies*[4], this paper performs a Qualitative Comparative Analysis (QCA) of 93 coded party manifestos. The article identifies nine regional and party-level conditions that potentially explain why parties choose to employ some arguments over others. Although we know that SNRPs are strategic actors that can adapt their discourse to very different situations (as shown in Article 1; see also Hepburn 2009; Brown Swan 2018), we lack studies able to generalise beyond the existing case studies. As a step in this direction, the original contribution of the article is that it takes a comparative approach and identifies cross-case conditions that help explain why parties choose certain frames over others.

The results of the QCA identify a key condition that plays an important role in explaining party discourse: the governmental status of SNRPs. In linguistically distinct regions – i.e., all regions included in the sample bar Scotland – parties choose identity frames when out of office. When they are in government, however, they tend to frame their claims in socioeconomic terms. Hence, office-seeking goals fundamentally appear to shape their choice of rhetorical strategies. Secessionist parties take the opportunity of being in office to depict constitutional change as the continuation of their government's work with enhanced powers. This strategy reassures voters by linking constitutional change to improving people's lives: independence would give the new state – and its former secessionist government – more tools to address economic growth and deliver better public services. Moreover, it helps SNRPs avoid attribution of blame by arguing that they cannot deliver better public policies due to limited powers.

The novelty of this finding is that it reverses the causal arrow normally presented in the literature: the common claim is that parties broaden their appeal to achieve office, rather than using office to broaden their appeal. These results have broader implications for the study of party competition beyond territorial politics. They show that being in office offers secessionist parties the opportunity to enhance their

[4] Published in *Party Politics* (online first). DOI: https://doi.org/10.1177/13540688221140249

competitiveness vis-à-vis their state-wide competitors by subsuming constitutional change into "ordinary" left-right politics. Usually, state-wide parties accuse minority nationalists of being "obsessed" with identity and the constitution and, therefore, of neglecting important issues such as the economy, welfare, or governance. The combination of implementing actual policy and linking the constitution to their government's work – constitutional change as a means rather than as an end – helps them enhance their credibility as competent ruling parties. Furthermore, the commitment to concrete policy improvements in the event of constitutional change aims to overcome the state-wide parties' critique about independence being a "leap in the dark".

Article Three: The effects of pro-independence party frames

While article one maps party discourse and article two explains these rhetorical choices, article three attempts to test whether party rhetoric produces any effects on people's attitudes towards secession. Entitled *Pro-independence party frames and public opinion: do they work?*[5], the article employs an experimental design in Catalonia and Scotland. Experiments allow researchers to actively manipulate a treatment and thus clearly distinguish cause and effect. Although the academic literature has recently started to explore the way SNRPs make their case for independence (Dalle Mulle and Serrano 2019; Elias *et al.* 2021), there are no studies on the effects of these frames on public opinion yet. This article takes a first step in addressing this question. The experiment randomly divides respondents into four groups, exposing each group to a different pro-independence party frame – focusing either on identity, economic or political matters. There is also a control group, which was not exposed to any frame. The analysis consists of testing whether there are statistically significant differences in the level of support for independence between groups exposed to different framing treatments.

The hypothesis tested is two-fold: first, and building on the findings from article 2, that people exposed to an identity-based frame will display a lower level of support for secession than those exposed to an economic or political frame. Second, that a socioeconomic and a political frame will have a stronger impact among those citizens

[5] By the time the thesis was submitted for examination, this article was under review at the journal "Nationalities Papers".

with weak identities. This hypothesis is informed by the relevant literature on secession, which establishes that cost-benefit calculations trump identity issues in shaping people's attitudes to territorial independence, and particularly amongst those people displaying weak identities (Muñoz and Tormos 2015; Zabalo and Iraola 2022). The results of the experiments, however, show that different party frames do not shape people's support for independence. Moreover – and unsurprisingly given this result –, they also show that feelings of national identity among individuals do not moderate the effects of different party frames on support for independence.

Although highly informative, we should take these findings with caution: the fact that these experiments did not find an effect does not necessarily imply that framing effects are absent in the real world. Party framing effects have been found on other issues such as European integration or welfare policies (Jerit 2009; Slothuus 2010; Maier, Adam and Maier 2012). Hence, more research is needed to fully capture framing dynamics in the territorial party politics domain.

3. Secessionist parties in multinational democracies: research and policy implications

The findings of my research suggest that we need to revise the way we conceive SNRPs' behaviour and electoral strategies. Scholars already noted that SNRPs are not niche actors – they engage in left-right politics and behave strategically like any other political party. However, territorial politics was still considered their primary dimension of political competition. The evidence put forward in this thesis suggests that it is not always this way. SNRPs often subsume constitutional change into left-right politics: the economy is not employed to justify the viability of a new state, but a new state is depicted as the best tool to address socioeconomic problems and opportunities. While it is true that SNRPs "own" the issue of constitutional change and their very existence stems from the centre-periphery cleavage (Rokkan and Urwin 1983; Meguid 2008), their behaviour is far more complex than merely being the flag-wavers for identity politics.

This contribution is significant because it consolidates the idea in the party politics literature that SNRPs are full mainstream actors. The Scottish National Party (SNP) or the Catalan Republican Left (ERC) do not want to be *the* ethno-secessionist party of their region, but *the* main centre-left party vis-à-vis their state-wide

competitors. These mainstreaming strategies, however, do not necessarily mean moderation in terms of positioning. In fact, secessionists in office have heavily pushed for outright independence in places such as Catalonia, Scotland, or Quebec. Moderation is discursive, not positional: they aim to reassure voters about the scope and the goals of constitutional change by presenting independence as the best opportunity to improve the region's economy, welfare, and governance. These frames attempt to overcome the critique that secession is a "leap in the dark" and to enhance their reputation as competent governing parties – concerned about the issues that matter to people. Their framing strategies fundamentally pursue these vote and office-seeking goals.

In terms of policy, however, party frames do not seem to influence people's attitudes towards independence. Pre-existing beliefs and national identity largely explain public opinion on constitutional change. Hence, it can be inferred from the evidence we possess that SNRPs should shape and mobilise identities if they want to convince people of independence. By emphasising socioeconomic issues when designing their campaigns, they appear to trade votes and office-seeking goals over policy. SNRPs do not introduce the idea of improving people's lives to persuade people of constitutional change, but to persuade people to vote for them. This tension between competing goals arises from the fact that most SNRPs want to appear before the public as inclusive, competent, and reliable, while secession is perceived as exclusionary and radical – Marc Sanjaume introduces the idea of a "democratic trilemma" between policy, votes, and office concerning the SNP (2021). This tension between competing goals is one of the major topics of this thesis: pro-independence parties aim to move towards the radical goal of secession but need to appear as less radical as possible to compete for votes and office.

The solution to this puzzle is not straightforward. SNRPs could focus on identity and nation-building to strengthen their core base of supporters and gain followers for their national cause. However, identities are rigid and change slowly. Moreover, SNRPs do not possess the monopoly of the identity market: state-wide actors also target the hearts and minds of the same citizens. Investing all SNRPs' political capital in shaping and mobilising identities is thus divisive and compromises their ability to garner electoral and coalitional support. Conversely, a strategy that ignores nation-building to focus on valence issues might risk the secessionist project in the long run

by de-coupling it from its source of legitimacy: the existence of a distinct people claiming the right of self-determination. The balance between nurturing distinctive – but inclusive – identities and mobilising for independence on the basis of shared values and interests is the key challenge for mainstream secessionist parties in multinational democracies.

The findings of this thesis also speak to the broader issue of coexistence in plural societies beyond the pro-independence camp. Secessionist parties do not act in a vacuum, but within an institutional and symbolic framework which recognises the needs, values, and interests of competing national groups (Basta 2021). Although the majority group is always wary of giving more powers or recognition to the minority communities – fearing that secessionists will never be satisfied, and any compromise will ultimately lead to more calls for secession –, the evidence we possess shows that SNRPs are rational and pragmatic actors that adapt their strategies to context. If the minority group perceives that its status can be enhanced within the existing polity, secessionists will have a hard time arguing for outright independence (Lluch 2014; Lecours 2021). Instead, SNRPs might accumulate grievances and push for independence later on.

This evidence gives some clues to state-wide actors about how they should face secessionist challenges in terms of public policy, institutional design, and discourse. Rather than attempting to assimilate minorities into the larger majority group, accommodating strategies appear to be the best solution to address minority nationalism in plural societies. Recognition and federalism as tools for diversity management and conflict resolution are already well established in the literature (Keil and Anderson 2018; Keil and Alber 2020). The novelty of this contribution is that it shows that territorial disputes fuelled by SNRPs are not the automatic result of structural conditions – such as ethnic diversity – but of fluid strategies highly dependent on context. Hence, federal and devolved institutions should appear amenable to future expansion and improvement to ensure coexistence and democratic stability in multinational states (Lecours 2021). This also involves symbolic aspects such as commemorations, language, or the degree of cultural and national recognition by the centre (Basta 2021).

In day-to-day electoral politics, state-wide parties should not give SNRPs the complete ownership of territorial politics and the defence of the region's identity and interests (Petrocik 1996; Meguid 2008). Powerful regional branches of state-wide parties such as the Catalan Socialist Party during the early 2000s or the Welsh Labour Party have been at the forefront of devolution demands with significant policy and electoral successes. Combining the defence of their region with the loyalty towards the state as a whole appears to be a good strategy to face SNRPs and erode secessionist politics. Instead, a confrontational rhetoric against minority nationalism might help situating SNRPs in the centre of the political debate as the party that best represents the region's interests. This inclusive and flexible approach would not completely defeat secessionism, but it would contribute to keep it in line. As SNRPs have learnt to adapt their strategies to context, state-wide parties should do the same.

4. Areas for further research

This thesis contributes to the literature on territorial party politics by analysing how pro-independence parties make their case for constitutional change, the conditions explaining these rhetorical choices, and the effects of these frames on people's attitudes towards independence. The findings and the data generated by this thesis pave the way for promising future research. There are three main avenues for further research that could be explored. First, the first article of this thesis identifies the main cross-case and longitudinal trends of SNRPs' positioning and framing. Future studies could dig deeper into the trends and shifts of specific parties and points in time that have been identified by this article. It would be useful to explain positioning and framing strategies of one secessionist party over time, or to compare positioning and framing strategies of two or more parties in different countries over the same period. Furthermore, the analysis could be extended to state-wide parties, as the study of majority nationalism is far less developed than the scholarship on minorities (Gagnon 2020; Cetrà and Brown Swan 2020).

Second, this thesis takes a first step towards building a theory of framing strategies by SNRPs. A more comprehensive examination of the conditions explaining these strategies – by including new cases and conditions and expanding the time frame – would help advance the research agenda in this regard. Although we know that SNRPs adapt their discourse to context, there might be some patterns beyond the

governmental status of parties – identified here – that explain why parties choose some arguments over others when making their case for constitutional change. Apart from this, scholars could explore whether these patterns work in other regions beyond Western democracies by extending the coding scheme to countries of the Global South.

Finally, the third research article has found no effects of party frames on people's attitudes towards independence. However, the fact that this research has not found any effect in an experimental setting does not mean that we would not be able to find effects in the real world. For instance, we know that frames work better when repeated over time (Lecheler and De Vreese 2016), and the literature has found effects in other policy domains such as European integration or welfare policies. Hence, more research is needed to fully capture framing dynamics in the territorial party politics domain. Furthermore, this contribution also opens up a research agenda on competing party goals: if socioeconomic frames do not sway public opinion on independence, why SNRPs increasingly frame their position in socioeconomic terms? This finding suggests that SNRPs trade vote and office-seeking goals over policy when designing their campaigns. A thorough exploration of this apparent contradiction would greatly contribute to the study of territorial party politics.

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“Improving people’s lives”: the socioeconomic turn in party justifications for constitutional change

Abstract-. By performing a manifesto content analysis, this article maps the discourse of secessionist parties on constitutional change cross-case (Belgium, Canada, Spain, and the UK) and over time (1990-2020). The results show that secessionist parties are pragmatic organisations that also advance devolutionist demands as a steppingstone towards full independence. Concerning framing, the results identify an increasing trend towards the articulation of a socioeconomic case for constitutional change. Political issues such as governance are also important. Instead, identity-based frames are much less prominent in their discourse. As strategic actors, secessionists take these decisions to enhance their position in the electoral market.

Keywords-. Framing, Nationalism, Regional Parties, Secession, Territorial Politics

1. Introduction

Although some authors had held that nationalism is a phenomenon of the past that would disappear with globalisation (Hobsbawm 1990), the truth is that we are living in an "age of secession" (Griffiths, R. D. 2016) or, at least, an age of secessionist politics. Recent events in Catalonia or Scotland have triggered renewed interest in the matter, and territorial politics is currently a thriving field of academic research and policy discussion. In Western democracies, the main actors driving these secessionist movements are political parties. They focus on mobilising the centre-periphery cleavage to aggregate and articulate the interests of stateless nations and to defend their identity traits (Rokkan, Urwin 1983, Hepburn 2009). However, we still know very little about the strategic choices of these parties when making their case for constitutional change. How do they describe and justify their constitutional position? What kind of issues do they advance in support of their cause? By performing a content analysis of 93 party manifestos from six Western regions, the present contribution maps how pro-independence parties position themselves on the constitution and how they justify – or frame – their position to voters.

The results of this mapping exercise show that secessionist parties are pragmatic organisations: although they stand for outright secession, they also ask for more powers for the devolved parliaments as a steppingstone towards full sovereignty. With regards to framing, secessionist parties increasingly focus on the material benefits of constitutional change by providing arguments primarily based on the economy and a better welfare for the region they claim to represent. Instead, identity-based claims are much less prominent in their discourse. The implications of these findings are significant for the study of party politics because they show that secessionist parties subsume constitutional affairs into ordinary left-right politics: constitutional change is presented as means of improving people's lives – rather than an end in itself. This strategy aims to enhance their competitiveness in the electoral market vis-à-vis their state-wide competitors.

The present contribution is the first comprehensive mapping of secessionist parties' discourse that includes three key regions not covered in existing datasets: the Basque Country, Flanders, and Quebec. The data is original and it has been coded manually. It is also the first thorough cross-case analysis of secessionist parties'

discourse. The paper advances our knowledge of how political parties frame their position to be competitive in the electoral market. Beyond its academic importance, a better understanding of pro-independence parties' discourse is also relevant for policymaking regarding the challenges posed by territorial politics in multinational states. A successful campaigning platform can lead to the breakup of established polities, with broader policy and social implications for citizens, businesses, and other states and international organisations.

The article is organised as follows: the next section reviews the literature on secessionist parties' framing strategies and discourse. Section three outlines the conceptualisation of the discourse on constitutional change. Section four describes the research design and the methodology. Section five presents the results of the mapping and section six discusses their significance. The concluding section summarises the contributions the paper seeks to make.

2. Secessionist parties' strategic discourse: insights from the literature

Stateless Nationalist and Regionalist Parties (SNRP) focus on mobilising the centre-periphery cleavage to aggregate and articulate the interests of stateless nations and to defend their identity traits (Rokkan, Urwin 1983, Hepburn 2009). Many contributions have been published about this party family, broadly depicting its origin and main features (De Winter 1998, Gomez-Reino, De Winter et al. 2006, Brancati 2008, Massetti 2009). The focus of the present article is on the secessionist wing of SNRP in Western countries. In particular, what concerns us here is the engagement of SNRP in strategic behaviour to pursue their goals (Bartkus 1999, Elias, Tronconi 2011, Alonso 2012, Elias 2019). In multinational countries – where these parties operate – there are two main dimensions of political competition: the ideological or left-right politics and the territorial or centre-periphery politics (Elias, Szöcsik et al. 2015). The former mostly revolves around the economy, while the latter refers to constitutional affairs and the territorial division of power.

The classic scholarship on party politics typically classified SNRP as niche actors, with little interest in competing on issue dimensions beyond their core business – constitutional change (Meguid, Bonnie M. 2005, 2008, Adams, Clark et al. 2006). Furthermore, they were seen as "ethnic entrepreneurs" and overly concerned about identity and the protection of the ethnocultural group they claim to represent (Tursan

2003, Chandra 2005). However, from the late 2000s a growing body of scholarship has shown that secessionists parties do not focus exclusively on centre-periphery relations (Hepburn 2009, Elias 2009, Elias, Tronconi 2011) and also place great emphasis on other dimensions of political competition such as the economy and left-right politics (Elias, Szöcsik et al. 2015, Alonso, Cabeza et al. 2015, Massetti, Schakel 2015). Increasing pressures to be electorally successful and to enhance their credibility vis-à-vis their state-wide competitors pushes them to expand their "issue package" beyond constitutional affairs (Alonso, Cabeza et al. 2017).

Hence, we already know that SNRP tend to behave like other mainstream parties when competing for votes in the electoral market: they emphasise different dimensions of political competition, engage in left-right ideological positioning and focus on valence issues as well (Green 2007). However, the knowledge we possess about the decisions they take when engaging with their "core business" – constitutional change – is surprisingly limited: how do they change their position on the centre-periphery dimension of political competition? How do they justify – or frame – the right to self-government? Drawing from the different strategic tools at parties' disposal (Elias, Szöcsik et al. 2015), this article analyses the way secessionist parties *position* themselves on the constitution and how they *frame* their position. Throughout the paper, position and framing are understood as elements of party discourse – which, in turn, is an expression of strategic behaviour.

Regarding parties' constitutional position, the existing literature has worked on several scales that typically classify SNRP from autonomist to openly secessionist parties. For instance, Massetti (2009) distinguishes between "autonomist", "ambiguous" and "secessionist" parties. Dandoy (2010) built three broad categories – "protectionist", "decentralist" and "secessionist" – with 8 sub-categories of demands ranging from cultural recognition to joining neighbouring states. In a more recent article, Massetti and Schakel (2016) divide SNRP between those which challenge the unity of the state – including "separationists" and "ambiguous" – and those which do not challenge the unity of the state – "protectionists" and "federalists". Drawing from these insights, the present article focuses on whether parties claim formal sovereignty or not. Based on this, it identifies three main categories of constitutional position: devolution, confederalism, and secession.

Furthermore, most of the previous studies focus on what parties *are* rather than on what parties *do* in practice. There is evidence suggesting that secessionist parties sometimes adopt a pragmatic agenda and temporarily put forward devolutionist demands before stepping into a more radical approach (Elias, Tronconi 2011, Tronconi 2015, Brown Swan 2018, Máiz, Ares 2018). Similarly, autonomist parties can also radicalise and become pro-independence over time (Massetti 2009). Parties may also combine different types of self-government claims within the same campaigning platform. Such positioning has not hitherto been systematically mapped; hence we do not know how it varies across parties and over time. Only Elias et al. (2021) have put forward a coding scheme aimed at measuring this. However, they have identified 13 different types of territorial demands, including shared-ruled claims, re-bordering proposals or demands for state intervention in some policy areas. Instead, the present contribution focuses on constitutional change as a means to expand self-government. Other types of territorial claims fall outside the scope of this paper.

With regards to framing, it is only very recently that scholars have started to analyse how secessionist parties justify their constitutional position. For instance, Elias and Franco have found that the Catalan pro-independence ERC articulates a “better future” discourse rather than a grievance-based strategy when arguing for secession (Elias, Franco 2021). Similarly, Dalle Mulle and Serrano identify an “instrumental” case for independence in Flanders, Catalonia and Scotland based on the economy and governance (Dalle Mulle 2016, Dalle Mulle, Serrano 2019), while Abts and Dalle Mulle (2019) also show that Flemish nationalist parties try to “communitarise” the political debate in Belgium – i.e., subsuming non-territorial issues under the broad issue of constitutional change. According to Maddens (2018), the most relevant pro-independence frame in Flanders is governance – symbolised by the slogan “Belgium does not work”. Similarly, Field and Hamman show that mainstream nationalist parties in Spain frame legislative bills in governance terms (2015). Also drawing from the Spanish case, Huszka (2013) argues that parties tend to advance political claims based on the right to choose in advanced democracies. Conversely, the SNP in Scotland makes an economic case for independence (Elias 2019).

Hence, recent insights show that SNRP mostly choose a policy-based discourse to frame their constitutional position. Rather than insisting on identity and nationhood, as the classic scholarship suggested, secessionist parties address

economic and governance issues when trying to persuade people of constitutional change – and not only when engaging in "ordinary" left-right politics. All these contributions are extremely useful since they inform us about the strategies of secessionist parties with regards to the constitution. However, their explanatory power has two main limits: one concerning the methodology, the other related to case selection and time frame. From a methodological point of view, most of these studies (albeit with some exceptions, see for instance Elias, Franco 2021) perform a qualitative analysis of texts as a whole – manifestos, speeches, etc. Scholars read the documents and interpret the messages that these pieces of evidence convey. Instead, the present contribution performs a more systematic analysis by quantifying the frames that are present in the text, sentence by sentence. This methodological strategy reduces the risk of subjective bias and produces more fine-grained results.

With regards to case selection and time frame, most of the knowledge we possess so far is based on case studies and it covers party strategies at either one point in time or over only a few years (also for some exceptions, see Griffiths, Ryan D., Martinez 2020, Elias, Basile et al. 2021). Case studies are very important in social sciences because they allow for sensitivity to context-specific phenomena. What is missing here is a more systematic mapping that would allow us to generalise across cases to understand secessionist parties' framing strategies more broadly. The present contribution also takes a longitudinal approach and thus analyses the evolution of party discourse over the course of 30 years (1990-2020). Hence, this article goes beyond the existing case studies and identifies the main trends regarding secessionist parties' discourse across cases and over time.

Only Elias, Basile et al. have engaged in a similar endeavour regarding party discourse (2021). They have put forward an extensive dataset which maps how several European political parties and civic organisations articulate cultural, socio-economic, political, and environmental frames for constitutional change. Although *FraTerr* represents a major achievement in our quest to understand regionalist parties' discourse, it does not cover parties from the Basque Country, Flanders, or Quebec. Furthermore, the *FraTerr* dataset has yet to be exploited for substantive analysis. Instead, the present article includes these three regions as key cases to understand secessionist parties' behaviour in Western democracies (Keating 1996, Alonso 2012). These are three of the Western regions where secessionist movements are strongest

and all of them have posed a serious threat to their respective state's territorial integrity. The examination of secessionist parties' behaviour in these regions is essential for the comparative study of territorial party politics. Furthermore, the present contribution goes beyond the publication of a dataset and focuses on providing an actual analysis of secessionist parties' discourse – including the relationship between position and framing, i.e., whether and how much the frames put forward by parties change depending on whether they are calling for devolution or for outright secession.

3. A framework for analysis: secessionist parties' discourse

Political parties are rational actors aimed at maximising their votes, office, and policy goals (Strom 1990). Hence, they strategically cooperate or compete with each other to gain political power (Franzmann 2011). This article focuses on the latter, namely, contestation during the electoral phase of party competition. The main element available to parties to persuade citizens to vote for them in democracies is discourse. Discourse represents ideas and aims to channel political thought and action in certain directions (Connolly 1983). Political parties try to stand out vis-à-vis other parties by "selling" their policy package in the electoral market. Hence, they must articulate a discourse that makes their policy and political offer appealing to voters. This article focuses on analysing how secessionist parties articulate their discourse on constitutional change, namely, how they position themselves on the constitution and how they justify – or frame – their position to voters (Elias, Szöcsik et al. 2015).

In this regard, SNRP claim to represent peripheral regions and aim to empower them by achieving ever greater degrees of self-government. They can choose how to position themselves in this dimension of political competition (Steenbergen, Scott 2004): SNRP may decide to draft a full-blown secessionist programme at one particular election, but later adopt a more pragmatic approach and advance devolutionist demands. Concerning framing, we define frames as arguments aimed at describing and justifying a particular political position – here, constitutional position (Helbling 2014, Basile 2016). Parties can choose to change their arguments in favour of independence or self-government if these are more effective at attaining their vote, office, or policy goals (Strom 1990). This section explores the conceptual categories of both position and framing that will later be used to map secessionist parties' discourse in Western democracies.

Parties' position: devolution, confederalism, secession

Stateless Nationalist and Regionalist Parties might either claim formal sovereignty or might not. Formal sovereignty is understood as possessing the supreme authority within a territory, and thus the ability to freely engage in international relations with other states and international organisations (James 1999). Secession and confederalist demands imply the attainment of sovereignty, while devolutionist demands do not. Although all the parties under analysis are formally secessionist in theory, they also voice devolutionist or confederalist demands in their campaigns. Secession or independence is understood as "a process of withdrawal of a territory and its population from an existing state and the creation of a new state on that territory" (Pavkovic, Radan 2007: 1).

Conversely, confederalism refers to a union of sovereign states (Burgess 2013: 48-51). In a confederation, nation-states retain their sovereignty but are bound together by a permanent treaty which involves "a profound locking together of states themselves as regards the exercise of fundamental powers" (Forsyth 1981: 15). In many contexts, confederalism is seen as the last step towards full independence, which differs in kind – and not just in degree – from both devolution and secession. In turn, devolution demands imply a formal redistribution of authority or shift in power relations without claiming sovereignty. Rather, it is based on either creating or strengthening the regional tier of government by asking for more powers to be transferred to the region these parties claim to represent. Both autonomist and federalist claims are conceptualised as devolution demands.

We know from the literature that SNRP practice the "art of the possible" (Brown Swan 2018), meaning that they may change their position depending on context. Usually, secession is perceived as a very radical proposal – and this might alienate some voters. Hence, we should expect pro-independence parties to often favour a gradualist approach towards full sovereignty, prioritising devolution when there is low support for secession amongst the population or a broad consensus for devolution and state reform exists. Concerning the latter, further devolution is perceived as a steppingstone towards independence by many secessionist parties (Brancati 2006). Hence, they might temporarily focus on the delivery of devolution reforms before switching to a more radical approach. Conversely, we should expect parties to draft a

full-blown secessionist programme when independence is a widely supported constitutional option amongst voters or when devolution and state reform are perceived as politically unfeasible (Lecours 2021).

Parties' framing: identity, politics, and the economy

In their classic work, Rokkan and Urwin identified three main dimensions of territorial inequality in multinational states: cultural, political, and economic (Rokkan, Urwin 1983). SNRP articulate their discourse around these inequalities to argue for their preferred constitutional position. In this regard, several scholars have also used some or all these categories to analyse framing strategies by parties (Dalle Mulle 2017, Dalle Mulle, Serrano 2019, Elias 2019), including the recent *FraTerr* dataset (Elias, Basile et al. 2021). The present article draws from the *FraTerr* conceptualisation of framing strategies – albeit with some minor changes – as a framework to analyse how secessionist parties frame their position. The three dimensions are identity, socioeconomics, and politics. Furthermore, the mapping also identifies the specific issues parties address within these categories, thus providing a two-level conceptualisation of frames.

The statements that fall under the "identity" frame are justifications for constitutional change based on nationhood and the protection of the regional language and culture. For instance, the *Parti Quebecois* in its 2008 manifesto justified the right to self-determination by stating that "there is a thing Quebeckers have never doubted: that they are a nation"[6]. The "socioeconomic and quality of life" frame covers welfare and economic claims, including the environment and issues of social justice. The Basque secessionist party *EH Bildu* in 2016 offered an example of this: "we want to develop our own Labour Relations Framework […] to achieve better salary conditions, starting with a minimum wage of €1,200"[7]. The "political" frame for constitutional change includes arguments concerning self-government, democracy, governance, and values – the latter meaning the envisioning of either a progressive or a traditional

[6] Own translation from the original French: "*Il y a une chose dont toutes les Québécoises et tous les Québécois n'ont jamais douté, c'est qu'ils forment une nation*".

[7] Own translation from the original Spanish: "*Marco Propio de Relaciones Laborales […] para así conseguir universalizar mejores condiciones salariales y laborales comenzando por un salario mínimo de 1.200€*".

society. For instance, the Catalan JxC wrote in 2015 that secession would be "an opportunity to build a Catalan administration which would be simplified, efficient, agile, and modern; continuously evaluated and at the service of citizens"[8]. I also employ an "other" category to capture those arguments that do not fall into either of the three more specific categories. Table 1 summarises the coding categories outlined so far.

As strategic actors, we expect secessionist parties to frame their constitutional position in a way that is beneficial to their interests. We know from different studies that identity issues basically appeal to their core base of nationalist voters (Fullaondo, Zabalo 2021). Conversely, both survey and experimental data suggest that dual-identity individuals and voters with an ambivalent stance towards independence are more likely to be sensitive to economic issues when considering constitutional change (Muñoz, Tormos 2015, Agneman 2022). Other variables such as satisfaction with democracy might also affect the attitudes of dual-identity individuals (Serrano 2013). In this regard, we expect secessionist parties to mostly frame their constitutional position in socioeconomic and political terms. Hence, it is hypothesised that they subsume constitutional affairs into ordinary left-right politics: constitutional change is presented as means of improving people's lives – not as an end in itself. By doing that, secessionist parties aim to bolster their position in the electoral market vis-à-vis their state-wide competitors.

Table 1 - Secessionist parties' framing of constitutional change. Coding categories.

FRAMES			
Identity	**Socioeconomics and quality of life**	**Politics**	**Other**
Nationhood	Economy	Self-Government	Other
Language and Culture	Welfare and Quality of Life	Democracy	
		Governance	
		Progressive Values	

[8] Own translation from the original Catalan: "*estructurar una administració catalana propera, simplificada, eficient, àgil i moderna, que s'avaluï contínuament i que estigui al servei de la ciutadania*".

	Traditional Values

4. Research design, data, and methods

This paper's empirical section maps the discourse of secessionist parties on constitutional change cross-case and over time. The study includes the main pro-independence parties in Belgium, Canada, Spain, and the UK over 30 years (1990-2020). These four are the most important multinational countries in Western democracies, and have historically been the object of many studies regarding territorial politics (Keating 1996, De Winter 1998, Alonso 2012). Canada, Spain, and the UK are the only countries in the Western world where recent independence referendums have taken place, and Belgium is the paradigmatic example of a society divided along ethnolinguistic lines – with a strong pro-sovereignty feeling in Flanders. I examine the main secessionist parties that are currently active. My criterion for relevance is consistently achieving around 10% of the votes. I have excluded from the analysis those parties that are not clearly pro-independence – such as the Basque Nationalist Party in Spain – and those which hold irredentist positions – i.e., parties that do not want their region to constitute a new state but to join an already existing one, such as Sinn Féin in Northern Ireland.

Therefore, the parties under examination are the following: the Scottish National Party (SNP), *Plaid Cymru* (the Party of Wales, PC), *Esquerra Republicana de Catalunya* (Republican Left of Catalonia, ERC), *Junts per Catalunya* (Together for Catalonia, JxC), *Euskal Herria Bildu* (Basque Country Unite, EHB), *Parti québecois* (the Party of Quebec, PQ), *Bloc québecois* (Quebecker Bloc, BQ)[9], *Nieuw-Vlaamse Alliantie* (New Flemish Alliance, NV-A) and *Vlaams Belang* (Flemish Interest, VB). Three of these parties can be considered the successors of older parties. This is the

9 Although they are formally independent from one another, I treat the Quebecois parties as if they were the same party running in different electoral arenas – the PQ only runs for regional elections, while the BQ only runs for general elections. Both parties share the same programme, support each other politically and their membership and electoral base overlap (Hepburn 2010).

case of JxC, VB, and, to a lesser extent, EHB in the Basque Country[10]. In all these cases, I have included the older parties in the analysis as if they were the same political party over time. Parties that were not pro-independence in the past but are secessionist today have only been included since their pro-independence turn. This is the case of Plaid Cymru – which officially declared "independence in Europe" as their policy goal in 2003 – and of Together for Catalonia, which started to advance a pro-sovereignty agenda in 2012. The rest of the parties are examined from 1990 except for the NV-A, founded in 2001.

Regarding data collection, manifestos are the source I use because they are available in all countries and can be analysed retrospectively and cross-case. They are widely considered valid sources of expressed party positions (Ruedin, Morales 2019). Manifestos can be analysed either manually or through automated approaches, which is ultimately a choice between reliability and validity (Koljonen, Isotalo et al. 2020). In this case, I opted for a manual coder approach since the task carried out here is oriented toward uncovering meanings and interpreting arguments. The computerised word-count strategy disregards context, and it is unable to capture issue position and framing by political parties adequately (íbid.). I include all the manifestos for both regional and general elections except for three manifestos by EHB (1993, 1996 and 2005), which are not available. The total sample of manifestos is 93.

The method I used is based on manifesto content analysis of party frames (Krippendorff 2012). The way I coded the frames follows the handbook produced by the Comparative Manifesto Project (Burst, Krause et al. 2021) and the Regional Manifesto Project (Alonso, Gómez et al. 2013). This approach consists of quantifying the statements or messages – what I refer to as frames – from the text. Each manifesto is divided into quasi-sentences. A quasi-sentence contains exactly one statement or "message". In many cases, parties make one statement per sentence, which results in one quasi-sentence equalling one full sentence. There are, however, some instances where one natural sentence contains more than one quasi-sentence. The coverage has been extensive: for each manifesto under study, I coded the whole section on constitutional affairs, if there is any, and every quasi-sentence throughout

10 The older parties are Convergència *Democràtica de Catalunya* (CDC), *Vlaams Blok* (VB), and *Herri Batasuna* (HB) and its successors, respectively.

the document which refers to attaining powers and resources for the region that secessionist parties claim to represent. If a sentence does not contain a constitutional position, it has not been coded.

The coding scheme is based on the *Fraterr* dataset (Elias, Basile et al. 2021), albeit with some changes derived from the observation of the empirical material – thus combining a deductive and an inductive approach. The categories or subcategories on framing are already explained in the theoretical section and summarised in table 1. The categories on positioning are three: secession, confederalism, and devolution. Therefore, each quasi-sentence in the manifesto has been coded twice. Firstly, the quasi-sentences in the manifestos have been coded according to whether they contain a secessionist, a confederalist or a devolutionist claim. Second, they have also been coded according to whether they contain an identity, socioeconomic, or political frame – by identifying the specific issue they address. Hence, each quasi-sentence possesses two codes: one regarding position, and the other concerning framing. The supplement to Article 1 includes a codebook that further explains these points.

The coding has been tested for validity and for reliability. Concerning the former, it builds on the extant literature and the categories employed here have been employed in previous studies on SNRP strategies. The findings of the present article largely match the results of case studies and SNRP analyses published so far. Moreover, the coding allocation has been done twice to enhance the reliability of the results. It is widely agreed that reported correlations above 0.80 between the first and the second coding allocation are acceptable (Mikhaylov, Laver et al. 2012). In this case, the correlation is 0.90, with only 8 out of 93 manifestos falling under the 0.80 threshold. Most of the second coding allocation changes have been due to the refinement of the codification of ambiguous quasi-sentences rather than outright human mistakes. It has also contributed to unifying coding criteria in practice and thus making fully comparable the parties under analysis.

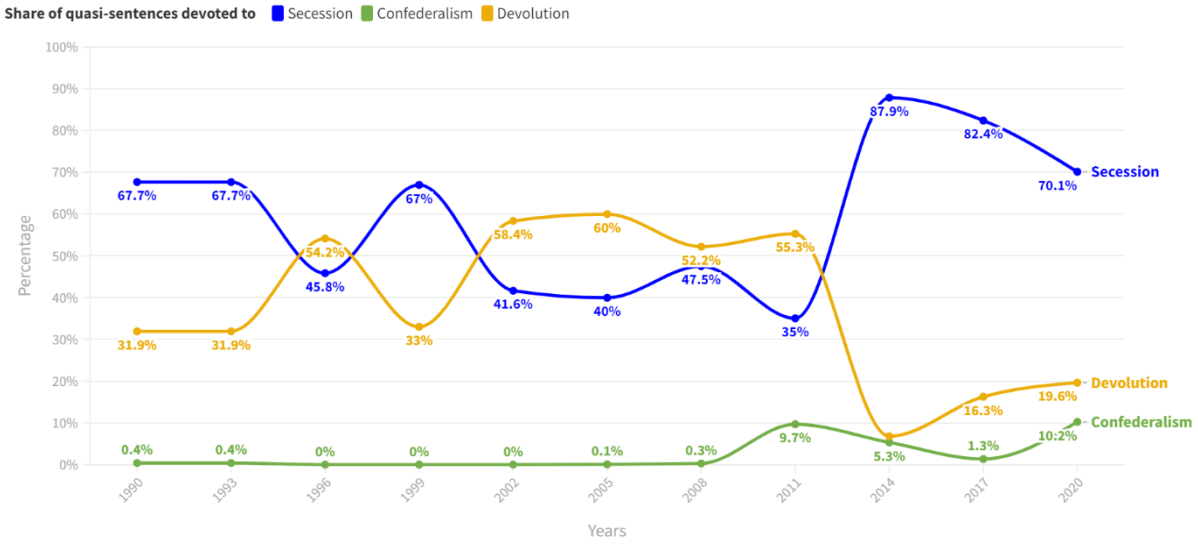
5. Mapping secessionist parties' discourse

Between independence and devolution: secessionist parties' position in practice

Although all the parties under examination are formally pro-independence – as expressed in their internal documents and public stances –, in practice they adopt a

pragmatic approach which combines secessionist claims and devolutionist demands. Moreover, their short-term goal is not always independence: depending on the context, SNRP may postpone the ideal of full sovereignty and temporarily focus on obtaining more powers for their region within the existing host state. This is the SNP's case after losing the independence referendum in 2014, or ERC between 1999 and 2008 – a time when they prioritised the achievement of a new autonomist arrangement for Catalonia. Figure 1 summarises the evolution of parties' constitutional position over time.

Figure 1 - Secessionist parties' position on constitutional change cross-case and over time.



During the 1990s, we can notice a predominant pro-independence message in the parties under analysis, which coincides with the 1995 referendum in Quebec, the pre-devolution SNP's strategy, and ERC's reinvention as the independence party in Catalonia. Nevertheless, the decade of the 2000s saw devolutionist claims becoming more prominent than those related to outright secession. This was linked to the achievement of major devolution in the UK (1999) and Belgium (1995)[11], and many secessionist parties achieved office around that time – including ERC in Catalonia and the NV-A in Flanders. These changes pushed these parties to adopt a more pragmatic approach based on deepening the devolutionist agenda and increasing their credibility as competent ruling parties at the regional level (Elias, Tronconi 2011). In fact, the findings suggest that office might contribute to moderate parties' positioning. On

[11] Devolution in Belgium started in 1970 and 1995 marks the completion of the process. Since 1995 members of the Flemish parliament have been directly elected.

average, secessionist parties in office advance pro-independence frames 49% of the time, while in opposition they speak about independence 57% of the time. The political processes in Catalonia and Scotland account for the sharp rise in secessionist claims more recently. Confederalism has been embraced by the Flemish NV-A and, to a lesser extent, by PC and EHB in some periods as well.

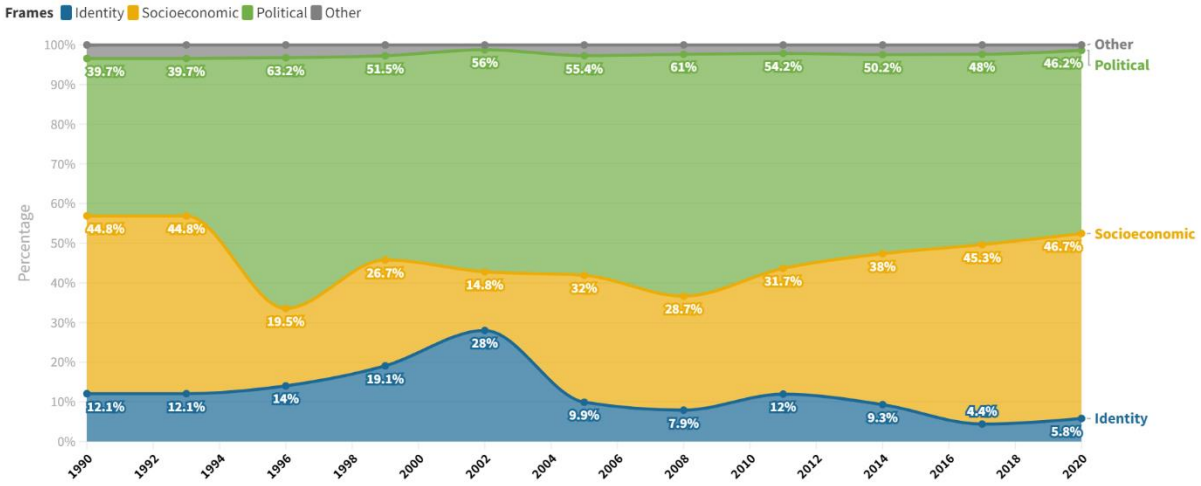
If we take a closer look at specific parties over time, the PQ and the SNP advanced secessionist claims during most of the 30-year period under analysis. The Catalan parties and the Flemish VB are also above the average – two-thirds of constitutional frames covering secessionist demands. Conversely, Plaid Cymru is, by far, the party with the strongest devolutionist agenda. It is only recently that PC has proposed the reorganisation of the UK along confederal lines – as the practical translation of its "independence in Europe". Related to this, the Flemish NV-A is the only party which advances an explicitly confederal agenda above other constitutional options. Finally, the Basque EHB has also recently moved towards a more pro-confederal position as part of a wider moderation strategy aimed at competing with the main nationalist party in that region – the Basque Nationalist Party or PNV.

Therefore, the trends show that secessionist parties move back and forth along the constitutional axis of political competition. They generally adopt a gradualist approach towards independence: devolution and confederalism are seen as steppingstones towards the ultimate goal of full secession. They radicalise their agenda when perceive that the time is ripe for further nationalist mobilisation – such as *Convergència* in 2012 Catalonia – but they also opt for de-escalation after a failed bid for secession to avoid alienating the electorate. In Scotland, Quebec, and Catalonia, parties put forward 87% of pro-independence frames in the election that immediately precedes an independence referendum, and 61% in the election that is immediately held after an independence referendum. For instance, the 2015 SNP's manifesto stated that "*the SNP will always support independence – but that is not what this election is about*". They asked for more powers to be transferred to Scotland instead. Similarly, the PQ in the 1998 general elections did not push for a third referendum but advocated for "*bringing together winning conditions [for secession] during the next mandate*".

Identity, politics, and the economy: secessionist framing strategies

The mapping follows a two-level conceptualisation of framing strategies by secessionist parties. It displays the general frames of identity, politics, and socioeconomics and it also identifies the subcategories within this broader set of frames. Figure 2 summarises how secessionist parties frame their constitutional position cross-case and over time based on whether they advance identity, politics, or socioeconomic frames for constitutional change.

Figure 2 - How secessionist parties frame their constitutional position cross-case and over time



As we can see from the figure, the dominant frame is almost always a political one. Usually, parties put forward arguments based on self-government, democracy, and governance. From this perspective, they underline the right to choose and the importance of making their own decisions – instead of depending on the state's political centre. The Quebecer parties use the concept of *souveraineté* (sovereignty) to illustrate this idea: "*sovereignty is the central goal of PQ's political action. [It is a] desire to allow Quebecker people to finally have the same powers that other peoples normally possess*" (PQ's 1994 manifesto, p. 7)[12]. Furthermore, constitutional change would bring about a thriving democracy and a better model of governance – usually opposed to the alleged "mess" or unfairness of the established territorial settlement. This is a frame highly employed by the Flemish NV-A against the Belgian state: "*this election programme wants the state structure to be in line with the confederal reality of the federal government on the ground […]. After all, the real fault does not lie with*

[12] Own translation from the original French: "*le Parti Québécois à fait de la souveraineté du Québec l'objectif central de son action politique. Cette volonté de permettre au peuple québécois de disposer enfin des mêmes attributs et pouvoirs dont disposent normalement les autres peuples […]*".

certain people or certain parties, but with the current Belgian structures – that simply no longer work"[13] (NVA's 2010 manifesto, p. 6).

Political frames are dominant in all periods except for 1990-1996 and 2017-2020, when socioeconomic frames became hegemonic. During the early and mid-1990s, the SNP in Scotland based its pre-devolution strategy on the economic benefits of secession. Moreover, Quebec held a referendum for its independence and the PQ/BQ focused on the economic viability of sovereignty: "*from an accounting point of view, once sovereign, Quebec will not face a tax hole*" (BQ's 1994 manifesto, p. 53)[14]. In the most recent period, many secessionist parties increasingly frame their position in socioeconomic terms as well. The two independence bids in Catalonia and Scotland from 2012 and 2014 have revolved around the idea of improving people's lives and what some authors have called "a better future" discourse (Elias, Franco 2021). For instance, ERC justified the creation of an independent Catalonia as means of "*fighting inequalities and redistributing wealth through the welfare state*" (ERC's 2012 manifesto, p. 55)[15].

Conversely, identity-based frames are much less deployed in parties' campaigns. They are the least employed frame except for the 1999-2002 period, when they peaked and overtook socioeconomic arguments for constitutional change. Identity claims have been decreasing in importance since then, and now they represent only around 5% of secessionist frames for constitutional change. If we take a closer look at individual parties framing strategies, PC and the NV-A are the parties which advance political frames most of the time. The SNP and JxC are the only parties displaying a dominant socioeconomic strategy for constitutional change. Identity is not the dominant frame in any of the parties under study: it is actually the least employed frame for all of them but EHB in the Basque Country. EHB prioritises nation-building rhetoric over socioeconomic considerations. They want to recognise the right of all Basques "*to preserve and develop their language and culture throughout Euskal*

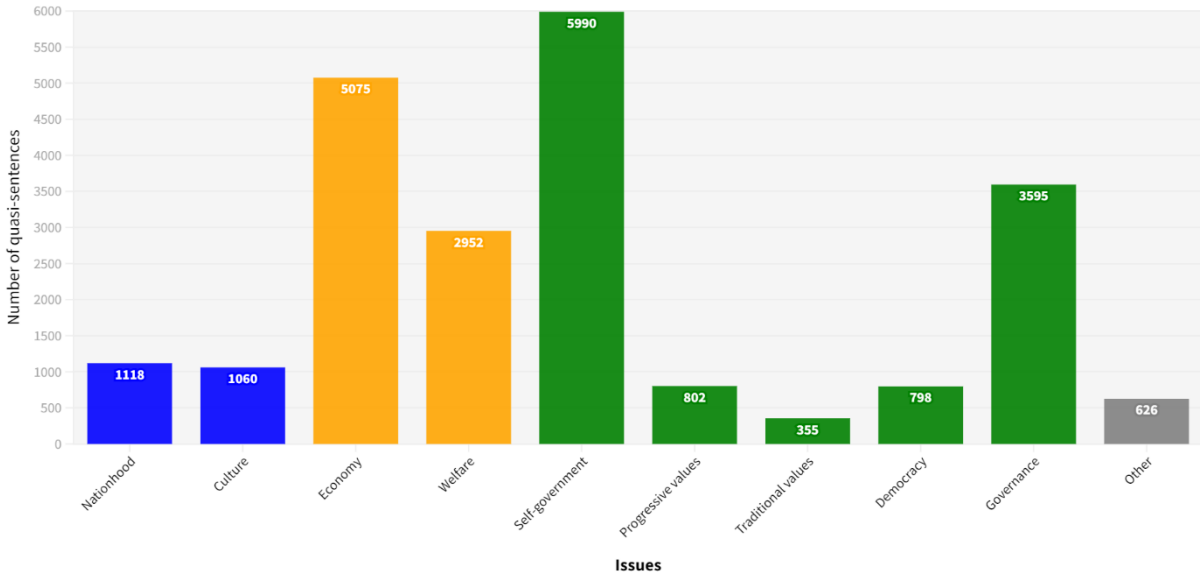
[13] Own translation from the original Dutch: "*De echte schuld ligt immers niet bij bepaalde personen of bepaalde partijen, maar bij de huidige Belgische structuren die gewoon niet meer werken*".
[14] Own translation from the original French: "*sur le plan comptable Québec ne fera pas face, une fois souverain, à un trou fiscal*".
[15] Own translation from the original Catalan: "*La nova República Catalana s'ha de constituir sobre la base de la lluita contra les desigualtats i la redistribució de la riquesa mitjançant l'estat del benestar*".

Herria [lands where the Basque is spoken]" (EHB's 2001 manifesto, p. 20)[16]. However, in recent times they have also opted for a socioeconomic discourse for constitutional change.

Beyond these general trends, a further exploration of the data reveals framing shifts before and after an independence referendum is held. Although it is still the least employed frame, identity arguments are much more prominent in the election that immediately precedes an independence referendum (8%) compared to the election that is immediately held after an independence referendum (4.9%). Socioeconomic and political frames do not change substantially. This reflects parties' appeal to their nation as a distinct society to justify the right of self-determination. Moreover, the findings also show that framing strategies are also different depending on whether secessionist parties are in office. While the quantity of political arguments remains approximately the same, socioeconomic frames are more used in government (32.8%) than in opposition (26.9%). Conversely, parties employ more identity frames when in opposition (13.5%) than when they are in office (7%).

When it comes to specific issues within each of the three broad frames employed by parties, we find the trends displayed in Figure 3.

Figure 3 - Issues stressed by secessionist parties: identity issues in blue, socioeconomic and quality of life issues in orange, political issues in green, and other issues in grey. Summary of the 1990-2020 period.



[16] Own translation from the original Spanish: "*todos los ciudadanos de Euskal Herria tienen derecho a conservar y desarrollar el euskara y la cultura vasca en toda Euskal Herria*".

Self-government, the economy, and governance are three main issues underlined by secessionist parties when making their case for constitutional change. They represent 2/3 of the arguments put forward by parties. Instead, values and democracy are the least prominent in their campaigns. Looking at the behaviour of specific parties, self-government claims are dominant in the campaigns of PC, ERC, EHB and the idea of "*souveraineté*" in the PQ. The economy is the most relevant argument for constitutional change in the cases of BQ, JxC, and VB. While BQ focuses on persuading people of the viability of an independent Quebec, the latter two denounce fiscal transfers to poorer regions – particularly VB. Conversely, the SNP focus on welfare rather than pure economic growth. The Flemish NV-A is the only party that chooses to make its case on governance grounds by blaming the Belgian state of permanent institutional gridlock. Figures 4 and 5 distinguish the frames that parties employ depending on whether they are arguing for sovereignty or for devolution. "Sovereignty" includes both secessionist and confederalist demands.

Figure 4 - Secessionist parties' frames when arguing for sovereignty, i.e., secession or confederalism.

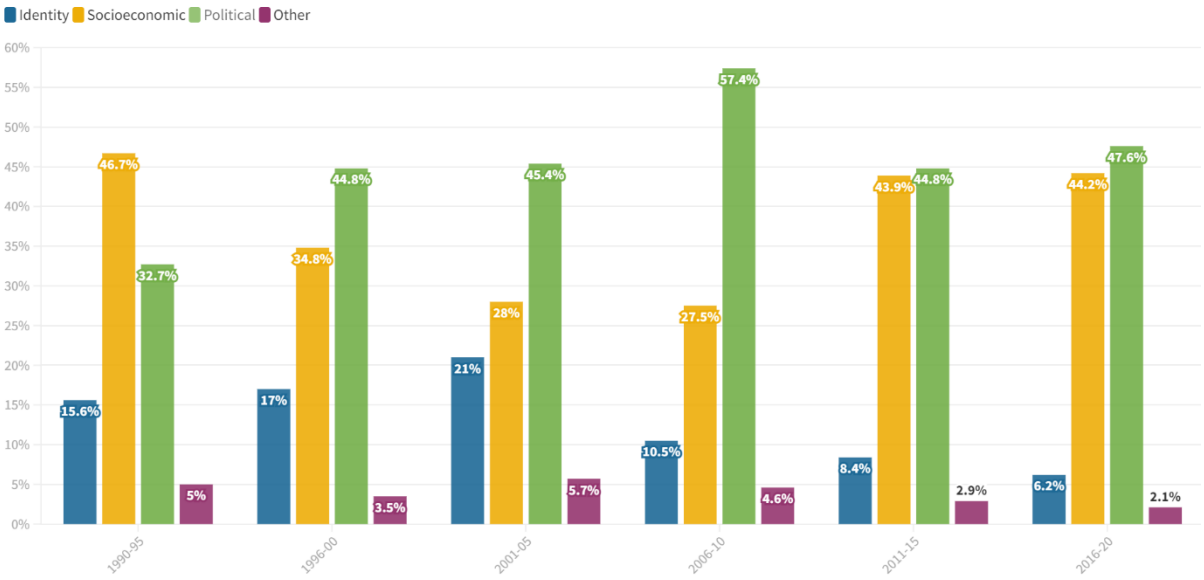
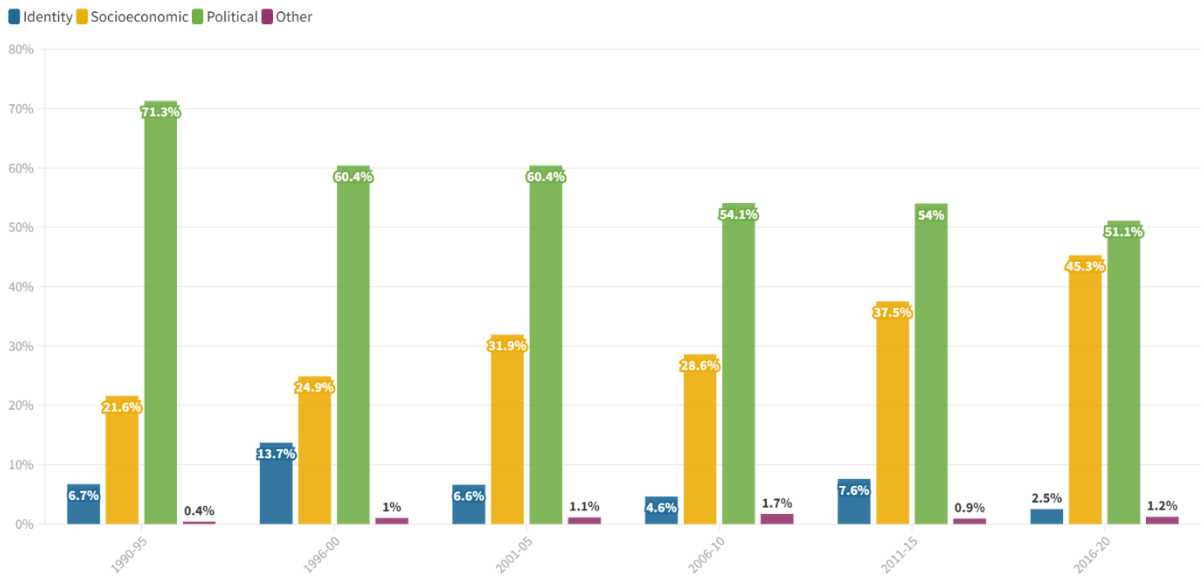


Figure 5 - Secessionist parties' frames when arguing for devolution.



The main differences between sovereignty and devolutionist frames are the following: firstly, identity frames are more salient when parties make sovereignty rather than devolution demands. The appeal to nationhood and culture is mostly employed when justifying the right to self-determination. Instead, political claims are more salient when secessionist parties are arguing for the devolution of more powers. Usually, they make devolutionary claims aimed at strengthening regional institutions and at becoming a self-governing society. Claims for better governance are also common when supporting devolutionist proposals. Thirdly, socioeconomic frames are slightly more prominent when claiming sovereignty, often aimed at justifying the economic viability of the new state and at offering a “better future” (Elias, Franco 2021) in the

event of independence. Despite these differences, the results show that secessionist parties do not drastically change their framing strategies when arguing for different constitutional options. Finally, the longitudinal analysis identifies a clear trend towards a socioeconomic case for constitutional change both in sovereignty and devolutionist demands. The decreasing importance of identity frames, particularly when justifying sovereignty, is also a relevant feature of the results.

6. Discussion and main conclusions

Despite the publication of numerous case studies and some datasets, political science has made limited progress in analysing the discourse of secessionist parties cross-case and over time. The present contribution fills this gap in the literature by mapping how these parties position themselves on the constitution and the strategies they choose to frame constitutional change. The data is original, and it has been coded manually. The results of this mapping contribute to the literature on party politics by offering new insights regarding how minority nationalist parties choose to compete in the electoral market.

The analysis suggests that secessionist parties are highly responsive to public opinion and the political context, and rarely take maximalist positions that would undermine their position in the electoral market. Usually, secession is perceived as a very radical constitutional option that might alienate some voters. Hence, pro-independence parties often take a gradualist approach and advance devolutionist claims as a steppingstone towards their ultimate goal of full sovereignty. The results have identified that parties' devolutionist demands are salient in regions displaying either low support for independence – such as Wales[17] – or when a broad consensus for devolution and state reform exists. Since these parties aim to promote the territorial empowerment of their region, they tend to endorse any kind of decentralisation agenda as a first step towards full independence. This was the behaviour of ERC in the early 2000s, when entered the Catalan government led by the federalist PSC to work on a new autonomy arrangement for the region. It is also the case of the Flemish NV-A,

[17] Excluding the undecided, recent polls in late 2022 show about 30% of support for independence in Wales (29.5%, YouGov, Nov 2022).

which periodically agrees on new state reforms in Belgium – framed as further steps towards sovereignty.

Instead, pro-independence demands are hegemonic during periods of high territorial contestation and wide support for sovereignty – such as in Catalonia, Scotland, and Quebec before the independence referendums they held. A recurrent pattern that has been found is that the unfeasibility of further state reforms often triggers outright pro-independence behaviour by secessionist parties. For instance, in 2010 the Spanish constitutional court limited the autonomy of Catalonia, and this event pushed Catalan nationalists to argue for independence as the only constitutional alternative to the status quo (Serrano 2015, Ferreira 2021). Similarly, the secessionist campaigning of the PQ in the early 1990s is the reaction to the failure of two state reforms in Canada. The 1987 *Meech Lake Accord* and the 1992 *Charlottetown Accord* aimed to recognise Quebec as a "distinct society". Their final rejection by English Canada facilitated the PQ to articulate a discourse about sovereignty as the only way to promote Quebec's interests – as opposed to the alleged unworkability of Canadian federalism (Basta 2017, 2021)

With regards to framing, the results have identified a trend towards a socioeconomic case for constitutional change in recent years. Conversely, identity frames are the least employed and decrease in importance over time. We can find this pattern across cases and regardless of party position – they choose to articulate socioeconomic frames when arguing for both devolution and independence. Although SNRP are, in fact, "ethnic entrepreneurs" (Tursan 2003) and their core base of voters tend to display a strong regional identity (Serrano 2013, Burg 2015, Medeiros 2017), this does not mean that they stress identity issues to justify their constitutional position. Secessionist parties prefer to frame self-government as an opportunity to boost the economy and build a better welfare system for the population they claim to represent. Political promises such as better governance in the event of constitutional change are also relevant. As strategic actors, parties expect these frames to appeal to a broader range of voters beyond their core nationalist supporters – as people with dual identity and an ambivalent constitutional position will be more likely swayed by the promise of improving their quality of life. Further research should dig deeper into the causes and consequences of this party behaviour.

These results have broader implications for the study of party competition beyond the field of territorial politics. Previous studies showed that SNRP behave like other mainstream parties by activating non-constitutional dimensions of politics such as the left-right ideological axis – placing great emphasis on the economy, governance, and welfare. This contribution has shown that secessionist parties address these issues when activating constitutional politics as well. SNRP subsume constitutional affairs into the left-right axis of political competition: constitutional change is presented as means of improving people's lives – rather than an end in itself. This is an original contribution since it demonstrates that the constitution is not always the primary dimension of SNRP's competition strategy. Furthermore, state-wide parties accuse SNRP of being "obsessed" with the constitution and therefore neglecting important issues such as the economy or the situation of public services. By presenting constitutional change as a means of improving people's lives, SNRP link territorial politics and valence issues to enhance their competitiveness in the electoral market vis-à-vis state-wide parties.

Further research could explore the causes and the consequences of party behaviour, i.e., why parties choose to employ some frames over others and to what extent these choices help parties attain their votes, office, and policy goals. Furthermore, the data generated by this paper – based on 93 manifestos – can be exploited by party and territorial politics scholars for their work on sub-state nationalist mobilisation. These data can be used to explain variations between cases and between periods of time. The coding scheme can also be applied to more cases, including secessionist parties from non-Western regions. This coding scheme can also be modified for more fine-grained analyses – for instance, the "devolutionist" category in party positioning could be divided into autonomy and federalism.

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Identity, money, or governance? explaining secessionist parties' rhetorical strategies

Abstract-. Under what conditions do secessionist parties advance identity, socioeconomic or political frames for constitutional change? By performing a Qualitative Comparative Analysis (QCA) of 93 party manifestos from six Western regions, the results identify a key variable that plays an important role in rhetorical strategies: the governmental status of the party. In linguistically distinctive regions, parties tend to put forward identity frames when in opposition. Instead, being in office is a condition for framing their position in socioeconomic terms. The results concerning political frames are highly complex, although patterns around office holding have also been identified. Hence, the present article shows that office-seeking strategies imply a fundamental change in how these parties frame their claims. Minority nationalist parties take the opportunity of being in office to enhance their credibility as governing parties by downplaying identity issues in favour of a more inclusive and policy-oriented appeal.

Keywords-. Framing, Nationalism, Regional Parties, Secession, Territorial Politics

1. Introduction

In its 1984 manifesto, the then smallest party in Catalonia, the secessionist *Esquerra Republicana de Catalunya* (ERC), justified independence because "the right to be different, the right to be what we have been for centuries […] is inalienable". They considered that "maintaining their identity is the fundamental right of peoples, without which other rights are meaningless" (ERC 1984: 12)[18]. *Esquerra* became the largest party in the regional parliament almost 40 years later – putting forward a very different discourse. The former president of the Catalan legislature, a high-ranking ERC's official, explicitly stated in 2020 that he was not a nationalist. Instead, he aimed to create "a [independent] Catalan republic built upon certain principles and values, which is meant to improve people's living conditions – since we can't live off symbols and memories" (Torrent 2020)[19]. A similar strategic evolution can be observed concerning other parties, such as the SNP in Scotland (Lynch 2009, Elias 2019). Instead, the Flemish nationalists or the Quebecker parties mostly advance political frames based on governance and sovereignty, respectively (Maddens 2018, Lecours 2020).

Why are socioeconomic frames hegemonic in some instances and political frames are dominant in others? When and why do secessionist parties stress identity issues? The insights we possess so far are based on case studies and offer highly contextual explanations. Although we know that minority nationalist parties are strategic actors and can adapt their discourse to very different situations (Hepburn 2009, Brown Swan 2018), we lack research designs aimed at generalising the findings beyond specific cases. As a step in this direction, this paper takes a comparative approach and identifies cross-case conditions that help explain why these parties choose certain frames over others. The data consist of a rich corpus of 93 manifestos by parties from six Western regions – the Basque Country, Catalonia, Flanders, Quebec, Scotland, and Wales.

[18] Own translation from the original Catalan: "per ERC el dret a l'autodeterminació és un dret inalienable perquè és el dret a garantir la continuïtat nacional, el dret, en definitiva, a la diferència, a continuar essent el que hem estat des de fa segles [...]. El dret a mantenir la seva identitat és el dret essencial dels pobles, sense el qual res no signifiquen tots els altres".

[19] Own translation from the original Catalan: "una república catalana construïda sobre uns principis i valors que siguin útils per a millorar la vida de la gent, perquè dels records i dels símbols no en vivim".

The results of a Qualitative Comparative Analysis (QCA) of these manifestos identify a key condition that plays an important role: the governmental status of the party. In linguistically distinct regions, parties choose identity frames when out of office. When they are in government, however, they tend to frame their claims in socioeconomic terms. Hence, office-seeking strategies fundamentally shape their choice of rhetorical strategies. Secessionists take the opportunity of being in office to bolster their position vis-à-vis competing parties by downplaying identity issues in favour of a more policy-oriented and inclusive appeal. They reassure voters by presenting constitutional change as the continuation of their governmental work with enhanced powers – thus linking constitutional change to the improvement of people's lives. Moreover, secessionist parties can avoid attributions of blame by arguing that they cannot deliver better policies due to limited self-government.

A better understanding of secessionist parties' strategic behaviour is key to face the challenges of territorial politics in Western democracies. These results contribute to the literature on territorial party politics and have policy implications as well: a successful campaigning platform by minority nationalist parties can lead to the breakup of established polities, with broader policy and social implications for citizens, businesses and other states and international organisations. The article is organised as follows: the next section reviews the literature on territorial party politics and framing strategies. Section three develops the theory and formulates the main hypotheses put to the test. The methodological section is displayed after that. The results of the QCA analysis are presented in section five. Finally, the article ends with a discussion of the findings and their wider implications.

2. Framing territory: describing and explaining party claims

The classic work by Rokkan and Urwin (1983) identified three main dimensions of territorial inequality in multinational states: cultural, political, and economical. Scholars have mostly explored these elements as independent variables. Several survey-based studies assess the impact of these factors on people's attitudes toward independence (Serrano 2013, Muñoz, Tormos 2015, Burg 2015, Medeiros 2017). Others have treated them as objective or material conditions for a secessionist movement to appear and grow (Sorens 2008, Sorens 2012, Muro, Griffiths 2020). However, it is only very recently that scholars have started to analyse how these territorial inequalities are

used by minority nationalist parties to make their case for constitutional change (Dalle Mulle 2017, Basile 2018, Dalle Mulle, Serrano 2019, Abts, Dalle Mulle et al. 2019, Elias, Franco 2021).

The work by territorial party politics scholars has been twofold: firstly, they have mapped the way minority nationalists speak about identity, politics, and the economy in their campaigns. Elias et al. map the frames advanced by regionalist parties and civic organisations in Europe (2021), while Griffiths and Martinez have built up a dataset on secessionist grievances using data from many countries (2020). The present contribution draws from Ferreira (2022). Secondly, despite this intensive mapping, there have been few attempts to explain rhetorical choices from a comparative perspective. Instead, the insights we possess so far focus on one element of party discourse such as the economy (Dalle Mulle 2017) or grievances (Griffiths 2021), or are based on one or a few case studies (Maddens 2018, Elias 2019, Abts, Dalle Mulle et al. 2019, Elias, Franco 2021).

Overall, the literature distinguishes between regional and party-level conditions that might affect party discourse. Regarding the former, the socioeconomic status of regions is a classic independent variable in the study of territorial politics. Scholars distinguish between “bourgeois nationalism” (Harvie 1994) or “the nationalism of the rich” (Dalle Mulle 2017) from the idea of “internal colonialism” (Hechter 1975) of backward regions. According to these insights, nationalist parties in wealthy regions denounce fiscal transfers to poorer areas. Conversely, those parties operating in relatively poorer areas accuse the state of economic neglect (Huszka 2013). However, although these insights tell us how parties present their economic case for constitutional change, they do not explain whether the economic status of regions pushes parties to speak more about the economy compared to identity or politics in their campaigns.

Other relevant regional-level conditions relate to identity elements. Most insights we possess in this regard do not treat secessionist parties’ discourse as the dependent variable. Instead, they are interested in how the presence of a distinct language and a history of past independence affect the strength of secessionism as a political movement (Hesli, Reisinger et al. 1997, Mendelsohn 2003, Sorens 2008, Fitjar 2010). However, we do know that, as strategic actors, secessionist parties use

any “objective material” at hand to mobilise their constituency, including language (Alonso, Cabeza et al. 2017). Furthermore, and concerning Catalonia and Quebec, several authors have shown that a deficit of national recognition by the centre would push parties to raise democratic grievances against their host state (Serrano 2015, Della Porta, O'Connor 2017, Lecours 2020). Moreover, Walker uses the Corsican case to argue that identity-based discourses are also salient when a people is not recognised as a distinct nation (2019). Finally, the region’s degree of self-government is another relevant regional-level condition that might affect party discourse: focusing on Spain and the UK, Alonso et al. (2017) argue that parties make political claims based on acquiring more competences when the region’s level of self-government is low.

Regarding party-level conditions, the literature has focused on left-wing ideology as a potential variable that might affect framing strategies by secessionists. Some authors suggest that ideology – in combination with the political and economic context – could affect the way parties frame the economic case for constitutional change (Erk 2010, Massetti, Schakel 2015). However, this does not tell us whether ideology impacts party choices between different types of frames. Finally, the size of parties and their governmental status also feature in the relevant literature. For instance, we know that mainstream nationalist parties invoke governance and administrative efficiency in Spain and Belgium (Field, Hamann 2015, Maddens 2018). Moreover, when parties go “from protest to power” they also change their strategic decisions to enhance their credibility as ruling parties (Elias 2009, Elias, Tronconi 2011). Drawing from the Aosta Valley case, Sandri has shown that nationalists in government try to downplay identity issues in favour of a more policy-oriented and inclusive appeal (2012). However, the literature is not conclusive with regards to the causal arrow present here, namely, whether parties broaden their appeal to achieve office or whether they use office to broaden their appeal.

A more recent strand of scholarly research shows that mainstream secessionist parties – defined here as electorally successful – tend to make an “instrumental” case for independence based on the economy, welfare, and better governance for the regional population. This would be the case by the SNP in Scotland, ERC and JxC in Catalonia, and the NV-A in Flanders (Dalle Mulle 2016, Maddens 2018, Dalle Mulle, Serrano 2019, Elias 2019, Elias, Franco 2021). Overall, all these contributions have

greatly improved our understanding of framing strategies by minority nationalist parties. Nevertheless, as we have seen, they either focus on one or a few cases, or only cover one type of frame. It is only very recently that Elias et al. have put forward an exhaustive dataset about framing strategies by regionalist parties (2021). This dataset, however, is yet to be exploited. Therefore, there is no established theory about framing strategies by secessionist parties in the literature on territorial politics.

3. Theoretical framework and hypotheses

This paper draws from the classic conceptualisation by Rokkan and Urwin (1983) of the three dimensions of territorial inequality that run across centre-periphery relations: culture, politics, and the economy. Drawing from this, the present contribution distinguishes between identity, political, and socioeconomic frames for constitutional change by secessionist parties. I treat these as the dependent variables. Frames are arguments aimed at describing and justifying a particular political position – here, constitutional position (Helbling 2014, Basile 2016). Although all the parties under study are secessionists in theory, they also advance devolutionist claims in practice – therefore, this contribution explores how they make a case for constitutional change, including devolutionist, confederalist, and secessionist claims. It is noteworthy to mention that parties always combine identity, socioeconomic, and political frames in their campaigns. However, they change the saliency they give to each of them from one campaign to another. This variation is the phenomenon I attempt to explain.

The statements that fall under the "identity" frame are the justifications for constitutional change based on nationhood and protecting the regional language and culture. For instance, the *Parti Quebecois* in its 2008 manifesto justified the right to self-determination by stating that "there is a thing Quebecers have never doubted: that they are a nation"[20]. The economy, welfare, and the environment cover the "socioeconomic and quality of life" frame. The Basque secessionist party *EH Bildu* in 2016 offered an example of this: "we want to develop our own Labour Relations Framework to […] achieve better salary conditions, starting with a minimum wage of

[20] Own translation from the original French: "*Il y a une chose dont toutes les Québécoises et tous les Québécois n'ont jamais douté, c'est qu'ils forment une nation*"

€1,200”[21]. Finally, the “political” frame for constitutional change includes arguments concerning self-government, democracy, governance, and values – the latter meaning the envisioning of either a progressive or traditional society. For instance, JxC wrote in 2015 that secession would be “an opportunity to build a Catalan administration which would be simplified, efficient, agile, and modern; continuously evaluated and at the service of citizens”[22].

Since there is no established theory on why parties choose certain frames over others when making their case for constitutional change, this paper seeks to contribute to the development of a theory on secessionist parties’ choice of rhetorical strategies by proposing an initial explanatory framework. Following the previous literature review, up to nine conditions have been identified as potentially relevant. However, it is technically impossible to run a QCA model with that many variables (Schneider, Wagemann 2012: 151-177). Therefore, each outcome is tested using only four or five conditions, changing from one outcome to the other. The way these variables have been grouped is guided by the iterative dialogue between prior theoretical knowledge and empirical insights gained during the research process. The ongoing refinement and reduction of the number of conditions form an integral part of a good QCA (Schneider, Wagemann 2012: 277). I present below the results of the best-performing models. The results of other models tested are available from the author upon request.

Regional-level conditions are the first independent variables that might affect framing strategies. We know that culturally differentiated regions are more prone to develop nationalist movements, and that identity is a driver of secessionism at the individual level (Serrano 2013, Burg 2015, Medeiros 2017). Therefore, as strategic actors – which take advantage of the objective “material” existing out there to frame their position –, we can expect parties from culturally distinct regions to exploit their distinctiveness when making their case for constitutional change. I use the existence of a widely spoken regional language to reflect this. Furthermore, I also expect regions with a history of lost autonomy and self-government to emphasise identity frames based on national rights. In this regard, national movements tend to use “symbols of

[21] Own translation from the original Spanish: “*Marco Propio de Relaciones Laborales […] para así conseguir universalizar mejores condiciones salariales y laborales comenzando por un salario mínimo de 1.200€*”.

[22] Own translation from the original Catalan: “*estructurar una administració catalana propera, simplificada, eficient, àgil i moderna, que s’avaluï contínuament i que estigui al servei de la ciutadania*”.

past sovereignty" (Wishman, Butcher 2022) to justify their right to self-determination at present – as some sort of "restoration" of their self-rule.

The degree of national recognition by the centre can also affect party strategy in two ways: firstly, if a region is not recognised as a distinct nation, parties may underline its national character to justify constitutional change (Basta 2021). Instead, there is no need to emphasise nationhood issues when the state is explicitly multinational. Second, the failure of national recognition can raise democratic grievances – i.e., political frames – against the host state. This failure would be presented as an example of a democratic deficit and an authoritarian approach to the state's internal diversity. A fourth regional-level condition that may affect party strategies is the degree of self-government: we expect parties to concentrate on political claims based on acquiring more competences when the region's level of self-government is low (Alonso, Cabeza et al. 2017).

The socioeconomic status of a region is another relevant condition identified in the literature: although parties from both relatively poorer and relatively wealthier regions can articulate a constitutional discourse around the economy, we expect secessionists from wealthier regions to advance more socioeconomic frames for constitutional change. The reason for that relates to the economic viability of sovereign statehood: a secessionist party from a relatively poorer region would have a hard time justifying self-government, let alone outright independence, on economic grounds (Rokkan, Urwin 1983: 134-135). Finally, the last regional-level condition of relevance is ideological distinctiveness: secessionist parties tend to offer "societal projects" (Lecours 2020: 143) to convince their constituency of constitutional change. Often, this societal project is distinct from the project of the country as a whole – this would be the case of the social-democratic society envisioned by the SNP against "Tory England", or the liberal Flanders as opposed to the "socialist Wallonia" of the south. Hence, parties from ideologically distinct regions can be expected to make a political case by arguing that their society does not enjoy the policies its citizens have voted for due to the established constitutional regime.

In addition to these regional-level factors, three party-level conditions have been identified as theoretically relevant. First, party ideology. It is expected that right-wing parties from wealthy regions would make an economic case for constitutional

change, as the “nationalism of the rich” discourse suggests (Massetti, Schakel 2015, Dalle Mulle 2017). Second, party size may influence both the identity and the economic case for constitutional change. By “party size”, I refer to the electoral strength of a particular party in a given election. We know from various studies that a discourse heavily based on identity hinders vote-seeking strategies by secessionist parties (Sandri 2012, Serrano 2013, Muñoz, Tormos 2015). Hence, parties that emphasise identity considerations would only attract a meagre share of votes. Conversely, parties who have broadened their appeal beyond their core base of nationalist voters – by framing constitutional change in socioeconomic terms – are more likely to have grown. In this regard, large parties would make an economic case for constitutional change, while small parties would advance identity frames.

Third, we can expect the governmental status of parties also to matter. We know that nationalists in office try to enhance their credibility as reputable ruling parties by moving away from prejudices and nicheness (Alonso 2012, McAngus 2016). As these parties are often criticised for being overly concerned about flags and selfhood (Gagnon, Lecours et al. 2011), we can expect secessionists in government to bolster their position vis-à-vis competing parties by adopting a more inclusive and policy-oriented discourse. This also allows them to reassure voters about the viability and purpose of constitutional change – improving people’s lives. Moreover, it helps them avoid attributions of blame by arguing that they cannot deliver better policies due to limited self-government. Therefore, the promise of building a working economy and welfare and a better governance system in the event of constitutional change would be the primary framing strategy by minority nationalist parties in office (Elias, Franco 2021). Instead, identity frames are more likely to be employed by parties in opposition. Table 2 summarises all these theoretical expectations.

Table 2 - Main hypotheses of the research.

Condition	Label	Identity case	Economic case	Political case
Distinct language	*Lang*	Present	Not Included	Not Included
History of self-government	*His*	Present	Not Included	Not Included
National recognition	*Nrec*	Not Present	Not Included	Not Present

Wealthy region	*Eco*	Not Included	Present	Not Included
High degree of self-government	*Self*	Not Included	Not Included	Not Present
Ideological difference	*Idiff*	Not Included	Not Included	Present
Right-wing ideology	*Ideo*	Not Included	Present	Not Included
Large party	*Size*	Not Present	Present	Not Included
Party in government	*Pgov*	Not Present	Present	Present

4. Research design, data, and methods

Case selection and data

The data source is based on the mapping performed by Ferreira (2022). The study includes relevant pro-independence parties in Belgium, Canada, Spain and the UK over 30 years (1990-2020). These four are the most important multinational countries in Western democracies, and have historically been the object of many studies regarding territorial politics (Keating 1996, De Winter 1998, Alonso 2012). Canada, Spain, and the UK are the only countries in the Western world where recent referendums on independence have taken place, and Belgium is the paradigmatic example of a society divided along ethnolinguistic lines – with a strong pro-sovereignty feeling in Flanders. My cases are nine political parties from these regions, and party manifestos are the units of observation – 93 in total.

I examine those relevant secessionist parties that are currently active. My criterion for relevance is consistently achieving around 10% of the votes. I have excluded from the analysis those parties that are not clearly pro-independence – such as the Basque Nationalist Party in Spain[23] – and those which hold irredentist positions – i.e., parties that do not want to constitute a new state but to join an already existing

[23] The PNV constitution ambiguously speaks about "the full recovery of the Basque national sovereignty" as a general principle, but not as one of the party's aims.

one, such as Sinn Féin in Northern Ireland. Therefore, the parties under examination are the following: the Scottish National Party (SNP), *Plaid Cymru* (the Party of Wales, PC), *Esquerra Republicana de Catalunya* (Republican Left of Catalonia, ERC), *Junts per Catalunya* (Together for Catalonia, JxC), *Euskal Herria Bildu* (Basque Country Unite, EHB), *Parti québecois* (the Party of Quebec, PQ), *Bloc québecois* (Quebecker Bloc, BQ)[24], *Nieuw-Vlaamse Alliantie* (New Flemish Alliance, NV-A) and *Vlaams Belang* (Flemish Interest, VB).

Three of these parties can be considered the successors of older parties. This is the case of JxC, VB, and, to a lesser extent, EHB in the Basque Country[25]. In all these cases, I have included the older parties in the analysis as if they were the same political party over time. Finally, parties that were not pro-independence in the past but are secessionist today have only been included since their pro-independence turn. This is the case with Plaid Cymru – which officially declared "independence in Europe" as their policy goal in 2003 – and of Together for Catalonia, which started to advance a pro-sovereignty agenda from 2012. The rest of the parties are examined from 1990 except for the NV-A, founded in 2001.

Regarding data collection, manifestos are the source I use because they are available in all countries and can be analysed retrospectively and cross-case. They are widely considered a convenient and sufficiently valid source of revealed party positions (Ruedin, Morales 2019). Manifestos can be analysed either manually or through automated approaches, which is ultimately a choice between reliability and validity (Koljonen, Isotalo et al. 2020). In this case, I opted for a manual coder approach since the task carried out here is oriented toward uncovering meanings and interpreting arguments. The computerised word-count strategy disregards context, and it is unable to capture discourse by political parties adequately (íbid.). I include all

[24] Although they are formally independent from one another, I treat the Quebecois parties as if they were the same party running in different electoral arenas – the PQ only runs for regional elections, while the BQ only runs for general elections. Both parties share the same programme, support each other politically and their membership and electoral base overlap.

[25] The older parties are *Convergència Democràtica de Catalunya* (CDC), *Vlaams Blok* (VB), and *Herri Batasuna* (HB) and its successors, respectively.

the manifestos for both regional and general elections except for three manifestos by EHB (1993, 1996 and 2005), which were not available.

The way I coded the frames follows the handbook produced by the Comparative Manifesto Project (Burst, Krause et al. 2021) and the Regional Manifesto Project (Alonso, Gómez et al. 2013). This approach consists of quantifying the statements or messages – here, frames – from the text. Each manifesto is divided into quasi-sentences. A quasi-sentence contains exactly one statement or "message". In many cases, parties make one statement per sentence, which results in one quasi-sentence equalling one full sentence. There are, however, some instances where one natural sentence contains more than one quasi-sentence. The coverage has been extensive: for each manifesto under study, I coded the whole section on constitutional affairs, if there is any, and every quasi-sentence throughout the document which refers to attaining powers and resources for the region that secessionist parties claim to represent. Each quasi-sentence of interest has been coded as an identity, a socioeconomic or a political frame – unclassifiable or unclear statements have been excluded from the analysis.

Explaining frames: Qualitative Comparative Analysis

Qualitative Comparative Analysis (QCA) is a methodological tool aimed at discovering set relations and complex causality (Ragin 1987, Ragin 2008, Schneider, Wagemann 2012). It is a set-theoretic approach because it operates on membership scores of elements in sets, where 0 is full non-membership of a set and 1 is full membership. After assigning set membership scores to the cases, the analysis follows the logic of necessary and sufficient conditions. Hence, it identifies the conditions that are usually or always present when the outcome is present, too – thus being necessary and/or sufficient for the outcome to occur. The underlying logic is different from probability reasoning. Rather than (statistically) testing whether a relationship between variables is found by chance, the causal findings in QCA are inferred from comparing sets of conditions and their relationship to outcomes. This is particularly suitable for highly complex phenomena such as party discourse. In this regard, QCA identifies different paths that lead to the same outcome. Furthermore, statistical analyses require significant sample sizes. Instead, QCA is a good choice for working with an

intermediate number of cases such as the ones examined here – requiring deep within-case knowledge.

There are two different QCA approaches: crisp sets and fuzzy sets. In the former, cases can only be full non-members (0) or full members (1) of a particular set. Conversely, in fuzzy sets, cases can have degrees of membership in each dimension. For instance, if we look at the condition "large size", in crisp sets a case can either be not large (0) or large (1). In fuzzy sets, the cases can take intermediate memberships such as 0.2, 0.4 or 0.7. An outcome or a condition is considered present when it is coded above 0.5. Below 0.5, it is considered absent. A 0.5 is considered neither a member nor a non-member of a set. Here I use fuzzy sets because it is a more fine-grained approach, and it is better able to capture complexity. The step to assign degrees of membership to cases in each dimension is called calibration.

Overall, the dataset upon which this contribution is built (Ferreira, 2022) shows that more than 57% of party frames are political on average, while 28% are socioeconomic and 11% identity based[26] – the remaining 4% include unclassifiable or unclear statements. This means that parties combine different claims in the same campaigning platform. However, the methodological strategy is not based on analysing each manifesto as a whole, but on the proportional frequency of each outcome in a manifesto vis-à-vis the proportional frequency of the same outcome in other manifestos. This means that a particular manifesto can rank high in two different types of claims – as they are complementary. Therefore, each outcome's top 50% of manifestos have been proportionally coded from 0.6 to 1, and the bottom 50% from 0 to 0.4. The only exception is the political case for constitutional change, where some manifestos with more than 50% of political quasi-sentences would have been coded as 0.4 – meaning that the outcome is not present. They have been coded as 0.5 to address this problem.

I have followed this criterion whenever possible, with some exceptions, also to calibrate the conditions. Language ranges from a widely spoken regional language and hegemonic in its territory (1) to the non-existence of a regional language (0). The

[26] Hence, throughout this paper, when I state that a party emphasises identity or socioeconomic frames, I do not necessarily mean that identity or socioeconomic frames are hegemonic in the party's discourse, but that they are more employed compared to the average of the manifestos under analysis.

history of self-government ranges from not history of self-government at all, like Flanders (0), to have been a full independent country in the past, like Scotland (1). The extent to which a region is recognised as a distinct nation range from not being recognised at all (0) to full recognition within an explicit multinational state (1). The economic status of regions is measured through the relative GDP per capita vis-à-vis the state's average GDP per capita. Following Sorens (2012), the condition "ideological difference" is measured by calculating the difference in votes for parties of the right between the country and the region at the current or last state-wide elections. Finally, the degree of self-government is measured following the well-known Regional Authority Index (Hooghe, Marks et al. 2016).

Regarding party-level conditions, the ideology of parties ranges from radical left (0) to radical right (1), and draws from the data by Chapel Hill Expert Survey (Jolly, Bakker et al. 2022) and the Comparative Manifesto Project (Burst, Krause et al. 2021). The condition "party size" is based on the proportion of votes reaped by parties and their position within the party system – meaning whether it is the largest party in parliament, the second, the third, etc. Finally, participation in regional government ranges from 0 – if the party is in opposition – to 1 – if the party is in government alone or as a senior partner. The reader can access more details in the supplement to Article 2.

After calibration, I used the software "fsQCA" to perform the analysis. In line with the theoretical framework, I have run three models separately to assess the impact of different conditions on each outcome. Firstly, I have run a necessity analysis. The validity threshold to be considered a necessary condition is 0.90 consistency (Schneider, Wagemann 2012: 279). Secondly, I have performed a sufficiency analysis. According to the literature, the minimum consistency threshold for a result to be valid in a sufficiency analysis must be "(well) above 0.75" (Schneider, Wagemann 2012: 279). This means that over 75% of the cases that display a particular combination must experience the outcome. Finally, I have also run two different robustness checks for each outcome under analysis (Oana, Schneider 2021). The first check consisted of changing the calibration – from fuzzy sets to crisp sets. The second check consisted of gradually increasing and then gradually decreasing the raw consistency thresholds until the Boolean formula for the solution changes. This has allowed me to assess the sensitivity ranges of the Intermediate Solutions (IS) I have found, as well as to find the

Robust Core (RC) of each solution (íbid.). These checks are fully displayed and explained in the supplement to article 2.

The next section displays the results, namely, the intermediate solutions at a 0.8 consistency threshold. When reading the results, we must bear in mind that different paths – combinations of conditions – can lead to the same outcome. The consistency figure shows the proportion of membership explained by a particular path. In addition, the coverage of each result indicates the proportion of cases covered by each of these paths (Ragin 2008: 44-70). The supplement to article 2 displays the full results, including the cases covered by each path, and the parsimonious and complex solutions.

5. Results

The identity case for constitutional change

None of the conditions meets the consistency threshold for necessity. Table 3 displays the sufficiency analysis.

Table 3. The identity case for independence. Intermediate solution: solution terms, coverage, and consistency.

Solution	Raw coverage	Unique coverage	Consistency
lang*his*~pgov	0.62	0.22	0.79
lang*size*~pgov	0.44	0.03	0.75

Intermediate solution coverage: **0.66**
Intermediate solution consistency: **0.76**

The sufficiency analysis displays a very good level of coverage (0.66) and a limited, but sufficient, degree of consistency (0.76). There are two paths leading to the same outcome. The first path shows that the combination of a distinct regional language and a history of self-government (*lang*his*) and being in opposition *(~pgov*) leads minority nationalist parties to make a case for constitutional change based on identity. It covers 20 cases from ERC and EHB. The second path combines the presence of a regional language (*lang*) with being a large party (*size*) in opposition *(~pgov*). Again, it includes 20 cases from PQ/BQ, PC, VB, and EHB. Finally, two conditions are supported by all the robustness tests: the presence of a regional language (*lang*), and history of self-

government (*his*) – this latter only appears in the first path, however. The checks indicate a partial empirical sensitivity range from 0.7 to 1 raw consistency thresholds.

The socioeconomic case for constitutional change

None of the conditions meets the consistency threshold for necessity. Table 4 displays the results of the sufficiency analysis:

Table 4. The socioeconomic case for independence. Intermediate solution: solution terms, coverage, and consistency.

Solution	Raw coverage	Unique coverage	Consistency
size*pgov*~ideo	0.27	0.15	0.84
eco*~size*pgov*ideo	0.19	0.06	0.82

Intermediate solution coverage (proportion of membership explained by all paths identified): **0.34**
Intermediate solution consistency (how closely a perfect subset relation is approximated): **0.82**

The solution consistency level is good (0.82), although the coverage is somewhat limited (0.34). The first path combines being a large party (*size*) in government (*pgov*) with a left-wing ideology (*~ideo*). It covers 16 cases by the SNP, PQ/BQ, and ERC. The second solution includes those parties operating in wealthy regions (*eco*) that are not electorally successful (*~size*), in government (*pgov*), and right-wing (*ideo*). It consists of 5 cases by JxC and the NV-A. The analysis of the socioeconomic case for constitutional change generates the most robust results since the Boolean formula does not change when modifying the consistency thresholds – full empirical sensitivity range from 0.8 to 1. Changes in the calibration also lead to the same results.

The political case for constitutional change

None of the conditions meets the consistency threshold for necessity. Table 5 displays the results of the sufficiency analysis:

Table 5. The political case for independence. Intermediate solution: solution terms, coverage, and consistency.

Solution	Raw coverage	Unique coverage	Consistency
~idiff*~pgov	0.52	0.04	0.76
idiff*pgov*	0.28	0.06	0.81

~nrec*~pgov	0.43	0	0.80
~nrec*Idiff*	0.35	0	0.84
~self*~idiff*nrec	0.38	0	0.84
~self*nrec*pgov*	0.20	0	0.88

Intermediate solution coverage (proportion of membership explained by all paths identified): **0.79**
Intermediate solution consistency (how closely a perfect subset relation is approximated): **0.76**

The overall solution coverage (0.79) is very good, although the consistency level is limited (0.76). The heterogeneity of the combinations of conditions makes this outcome the most difficult to explain. The first path combines representing a non-distinct ideological region with being in opposition (*~idiff*~pgov*) and covers 20 cases from EHB, ERC, and PC. The second path displays the opposite results (*idiff*pgov*) and captures 17 cases from the SNP, NV-A, and PQ/BQ. The third path covers those parties operating in non-nationally recognised regions in opposition (*~nrec*~pgov**), present in 20 cases from ERC and EHB. The next three paths primarily contain regional-level conditions and cover only a few cases. A high degree of regional ideological difference vis-à-vis the rest of the country combined with the lack of national recognition (*idiff*~nrec*) is present in 7 observations from PQ/BQ. A low degree of ideological difference and self-government (*~idiff*~self*) combined with national recognition (*nrec*) covers 7 cases from PC and VB. Finally, the combination of parties operating in nationally recognised regions (nrec) with a low level of self-government (*~self*) in government (*pgov*) is present in 2 cases from PC. Overall, this intermediate solution is the most sensitive to robustness checks. They identify a partial empirical sensitivity range from 0.8 to 1 raw consistency threshold. The robustness core consists of two paths towards the outcome: *idiff*pgov* and *~idiff*~self*nrec*.

6. Discussion

The analysis generates clear and robust results regarding the identity and socioeconomic frames for constitutional change, while political frames are more complex to explain[27]. The most prominent finding is the role of the governmental status

[27] While identity and socioeconomic frames are very specific, political frames cover a wide range of dimensions: democracy, governance, self-government, and values. This diversity could account for the difficulties encountered in explaining this framing strategy.

of parties as a critical condition explaining discourse. In linguistically distinct regions, i.e., all regions included in the sample bar Scotland, parties deploy identity frames when in opposition. These results confirm that parties effectively use the objective "material" at their disposal – here, language – to advance their political agenda (Alonso, Cabeza et al. 2017). However, the novelty of this contribution is that they do that when out of office. Most of the cases that follow this pattern of behaviour represent either parties that have historically been in opposition – such as EHB, the Flemish far-right VB and the PQ/BQ at the national level – or established parties before becoming mainstream – ERC in the 1990s and early 2000s and Plaid Cymru before joining a coalition government in 2007. An identity-based framing strategy might help to unite and bond their core nationalist base of supporters when in opposition.

Conversely, being in government is a condition for justifying their position in socioeconomic terms. Secessionist parties take the opportunity of being in office to present constitutional change as the continuation of their governmental work with enhanced powers. This strategy reassures voters by linking constitutional change to improving people's lives: increased self-government would give the region – and its secessionist government – more tools to address economic growth and deliver better public services. Moreover, it helps secessionist parties to avoid attribution of blame by arguing that they cannot deliver better policies due to limited powers. This framing strategy can be found in the campaigns by the SNP in Scotland, ERC and JxC in Catalonia, and the NV-A in Flanders (Dalle Mulle 2016, Abts, Dalle Mulle et al. 2019, Dalle Mulle, Serrano 2019, Elias, Franco 2021). The novelty of this finding is that it reverses the causal arrow normally presented in the literature: the common claim is that parties broaden their appeal to achieve office, rather than using office to broaden their appeal – as it has been shown here.

These findings have broader implications for studying party competition beyond territorial politics. It shows that being in office offers secessionist parties the opportunity to enhance their competitiveness vis-à-vis their state-wide competitors by subsuming constitutional affairs into "ordinary" politics. Usually, state-wide parties accuse minority nationalists of being "obsessed" with identity and the constitution and, therefore, of neglecting important issues such as the economy, welfare, or governance. The combination of executing actual policy and linking the constitution to their governmental work – constitutional change as a tool rather than an end – helps

them enhance their credibility as competent ruling parties. Furthermore, the commitment to concrete policy improvements in the event of constitutional change aims to overcome the state-wide parties' critique about independence being a "leap in the dark".

Finally, the remaining conditions tested in this contribution display unclear or negative results or are very party-specific. Further research should explore more in-depth their role in territorial party politics.

7. Conclusions

Although some authors have started to map how secessionist parties frame their constitutional position, political science has made limited progress in explaining the conditions under which parties choose to employ some frames over others. The present contribution fills this gap in the literature by identifying some of these conditions. The key finding is that the governmental status of parties is a crucial variable explaining the choice of framing strategies. In linguistically distinctive regions, parties tend to put forward identity frames when in opposition. Instead, being in office is a condition for justifying their territorial position in socioeconomic terms. The results concerning political frames are highly complex, although patterns around office holding have also been identified. These results are significant for the study of party politics since they show that secessionist parties take the opportunity of being in office to bolster their position in the electoral market vis-à-vis their state-wide competitors.

On another note, as the present analysis has generated plenty of data on framing strategies by secessionist parties, it would be highly relevant to exploit this data further. Hence, this contribution suggests three promising avenues for future research. Firstly, since we now know why and when parties produce certain discourses, it would be interesting to carry out case studies to explore the rationale of framing strategies advanced by each party at each point in time. Second, the results provide fertile ground to build a more comprehensive theory of framing strategies by secessionist parties. Finally, it would be highly useful to unpack the political frame by breaking it down into its different components – governance, democracy, self-government, and values – to better explain why and when parties choose political frames. Overall, scholars of territorial party politics can draw from the present

contribution to conduct empirical and theoretical research on framing strategies by nationalist parties.

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Pro-independence party frames and public opinion: do they work?

Abstract-. As strategic actors aimed at maximising their political goals, secessionist parties frame independence in a way they hope would benefit their interests. By employing an experimental design in Catalonia and Scotland, the present article explores whether citizens' exposure to different pro-independence party frames – focusing either on identity, economic or political matters – helps shape people's attitudes to secession. The results indicate that individuals hold strong pre-existing beliefs on constitutional change, and the way parties frame independence does not seem to influence public opinion. These insights suggest that secessionist parties might prioritise the attainment of vote and office goals over policy outcomes when choosing their rhetorical strategies. The findings have wider implications for the field of territorial party politics by showing the limits of secessionist parties' rhetoric in shaping policy preferences.

Keywords: Framing, Nationalism, Regional Parties, Secession, Territorial Politics

1. Introduction

Secession or independence is a constitutional option aimed at withdrawing a territory and its population from an existing state to create a new state on that territory (Pavkovic and Radan 2007, p.1). In multinational democracies, citizens tend to be divided over the issue of independence – in regions such as Catalonia or Scotland, voters remain evenly split over whether they support secession (Liñeira and Cetrà 2015). Although the importance of social movements, NGOs or the media should not be underestimated, political parties are the main actors in fuelling secessionist demands (Alonso, 2012; Barrio & Rodríguez-Teruel, 2017). Minority nationalist parties focus on mobilising the centre-periphery cleavage to aggregate and articulate the interests of stateless nations (Rokkan and Urwin 1983; Hepburn 2009). Although we know that they also place great emphasis on other dimensions of political competition, constitutional change is widely considered their "core business" (Meguid 2008; Alonso, Cabeza and Gómez 2015; Massetti and Schakel 2015).

The academic literature has extensively explored the way these parties make their case for independence (Dalle Mulle and Serrano 2019; Elias *et al.* 2021; Carles Ferreira 2022). However, the effects of these framing strategies on people's attitudes towards secession has not been explored yet. By employing an experimental survey design in Catalonia and Scotland, the present contribution takes a first step in addressing this question. Territorial party politics scholars have recently identified an increasing trend towards a socioeconomic case for independence by secessionist parties (Dalle Mulle 2016; Dalle Mulle and Serrano 2019; Elias 2019; Elias and Franco 2021). They argue that these framing strategies might help secessionist parties achieving their goals, which include the capacity to sway public opinion in favour of independence. The literature on secession further supports this idea: the cost-benefit economic calculations trump identity issues when people take sides in the independence debate (Blais and Nadeau 1992; Muñoz and Tormos 2015; Fullaondo and Zabalo 2021; Hierro and Queralt 2021; Agneman 2022).

However, the results of the experiment show that people hold strong pre-existing beliefs on constitutional change, and the way parties frame independence – focusing either on identity, economic or political matters – does not seem to influence people's attitudes. Party frames might have an effect in the long run through repetition

and prolonged exposition instead. More research is needed to fully capture framing dynamics in the territorial party politics domain. Therefore, this article opens up a promising new avenue of scholarly research on minority nationalist parties' rhetoric and public opinion.

Beyond its academic importance, the study of secessionist framing strategies is relevant for the stability and territorial integrity of established states. High levels of secessionist support challenge the very existence of multinational countries, which cannot properly function under the constant threat of secession by their regions. Hence, to know whether parties' framing strategies boost support for secession is crucial to facing the challenges of territorial politics in these countries. The article is organised as follows: the next section reviews the literature on framing analysis and party politics. Section three outlines the theoretical framework and the main hypotheses of the research. Section four describes the research design and the methodology. Section five presents the results of the experiment and section six discusses and summarises the contributions this paper makes.

2. Party frames and public opinion: insights from the literature

Frames are arguments aimed at describing and justifying a particular political position (Helbling 2014; Basile 2016). They present a policy or political choice by emphasising certain relevant features of reality and ignoring others (Oxley 2020). A frame "suggests what [a] controversy is about, the essence of the issue… [and] generally implies a policy direction or implicit answer to what should be done about the issue" (Gamson and Modigliani 1987, p.143). In sum, they "provide meaning to an issue and suggest how to understand and think about it" (Slothuus 2008, p.3). The analysis of frames stems from the disciplines of social psychology and sociology (Tewksbury and Scheufele 2019), and most of the research so far has focused on the effects of media frames on public opinion (Price, Tewksbury and Powers 1997; Valkenburg, Semetko and de Vreese 1999; de Vreese 2009).

Such effects are well-documented in the literature. For instance, a classic study on framing analysis shows that public tolerance for the Ku Klux Klan (KKK) is higher when the media frame a KKK rally as a matter of free speech rather than public order (Nelson, Clawson and Oxley 1997). Similar media frame effects have been found across a broad variety of issues such as gun policy (Haider-Markel and Joslyn 2001),

welfare spending (Nelson and Oxley 1999; Druckman 2001) or climate change (Spence and Pidgeon 2010; Wiest, Raymond and Clawson 2015). The academic consensus underlines the potential of frames in swaying public opinion, but the studies on political parties as a specific source of frame production are relatively scarce, and heavily US-based (Slothuus and de Vreese 2010; Leeper and Slothuus 2014).

We know that political parties engage in framing strategies to advance their vote, office, and policy goals (Rovny and Edwards 2012; Elias, Szöcsik and Zuber 2015). Framing is one of the strategic tools available to parties to compete in the electoral market and to persuade voters of the policies they promote (Elias, Szöcsik and Zuber 2015). The use of frames by political parties aims to change people's cognitive understanding of a given situation in a way that benefits them (Chong and Druckman 2007). Most of the research on party framing effects, however, revolves around *who* frames – source credibility and party cues – rather than what they frame (Slothuus 2010; Bechtel *et al.* 2015; Mullinix 2016; Slothuus and Bisgaard 2021).

The literature has nevertheless documented party frame effects on public opinion in issues such as income redistribution and European integration (Maier, Adam and Maier 2012; Somer-Topcu, Tavits and Baumann 2020) or welfare policies (Jerit 2009; Slothuus 2010). A meta-analytic assessment of framing effects in the political realm – including parties and political elites as frame-producers – revealed that framing exerts medium-sized effects on citizens' political attitudes and emotions (Amsalem and Zoizner 2022). The success of party framing is moderated by contextual and individual conditions such as the existence of a priori opinion, age, gender, or risk-aversion attitudes (Miller and Fagley 1991; Slothuus 2010; Adams, Ezrow and Somer-Topcu 2014). All these insights are based on framing strategies in a wide variety of policy domains. Amongst them, however, no study has analysed the effect of party framing on public attitudes to secession.

Surprisingly, the subfield of territorial party politics has not focused on this aspect either. Recent publications have started to identify the pro-independence frames put forward by secessionist parties (Dalle Mulle and Serrano 2019; Elias *et al.* 2021) and the conditions under which these frames are produced (Dalle Mulle 2017; Griffiths 2021; Carles Ferreira 2022). A growing body of scholarship establishes that minority nationalist parties increasingly focus on the economy and welfare rather than

identity when making their case for constitutional change (Dalle Mulle 2016; Dalle Mulle and Serrano 2019; Elias 2019; Elias and Franco 2021). Scholars argue that these framing strategies might help secessionist parties achieve their goals, which include the capacity to sway public opinion in favour of independence. However, the actual effects of secessionist parties' rhetoric on people's attitudes towards the constitution have not been addressed yet. This is the first contribution aiming to address this issue, and thus opens up a promising new research agenda on minority nationalist parties' framing strategies and public opinion.

3. Theoretical framework and hypotheses

By employing the classic conceptualisation by Rokkan and Urwin (1983), the present article identifies three different party frames deployed to justify change of constitutional status: identity, socioeconomic, and political. The frames that fall under the "identity" category are the justifications for independence based on nationhood and the protection of a regional language and culture. For instance, the *Parti Quebecois* in its 2008 manifesto justified the right to self-determination by stating that "there is a thing Quebecers have never doubted: that they are a nation"[28]. The economy, welfare, and the environment constitute the socioeconomic dimension of party rhetoric. The Basque party *EH Bildu* in 2016 offered an example of this: "we want to develop our own Labour Relations Framework to […] achieve better salary conditions, starting with a minimum wage of €1,200"[29]. Finally, political frames are rhetorical statements around self-government, democracy, governance, and values – the latter meaning the envisioning of either a progressive or a traditional society. For instance, the Catalan JxC wrote in 2015 that secession is "an opportunity to build a Catalan administration which would be simplified, efficient, agile, and modern; continuously evaluated and at the service of citizens"[30].

Recent insights suggest that pro-independence parties increasingly frame independence in instrumental terms, emphasising the economic and political benefit it

[28] Own translation from the original French: "*Il y a une chose dont toutes les Québécoises et tous les Québécois n'ont jamais douté, c'est qu'ils forment une nation*"

[29] Own translation from the original Spanish: "*Marco Propio de Relaciones Laborales […] para así conseguir universalizar mejores condiciones salariales y laborales comenzando por un salario mínimo de 1.200€*".

[30] Own translation from the original Catalan: "*estructurar una administració catalana propera, simplificada, eficient, àgil i moderna, que s'avaluï contínuament i que estigui al servei de la ciutadania*".

would deliver for the population they claim to represent (Dalle Mulle 2016; Dalle Mulle and Serrano 2019; Elias and Franco 2021). Instead, identity issues are far less prominent in their campaigns (Sanjaume-Calvet and Riera-Gil 2020; Elias and Franco 2021). Hence, the literature has identified a strategic shift towards a socioeconomic and political framing of secession. As strategic actors that take rational decisions to achieve their goals, we should expect these choices to be useful in terms of policy and electoral appeal: parties would increasingly frame constitutional change as means to improve people's lives because they believe these arguments will increase support for independence.

The literature on secession further supports this hypothesis: cost-benefit economic calculations trump identity issues when people take sides in the independence debate (Blais and Nadeau 1992; Muñoz and Tormos 2015; Fullaondo and Zabalo 2021; Hierro and Queralt 2021; Agneman 2022). Beyond the economy, political issues such as the desire for self-government or the existence of democratic grievances against the host state also play an independent role in explaining people's attitudes towards secession (Blais and Nadeau 1992; Mendelsohn 2003; Serrano 2013). Altogether, socioeconomic, democratic, and governance-based arguments for secession would help parties persuading people of independence. I therefore hypothesise that a discourse based on fuelling economic and politic arguments should persuade more people of independence than a rhetoric based on identity and culture.

H_1: People exposed to an identity-based pro-independence frame will display a lower level of support for secession than those exposed to economic or political frames.

However, I also hypothesise that different forms of pro-independence discourse do not affect everyone equally. I pose that national identity moderates the relationship between secessionist frames and pro-independence attitudes. As previous studies suggest (Liñeira and Cetrà 2015; Muñoz and Tormos 2015), individuals with strong and exclusive national identities would not be easily swayed by the way independence is presented to them – as national identity and constitutional preferences largely correlate (Blais and Nadeau 1992; McCrone and Paterson 2002; Serrano 2013; Burg 2015). Conversely, a discourse based on delivering "material" benefits to the population in the event of independence would persuade more individuals of constitutional change, particularly those with dual or ambivalent identities (Muñoz and

Tormos 2015; Zabalo and Iraola 2022). Since their territorial attachments are ambiguous, this segment of the population is more likely to make decisions on secession based on democratic or socio-economic benefits with which the case for independence is presented to them. Therefore, a political or socioeconomic discourse for independence would be more appealing to them compared to a rhetoric based on identity and culture.

H_2: A socioeconomic and political discourse or frame for independence will have a stronger impact among those citizens with ambivalent identities and less on those with exclusive identifications either with the region or the state.

4. Research design and methods

In order to estimate the causal effect of different forms of discourse on constitutional preferences, we need to move beyond observational research towards an experimental design. Unlike survey designs, experiments allow researchers to actively manipulate a treatment and thus clearly distinguish cause and effect (Gaines, Kuklinski and Quirk 2007; Mutz 2011). Respondents are assigned randomly to control and treatment conditions. By comparing the decisions of the respondents in the treatment groups, experiments reveal the causal effects under investigation. In this case, I compare the answers given by respondents when exposed to identity, socioeconomic and political pro-independence frames, as well as those in the control group – which have not been exposed to any frame.

Case selection

The experiment has been run in Catalonia (Spain) and Scotland (UK), the regions in Western democracies which display the highest level of support for secession[31]. These two cases are often compared in the literature due to their similarities, as key cases of minority nationalism and support for secession (Keating 1996; Dalle Mulle and Serrano 2019; Muro, Vidal and Vlaskamp 2020). Furthermore, the debate on independence was salient both in Catalonia and Scotland during the time the survey experiment was

[31] Excluding the undecided, recent polls in late 2022 show 49% support for independence in Scotland (Savanta, Dec 2022) and 46% in Catalonia (CEO, Nov 2022). The numbers in other regions with a strong nationalist sentiment are lower, such as in the Basque Country in Spain (42%, SV78, Oct 2022), Quebec in Canada (39.5%, Léger, Oct 2022) or Wales in the UK (29.5%, YouGov, Nov 2022).

designed and administered in January 2023. Before we go any further, it is important to briefly account for the context in which the research was conducted.

In the case of Catalonia, gaining ever greater degrees of autonomy within Spain was the main goal of the nationalist movement until the late 2000s. However, the failure to achieve a new autonomy arrangement for the region – overruled by the Constitutional Court in 2010 – radicalised the movement and ultimately led to the so-called Catalan "process" for independence (Serrano 2015; Barrio and Rodrí-guez-Teruel 2017; Anderson 2020; C. Ferreira 2022). In 2017, the regional parliament unilaterally declared independence while the Spanish senate temporarily imposed direct rule from Madrid. The consequences of this failed secession divided the pro-independence camp between the moderate republican left (ERC) and the radical *Together for Catalonia* (JxC). They ruled together until October 2022, when JxC decided to leave the government because ERC – the senior partner – favoured a strategy of dialogue with Madrid. By the time the survey was administered, ERC promised to convince the Spanish government to call a binding referendum on independence inspired by Canada's 2000 Clarity Act.

Concerning Scotland, the pro-independence Scottish National Party (SNP) benefited from the 1999 devolution arrangement and achieved office in 2007 after decades campaigning in favour of secession (Dardanelli 2013; Elias 2019). They have been in power ever since. In 2014, they managed to convince the British prime minister David Cameron to allow a referendum on independence (Cetrà and Harvey 2019). Most Scots voted to remain in the UK. However, the departure of the UK from the European Union reignited the constitutional debate – most Scots voted to remain in the EU – and led the former Scottish first minister Nicola Sturgeon to propose a second independence referendum. However, this time the British government rejected the proposal, and the Supreme Court ruled that Scotland does not possess constitutional powers to hold a referendum unilaterally. By the time the survey was administered, the SNP proposed to turn the next general elections – to be held by late 2024 – into a "plebiscite" on a second independence referendum.

Therefore, the two cases share many features: both regions are ruled by a centre-left pro-independence party, the level of secessionist support amongst the population is close to 50%, and by the time the survey was administered the debate

on independence was salient and revolved around the holding of an independence referendum. However, the two regions are also different in a couple of respects that are relevant for this research. First, unlike Catalonia, Scotland does not possess a widely spoken regional language as a key element of its national identity (Argelaguet 2006). Second, while Catalonia is one of Spain's wealthiest regions – hence, its economic viability as a hypothetical independent state is often taken for granted –, the Scottish economy relies on the North Sea oil and its GDP falls slightly below the UK average (Dalle Mulle 2017).

Experimental design and data analysis technique

I designed and administered two online experimental surveys – one in Catalonia and the other in Scotland – with 426 participants in the former and 446 in the latter. A power analysis using G-Power suggested 400 participants in each region[32]. The analysis was based on a medium effect size (f = 0.25), a significance level of 0.05 and a desired power of 0.95. The critical F-value for the specified effect size, significance level and power level was 1.85. I selected a 0.25 effect size because it allows for a balance between sensitivity and realism. Furthermore, the population under investigation is expected to exhibit moderate variability in the responses. The supplement to article 3 – Part B – displays the full results of the power analysis.

To avoid responses from participants who paid insufficient attention to the treatment, I removed respondents who took less than 30 seconds to complete the survey in Scotland and less than 40 seconds in Catalonia[33]. Recruitment to the panel was via Prolific Academic (PA)[34], an online crowdsourced survey recruitment service. Each participant received 0.75 GBP for their time. The use of PA provides higher quality data than similar data collection platforms because, compared to other crowdsourcing providers, participants tend to pay more attention to instructions and consistently complete questionnaires carefully (Peer *et al.* 2017).

Concerning demographics, in Scotland, 53% participants were female and 47% male, with 77.3% holding a university-level qualification or above. The age range was

[32] Testing for main effects and interactions.
[33] The survey in Catalonia included an extra filter question, this is the reason why I added 10 seconds more as a low participant attention criterion.
[34] For additional information, see https://www.prolific.co

18 to 79 years (mean=42.7; std deviation=13.12). In Catalonia, 44% participants were female and 54% male. The remaining individuals identify as non-binary or prefer not to answer (1.7%). 64.1% of participants in Catalonia held a university-level qualification or above, and the age range was 18 to 80 years (mean=31; std deviation=10.43). These samples are not representative of the wider populations of Catalonia and Scotland. This is not a drawback for the purposes of the current study, however. The goal of this is not to estimate real-world effects, less still to estimate the precise effects of any treatments (for which purposes samples representative of the populations would be required). Rather, the purpose is simply to identify whether a fairly simple framing experiment produces any discernible effect on people's attitudes to secession. For this purpose, a convenience sample is appropriate. Any extension of the research - towards more precise estimates of any framing effects - would require testing on representative samples.

Before administering the survey, a pilot was run through the “Qualtrics” platform to ensure that people appeared to understand the core treatment and could answer questions on the key variables. The pilot showed that respondents effectively navigated the survey smoothly and made informed choices. The PA samples were selected without using quotas. The respondents answered the survey in English in Scotland and in Catalan in Catalonia. While PA allows the researcher to select one of the four UK nations as the target population, in Spain the recruitment service is state-wide. The use of Catalan as the language of the survey aims at overcoming this obstacle, as most non-Catalan Spaniards do not understand Catalan[35]. Therefore, the first question in the survey asked whether the respondent held Spanish citizenship and lived in Catalonia. If not, the respondent was not allowed to take the survey. Both decisions were taken to ensure that the respondents were actual Catalans.

The survey included three demographic questions at the beginning – age, gender, and educational level. After this, the survey experiment randomly assigned respondents to different treatments: three groups were given a short vignette displaying a pro-independence frame – based on either identity, socioeconomics, or

[35] Instead, in Catalonia most of the population is able to read in Catalan – even if their mother tongue is Spanish. According to the regional statistical institute, about 85% of the population was able to read in Catalan in 2018. The remaining 15% are either migrants – many of them do not possess the right to vote – or old people who was schooled in Spanish and came to Catalonia from other parts of Spain. It is noteworthy to mention that Catalan is the only working language in schools since the 1980s.

politics – and a fourth control group did not receive any vignette. The vignettes shown to the respondents were real-case statements made by secessionist parties in political manifestos. While it is true that very rarely people read manifestos, these are written in a language akin to politicians' speeches, meetings, and press releases. The fact that these are actual frames – as opposed to invented ones – enhances the external validity of the results (Barabas and Jerit 2010).

The vignettes did not specify which party made the statement to avoid bias – particularly in Catalonia, where three different secessionist parties coexist. In the case of Catalonia, I employed the 2015 *Junts pel Sí* ("Together for Yes") manifesto, as it was the only time when the two major secessionist parties ran together in a coalition. In Scotland, I used the 2013 "Scotland's future" document, launched by the SNP's government – and endorsed by the Scottish Greens – to justify independence. All the vignettes are provided in the supplement to Article 3. Below I display an example of a vignette, shown to the Scottish respondents assigned to the socioeconomic frame treatment:

> *Please read the following text which comes from a pro-independence political party's election manifesto:*
>
> *"The Scottish economy has key strengths in growth industries such as food and drink, energy, creative industries, tourism, and life sciences. Per head of population, we have more top universities than any other country in the world. We perform strongly as a location for inward investment, and we have a strong financial services industry. However, under the Westminster system Scotland is treated as a regional economy within the UK. We are locked in to one of the most unequal economic models in the developed world. With independence, we can make Scotland the fairer and the most successful country we all know it should be. We can make Scotland's vast wealth and resources work much better for everyone in our country".*

Following the administration of treatments, the survey recorded individuals' preferences on independence by employing a 0-10 scale ranging from "very strongly against independence" to "very strongly in favour of independence". People's attitudes towards secession are the dependent variable of the study. Using a numerical scale allows for precise analysis and statistical testing. Moreover, it is easy for participants

to understand and respond to, enhancing the likelihood of obtaining reliable data. Finally, the survey recorded respondents' national identity by asking the well-known Linz-Moreno question (Linz 1993; Guinjoan and Rodon 2015), allowing individuals to classify themselves as feeling "Only Catalan/Scottish", "More Catalan/Scottish than Spanish/British", "Both Catalan/Scottish and Spanish/British", "More Spanish/British than Catalan/Scottish" or "Only Spanish/British". This question was only asked at the end of the survey to avoid priming participants before the treatment.

I employed the software R to perform the data analysis. I performed an analysis of variance or ANOVA, which is a statistical method that identifies any differences in the means of two or more groups (Sthle and Wold 1989). I run first a one-way ANOVA to test whether the exposure to a particular pro-independence party frame affects people's opinions on secession. This analysis tests hypothesis 1. After this, I run a two-way ANOVA by including the national identity variable in the model. I did this to assess whether national identity moderates the association between frame exposure and attitudes towards independence. This analysis tests hypotheses 2. I recoded the "national identity" variable into three main categories: "very strong" identity – exclusive identification either with the region or the state –, "strong" identity – predominant identification either with the region or the state –, and "weak" identity – equally identification with the region and the state.

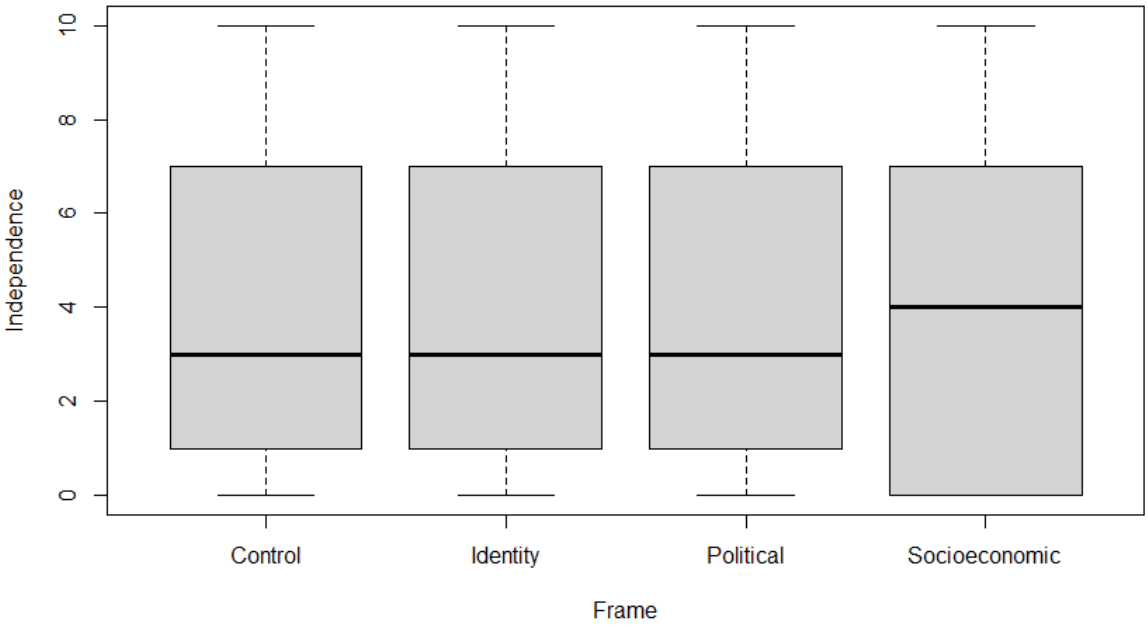
Concerning the methodological limits of this research, the fact that there is no impact of frames on public opinion does not necessarily mean that framing strategies do not have an effect at all on the population as a whole. Due to the experimental design, the article does not fully capture the dynamics of framing in the real world. For instance, we know that frames are more powerful when repeated over time and people are exposed to them extendedly. The present research design exposes people to secessionist frames only once, and in a rather artificial setting. As it has been stated before, the added-value of this contribution is that it opens a new promising research agenda on party frames and public opinion – irrespective of whether the results of this article are inconclusive.

5. Results

I begin by assessing whether the respondents' exposure to different pro-independence party frames affect their opinion on secession. As we can see from Figure 6 (Catalonia)

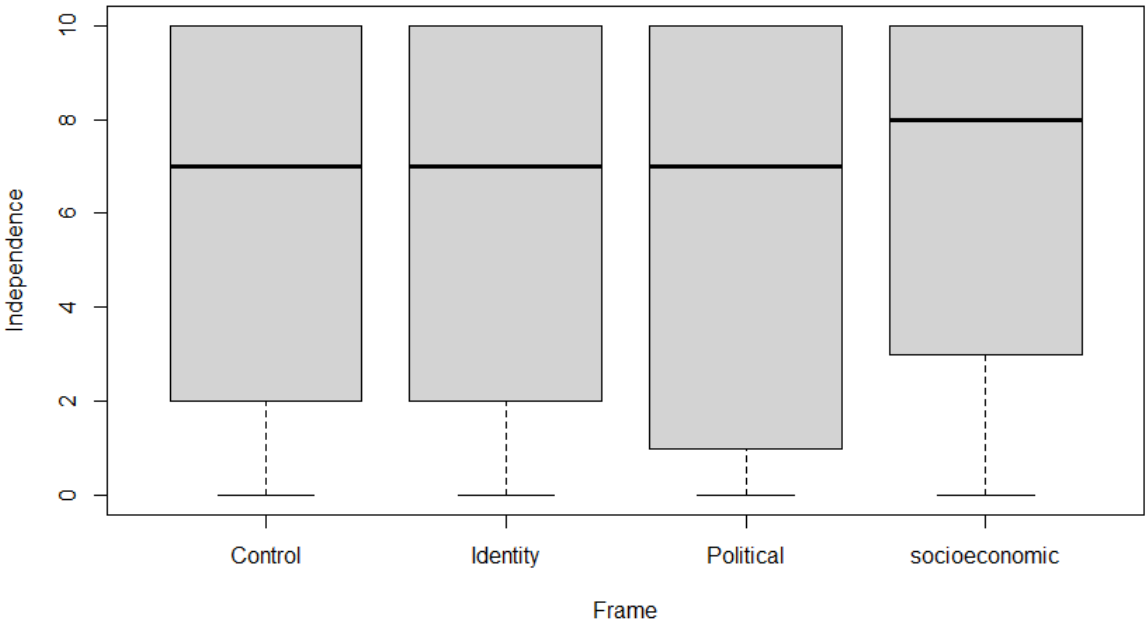
and Figure 7 (Scotland), the mean values of support for independence of participants exposed to different frames are very similar. One-way ANOVAs showed that these differences are not statistically significant (Scotland: F(0.261), p=0.853; Catalonia: F(0.125), p=0.946)[36]. Therefore, hypothesis 1 is rejected: people exposed to an identity frame does not display a lower level of support for secession than people exposed to a socioeconomic or political frame.

Figure 6 - Support for independence by type of frame exposure in Catalonia.



[36] Please note that, in Scotland, the mean number of independence support is 6.1. In Catalonia is 3.9. As it has been noted in section four, the sample is not representative of the wider population.

Figure 7 - Support for independence by type of frame exposure in Scotland.



Given these null effects, it is unlikely that any moderation effects by national identity exist. Indeed, there is no evidence that people with weak national identities are more swayed by political or socioeconomic frames than people with strong national identities. Two-way ANOVAs show statistically insignificant results for the frame*identity interaction term in Scotland (F(0.623), p=0.712) and Catalonia (F(1.397, p=0.215)[37]. The full results are presented in the supplement to Article 3. Therefore, hypothesis 2 is also rejected: national identity does not moderate between pro-independence rhetoric and pro-independence opinions. Individuals do not respond differently to party frames depending on the strength of their territorial attachments[38].

6. Discussion and conclusions

Party frames have been found to have an effect on attitudes to a wide range of political issues, so it is reasonable to hypothesise that they may have an effect on attitudes to

[37] After this analysis, I recoded the "national identity" variable again into three categories: "predominantly attached to the state" – feeling only or more British/Spanish –, "predominantly attached to the region" – feeling only or more Scottish/Catalan – and "equally attached to the state and the region". The results of the joint effects of frame exposure and national identity on secessionist attitudes came negative again in both regions: The p-value of the joint effects was 0.588 in Scotland and 0.832 in Catalonia.

[38] As most studies show, however, national identity and constitutional position do largely correlate. Respondents more attached to the region display more pro-independence opinions than respondents more attached to the state.

independence as well. By employing an experimental survey design in Catalonia and Scotland, the present contribution takes a first step in addressing this question. It tests whether people's exposure to different pro-independence party frames – identity, socioeconomic, and political frames – sways their opinion on secession. The results find no effects across the board, meaning that contextual and individual conditions trump party rhetoric in shaping people's constitutional preferences.

However, we should take these findings with caution: the fact that this research has not found any effect in an experimental setting does not mean that we would not be able to find effects in the real world. More research is needed to fully capture framing dynamics in the territorial party politics domain. For instance, previous research has shown that frames are more effective when repeated over time (Lecheler and De Vreese 2016) and people are exposed to them extendedly. Furthermore, the experiment has been run in a very artificial setting, which impacts on the external validity of the study. Other relevant elements such as the expected effect size, employed to run the power analysis, might have led to these results. Further studies should assume that the effect of frames is smaller than expected, and thus work with larger samples. These methodological choices and limitations impede us to definitely establish null effects. Scholars should build their research up from here to further explore secessionist parties' framing effects on public opinion.

Although the results are not conclusive, they suggest however that people hold strong pre-existing beliefs on constitutional change, and thus party potential to persuade citizens of independence is severely limited by these beliefs. One key pre-condition is national identity: people more attached to the state tend to be against independence, and individuals more attached to their region tend to be in favour, irrespective of the type of frames they are exposed to. Furthermore, the contribution shows that national identity does not moderate between secessionist rhetoric and people's attitudes towards independence. Economic and political party frames do not shape policy preferences of individuals with dual or ambivalent identities. This finding clashes with previous research on framing by non-partisan actors and constitutional preferences, which established that economic arguments trump identity ones in people's support for independence (Druckman 2001; Muñoz and Tormos 2015; Agneman 2022). Scholars should explore further why party frames do not work the same way.

These findings inevitably trigger another question: if socioeconomic and political pro-independence party frames do not sway public opinion, why do secessionist parties increasingly emphasise these frames in their campaigns (Dalle Mulle and Serrano 2019; Elias and Franco 2021)? The results suggest that minority nationalist parties might trade votes and office-seeking goals over policy: By presenting independence as means of achieving better standards of living, secessionist parties aim to increase their electoral appeal and to enhance their credibility as reputable ruling parties (Elias 2019; Carles Ferreira 2022). Instead, the findings imply that parties should shape and mobilise identities if they want to increase the support for the independence of the region they claim to represent.

As it has been noted earlier, nobody tested before which are the effects of secessionist party frames on public opinion. Hence, the present contribution opens up a promising new line of research. Null results contribute to the body of knowledge by indicating what does not work, and thus preventing other researchers from retracting unsuccessful paths. In this regard, the methodological transparency of this article might guide future contributions that will explore this issue further.

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Supplement to Article 1

Codebook

1. Overview and coverage

Units	Relevant Secessionist Parties at regional and national elections
Time period	Regional and general elections between 1990 and 2020
Countries	Belgium, Canada, Spain, and the UK
Number of regions	6
Number of cases	10
Data source	Content analysed election programs

2. Identification variables

Country	Name of the country
Country_code	Country's code
	01 Canada
	02 Spain
	03 Belgium
	04 UK
Region	Name of the region
Code_reg	Region's code
	011 Québec
	021 Catalonia
	022 Basque Country
	031 Flanders
	041 Scotland
	042 Wales
Party_acronym	Acronym of the Party (in original language)
Party_name	Name of the Party (in original language)

Code_Party	The party identification code consists of four digits - Resemble the two first digits of the region's code (*code_reg*) 0111 Bloc Québécois 0112 Parti Québécois 0211 Esquerra Republicana de Catalunya 0212 Junts per Catalunya 0213 Junts pel Sí 0221 EH Bildu 0311 Nieuw-Vlaamse Alliantie 0312 Vlaams Belang 0411 Scottish National Party 0421 Plaid Cymru
Election year	Year of the election
Election type	General Regional
Code_party_year	Number that uniquely identifies the party-region-election: puts together *Code_party* followed by the last two digits of *Election_year* and the election type (G or R)
Title	Title of the manifesto
Votes	Share of votes obtained

3. Data from content analysed election programmes

Position - PX	P1 – Secession P2 – Confederalism P3 – Devolution
Salience	% of the quasi-sentences in the manifesto devoted to the constitution
Framing - FXX	F00 Uncodifiable F01 Identity F02 Socioeconomics and quality of life

	F03 Politics F04 other
F1Y – F1Y_Z	Within the identity category F11 Nationhood F12 Language and Culture
F2Y – F4Y_Z	Within the socioeconomic category F21 Economy F22 Welfare
F3Y – F3Y_Z	Within the politics category F31 Self-government F32_1 Progressive Values F32_2 Traditional Values F33 Democracy F34 Governance
Total_C´	Total number of quasi-sentences related to the constitution
Total_T	Total number of sentences in the manifesto
Reliability	Coding allocation is done twice to improve reliability. This figure expresses the share of quasi-sentences that remains the same after the second coding allocation

Supplement to Article 2

Content:

1. Operationalization, measurement, and calibration of conditions (pages 110-118)
    - 1.1 Regional level conditions (p. 109-112)
    - 1.2 Party level conditions (p. 112-118)
2 Full QCA results (p. 119-127)
    - 2.1 The identity case for constitutional change (p. 119-122)
    - 2.2 The socioeconomic case for constitutional change (p. 122-124)
    - 2.3 The political case for constitutional change (p.124-128)
3 Robustness checks (p. 128-164)
    - 3.1 The identity case for constitutional change (p. 128-139)
    - 3.2 The socioeconomic case for constitutional change (p. 140-151)
    - 3.3 The political case for constitutional change (p. 151-164)
4 References (p. 165)

1. Operationalisation, measurement, and calibration of conditions

1.1 Regional level conditions

1.1.1 Distinct language (*lang*)

The condition takes four values:

(1) The region possesses a widely spoken regional language, hegemonic in its territory – Quebec and Flanders.

(0.67) The region possesses a widely spoken regional language, but it's not hegemonic in its territory – Catalonia, the Basque Country, and Wales

(0.33) The region possesses a regional language, but it's not widely spoken – Scotland

(0) The region does not have a distinct language.

1.1.2 History of self-government (*his*)

This condition captures whether the region possesses a history of past self-government in the modern era, at least before its current constitutional regime. This dimension contains four categories:

(1) The region was a full independent nation in the past – Scotland.

(0.67) The region possessed self-governing institutions in the past – Catalonia, the Basque Country, and Quebec.

(0.33) The region has never been a self-governing society, but it was granted with self-jurisdiction and/or recognised charters by the centre – Flanders and Wales.

(0) The region does not possess a history of self-government at all – no cases apply.

1.1.3 National recognition by the centre (*nrec*)

It measures the extent to which the region is recognised as a distinct nation by the centre. This dimension contains four categories:

(1) The state is explicitly multinational – Scotland and Wales.

(0.67) The region is recognised as a distinct nation, although some political or juridical ambiguities exist – Flanders and Quebec after 2006, when the federal

House of Commons voted to recognise the Québécois as a nation within Canada. However, it was not a legally binding motion.

(0.33) The state recognises some singularities – particularly cultural –, but "the people" is explicitly the state as a whole – Quebec before 2006, Catalonia, and the Basque Country.

(0) There is no degree of national recognition at all – no cases apply.

1.1.4 Economic status of the region (*eco*)

I have calculated the relative GDP per capita of the region vis-à-vis the rest of the country, being the country's GDP per capita = 100. The values range from Wales in 2010 (72.70) to Flanders in 2019 (139.73). The code 0.5 has taken the intermediate range values around 100 (between 99.51 and 106.21). The rest of the calibration has followed a proportional distribution where the top 50% manifestos – relatively wealthier regions – have been coded from 0.6 to 1, and the bottom 50% manifestos – relatively poorer regons – have been coded from 0 to 0.4. In practice, the calibration has thrown the following results:

- Manifestos from Catalonia (ERC and JxC): the values range from 114.38 (year 2012) to 121.37 (year 2000). Accordingly, the coding range is 0.7-0.8. The data source is *Expansión* economic outlet.
- Manifestos from the Basque Country (EHB): the values range from 116.55 (year 1990) to 129.40 (2015). Accordingly, the coding range is 0.7-0.9. The data source is *Expansión* economic outlet.
- Manifestos from Flanders (NV-A and VB): the values range from 135.89 (year 2010) to 139.73 (year 2019). Accordingly, the coding range is 1. The data source is Eurostat.
- Manifestos from Quebec (PQ and BQ): the values range from 86.51 (year 2006) to 91.69 (year 1993). Accordingly, the coding range is 0.3. The data source is CSLS database.
- Manifestos from Scotland (SNP): the values range from 87.98 (year 1999) to 93.41 (year 2011). Accordingly, the coding range is 0.3-0.4. The data source is the Office for National Statistics.

- Manifestos from Wales (PC): the values range from 73.49 (year 2007) to 74.71 (year 2016). Accordingly, the coding range is 0-0.1. The data source is the Office for National Statistics.

1.1.5 Region's ideological difference (*idiff*)

Following Sorens (2012), this is the absolute value of the difference in vote for parties of the right between the country and the region at the current (G) or last (R) state-wide election. In the case of Belgium, I use European elections as proxy due to problems of data availability. It measures the extent to which the region is ideologically different from the rest of the state.

The ideological difference ranges from 0 points in the 1990 Basque Country to 35.1 points in the 2010 Flanders. During the calibration process, I have avoided the 0.5 since it does not produce an effect on the outcome. A summary of the calibration is below:

- Catalonia: the region's ideological difference ranges from 1.2 points (1999 and 2000 elections) to 14.59 (2019 elections). The values of the condition range from 0.1 to 0.4.
- Basque Country: the region's ideological difference ranges from 0 points (1990 elections) to 9.3 (2001 elections). The values of the condition range from 0 to 0.3.
- Flanders: the region's ideological difference ranges from 14.51 points (1995 elections) to 35.11 (2009 and 2010 elections). The values of the condition range from 0.4 to 1.
- Quebec: the region's ideological difference ranges from 11.67 points (2006 and 2007 elections) to 25.88 (2000 and 2003 elections). The values of the condition range from 0.3 to 0.8.
- Scotland: the region's ideological difference ranges from 18.7 points (2005 and 2007 elections) to 33.9 (2015 and 2016 elections). The values of the condition range from 0.6 to 1.
- Wales: the region's ideological difference ranges from 8.5 points (2019 elections) to 17.4 (2003 elections). The values of the condition range from 0.3 to 0.6.

1.1.6 Degree of self-government (*self*)

Following the Regional Authority Index or RAI (Hooghe, Marks et al. 2016), this condition measures the region's level of self-rule from 0 to 18. The variation across the cases under analysis is scant, and therefore the calibration criteria follow the situation of these concrete real-world cases rather than the mere conversion of the RAI's 0-18 scale into a 0-1 scale. The regions take seven values in total, which have been converted in the following way:

(1) 18 RAI score

(0.7) 15 RAI score

(0.6) 14 RAI score

(0.4) 13 RAI score

(0.3) 11 RAI score

(0.2) 8 RAI score

(0) 1 RAI score

The next pages display the data matrix. The column "manifesto" shows the cases under analysis. It contains the name of the party followed by the year and the type of elections. For instance, SNP_19_G is the SNP manifesto for the 2019 general elections. The variables "Y" are the outcomes: Yid identity frames, Ysocioec socioeconomic frames, and Ypol political frames respectively. The rest of the columns contain the conditions.

1.2 Party level conditions

1.2.1 Party size (*size*)

It measures the size of the party vis-à-vis competing parties, namely, its position within the party system. A codification strategy merely based on vote shares would have hampered the comparability potential of the research design – since achieving 25% of the vote can be a meagre result in a two-party system but a great result in a multi-party system. Therefore, I came up with a complex scale to measure this condition. I do not use the 0.5 code since it does not produce any effect in the analysis.

(1) First party with more than 50% of the votes

(0.9) First party with less than 50% of the votes, but more than 10 points from the second

(0.8) First party with less than 10 points from the second party

(0.7) Second party with less than 10 points from the first party

(0.6) Second party with more than 10 points from the first party, or third party with less than 5 points from the first party

(0.5) Not applicable

(0.4) Third party with 5 to 10 points from the first party

(0.3) Third party with more than 10 points from the first party

(0.2) Fourth party with less than 5 points from the third party

(0.1) Fourth party with more than 5 points from the third party

(0) Fifth party – or more.

1.2.2 Participation in regional government (*pgov*)

It captures whether the party is in power at the regional level of government at the time of the elections. Please note that the *Bloc Quebecois* has also been codified as member of the regional government when the *Parti Quebecois* has been in power – as they could be considered the same organisation running for different electoral arenas. This dimension includes four categories:

(1) The party is in government, alone or as senior partner

(0.67) The party is in government as junior partner

(0.33) The party is not in government, but sustains the government in parliament through an explicit political accord

(0) The party is in the opposition

1.2.3 Party ideology (*ideo*)

It measures party ideology from 0 – radical left – to 10 – radical right. The calibration process has translated this 0-10 scale into a 0-1 scale. It is time-sensible since I have used the Chapel Hill Expert Survey (Jolly, Bakker et al. 2022) data from different years,

except for the Quebecois parties – due to problems of data availability. In the latter case, an approximate calibration has been done based on the Comparative Manifesto Project (Volkens, Lehmann et al. 2017). The outcome of the calibration is as follows:

- ERC: its ideology ranges from 0.2 to 0.4 (left to centre-left).
- JxC: its ideology ranges from 0.6 to 0.7 (centre-right to right).
- EHB: its ideology consistently takes the number 0.1 (radical left).
- NV-A: its ideology consistently takes the number 0.8 (right).
- VB: its ideology ranges from 0.9 to 1 (radical right).
- PQ: its ideology ranges from 0.2 to 0.3 (left).
- BQ: its ideology ranges from 0.3 to 0.4 (left to centre-left).
- SNP: its ideology ranges from 0.3 to 0.4 (left to centre-left).
- PC: its ideology consistently takes the number 0.3 (left).

Table 3 - Paper's data matrix. The "manifesto" column includes all the cases under analysis. The "Y" are the outcomes (from left to right: identity, socioeconomic and political frames for constitutional change). The rest of the columns are the conditions.

Manifesto	Yid	Ysocioec	Ypol	eco	lang	his	self	ideo	size	pgov	idiff	nrec
SNP_19_G	0.1	0.7	0.6	0.3	0.33	1	0.6	0.4	0.9	1	0.7	1
SNP_17_G	0.1	0.6	0.8	0.3	0.33	1	0.6	0.4	0.8	1	0.7	1
SNP_16_R	0	0.8	0.4	0.3	0.33	1	0.6	0.3	0.9	1	1	1
SNP_15_G	0	0.7	0.6	0.4	0.33	1	0.6	0.3	1	1	1	1
SNP_11_R	0.3	0.6	0.5	0.4	0.33	1	0.6	0.3	0.9	1	0.7	1
SNP_10_G	0.9	0.2	0.5	0.4	0.33	1	0.6	0.3	0.6	1	0.7	1
SNP_07_R	0.1	0.2	0.6	0.3	0.33	1	0.6	0.4	0.8	0	0.6	1
SNP_05_G	0.1	1	0	0.3	0.33	1	0.6	0.4	0.3	0	0.6	1
SNP_03_R	0.2	0.8	0.1	0.3	0.33	1	0.6	0.3	0.6	0	0.7	1
SNP_01_G	0.3	0.6	0.5	0.3	0.33	1	0.6	0.3	0.6	0	0.7	1
SNP_99_R	0	1	0.1	0.3	0.33	1	0.6	0.3	0.6	0	0.7	1
SNP_97_G	0.3	1	0	0.3	0.33	1	0	0.3	0.6	0	0.7	1
SNP_92_G	0.4	1	0	0.3	0.33	1	0	0.3	0.3	0	0.7	1
PC_19_G	0	0.7	0.7	0.1	0.67	0.33	0.4	0.3	0.3	0	0.3	1
PC_17_G	0.7	0.2	0.8	0.1	0.67	0.33	0.3	0.3	0.3	0	0.3	1
PC_16_R	0.8	0.3	0.7	0.1	0.67	0.33	0.2	0.3	0.3	0	0.3	1
PC_15_G	0.6	0.1	1	0.1	0.67	0.33	0.2	0.3	0.2	0	0.3	1
PC_11_R	0.7	0.4	0.6	0.1	0.67	0.33	0.2	0.3	0.3	0.67	0.3	1
PC_10_G	0.7	0.4	0.5	0	0.67	0.33	0.2	0.3	0.1	0.67	0.3	1
PC_07_R	0.2	0.7	0.2	0.1	0.67	0.33	0.2	0.3	0.7	0	0.6	1
PC_05_G	0.1	0.6	0.6	0.1	0.67	0.33	0.2	0.3	0.1	0	0.6	1
PC_03_R	0.2	0.4	0.8	0.1	0.67	0.33	0.2	0.3	0.6	0	0.6	1
ERC_19_G1	0.6	1	0.1	0.7	0.67	0.67	0.6	0.3	0.8	0.67	0.4	0.33
ERC_19_G2	0.6	1	0.1	0.7	0.67	0.67	0.6	0.3	0.8	0.67	0.4	0.33
ERC_17_R	0.1	1	0.2	0.7	0.67	0.67	0.6	0.3	0.6	0.67	0.3	0.33
ERC_16_G	0.3	0.8	0.4	0.8	0.67	0.67	0.6	0.3	0.7	0.67	0.3	0.33

ERC_15_G	0.3	0.9	0.4	0.7	0.67	0.67	0.6	0.4	0.6	0.67	0.2	0.33
ERC_12_R	0.6	0.9	0.2	0.7	0.67	0.67	0.6	0.4	0.3	0	0.1	0.33
ERC_11_G	0.9	0.4	0.6	0.7	0.67	0.67	0.6	0.4	0	0	0.1	0.33
ERC_10_R	0.9	0.1	0.7	0.7	0.67	0.67	0.6	0.4	0	0.67	0.2	0.33
ERC_08_G	0.6	0.6	0.6	0.7	0.67	0.67	0.6	0.3	0.1	0.67	0.2	0.33
ERC_06_R	0.8	0.2	0.8	0.7	0.67	0.67	0.6	0.3	0.3	0.67	0.2	0.33
ERC_04_G	0.4	0.1	0.9	0.7	0.67	0.67	0.6	0.2	0.3	0.67	0.2	0.33
ERC_03_R	0.8	0.3	0.7	0.8	0.67	0.67	0.6	0.2	0.3	0	0.1	0.33
ERC_00_G	0.9	0.1	0.7	0.8	0.67	0.67	0.6	0.3	0.1	0	0.1	0.33
ERC_99_R	0.7	0.8	0.3	0.8	0.67	0.67	0.6	0.3	0.2	0	0.1	0.33
ERC_96_G	0.8	0.1	0.9	0.8	0.67	0.67	0.4	0.3	0	0	0.1	0.33
ERC_95_R	0.7	0.3	0.8	0.7	0.67	0.67	0.4	0.3	0.2	0	0.3	0.33
ERC_93_G	0.6	0.4	0.7	0.7	0.67	0.67	0.4	0.3	0	0	0.3	0.33
ERC_92_R	1	0.2	0.6	0.7	0.67	0.67	0.4	0.3	0.3	0	0.3	0.33
JxC_19_G1	0.2	0.9	0.3	0.7	0.67	0.67	0.6	0.7	0.2	1	0.4	0.33
JxC_19_G2	0.2	0.9	0.2	0.7	0.67	0.67	0.6	0.7	0.2	1	0.4	0.33
JxC_17_R	0.3	0.6	0.7	0.7	0.67	0.67	0.6	0.7	0.7	1	0.3	0.33
JxC_16_G	0.1	0.9	0.3	0.8	0.67	0.67	0.6	0.7	0.2	1	0.3	0.33
JxC_15_G	0.2	1	0.3	0.7	0.67	0.67	0.6	0.6	0.2	1	0.2	0.33
JxC_12_R	0.9	0.3	0.5	0.7	0.67	0.67	0.6	0.6	0.9	1	0.1	0.33
JxS_15_R	0.2	1	0.1	0.7	0.67	0.67	0.6	0.5	0.9	1	0.1	0.33
EHB_20_R	0.4	0.2	0.9	0.9	0.67	0.67	0.7	0.1	0.6	0	0.1	0.33
EHB_19_G1	0	0.8	0.6	0.9	0.67	0.67	0.7	0.1	0.2	0	0.1	0.33
EHB_19_G2	0	0	1	0.9	0.67	0.67	0.7	0.1	0.3	0	0.1	0.33
EHB_16_R	0	0	1	0.9	0.67	0.67	0.7	0.1	0.6	0	0.3	0.33
EHB_16_G	0.8	0.7	0.5	0.9	0.67	0.67	0.7	0.1	0.2	0	0.3	0.33
EHB_15_G	0.9	0	0.8	0.9	0.67	0.67	0.7	0.1	0.3	0	0.2	0.33
EHB_12_R	0.9	0	1	0.9	0.67	0.67	0.7	0.1	0.7	0	0.2	0.33
EHB_11_G	1	0.2	0	0.9	0.67	0.67	0.7	0.1	0.7	0	0.2	0.33
EHB_01_R	1	0	0.5	0.8	0.67	0.67	0.7	0.1	0.1	0.33	0.3	0.33

EHB_98_R	1	0	0.5	0.7	0.67	0.67	0.7	0.1	0.3	0	0.1	0.33
EHB_94_R	1	0.4	0	0.7	0.67	0.67	0.7	0.1	0.3	0	0.1	0.33
EHB_90_R	1	0.3	0.5	0.7	0.67	0.67	0.7	0.1	0.3	0	0	0.33
PQ_18_R	0.4	0.1	0.8	0.3	1	0.67	1	0.3	0.3	0	0.4	0.67
PQ_14_R	0	0.1	1	0.3	1	0.67	1	0.3	0.6	1	0.7	0.67
PQ_12_R	1	0	0.8	0.3	1	0.67	1	0.3	0.8	0	0.7	0.67
PQ_08_R	1	0	0.7	0.3	1	0.67	1	0.3	0.7	0	0.6	0.67
PQ_07_R	0.9	0	0.9	0.3	1	0.67	1	0.3	0.6	0	0.3	0.67
PQ_03_R	0.7	0.2	0.7	0.3	1	0.67	1	0.2	0.6	1	0.8	0.33
PQ_98_R	0.6	0.8	0.5	0.3	1	0.67	1	0.3	0.7	1	0.6	0.33
PQ_94_R	0.7	0.6	0.4	0.3	1	0.67	1	0.3	0.8	0	0.7	0.33
BQ_19_G	0	0.3	1	0.3	1	0.67	1	0.3	0.7	0	0.6	0.67
BQ_15_G	0.9	0	0.9	0.3	1	0.67	1	0.3	0.3	0	0.4	0.67
BQ_11_G	0.8	0.9	0	0.3	1	0.67	1	0.4	0.6	0	0.7	0.67
BQ_08_G	1	0.7	0	0.3	1	0.67	1	0.3	0.9	0	0.6	0.67
BQ_06_G	0.1	0.9	0.5	0.3	1	0.67	1	0.3	0.9	0	0.3	0.33
BQ_04_G	0.4	0.8	0.4	0.3	1	0.67	1	0.3	0.9	0	0.7	0.33
BQ_00_G	0.3	0.7	0.6	0.3	1	0.67	1	0.3	0.7	1	0.8	0.33
BQ_97_G	0.3	0.7	0.5	0.3	1	0.67	1	0.4	0.8	1	0.6	0.33
BQ_93_G	0.7	0.6	0.5	0.3	1	0.67	1	0.4	0.9	0	0.7	0.33
NVA_19_R/G	0	0	1	1	1	0.33	0.6	0.8	0.8	1	1	0.67
NVA_14_R/G	0.6	0.1	0.9	1	1	0.33	0.6	0.8	0.9	0.67	1	0.67
NVA_10_G	0.1	0.3	0.9	1	1	0.33	0.6	0.8	0.8	0.67	1	0.67
NVA_09_R	0	0.9	0.3	1	1	0.33	0.6	0.8	0	0.67	1	0.67
NVA_07_G	0.4	0.1	1	1	1	0.33	0.6	0.8	0.5	0.67	0.7	0.67
NVA_04_R	0.3	0.2	0.9	1	1	0.33	0.6	0.8	0.5	0.67	0.7	0.67
NVA_03_G	0.2	0.8	0.5	1	1	0.33	0.6	0.8	0	0	0.9	0.67
VB_19_R/G	0.4	0	1	1	1	0.33	0.6	1	0.7	0	1	0.67
VB_14_R/G	0.2	0.3	0.9	1	1	0.33	0.6	0.9	0	0	0.9	0.67
VB_10_G	0.1	0.4	0.8	1	1	0.33	0.6	1	0	0	1	0.67

VB_09_R	0.6	0.4	0.6	1	1	0.33	0.6	1	0.7	0	1	0.67
VB_07_G	0.7	0.7	0.5	1	1	0.33	0.6	1	0.7	0	0.7	0.67
VB_04_R	0.8	0.8	0.2	1	1	0.33	0.6	1	0.7	0	0.7	0.67
VB_03_G	0.8	0.9	0.1	1	1	0.33	0.6	1	0.2	0	0.9	0.67
VB_99_R/G	0.8	0.6	0.5	1	1	0.33	0.4	1	0.3	0	0.9	0.67
VB_95_R/G	0.4	0.4	0.6	1	1	0.33	0.4	1	0.1	0	0.4	0.67
VB_91_G	0.4	0.3	0.6	1	1	0.33	0.3	1	0	0	0.7	0.67

2. Full QCA results

2.1 The identity case for constitutional change

2.1.1 Necessity analysis

```
Outcome variable: Yid

Conditions tested:
      Consistency    Coverage
lang  0.893570       0.583129
```

```
Outcome variable: Yid

Conditions tested:
       Consistency    Coverage
~lang  0.329712       0.622436
```

```
Analysis of Necessary Conditions

Outcome variable: Yid

Conditions tested:
     Consistency    Coverage
his  0.776940       0.606649
```

```
Analysis of Necessary Conditions

Outcome variable: Yid

Conditions tested:
      Consistency    Coverage
~his  0.553658       0.708569
```

```
Analysis of Necessary Conditions

Outcome variable: Yid

Conditions tested:
      Consistency    Coverage
nrec  0.667406       0.554634
```

```
Analysis of Necessary Conditions

Outcome variable: Yid

Conditions tested:
       Consistency    Coverage
~nrec  0.620399       0.722438
```

```
Analysis of Necessary Conditions

Outcome variable: Yid

Conditions tested:
      Consistency    Coverage
size  0.572062       0.586363
```

```
Analysis of Necessary Conditions

Outcome variable: Yid

Conditions tested:
       Consistency    Coverage
~size  0.711752       0.655102
```

```
Analysis of Necessary Conditions

Outcome variable: Yid

Conditions tested:
      Consistency    Coverage
pgov  0.281818       0.422962
```

```
Analysis of Necessary Conditions

Outcome variable: Yid

Conditions tested:
       Consistency    Coverage
~pgov  0.806430       0.577760
```

2.1.2 Sufficiency analysis

```
--- INTERMEDIATE SOLUTION ---
frequency cutoff: 1
consistency cutoff: 0.808344
Assumptions:
lang (present)
his (present)
~size (absent)
~pgov (absent)
~nrec (absent)
                      raw       unique
                    coverage    coverage   consistency
                   ----------  ----------  ----------
lang*his*~pgov      0.626829    0.220399    0.79321
lang*size*~pgov     0.440355    0.0339246   0.748587
solution coverage: 0.660754
solution consistency: 0.764691


Cases with greater than 0.5 membership in term lang*his*~pgov: ERC_96_G (0.67,0.8),
  ERC_95_R (0.67,0.7), ERC_93_G (0.67,0.6), ERC_92_R (0.67,1),
  ERC_12_R (0.67,0.6), ERC_11_G (0.67,0.9), ERC_03_R (0.67,0.8),
  ERC_00_G (0.67,0.9), ERC_99_R (0.67,0.7), EHB_20_R (0.67,0.4),
  EHB_19_G1 (0.67,0), EHB_19_G2 (0.67,0), EHB_16_R (0.67,0),
  EHB_16_G (0.67,0.8), EHB_15_G (0.67,0.9), EHB_12_R (0.67,0.9),
  EHB_11_G (0.67,1), EHB_98_R (0.67,1), EHB_94_R (0.67,1),
  EHB_90_R (0.67,1)
Cases with greater than 0.5 membership in term lang*size*~pgov: BQ_08_G (0.9,1),
  BQ_06_G (0.9,0.1), BQ_04_G (0.9,0.4), BQ_93_G (0.9,0.7),
  PQ_12_R (0.8,1), PQ_94_R (0.8,0.7), VB_19_R/G (0.7,0.4),
  VB_09_R (0.7,0.6), VB_07_G (0.7,0.7), VB_04_R (0.7,0.8),
  PQ_08_R (0.7,1), BQ_19_G (0.7,0), PC_07_R (0.67,0.2),
  EHB_12_R (0.67,0.9), EHB_11_G (0.67,1), PC_03_R (0.6,0.2),
  EHB_20_R (0.6,0.4), EHB_16_R (0.6,0), PQ_07_R (0.6,0.9),
  BQ_11_G (0.6,0.8)


--- PARSIMONIOUS SOLUTION ---
frequency cutoff: 1
consistency cutoff: 0.808344
                      raw       unique
                    coverage    coverage   consistency
                   ----------  ----------  ----------
lang*his*~pgov      0.626829    0.220399    0.79321
lang*size*~pgov     0.440355    0.0339246   0.748587
solution coverage: 0.660754
solution consistency: 0.764691


Cases with greater than 0.5 membership in term lang*his*~pgov: ERC_96_G (0.67,0.8),
  ERC_95_R (0.67,0.7), ERC_93_G (0.67,0.6), ERC_92_R (0.67,1),
  ERC_12_R (0.67,0.6), ERC_11_G (0.67,0.9), ERC_03_R (0.67,0.8),
  ERC_00_G (0.67,0.9), ERC_99_R (0.67,0.7), EHB_20_R (0.67,0.4),
  EHB_19_G1 (0.67,0), EHB_19_G2 (0.67,0), EHB_16_R (0.67,0),
  EHB_16_G (0.67,0.8), EHB_15_G (0.67,0.9), EHB_12_R (0.67,0.9),
  EHB_11_G (0.67,1), EHB_98_R (0.67,1), EHB_94_R (0.67,1),
  EHB_90_R (0.67,1)
Cases with greater than 0.5 membership in term lang*size*~pgov: BQ_08_G (0.9,1),
  BQ_06_G (0.9,0.1), BQ_04_G (0.9,0.4), BQ_93_G (0.9,0.7),
  PQ_12_R (0.8,1), PQ_94_R (0.8,0.7), VB_19_R/G (0.7,0.4),
  VB_09_R (0.7,0.6), VB_07_G (0.7,0.7), VB_04_R (0.7,0.8),
  PQ_08_R (0.7,1), BQ_19_G (0.7,0), PC_07_R (0.67,0.2),
  EHB_12_R (0.67,0.9), EHB_11_G (0.67,1), PC_03_R (0.6,0.2),
  EHB_20_R (0.6,0.4), EHB_16_R (0.6,0), PQ_07_R (0.6,0.9),
  BQ_11_G (0.6,0.8)
```

```
--- COMPLEX SOLUTION ---
frequency cutoff: 1
consistency cutoff: 0.808344
                            raw       unique
                         coverage    coverage   consistency
                        ----------  ----------  ----------
lang*his*~pgov          0.626829    0.253658    0.79321
lang*size*~pgov*nrec    0.395787    0.0226164   0.790173
solution coverage: 0.649446
solution consistency: 0.778783


Cases with greater than 0.5 membership in term lang*his*~pgov: ERC_96_G (0.67,0.8),
  ERC_95_R (0.67,0.7), ERC_93_G (0.67,0.6), ERC_92_R (0.67,1),
  ERC_12_R (0.67,0.6), ERC_11_G (0.67,0.9), ERC_03_R (0.67,0.8),
  ERC_00_G (0.67,0.9), ERC_99_R (0.67,0.7), EHB_20_R (0.67,0.4),
  EHB_19_G1 (0.67,0), EHB_19_G2 (0.67,0), EHB_16_R (0.67,0),
  EHB_16_G (0.67,0.8), EHB_15_G (0.67,0.9), EHB_12_R (0.67,0.9),
  EHB_11_G (0.67,1), EHB_98_R (0.67,1), EHB_94_R (0.67,1),
  EHB_90_R (0.67,1)
Cases with greater than 0.5 membership in term lang*size*~pgov*nrec: PC_07_R (0.67,0.2),
  VB_19_R/G (0.67,0.4), VB_09_R (0.67,0.6), VB_07_G (0.67,0.7),
  VB_04_R (0.67,0.8), PQ_12_R (0.67,1), PQ_08_R (0.67,1),
  BQ_19_G (0.67,0), BQ_08_G (0.67,1), PC_03_R (0.6,0.2),
  PQ_07_R (0.6,0.9), BQ_11_G (0.6,0.8)
```

2.2 The socioeconomic case for constitutional change

2.2.1 Necessity analysis

```
Analysis of Necessary Conditions

Outcome variable: Ysocioec

Conditions tested:
      Consistency    Coverage
pgov  0.404889       0.606323
```

```
Analysis of Necessary Conditions

Outcome variable: Ysocioec

Conditions tested:
       Consistency    Coverage
~pgov  0.650444       0.464972
```

```
Analysis of Necessary Conditions

Outcome variable: Ysocioec

Conditions tested:
      Consistency    Coverage
size  0.635556       0.650000
```

```
Analysis of Necessary Conditions

Outcome variable: Ysocioec

Conditions tested:
       Consistency    Coverage
~size  0.620000       0.569388
```

```
Analysis of Necessary Conditions

Outcome variable: Ysocioec

Conditions tested:
     Consistency    Coverage
eco  0.673333       0.547920
```

```
Analysis of Necessary Conditions

Outcome variable: Ysocioec

Conditions tested:
      Consistency    Coverage
~eco  0.564445       0.673740
```

```
Analysis of Necessary Conditions

Outcome variable: Ysocioec

Conditions tested:
      Consistency    Coverage
ideo  0.588889       0.677750
```

```
Analysis of Necessary Conditions

Outcome variable: Ysocioec

Conditions tested:
       Consistency    Coverage
~ideo  0.702222       0.586271
```

2.2.2 Sufficiency analysis

```
Model: Ysocioec = f(size, pgov, eco, ideo)
Algorithm: Quine-McCluskey

--- INTERMEDIATE SOLUTION ---
frequency cutoff: 2
consistency cutoff: 0.824732
Assumptions:
size (present)
pgov (present)
                          raw       unique
                       coverage    coverage   consistency
                      ----------  ----------  ----------
size*pgov*~ideo       0.271333    0.146889    0.841489
~size*pgov*eco*ideo   0.188222    0.0637778   0.824732
solution coverage: 0.335111
solution consistency: 0.824945


Cases with greater than 0.5 membership in term size*pgov*~ideo: SNP_16_R (0.7,0.8),
  SNP_15_G (0.7,0.7), SNP_11_R (0.7,0.6), PQ_98_R (0.7,0.8),
  BQ_00_G (0.7,0.7), ERC_19_G1 (0.67,1), ERC_19_G2 (0.67,1),
  ERC_16_G (0.67,0.8), SNP_19_G (0.6,0.7), SNP_17_G (0.6,0.6),
  SNP_10_G (0.6,0.2), ERC_17_R (0.6,1), ERC_15_G (0.6,0.9),
  PQ_14_R (0.6,0.1), PQ_03_R (0.6,0.2), BQ_97_G (0.6,0.7)
Cases with greater than 0.5 membership in term ~size*pgov*eco*ideo: JxC_19_G1 (0.7,0.9),
  JxC_19_G2 (0.7,0.9), JxC_16_G (0.7,0.9), NVA_09_R (0.67,0.9),
  JxC_15_G (0.6,1)


   Model: Ysocioec = f(size, pgov, eco, ideo)
   Algorithm: Quine-McCluskey

   --- PARSIMONIOUS SOLUTION ---
   frequency cutoff: 2
   consistency cutoff: 0.824732
                          raw       unique
                       coverage    coverage   consistency
                      ----------  ----------  ----------
   size*pgov*~ideo    0.271333    0.140222    0.841489
   ~size*pgov*ideo    0.199333    0.0682223   0.832869
   solution coverage: 0.339556
   solution consistency: 0.82684


   Cases with greater than 0.5 membership in term size*pgov*~ideo: SNP_16_R (0.7,0.8),
     SNP_15_G (0.7,0.7), SNP_11_R (0.7,0.6), PQ_98_R (0.7,0.8),
     BQ_00_G (0.7,0.7), ERC_19_G1 (0.67,1), ERC_19_G2 (0.67,1),
     ERC_16_G (0.67,0.8), SNP_19_G (0.6,0.7), SNP_17_G (0.6,0.6),
     SNP_10_G (0.6,0.2), ERC_17_R (0.6,1), ERC_15_G (0.6,0.9),
     PQ_14_R (0.6,0.1), PQ_03_R (0.6,0.2), BQ_97_G (0.6,0.7)
   Cases with greater than 0.5 membership in term ~size*pgov*ideo: JxC_19_G1 (0.7,0.9),
     JxC_19_G2 (0.7,0.9), JxC_16_G (0.7,0.9), NVA_09_R (0.67,0.9),
     JxC_15_G (0.6,1)
```

```
Model: Ysocioec = f(size, pgov, eco, ideo)
Algorithm: Quine-McCluskey

--- COMPLEX SOLUTION ---
frequency cutoff: 2
consistency cutoff: 0.824732
                          raw       unique
                        coverage    coverage   consistency
                       ----------  ----------  ----------
size*pgov*~ideo        0.271333    0.146889    0.841489
~size*pgov*eco*ideo    0.188222    0.0637778   0.824732
solution coverage: 0.335111
solution consistency: 0.824945


Cases with greater than 0.5 membership in term size*pgov*~ideo: SNP_16_R (0.7,0.8),
  SNP_15_G (0.7,0.7), SNP_11_R (0.7,0.6), PQ_98_R (0.7,0.8),
  BQ_00_G (0.7,0.7), ERC_19_G1 (0.67,1), ERC_19_G2 (0.67,1),
  ERC_16_G (0.67,0.8), SNP_19_G (0.6,0.7), SNP_17_G (0.6,0.6),
  SNP_10_G (0.6,0.2), ERC_17_R (0.6,1), ERC_15_G (0.6,0.9),
  PQ_14_R (0.6,0.1), PQ_03_R (0.6,0.2), BQ_97_G (0.6,0.7)
Cases with greater than 0.5 membership in term ~size*pgov*eco*ideo: JxC_19_G1 (0.7,0.9),
  JxC_19_G2 (0.7,0.9), JxC_16_G (0.7,0.9), NVA_09_R (0.67,0.9),
  JxC_15_G (0.6,1)
```

2.3 The political case for constitutional change

2.3.1 Necessity analysis

```
Analysis of Necessary Conditions

Outcome variable: Ypol

Conditions tested:
       Consistency    Coverage
idiff  0.629126       0.712088
```

```
Analysis of Necessary Conditions

Outcome variable: Ypol

Conditions tested:
        Consistency    Coverage
~idiff  0.658252       0.713684
```

```
Analysis of Necessary Conditions

Outcome variable: Ypol

Conditions tested:
      Consistency    Coverage
pgov  0.355728       0.609651
```

```
Analysis of Necessary Conditions

Outcome variable: Ypol

Conditions tested:
       Consistency    Coverage
~pgov  0.713786       0.583956
```

```
Analysis of Necessary Conditions

Outcome variable: Ypol

Conditions tested:
      Consistency    Coverage
self  0.792233       0.705882
```

```
Analysis of Necessary Conditions

Outcome variable: Ypol

Conditions tested:
       Consistency    Coverage
~self  0.533980       0.781250
```

```
Analysis of Necessary Conditions

Outcome variable: Ypol

Conditions tested:
      Consistency    Coverage
nrec  0.728932       0.691727
```

```
Analysis of Necessary Conditions

Outcome variable: Ypol

Conditions tested:
       Consistency    Coverage
~nrec  0.558835       0.743093
```

2.3.2 Sufficiency analysis

```
Model: Ypol = f(pgov, idiff, self, nrec)
Algorithm: Quine-McCluskey

--- INTERMEDIATE SOLUTION ---
frequency cutoff: 2
consistency cutoff: 0.805366
Assumptions:
pgov (present)
idiff (present)
~self (absent)
~nrec (absent)
                        raw         unique
                       coverage    coverage   consistency
                      ----------  ----------  ----------
~pgov*~idiff          0.517282    0.0436891   0.756818
pgov*idiff            0.279223    0.0578642   0.810141
~pgov*~nrec           0.428155    0           0.797757
idiff*~nrec           0.345049    0           0.84218
~idiff*~self*nrec     0.375728    0           0.835853
pgov*~self*nrec       0.200777    0           0.882253
solution coverage: 0.792039
solution consistency: 0.758884


Cases with greater than 0.5 membership in term ~pgov*~idiff: EHB_90_R (1,0.5),
  ERC_96_G (0.9,0.9), ERC_12_R (0.9,0.2), ERC_11_G (0.9,0.6),
  ERC_03_R (0.9,0.7), ERC_00_G (0.9,0.7), ERC_99_R (0.9,0.3),
  EHB_20_R (0.9,0.9), EHB_19_G1 (0.9,0.6), EHB_19_G2 (0.9,1),
  EHB_98_R (0.9,0.5), EHB_94_R (0.9,0), EHB_15_G (0.8,0.8),
  EHB_12_R (0.8,1), EHB_11_G (0.8,0), PC_16_R (0.7,0.7),
  PC_15_G (0.7,1), PC_17_G (0.7,0.8), PC_19_G (0.7,0.7),
  ERC_95_R (0.7,0.8)
Cases with greater than 0.5 membership in term pgov*idiff: SNP_16_R (1,0.4),
  SNP_15_G (1,0.6), NVA_19_R/G (1,1), PQ_03_R (0.8,0.7),
  BQ_00_G (0.8,0.6), SNP_19_G (0.7,0.6), SNP_17_G (0.7,0.8),
  SNP_11_R (0.7,0.5), SNP_10_G (0.7,0.5), PQ_14_R (0.7,1),
  NVA_14_R/G (0.67,0.9), NVA_10_G (0.67,0.9), NVA_09_R (0.67,0.3),
  NVA_07_G (0.67,1), NVA_04_R (0.67,0.9), PQ_98_R (0.6,0.5),
  BQ_97_G (0.6,0.5)
Cases with greater than 0.5 membership in term ~pgov*~nrec: ERC_96_G (0.67,0.9),
  ERC_95_R (0.67,0.8), ERC_93_G (0.67,0.7), ERC_92_R (0.67,0.6),
  ERC_12_R (0.67,0.2), ERC_11_G (0.67,0.6), ERC_03_R (0.67,0.7),
  ERC_00_G (0.67,0.7), ERC_99_R (0.67,0.3), EHB_20_R (0.67,0.9),
  EHB_19_G1 (0.67,0.6), EHB_19_G2 (0.67,1), EHB_16_R (0.67,1),
  EHB_16_G (0.67,0.5), EHB_15_G (0.67,0.8), EHB_12_R (0.67,1),
  EHB_11_G (0.67,0), EHB_01_R (0.67,0.5), EHB_98_R (0.67,0.5),
  EHB_94_R (0.67,0)
Cases with greater than 0.5 membership in term idiff*~nrec: PQ_03_R (0.67,0.7),
  PQ_94_R (0.67,0.4), BQ_04_G (0.67,0.4), BQ_00_G (0.67,0.6),
  BQ_93_G (0.67,0.5), PQ_98_R (0.6,0.5), BQ_97_G (0.6,0.5)
Cases with greater than 0.5 membership in term ~idiff*~self*nrec: PC_16_R (0.7,0.7),
  PC_15_G (0.7,1), PC_11_R (0.7,0.6), PC_10_G (0.7,0.5),
  PC_17_G (0.7,0.8), PC_19_G (0.6,0.7), VB_95_R/G (0.6,0.6)
Cases with greater than 0.5 membership in term pgov*~self*nrec: PC_11_R (0.67,0.6),
  PC_10_G (0.67,0.5)
```

```
Model: Ypol = f(pgov, idiff, self, nrec)
Algorithm: Quine-McCluskey

--- PARSIMONIOUS SOLUTION ---
frequency cutoff: 2
consistency cutoff: 0.805366
                    raw         unique
                 coverage    coverage   consistency
                ----------  ----------  ----------
~pgov*~nrec     0.428155    0           0.797757
~pgov*~idiff    0.517282    0.0219417   0.756818
idiff*~nrec     0.345049    0           0.84218
~idiff*nrec     0.491456    0           0.847339
pgov*idiff      0.279223    0.00757289  0.810141
pgov*nrec       0.285631    0.00194174  0.775844
solution coverage: 0.793981
solution consistency: 0.744131


Cases with greater than 0.5 membership in term ~pgov*~nrec: ERC_96_G (0.67,0.9),
  ERC_95_R (0.67,0.8), ERC_93_G (0.67,0.7), ERC_92_R (0.67,0.6),
  ERC_12_R (0.67,0.2), ERC_11_G (0.67,0.6), ERC_03_R (0.67,0.7),
  ERC_00_G (0.67,0.7), ERC_99_R (0.67,0.3), EHB_20_R (0.67,0.9),
  EHB_19_G1 (0.67,0.6), EHB_19_G2 (0.67,1), EHB_16_R (0.67,1),
  EHB_16_G (0.67,0.5), EHB_15_G (0.67,0.8), EHB_12_R (0.67,1),
  EHB_11_G (0.67,0), EHB_01_R (0.67,0.5), EHB_98_R (0.67,0.5),
  EHB_94_R (0.67,0)
Cases with greater than 0.5 membership in term ~pgov*~idiff: EHB_90_R (1,0.5),
  ERC_96_G (0.9,0.9), ERC_12_R (0.9,0.2), ERC_11_G (0.9,0.6),
  ERC_03_R (0.9,0.7), ERC_00_G (0.9,0.7), ERC_99_R (0.9,0.3),
  EHB_20_R (0.9,0.9), EHB_19_G1 (0.9,0.6), EHB_19_G2 (0.9,1),
  EHB_98_R (0.9,0.5), EHB_94_R (0.9,0), EHB_15_G (0.8,0.8),
  EHB_12_R (0.8,1), EHB_11_G (0.8,0), PC_16_R (0.7,0.7),
  PC_15_G (0.7,1), PC_17_G (0.7,0.8), PC_19_G (0.7,0.7),
  ERC_95_R (0.7,0.8)
Cases with greater than 0.5 membership in term idiff*~nrec: PQ_03_R (0.67,0.7),
  PQ_94_R (0.67,0.4), BQ_04_G (0.67,0.4), BQ_00_G (0.67,0.6),
  BQ_93_G (0.67,0.5), PQ_98_R (0.6,0.5), BQ_97_G (0.6,0.5)
Cases with greater than 0.5 membership in term ~idiff*nrec: PC_16_R (0.7,0.7),
  PC_15_G (0.7,1), PC_11_R (0.7,0.6), PC_10_G (0.7,0.5),
  PC_17_G (0.7,0.8), PC_19_G (0.7,0.7), PQ_07_R (0.67,0.9),
  VB_95_R/G (0.6,0.6), PQ_18_R (0.6,0.8), BQ_15_G (0.6,0.9)
Cases with greater than 0.5 membership in term pgov*idiff: SNP_16_R (1,0.4),
  SNP_15_G (1,0.6), NVA_19_R/G (1,1), PQ_03_R (0.8,0.7),
  BQ_00_G (0.8,0.6), SNP_19_G (0.7,0.6), SNP_17_G (0.7,0.8),
  SNP_11_R (0.7,0.5), SNP_10_G (0.7,0.5), PQ_14_R (0.7,1),
  NVA_14_R/G (0.67,0.9), NVA_10_G (0.67,0.9), NVA_09_R (0.67,0.3),
  NVA_07_G (0.67,1), NVA_04_R (0.67,0.9), PQ_98_R (0.6,0.5),
  BQ_97_G (0.6,0.5)
Cases with greater than 0.5 membership in term pgov*nrec: SNP_19_G (1,0.6),
  SNP_17_G (1,0.8), SNP_16_R (1,0.4), SNP_15_G (1,0.6),
  SNP_11_R (1,0.5), SNP_10_G (1,0.5), PC_11_R (0.67,0.6),
  PC_10_G (0.67,0.5), NVA_19_R/G (0.67,1), NVA_14_R/G (0.67,0.9),
  NVA_10_G (0.67,0.9), NVA_09_R (0.67,0.3), NVA_07_G (0.67,1),
  NVA_04_R (0.67,0.9), PQ_14_R (0.67,1)
```

```
Model: Ypol = f(pgov, idiff, self, nrec)
Algorithm: Quine-McCluskey

--- COMPLEX SOLUTION ---
frequency cutoff: 2
consistency cutoff: 0.805366
                          raw         unique
                        coverage    coverage    consistency
                       ----------  ----------  ----------
~pgov*~idiff           0.517282    0.0660194   0.756818
~idiff*~self*nrec      0.375728    0.0155339   0.835853
pgov*idiff*self        0.260194    0.0728157   0.858974
~pgov*self*~nrec       0.405243    0           0.797173
idiff*self*~nrec       0.344466    0           0.841955
solution coverage: 0.776311
solution consistency: 0.772262


Cases with greater than 0.5 membership in term ~pgov*~idiff: EHB_90_R (1,0.5),
  ERC_96_G (0.9,0.9), ERC_12_R (0.9,0.2), ERC_11_G (0.9,0.6),
  ERC_03_R (0.9,0.7), ERC_00_G (0.9,0.7), ERC_99_R (0.9,0.3),
  EHB_20_R (0.9,0.9), EHB_19_G1 (0.9,0.6), EHB_19_G2 (0.9,1),
  EHB_98_R (0.9,0.5), EHB_94_R (0.9,0), EHB_15_G (0.8,0.8),
  EHB_12_R (0.8,1), EHB_11_G (0.8,0), PC_16_R (0.7,0.7),
  PC_15_G (0.7,1), PC_17_G (0.7,0.8), PC_19_G (0.7,0.7),
  ERC_95_R (0.7,0.8)
Cases with greater than 0.5 membership in term ~idiff*~self*nrec: PC_16_R (0.7,0.7),
  PC_15_G (0.7,1), PC_11_R (0.7,0.6), PC_10_G (0.7,0.5),
  PC_17_G (0.7,0.8), PC_19_G (0.6,0.7), VB_95_R/G (0.6,0.6)
Cases with greater than 0.5 membership in term pgov*idiff*self: PQ_03_R (0.8,0.7),
  BQ_00_G (0.8,0.6), PQ_14_R (0.7,1), SNP_19_G (0.6,0.6),
  SNP_17_G (0.6,0.8), SNP_16_R (0.6,0.4), SNP_15_G (0.6,0.6),
  SNP_11_R (0.6,0.5), SNP_10_G (0.6,0.5), NVA_19_R/G (0.6,1),
  NVA_14_R/G (0.6,0.9), NVA_10_G (0.6,0.9), NVA_09_R (0.6,0.3),
  NVA_07_G (0.6,1), NVA_04_R (0.6,0.9), PQ_98_R (0.6,0.5),
  BQ_97_G (0.6,0.5)
Cases with greater than 0.5 membership in term ~pgov*self*~nrec: EHB_20_R (0.67,0.9),
  EHB_19_G1 (0.67,0.6), EHB_19_G2 (0.67,1), EHB_16_R (0.67,1),
  EHB_16_G (0.67,0.5), EHB_15_G (0.67,0.8), EHB_12_R (0.67,1),
  EHB_11_G (0.67,0), EHB_01_R (0.67,0.5), EHB_98_R (0.67,0.5),
  EHB_94_R (0.67,0), EHB_90_R (0.67,0.5), PQ_94_R (0.67,0.4),
  BQ_06_G (0.67,0.5), BQ_04_G (0.67,0.4), BQ_93_G (0.67,0.5),
  ERC_12_R (0.6,0.2), ERC_11_G (0.6,0.6), ERC_03_R (0.6,0.7),
  ERC_00_G (0.6,0.7)
Cases with greater than 0.5 membership in term idiff*self*~nrec: PQ_03_R (0.67,0.7),
  PQ_94_R (0.67,0.4), BQ_04_G (0.67,0.4), BQ_00_G (0.67,0.6),
  BQ_93_G (0.67,0.5), PQ_98_R (0.6,0.5), BQ_97_G (0.6,0.5)
```

3. Robustness checks

In QCA, a change in the way the conditions and the outcomes are calibrated can dramatically affect the results. Hence, the first of the robustness checks consists in changing the calibration to see whether it affects the results, and if so, how. I have simply changed the approach of the research design from fuzzy sets to crisp sets – the conditions and outcomes have all been calibrated in a binary way, that is to say, 0 to 0.4 degrees of membership have been recoded as 0, and 0.5 to 1 have been recoded as 1. A particular solution has passed this check if the results remain very similar to the ones displayed in the paper.

Conversely, the second check consists of gradually increasing and then gradually decreasing the raw consistency thresholds until the Boolean formula for the solution changes. This allows the researcher to assess the sensitivity ranges of the Intermediate Solutions (IS) displayed in the paper – at a 0.8 consistency threshold (Oana, Schneider 2021). The results of both checks throw the robust core of the IS, which is that part of the initial QCA solution that is supported by all the robustness tests. The reader can find below al the steps of this iterative process:

3.1 The identity case for constitutional change

3.1.1 Checks in the calibration

```
Model: Yid = f(lang, his, pgov, size, nrec)
Algorithm: Quine-McCluskey

--- INTERMEDIATE SOLUTION ---
frequency cutoff: 1
consistency cutoff: 0.833333
Assumptions:
lang (present)
his (present)
~pgov (absent)
~size (absent)
~nrec (absent)
                                raw       unique
                           coverage    coverage   consistency
                          ----------  ----------  ----------
lang*his*~pgov*~size*~nrec     0.333333    0.333333    0.882353
lang*his*~pgov*size*nrec       0.111111    0.111111    0.833333
solution coverage: 0.444444
solution consistency: 0.869565


Cases with greater than 0.5 membership in term lang*his*~pgov*~size*~nrec: ERC_96_G (1,1),
  ERC_95_R (1,1), ERC_93_G (1,1), ERC_92_R (1,1),
  ERC_12_R (1,1), ERC_11_G (1,1), ERC_03_R (1,1),
  ERC_00_G (1,1), ERC_99_R (1,1), EHB_19_G1 (1,0),
  EHB_19_G2 (1,0), EHB_16_G (1,1), EHB_15_G (1,1),
  EHB_01_R (1,1), EHB_98_R (1,1), EHB_94_R (1,1),
  EHB_90_R (1,1)
Cases with greater than 0.5 membership in term lang*his*~pgov*size*nrec: PQ_12_R (1,1),
  PQ_08_R (1,1), PQ_07_R (1,1), BQ_19_G (1,0),
  BQ_11_G (1,1), BQ_08_G (1,1)
```

The core of the intermediate solution – the combination of *lang*, *his* and *~pgov* – remains the same.

3.1.2 Checks in the raw consistency thresholds

- Initial solution (0.8 raw consistency threshold)

```
--- PARSIMONIOUS SOLUTION ---
frequency cutoff: 1
consistency cutoff: 0.808344
                      raw       unique
                     coverage    coverage   consistency
                    ----------  ----------  ----------
lang*his*~pgov      0.626829    0.220399    0.79321
lang*size*~pgov     0.440355    0.0339246   0.748587
solution coverage: 0.660754
solution consistency: 0.764691


Cases with greater than 0.5 membership in term lang*his*~pgov: ERC_96_G (0.67,0.8),
  ERC_95_R (0.67,0.7), ERC_93_G (0.67,0.6), ERC_92_R (0.67,1),
  ERC_12_R (0.67,0.6), ERC_11_G (0.67,0.9), ERC_03_R (0.67,0.8),
  ERC_00_G (0.67,0.9), ERC_99_R (0.67,0.7), EHB_20_R (0.67,0.4),
  EHB_19_G1 (0.67,0), EHB_19_G2 (0.67,0), EHB_16_R (0.67,0),
  EHB_16_G (0.67,0.8), EHB_15_G (0.67,0.9), EHB_12_R (0.67,0.9),
  EHB_11_G (0.67,1), EHB_98_R (0.67,1), EHB_94_R (0.67,1),
  EHB_90_R (0.67,1)
Cases with greater than 0.5 membership in term lang*size*~pgov: BQ_08_G (0.9,1),
  BQ_06_G (0.9,0.1), BQ_04_G (0.9,0.4), BQ_93_G (0.9,0.7),
  PQ_12_R (0.8,1), PQ_94_R (0.8,0.7), VB_19_R/G (0.7,0.4),
  VB_09_R (0.7,0.6), VB_07_G (0.7,0.7), VB_04_R (0.7,0.8),
  PQ_08_R (0.7,1), BQ_19_G (0.7,0), PC_07_R (0.67,0.2),
  EHB_12_R (0.67,0.9), EHB_11_G (0.67,1), PC_03_R (0.6,0.2),
  EHB_20_R (0.6,0.4), EHB_16_R (0.6,0), PQ_07_R (0.6,0.9),
  BQ_11_G (0.6,0.8)
```

Fully inside empirical sensitivity (initial IS).

- Raw consistency threshold: 0.9

```
--- INTERMEDIATE SOLUTION ---
frequency cutoff: 1
consistency cutoff: 1
Assumptions:
lang (present)
his (present)
~nrec (absent)
~size (absent)
~pgov (absent)
                          raw       unique
                        coverage    coverage   consistency
                       ----------  ----------  ----------
lang*his*~size         0.613747    0.454102    0.763797
lang*nrec*~size*pgov   0.176275    0.0166297   0.742991
solution coverage: 0.630377
solution consistency: 0.756117


Cases with greater than 0.5 membership in term lang*his*~size: ERC_96_G (0.67,0.8),
  ERC_95_R (0.67,0.7), ERC_93_G (0.67,0.6), ERC_92_R (0.67,1),
  ERC_12_R (0.67,0.6), ERC_11_G (0.67,0.9), ERC_10_R (0.67,0.9),
  ERC_08_G (0.67,0.6), ERC_06_R (0.67,0.8), ERC_04_G (0.67,0.4),
  ERC_03_R (0.67,0.8), ERC_00_G (0.67,0.9), ERC_99_R (0.67,0.7),
  JxC_19_G1 (0.67,0.2), JxC_19_G2 (0.67,0.2), JxC_16_G (0.67,0.1),
  JxC_15_G (0.67,0.2), EHB_19_G1 (0.67,0), EHB_19_G2 (0.67,0),
  EHB_16_G (0.67,0.8)
Cases with greater than 0.5 membership in term lang*nrec*~size*pgov: PC_11_R (0.67,0.7),
  PC_10_G (0.67,0.7), NVA_09_R (0.67,0)
```

Partially inside empirical sensitivity (maintains the combination *lang*his*)

- Raw consistency threshold: 1

```
--- INTERMEDIATE SOLUTION ---
frequency cutoff: 1
consistency cutoff: 1
Assumptions:
lang (present)
his (present)
~nrec (absent)
~size (absent)
~pgov (absent)
                          raw       unique
                        coverage    coverage   consistency
                       ----------  ----------  ----------
lang*his*~size         0.613747    0.454102    0.763797
lang*nrec*~size*pgov   0.176275    0.0166297   0.742991
solution coverage: 0.630377
solution consistency: 0.756117


Cases with greater than 0.5 membership in term lang*his*~size: ERC_96_G (0.67,0.8),
  ERC_95_R (0.67,0.7), ERC_93_G (0.67,0.6), ERC_92_R (0.67,1),
  ERC_12_R (0.67,0.6), ERC_11_G (0.67,0.9), ERC_10_R (0.67,0.9),
  ERC_08_G (0.67,0.6), ERC_06_R (0.67,0.8), ERC_04_G (0.67,0.4),
  ERC_03_R (0.67,0.8), ERC_00_G (0.67,0.9), ERC_99_R (0.67,0.7),
  JxC_19_G1 (0.67,0.2), JxC_19_G2 (0.67,0.2), JxC_16_G (0.67,0.1),
  JxC_15_G (0.67,0.2), EHB_19_G1 (0.67,0), EHB_19_G2 (0.67,0),
  EHB_16_G (0.67,0.8)
Cases with greater than 0.5 membership in term lang*nrec*~size*pgov: PC_11_R (0.67,0.7),
  PC_10_G (0.67,0.7), NVA_09_R (0.67,0)
```

Partially inside empirical sensitivity (maintains the combination *lang*his*)

- Raw consistency threshold: 0.7

```
--- INTERMEDIATE SOLUTION ---
frequency cutoff: 1
consistency cutoff: 0.7105
Assumptions:
lang (present)
his (present)
~size (absent)
~pgov (absent)
~nrec (absent)
                      raw       unique
                     coverage    coverage   consistency
                    ----------  ----------  ----------
lang*nrec           0.648337    0.164745    0.686546
his*~size*~pgov     0.525499    0.0015521   0.791319
lang*his*~pgov      0.626829    0.0317072   0.79321
solution coverage: 0.793126
solution consistency: 0.686433


Cases with greater than 0.5 membership in term lang*nrec: PC_16_R (0.67,0.8),
  PC_15_G (0.67,0.6), PC_11_R (0.67,0.7), PC_10_G (0.67,0.7),
  PC_07_R (0.67,0.2), PC_05_G (0.67,0.1), PC_03_R (0.67,0.2),
  PC_17_G (0.67,0.7), VB_91_G (0.67,0.4), PC_19_G (0.67,0),
  VB_99_R/G (0.67,0.8), VB_95_R/G (0.67,0.4), NVA_19_R/G (0.67,0),
  NVA_14_R/G (0.67,0.6), NVA_10_G (0.67,0.1), NVA_09_R (0.67,0),
  NVA_07_G (0.67,0.4), NVA_04_R (0.67,0.3), NVA_03_G (0.67,0.2),
  VB_19_R/G (0.67,0.4)
Cases with greater than 0.5 membership in term his*~size*~pgov: SNP_92_G (0.7,0.4),
  SNP_05_G (0.7,0.1), ERC_96_G (0.67,0.8), ERC_95_R (0.67,0.7),
  ERC_93_G (0.67,0.6), ERC_92_R (0.67,1), ERC_12_R (0.67,0.6),
  ERC_11_G (0.67,0.9), ERC_03_R (0.67,0.8), ERC_00_G (0.67,0.9),
  ERC_99_R (0.67,0.7), EHB_19_G1 (0.67,0), EHB_19_G2 (0.67,0),
  EHB_16_G (0.67,0.8), EHB_15_G (0.67,0.9), EHB_98_R (0.67,1),
  EHB_94_R (0.67,1), EHB_90_R (0.67,1), PQ_18_R (0.67,0.4),
  BQ_15_G (0.67,0.9)
Cases with greater than 0.5 membership in term lang*his*~pgov: ERC_96_G (0.67,0.8),
  ERC_95_R (0.67,0.7), ERC_93_G (0.67,0.6), ERC_92_R (0.67,1),
  ERC_12_R (0.67,0.6), ERC_11_G (0.67,0.9), ERC_03_R (0.67,0.8),
  ERC_00_G (0.67,0.9), ERC_99_R (0.67,0.7), EHB_20_R (0.67,0.4),
  EHB_19_G1 (0.67,0), EHB_19_G2 (0.67,0), EHB_16_R (0.67,0),
  EHB_16_G (0.67,0.8), EHB_15_G (0.67,0.9), EHB_12_R (0.67,0.9),
  EHB_11_G (0.67,1), EHB_98_R (0.67,1), EHB_94_R (0.67,1),
  EHB_90_R (0.67,1)
```

Partially inside empirical sensitivity (maintains the combination *lang*his*~pgov*)

- Raw consistency threshold: 0.6

```
--- INTERMEDIATE SOLUTION ---
frequency cutoff: 1
consistency cutoff: 0.604191
Assumptions:
lang (present)
his (present)
~size (absent)
~pgov (absent)
~nrec (absent)
                     raw       unique
                    coverage    coverage   consistency
                   ----------  ----------  ----------
lang*his           0.762749    0.198891    0.701326
lang*nrec          0.648337    0.0844788   0.686546
his*~pgov*nrec     0.485144    0.0015521   0.687402
his*size*nrec      0.459423    0.00598675  0.661769
solution coverage: 0.854767
solution consistency: 0.586759



Cases with greater than 0.5 membership in term lang*his: ERC_96_G (0.67,0.8),
  ERC_95_R (0.67,0.7), ERC_93_G (0.67,0.6), ERC_92_R (0.67,1),
  ERC_19_G1 (0.67,0.6), ERC_19_G2 (0.67,0.6), ERC_17_R (0.67,0.1),
  ERC_16_G (0.67,0.3), ERC_15_G (0.67,0.3), ERC_12_R (0.67,0.6),
  ERC_11_G (0.67,0.9), ERC_10_R (0.67,0.9), ERC_08_G (0.67,0.6),
  ERC_06_R (0.67,0.8), ERC_04_G (0.67,0.4), ERC_03_R (0.67,0.8),
  ERC_00_G (0.67,0.9), ERC_99_R (0.67,0.7), JxC_19_G1 (0.67,0.2),
  JxC_19_G2 (0.67,0.2)
Cases with greater than 0.5 membership in term lang*nrec: PC_16_R (0.67,0.8),
  PC_15_G (0.67,0.6), PC_11_R (0.67,0.7), PC_10_G (0.67,0.7),
  PC_07_R (0.67,0.2), PC_05_G (0.67,0.1), PC_03_R (0.67,0.2),
  PC_17_G (0.67,0.7), VB_91_G (0.67,0.4), PC_19_G (0.67,0),
  VB_99_R/G (0.67,0.8), VB_95_R/G (0.67,0.4), NVA_19_R/G (0.67,0),
  NVA_14_R/G (0.67,0.6), NVA_10_G (0.67,0.1), NVA_09_R (0.67,0),
  NVA_07_G (0.67,0.4), NVA_04_R (0.67,0.3), NVA_03_G (0.67,0.2),
  VB_19_R/G (0.67,0.4)
Cases with greater than 0.5 membership in term his*~pgov*nrec: SNP_97_G (1,0.3),
  SNP_92_G (1,0.4), SNP_07_R (1,0.1), SNP_05_G (1,0.1),
  SNP_03_R (1,0.2), SNP_01_G (1,0.3), SNP_99_R (1,0),
  PQ_18_R (0.67,0.4), PQ_12_R (0.67,1), PQ_08_R (0.67,1),
  PQ_07_R (0.67,0.9), BQ_19_G (0.67,0), BQ_15_G (0.67,0.9),
  BQ_11_G (0.67,0.8), BQ_08_G (0.67,1)
Cases with greater than 0.5 membership in term his*size*nrec: SNP_15_G (1,0),
  SNP_19_G (0.9,0.1), SNP_16_R (0.9,0), SNP_11_R (0.9,0.3),
  SNP_17_G (0.8,0.1), SNP_07_R (0.8,0.1), PQ_12_R (0.67,1),
  PQ_08_R (0.67,1), BQ_19_G (0.67,0), BQ_08_G (0.67,1),
  SNP_97_G (0.6,0.3), SNP_10_G (0.6,0.9), SNP_03_R (0.6,0.2),
  SNP_01_G (0.6,0.3), SNP_99_R (0.6,0), PQ_14_R (0.6,0),
  PQ_07_R (0.6,0.9), BQ_11_G (0.6,0.8)
```

Not enough level of consistency (< 0.75).

- Raw consistency threshold: 0.5

```
--- INTERMEDIATE SOLUTION ---
frequency cutoff: 1
consistency cutoff: 0.604191
Assumptions:
lang (present)
his (present)
~size (absent)
~pgov (absent)
~nrec (absent)
                     raw        unique
                    coverage    coverage   consistency
                   ----------  ----------  ----------
lang*his           0.762749    0.198891    0.701326
lang*nrec          0.648337    0.0844788   0.686546
his*~pgov*nrec     0.485144    0.0015521   0.687402
his*size*nrec      0.459423    0.00598675  0.661769
solution coverage: 0.854767
solution consistency: 0.586759


Cases with greater than 0.5 membership in term lang*his: ERC_96_G (0.67,0.8),
  ERC_95_R (0.67,0.7), ERC_93_G (0.67,0.6), ERC_92_R (0.67,1),
  ERC_19_G1 (0.67,0.6), ERC_19_G2 (0.67,0.6), ERC_17_R (0.67,0.1),
  ERC_16_G (0.67,0.3), ERC_15_G (0.67,0.3), ERC_12_R (0.67,0.6),
  ERC_11_G (0.67,0.9), ERC_10_R (0.67,0.9), ERC_08_G (0.67,0.6),
  ERC_06_R (0.67,0.8), ERC_04_G (0.67,0.4), ERC_03_R (0.67,0.8),
  ERC_00_G (0.67,0.9), ERC_99_R (0.67,0.7), JxC_19_G1 (0.67,0.2),
  JxC_19_G2 (0.67,0.2)
Cases with greater than 0.5 membership in term lang*nrec: PC_16_R (0.67,0.8),
  PC_15_G (0.67,0.6), PC_11_R (0.67,0.7), PC_10_G (0.67,0.7),
  PC_07_R (0.67,0.2), PC_05_G (0.67,0.1), PC_03_R (0.67,0.2),
  PC_17_G (0.67,0.7), VB_91_G (0.67,0.4), PC_19_G (0.67,0),
  VB_99_R/G (0.67,0.8), VB_95_R/G (0.67,0.4), NVA_19_R/G (0.67,0),
  NVA_14_R/G (0.67,0.6), NVA_10_G (0.67,0.1), NVA_09_R (0.67,0),
  NVA_07_G (0.67,0.4), NVA_04_R (0.67,0.3), NVA_03_G (0.67,0.2),
  VB_19_R/G (0.67,0.4)
Cases with greater than 0.5 membership in term his*~pgov*nrec: SNP_97_G (1,0.3),
  SNP_92_G (1,0.4), SNP_07_R (1,0.1), SNP_05_G (1,0.1),
  SNP_03_R (1,0.2), SNP_01_G (1,0.3), SNP_99_R (1,0),
  PQ_18_R (0.67,0.4), PQ_12_R (0.67,1), PQ_08_R (0.67,1),
  PQ_07_R (0.67,0.9), BQ_19_G (0.67,0), BQ_15_G (0.67,0.9),
  BQ_11_G (0.67,0.8), BQ_08_G (0.67,1)
Cases with greater than 0.5 membership in term his*size*nrec: SNP_15_G (1,0),
  SNP_19_G (0.9,0.1), SNP_16_R (0.9,0), SNP_11_R (0.9,0.3),
  SNP_17_G (0.8,0.1), SNP_07_R (0.8,0.1), PQ_12_R (0.67,1),
  PQ_08_R (0.67,1), BQ_19_G (0.67,0), BQ_08_G (0.67,1),
  SNP_97_G (0.6,0.3), SNP_10_G (0.6,0.9), SNP_03_R (0.6,0.2),
  SNP_01_G (0.6,0.3), SNP_99_R (0.6,0), PQ_14_R (0.6,0),
  PQ_07_R (0.6,0.9), BQ_11_G (0.6,0.8)
```

Not enough level of consistency (< 0.75).

- Raw consistency threshold: 0.4

```
--- INTERMEDIATE SOLUTION ---
frequency cutoff: 1
consistency cutoff: 0.604191
Assumptions:
lang (present)
his (present)
~size (absent)
~pgov (absent)
~nrec (absent)
                     raw       unique
                   coverage    coverage   consistency
                  ----------  ----------  ----------
lang*his          0.762749    0.198891    0.701326
lang*nrec         0.648337    0.0844788   0.686546
his*~pgov*nrec    0.485144    0.0015521   0.687402
his*size*nrec     0.459423    0.00598675  0.661769
solution coverage: 0.854767
solution consistency: 0.586759



Cases with greater than 0.5 membership in term lang*his: ERC_96_G (0.67,0.8),
  ERC_95_R (0.67,0.7), ERC_93_G (0.67,0.6), ERC_92_R (0.67,1),
  ERC_19_G1 (0.67,0.6), ERC_19_G2 (0.67,0.6), ERC_17_R (0.67,0.1),
  ERC_16_G (0.67,0.3), ERC_15_G (0.67,0.3), ERC_12_R (0.67,0.6),
  ERC_11_G (0.67,0.9), ERC_10_R (0.67,0.9), ERC_08_G (0.67,0.6),
  ERC_06_R (0.67,0.8), ERC_04_G (0.67,0.4), ERC_03_R (0.67,0.8),
  ERC_00_G (0.67,0.9), ERC_99_R (0.67,0.7), JxC_19_G1 (0.67,0.2),
  JxC_19_G2 (0.67,0.2)
Cases with greater than 0.5 membership in term lang*nrec: PC_16_R (0.67,0.8),
  PC_15_G (0.67,0.6), PC_11_R (0.67,0.7), PC_10_G (0.67,0.7),
  PC_07_R (0.67,0.2), PC_05_G (0.67,0.1), PC_03_R (0.67,0.2),
  PC_17_G (0.67,0.7), VB_91_G (0.67,0.4), PC_19_G (0.67,0),
  VB_99_R/G (0.67,0.8), VB_95_R/G (0.67,0.4), NVA_19_R/G (0.67,0),
  NVA_14_R/G (0.67,0.6), NVA_10_G (0.67,0.1), NVA_09_R (0.67,0),
  NVA_07_G (0.67,0.4), NVA_04_R (0.67,0.3), NVA_03_G (0.67,0.2),
  VB_19_R/G (0.67,0.4)
Cases with greater than 0.5 membership in term his*~pgov*nrec: SNP_97_G (1,0.3),
  SNP_92_G (1,0.4), SNP_07_R (1,0.1), SNP_05_G (1,0.1),
  SNP_03_R (1,0.2), SNP_01_G (1,0.3), SNP_99_R (1,0),
  PQ_18_R (0.67,0.4), PQ_12_R (0.67,1), PQ_08_R (0.67,1),
  PQ_07_R (0.67,0.9), BQ_19_G (0.67,0), BQ_15_G (0.67,0.9),
  BQ_11_G (0.67,0.8), BQ_08_G (0.67,1)
Cases with greater than 0.5 membership in term his*size*nrec: SNP_15_G (1,0),
  SNP_19_G (0.9,0.1), SNP_16_R (0.9,0), SNP_11_R (0.9,0.3),
  SNP_17_G (0.8,0.1), SNP_07_R (0.8,0.1), PQ_12_R (0.67,1),
  PQ_08_R (0.67,1), BQ_19_G (0.67,0), BQ_08_G (0.67,1),
  SNP_97_G (0.6,0.3), SNP_10_G (0.6,0.9), SNP_03_R (0.6,0.2),
  SNP_01_G (0.6,0.3), SNP_99_R (0.6,0), PQ_14_R (0.6,0),
  PQ_07_R (0.6,0.9), BQ_11_G (0.6,0.8)
```

Fully inside empirical sensitivity

- Raw consistency threshold: 0.3

```
--- INTERMEDIATE SOLUTION ---
frequency cutoff: 1
consistency cutoff: 0.604191
Assumptions:
lang (present)
his (present)
~size (absent)
~pgov (absent)
~nrec (absent)
                     raw       unique
                    coverage    coverage   consistency
                   ----------  ----------  ----------
lang*his           0.762749    0.198891    0.701326
lang*nrec          0.648337    0.0844788   0.686546
his*~pgov*nrec     0.485144    0.0015521   0.687402
his*size*nrec      0.459423    0.00598675  0.661769
solution coverage: 0.854767
solution consistency: 0.586759


Cases with greater than 0.5 membership in term lang*his: ERC_96_G (0.67,0.8),
  ERC_95_R (0.67,0.7), ERC_93_G (0.67,0.6), ERC_92_R (0.67,1),
  ERC_19_G1 (0.67,0.6), ERC_19_G2 (0.67,0.6), ERC_17_R (0.67,0.1),
  ERC_16_G (0.67,0.3), ERC_15_G (0.67,0.3), ERC_12_R (0.67,0.6),
  ERC_11_G (0.67,0.9), ERC_10_R (0.67,0.9), ERC_08_G (0.67,0.6),
  ERC_06_R (0.67,0.8), ERC_04_G (0.67,0.4), ERC_03_R (0.67,0.8),
  ERC_00_G (0.67,0.9), ERC_99_R (0.67,0.7), JxC_19_G1 (0.67,0.2),
  JxC_19_G2 (0.67,0.2)
Cases with greater than 0.5 membership in term lang*nrec: PC_16_R (0.67,0.8),
  PC_15_G (0.67,0.6), PC_11_R (0.67,0.7), PC_10_G (0.67,0.7),
  PC_07_R (0.67,0.2), PC_05_G (0.67,0.1), PC_03_R (0.67,0.2),
  PC_17_G (0.67,0.7), VB_91_G (0.67,0.4), PC_19_G (0.67,0),
  VB_99_R/G (0.67,0.8), VB_95_R/G (0.67,0.4), NVA_19_R/G (0.67,0),
  NVA_14_R/G (0.67,0.6), NVA_10_G (0.67,0.1), NVA_09_R (0.67,0),
  NVA_07_G (0.67,0.4), NVA_04_R (0.67,0.3), NVA_03_G (0.67,0.2),
  VB_19_R/G (0.67,0.4)
Cases with greater than 0.5 membership in term his*~pgov*nrec: SNP_97_G (1,0.3),
  SNP_92_G (1,0.4), SNP_07_R (1,0.1), SNP_05_G (1,0.1),
  SNP_03_R (1,0.2), SNP_01_G (1,0.3), SNP_99_R (1,0),
  PQ_18_R (0.67,0.4), PQ_12_R (0.67,1), PQ_08_R (0.67,1),
  PQ_07_R (0.67,0.9), BQ_19_G (0.67,0), BQ_15_G (0.67,0.9),
  BQ_11_G (0.67,0.8), BQ_08_G (0.67,1)
Cases with greater than 0.5 membership in term his*size*nrec: SNP_15_G (1,0),
  SNP_19_G (0.9,0.1), SNP_16_R (0.9,0), SNP_11_R (0.9,0.3),
  SNP_17_G (0.8,0.1), SNP_07_R (0.8,0.1), PQ_12_R (0.67,1),
  PQ_08_R (0.67,1), BQ_19_G (0.67,0), BQ_08_G (0.67,1),
  SNP_97_G (0.6,0.3), SNP_10_G (0.6,0.9), SNP_03_R (0.6,0.2),
  SNP_01_G (0.6,0.3), SNP_99_R (0.6,0), PQ_14_R (0.6,0),
  PQ_07_R (0.6,0.9), BQ_11_G (0.6,0.8)
```

Not enough level of consistency (< 0.75).

- Raw consistency threshold: 0.2

```
--- INTERMEDIATE SOLUTION ---
frequency cutoff: 1
consistency cutoff: 0.604191
Assumptions:
lang (present)
his (present)
~size (absent)
~pgov (absent)
~nrec (absent)
                     raw       unique
                    coverage    coverage   consistency
                   ----------  ----------  ----------
lang*his           0.762749    0.198891    0.701326
lang*nrec          0.648337    0.0844788   0.686546
his*~pgov*nrec     0.485144    0.0015521   0.687402
his*size*nrec      0.459423    0.00598675  0.661769
solution coverage: 0.854767
solution consistency: 0.586759


Cases with greater than 0.5 membership in term lang*his: ERC_96_G (0.67,0.8),
  ERC_95_R (0.67,0.7), ERC_93_G (0.67,0.6), ERC_92_R (0.67,1),
  ERC_19_G1 (0.67,0.6), ERC_19_G2 (0.67,0.6), ERC_17_R (0.67,0.1),
  ERC_16_G (0.67,0.3), ERC_15_G (0.67,0.3), ERC_12_R (0.67,0.6),
  ERC_11_G (0.67,0.9), ERC_10_R (0.67,0.9), ERC_08_G (0.67,0.6),
  ERC_06_R (0.67,0.8), ERC_04_G (0.67,0.4), ERC_03_R (0.67,0.8),
  ERC_00_G (0.67,0.9), ERC_99_R (0.67,0.7), JxC_19_G1 (0.67,0.2),
  JxC_19_G2 (0.67,0.2)
Cases with greater than 0.5 membership in term lang*nrec: PC_16_R (0.67,0.8),
  PC_15_G (0.67,0.6), PC_11_R (0.67,0.7), PC_10_G (0.67,0.7),
  PC_07_R (0.67,0.2), PC_05_G (0.67,0.1), PC_03_R (0.67,0.2),
  PC_17_G (0.67,0.7), VB_91_G (0.67,0.4), PC_19_G (0.67,0),
  VB_99_R/G (0.67,0.8), VB_95_R/G (0.67,0.4), NVA_19_R/G (0.67,0),
  NVA_14_R/G (0.67,0.6), NVA_10_G (0.67,0.1), NVA_09_R (0.67,0),
  NVA_07_G (0.67,0.4), NVA_04_R (0.67,0.3), NVA_03_G (0.67,0.2),
  VB_19_R/G (0.67,0.4)
Cases with greater than 0.5 membership in term his*~pgov*nrec: SNP_97_G (1,0.3)
  SNP_92_G (1,0.4), SNP_07_R (1,0.1), SNP_05_G (1,0.1),
  SNP_03_R (1,0.2), SNP_01_G (1,0.3), SNP_99_R (1,0),
  PQ_18_R (0.67,0.4), PQ_12_R (0.67,1), PQ_08_R (0.67,1),
  PQ_07_R (0.67,0.9), BQ_19_G (0.67,0), BQ_15_G (0.67,0.9),
  BQ_11_G (0.67,0.8), BQ_08_G (0.67,1)
Cases with greater than 0.5 membership in term his*size*nrec: SNP_15_G (1,0),
  SNP_19_G (0.9,0.1), SNP_16_R (0.9,0), SNP_11_R (0.9,0.3),
  SNP_17_G (0.8,0.1), SNP_07_R (0.8,0.1), PQ_12_R (0.67,1),
  PQ_08_R (0.67,1), BQ_19_G (0.67,0), BQ_08_G (0.67,1),
  SNP_97_G (0.6,0.3), SNP_10_G (0.6,0.9), SNP_03_R (0.6,0.2),
  SNP_01_G (0.6,0.3), SNP_99_R (0.6,0), PQ_14_R (0.6,0),
  PQ_07_R (0.6,0.9), BQ_11_G (0.6,0.8)
```

Not enough level of consistency (< 0.75).

- Raw consistency threshold: 0.1

```
--- INTERMEDIATE SOLUTION ---
frequency cutoff: 1
consistency cutoff: 0.604191
Assumptions:
lang (present)
his (present)
~size (absent)
~pgov (absent)
~nrec (absent)
                     raw       unique
                   coverage    coverage   consistency
                  ----------  ----------  ----------
lang*his          0.762749    0.198891    0.701326
lang*nrec         0.648337    0.0844788   0.686546
his*~pgov*nrec    0.485144    0.0015521   0.687402
his*size*nrec     0.459423    0.00598675  0.661769
solution coverage: 0.854767
solution consistency: 0.586759


Cases with greater than 0.5 membership in term lang*his: ERC_96_G (0.67,0.8),
  ERC_95_R (0.67,0.7), ERC_93_G (0.67,0.6), ERC_92_R (0.67,1),
  ERC_19_G1 (0.67,0.6), ERC_19_G2 (0.67,0.6), ERC_17_R (0.67,0.1),
  ERC_16_G (0.67,0.3), ERC_15_G (0.67,0.3), ERC_12_R (0.67,0.6),
  ERC_11_G (0.67,0.9), ERC_10_R (0.67,0.9), ERC_08_G (0.67,0.6),
  ERC_06_R (0.67,0.8), ERC_04_G (0.67,0.4), ERC_03_R (0.67,0.8),
  ERC_00_G (0.67,0.9), ERC_99_R (0.67,0.7), JxC_19_G1 (0.67,0.2),
  JxC_19_G2 (0.67,0.2)
Cases with greater than 0.5 membership in term lang*nrec: PC_16_R (0.67,0.8),
  PC_15_G (0.67,0.6), PC_11_R (0.67,0.7), PC_10_G (0.67,0.7),
  PC_07_R (0.67,0.2), PC_05_G (0.67,0.1), PC_03_R (0.67,0.2),
  PC_17_G (0.67,0.7), VB_91_G (0.67,0.4), PC_19_G (0.67,0),
  VB_99_R/G (0.67,0.8), VB_95_R/G (0.67,0.4), NVA_19_R/G (0.67,0),
  NVA_14_R/G (0.67,0.6), NVA_10_G (0.67,0.1), NVA_09_R (0.67,0),
  NVA_07_G (0.67,0.4), NVA_04_R (0.67,0.3), NVA_03_G (0.67,0.2),
  VB_19_R/G (0.67,0.4)
Cases with greater than 0.5 membership in term his*~pgov*nrec: SNP_97_G (1,0.3),
  SNP_92_G (1,0.4), SNP_07_R (1,0.1), SNP_05_G (1,0.1),
  SNP_03_R (1,0.2), SNP_01_G (1,0.3), SNP_99_R (1,0),
  PQ_18_R (0.67,0.4), PQ_12_R (0.67,1), PQ_08_R (0.67,1),
  PQ_07_R (0.67,0.9), BQ_19_G (0.67,0), BQ_15_G (0.67,0.9),
  BQ_11_G (0.67,0.8), BQ_08_G (0.67,1)
Cases with greater than 0.5 membership in term his*size*nrec: SNP_15_G (1,0),
  SNP_19_G (0.9,0.1), SNP_16_R (0.9,0), SNP_11_R (0.9,0.3),
  SNP_17_G (0.8,0.1), SNP_07_R (0.8,0.1), PQ_12_R (0.67,1),
  PQ_08_R (0.67,1), BQ_19_G (0.67,0), BQ_08_G (0.67,1),
  SNP_97_G (0.6,0.3), SNP_10_G (0.6,0.9), SNP_03_R (0.6,0.2),
  SNP_01_G (0.6,0.3), SNP_99_R (0.6,0), PQ_14_R (0.6,0),
  PQ_07_R (0.6,0.9), BQ_11_G (0.6,0.8)
```

Not enough level of consistency (< 0.75).

Hence, the (partial) empirical sensitivity of the initial solution ranges from 0.7 to 0.9. Considering both checks, the robustness core of this solution is thus *lang*his*. *~pgov* also appears in many of these solutions.

3.2 The socioeconomic case for constitutional change

3.2.1 Checks in the calibration

```
Model: Ysocioec = f(size, pgov, eco, ideo)
Algorithm: Quine-McCluskey

--- INTERMEDIATE SOLUTION ---
frequency cutoff: 2
consistency cutoff: 1
Assumptions:
size (present)
pgov (present)
                          raw        unique
                        coverage    coverage   consistency
                       ----------  ----------  ----------
size*pgov*eco*~ideo     0.111111    0.111111    1
~size*pgov*eco*ideo     0.133333    0.133333    1
solution coverage: 0.244444
solution consistency: 1


Cases with greater than 0.5 membership in term size*pgov*eco*~ideo: ERC_19_G1 (1,1),
  ERC_19_G2 (1,1), ERC_17_R (1,1), ERC_16_G (1,1),
  ERC_15_G (1,1)
Cases with greater than 0.5 membership in term ~size*pgov*eco*ideo: JxC_19_G1 (1,1),
  JxC_19_G2 (1,1), JxC_17_R (1,1), JxC_16_G (1,1),
  JxC_15_G (1,1), NVA_09_R (1,1)
```

These are almost the same results as the initial solution. It only slightly changes the first path (it adds *eco*).

3.2.2. Checks in the raw consistency thresholds

- Initial solution (0.8 raw consistency threshold)

```
Model: Ysocioec = f(size, pgov, eco, ideo)
Algorithm: Quine-McCluskey

--- INTERMEDIATE SOLUTION ---
frequency cutoff: 2
consistency cutoff: 0.824732
Assumptions:
size (present)
pgov (present)
                          raw       unique
                       coverage    coverage   consistency
                      ----------  ----------  ----------
size*pgov*~ideo       0.271333    0.146889    0.841489
~size*pgov*eco*ideo   0.188222    0.0637778   0.824732
solution coverage: 0.335111
solution consistency: 0.824945


Cases with greater than 0.5 membership in term size*pgov*~ideo: SNP_16_R (0.7,0.8),
  SNP_15_G (0.7,0.7), SNP_11_R (0.7,0.6), PQ_98_R (0.7,0.8),
  BQ_00_G (0.7,0.7), ERC_19_G1 (0.67,1), ERC_19_G2 (0.67,1),
  ERC_16_G (0.67,0.8), SNP_19_G (0.6,0.7), SNP_17_G (0.6,0.6),
  SNP_10_G (0.6,0.2), ERC_17_R (0.6,1), ERC_15_G (0.6,0.9),
  PQ_14_R (0.6,0.1), PQ_03_R (0.6,0.2), BQ_97_G (0.6,0.7)
Cases with greater than 0.5 membership in term ~size*pgov*eco*ideo: JxC_19_G1 (0.7,0.9),
  JxC_19_G2 (0.7,0.9), JxC_16_G (0.7,0.9), NVA_09_R (0.67,0.9),
  JxC_15_G (0.6,1)
```

Fully inside empirical sensitivity (initial IS).

- Raw consistency threshold: 0.9

```
Model: Ysocioec = f(size, pgov, eco, ideo)
Algorithm: Quine-McCluskey

--- INTERMEDIATE SOLUTION ---
frequency cutoff: 2
consistency cutoff: 1
Assumptions:
size (present)
pgov (present)
                          raw       unique
                       coverage    coverage   consistency
                      ----------  ----------  ----------
size*pgov*~ideo       0.271333    0.146889    0.841489
~size*pgov*eco*ideo   0.188222    0.0637778   0.824732
solution coverage: 0.335111
solution consistency: 0.824945


Cases with greater than 0.5 membership in term size*pgov*~ideo: SNP_16_R (0.7,0.8),
  SNP_15_G (0.7,0.7), SNP_11_R (0.7,0.6), PQ_98_R (0.7,0.8),
  BQ_00_G (0.7,0.7), ERC_19_G1 (0.67,1), ERC_19_G2 (0.67,1),
  ERC_16_G (0.67,0.8), SNP_19_G (0.6,0.7), SNP_17_G (0.6,0.6),
  SNP_10_G (0.6,0.2), ERC_17_R (0.6,1), ERC_15_G (0.6,0.9),
  PQ_14_R (0.6,0.1), PQ_03_R (0.6,0.2), BQ_97_G (0.6,0.7)
Cases with greater than 0.5 membership in term ~size*pgov*eco*ideo: JxC_19_G1 (0.7,0.9),
  JxC_19_G2 (0.7,0.9), JxC_16_G (0.7,0.9), NVA_09_R (0.67,0.9),
  JxC_15_G (0.6,1)
```

Fully inside empirical sensitivity.

- Raw consistency threshold: 1

```
Model: Ysocioec = f(size, pgov, eco, ideo)
Algorithm: Quine-McCluskey

--- INTERMEDIATE SOLUTION ---
frequency cutoff: 2
consistency cutoff: 1
Assumptions:
size (present)
pgov (present)
                          raw        unique
                        coverage    coverage   consistency
                       ----------  ----------  ----------
size*pgov*~ideo         0.271333    0.146889    0.841489
~size*pgov*eco*ideo     0.188222    0.0637778   0.824732
solution coverage: 0.335111
solution consistency: 0.824945


Cases with greater than 0.5 membership in term size*pgov*~ideo: SNP_16_R (0.7,0.8),
  SNP_15_G (0.7,0.7), SNP_11_R (0.7,0.6), PQ_98_R (0.7,0.8),
  BQ_00_G (0.7,0.7), ERC_19_G1 (0.67,1), ERC_19_G2 (0.67,1),
  ERC_16_G (0.67,0.8), SNP_19_G (0.6,0.7), SNP_17_G (0.6,0.6),
  SNP_10_G (0.6,0.2), ERC_17_R (0.6,1), ERC_15_G (0.6,0.9),
  PQ_14_R (0.6,0.1), PQ_03_R (0.6,0.2), BQ_97_G (0.6,0.7)
Cases with greater than 0.5 membership in term ~size*pgov*eco*ideo: JxC_19_G1 (0.7,0.9),
  JxC_19_G2 (0.7,0.9), JxC_16_G (0.7,0.9), NVA_09_R (0.67,0.9),
  JxC_15_G (0.6,1)
```

Fully inside empirical sensitivity.

- Raw consistency threshold: 0.7

```
Model: Ysocioec = f(size, pgov, ideo, eco)
Algorithm: Quine-McCluskey

--- INTERMEDIATE SOLUTION ---
frequency cutoff: 2
consistency cutoff: 0.707091
Assumptions:
size (present)
pgov (present)
                      raw         unique
                     coverage    coverage    consistency
                    ----------  ----------  ----------
pgov*~ideo          0.310667    0.0506666   0.745203
size*~ideo*~eco     0.473333    0.113333    0.771739
~pgov*ideo*eco      0.372445    0.0266667   0.656998
~size*pgov*eco      0.201556    0.00444448  0.726763
~size*ideo*eco      0.444445    0.00288892  0.743495
solution coverage: 0.772889
solution consistency: 0.688849


Cases with greater than 0.5 membership in term pgov*~ideo: PQ_03_R (0.8,0.2),
  SNP_16_R (0.7,0.8), SNP_15_G (0.7,0.7), SNP_11_R (0.7,0.6),
  SNP_10_G (0.7,0.2), PQ_14_R (0.7,0.1), PQ_98_R (0.7,0.8),
  BQ_00_G (0.7,0.7), PC_11_R (0.67,0.4), PC_10_G (0.67,0.4),
  ERC_19_G1 (0.67,1), ERC_19_G2 (0.67,1), ERC_17_R (0.67,1),
  ERC_16_G (0.67,0.8), ERC_08_G (0.67,0.6), ERC_06_R (0.67,0.2),
  ERC_04_G (0.67,0.1), SNP_19_G (0.6,0.7), SNP_17_G (0.6,0.6),
  ERC_15_G (0.6,0.9)
Cases with greater than 0.5 membership in term size*~ideo*~eco: PC_07_R (0.7,0.7),
  SNP_16_R (0.7,0.8), PQ_12_R (0.7,0), PQ_08_R (0.7,0),
  PQ_98_R (0.7,0.8), PQ_94_R (0.7,0.6), BQ_19_G (0.7,0.3),
  BQ_08_G (0.7,0.7), BQ_06_G (0.7,0.9), BQ_04_G (0.7,0.8),
  BQ_00_G (0.7,0.7), SNP_97_G (0.6,1), PC_03_R (0.6,0.4),
  SNP_19_G (0.6,0.7), SNP_17_G (0.6,0.6), SNP_15_G (0.6,0.7),
  SNP_11_R (0.6,0.6), SNP_10_G (0.6,0.2), SNP_07_R (0.6,0.2),
  SNP_03_R (0.6,0.8)
Cases with greater than 0.5 membership in term ~pgov*ideo*eco: VB_91_G (1,0.3),
  VB_99_R/G (1,0.6), VB_95_R/G (1,0.4), VB_19_R/G (1,0),
  VB_10_G (1,0.4), VB_09_R (1,0.4), VB_07_G (1,0.7),
  VB_04_R (1,0.8), VB_03_G (1,0.9), VB_14_R/G (0.9,0.3),
  NVA_03_G (0.8,0.8)
Cases with greater than 0.5 membership in term ~size*pgov*eco: JxC_16_G (0.8,0.9),
  JxC_19_G1 (0.7,0.9), JxC_19_G2 (0.7,0.9), JxC_15_G (0.7,1),
  ERC_10_R (0.67,0.1), ERC_08_G (0.67,0.6), ERC_06_R (0.67,0.2),
  ERC_04_G (0.67,0.1), NVA_09_R (0.67,0.9)
Cases with greater than 0.5 membership in term ~size*ideo*eco: VB_91_G (1,0.3),
  VB_10_G (1,0.4), VB_95_R/G (0.9,0.4), VB_14_R/G (0.9,0.3),
  NVA_09_R (0.8,0.9), NVA_03_G (0.8,0.8), VB_03_G (0.8,0.9),
  VB_99_R/G (0.7,0.6), JxC_19_G1 (0.7,0.9), JxC_19_G2 (0.7,0.9),
  JxC_16_G (0.7,0.9), JxC_15_G (0.6,1)
```

Not enough level of consistency (< 0.75).

- Raw consistency threshold: 0.6

```
Model: Ysocioec = f(size, pgov, ideo, eco)
Algorithm: Quine-McCluskey

--- INTERMEDIATE SOLUTION ---
frequency cutoff: 2
consistency cutoff: 0.661342
Assumptions:
size (present)
pgov (present)
                  raw        unique
               coverage    coverage   consistency
              ----------  ----------  ----------
~ideo*~eco     0.555556    0.0422222   0.712251
ideo*eco       0.54        0.0806665   0.665754
size*~ideo     0.546667    0           0.725664
pgov*~ideo     0.310667    0           0.745203
size*eco       0.444444    0           0.668896
pgov*eco       0.298222    0.00600004  0.691396
solution coverage: 0.840889
solution consistency: 0.616789


Cases with greater than 0.5 membership in term ~ideo*~eco: SNP_97_G (0.7,1),
  SNP_92_G (0.7,1), PC_16_R (0.7,0.3), PC_15_G (0.7,0.1),
  PC_11_R (0.7,0.4), PC_10_G (0.7,0.4), PC_07_R (0.7,0.7),
  PC_05_G (0.7,0.6), PC_03_R (0.7,0.4), PC_17_G (0.7,0.2),
  PC_19_G (0.7,0.7), PQ_94_R (0.7,0.6), BQ_19_G (0.7,0.3),
  SNP_16_R (0.7,0.8), BQ_15_G (0.7,0), BQ_08_G (0.7,0.7),
  BQ_06_G (0.7,0.9), BQ_04_G (0.7,0.8), BQ_00_G (0.7,0.7),
  SNP_03_R (0.7,0.8)
Cases with greater than 0.5 membership in term ideo*eco: VB_91_G (1,0.3),
  VB_99_R/G (1,0.6), VB_95_R/G (1,0.4), VB_19_R/G (1,0),
  VB_10_G (1,0.4), VB_09_R (1,0.4), VB_07_G (1,0.7),
  VB_04_R (1,0.8), VB_03_G (1,0.9), VB_14_R/G (0.9,0.3),
  NVA_19_R/G (0.8,0), NVA_14_R/G (0.8,0.1), NVA_10_G (0.8,0.3),
  NVA_09_R (0.8,0.9), NVA_07_G (0.8,0.1), NVA_04_R (0.8,0.2),
  NVA_03_G (0.8,0.8), JxC_19_G1 (0.7,0.9), JxC_19_G2 (0.7,0.9),
  JxC_17_R (0.7,0.6)
Cases with greater than 0.5 membership in term size*~ideo: SNP_11_R (0.7,0.6),
  PC_07_R (0.7,0.7), ERC_19_G2 (0.7,1), ERC_16_G (0.7,0.8),
  ERC_19_G1 (0.7,1), SNP_16_R (0.7,0.8), SNP_15_G (0.7,0.7),
  EHB_12_R (0.7,0), EHB_11_G (0.7,0.2), PQ_12_R (0.7,0),
  PQ_08_R (0.7,0), PQ_98_R (0.7,0.8), PQ_94_R (0.7,0.6),
  BQ_19_G (0.7,0.3), BQ_08_G (0.7,0.7), BQ_06_G (0.7,0.9),
  BQ_04_G (0.7,0.8), BQ_00_G (0.7,0.7), EHB_20_R (0.6,0.2),
  EHB_16_R (0.6,0)
Cases with greater than 0.5 membership in term pgov*~ideo: PQ_03_R (0.8,0.2),
  SNP_16_R (0.7,0.8), SNP_15_G (0.7,0.7), SNP_11_R (0.7,0.6),
  SNP_10_G (0.7,0.2), PQ_14_R (0.7,0.1), PQ_98_R (0.7,0.8),
  BQ_00_G (0.7,0.7), PC_11_R (0.67,0.4), PC_10_G (0.67,0.4),
  ERC_19_G1 (0.67,1), ERC_19_G2 (0.67,1), ERC_17_R (0.67,1),
  ERC_16_G (0.67,0.8), ERC_08_G (0.67,0.6), ERC_06_R (0.67,0.2),
  ERC_04_G (0.67,0.1), SNP_19_G (0.6,0.7), SNP_17_G (0.6,0.6),
  ERC_15_G (0.6,0.9)
```

Not enough level of consistency (< 0.75).

- Raw consistency threshold: 0.5

```
Model: Ysocioec = f(size, pgov, eco, ideo)
Algorithm: Quine-McCluskey

--- INTERMEDIATE SOLUTION ---
frequency cutoff: 2
consistency cutoff: 0.576053
Assumptions:
size (present)
pgov (present)
            raw       unique
          coverage    coverage   consistency
         ----------  ----------  ----------
~ideo     0.702222    0.22        0.586271
eco       0.673333    0.191111    0.54792
solution coverage: 0.893333
solution consistency: 0.552957


Cases with greater than 0.5 membership in term ~ideo: EHB_19_G1 (0.9,0.8),
  EHB_19_G2 (0.9,0), EHB_20_R (0.9,0.2), EHB_16_G (0.9,0.7),
  EHB_16_R (0.9,0), EHB_12_R (0.9,0), EHB_15_G (0.9,0),
  EHB_11_G (0.9,0.2), EHB_01_R (0.9,0), EHB_98_R (0.9,0),
  EHB_94_R (0.9,0.4), EHB_90_R (0.9,0.3), ERC_03_R (0.8,0.3),
  ERC_04_G (0.8,0.1), PQ_03_R (0.8,0.2), PC_07_R (0.7,0.7),
  PC_05_G (0.7,0.6), PC_03_R (0.7,0.4), PC_17_G (0.7,0.2),
  PC_19_G (0.7,0.7)
Cases with greater than 0.5 membership in term eco: VB_91_G (1,0.3),
  VB_10_G (1,0.4), VB_14_R/G (1,0.3), VB_19_R/G (1,0),
  NVA_03_G (1,0.8), VB_99_R/G (1,0.6), VB_95_R/G (1,0.4),
  NVA_04_R (1,0.2), NVA_07_G (1,0.1), NVA_09_R (1,0.9),
  NVA_10_G (1,0.3), NVA_14_R/G (1,0.1), NVA_19_R/G (1,0),
  VB_03_G (1,0.9), VB_04_R (1,0.8), VB_07_G (1,0.7),
  VB_09_R (1,0.4), EHB_12_R (0.9,0), EHB_11_G (0.9,0.2),
  EHB_15_G (0.9,0)
```

Not enough level of consistency (< 0.75).

- Raw consistency threshold: 0.4

```
Model: Ysocioec = f(size, pgov, eco, ideo)
Algorithm: Quine-McCluskey

--- INTERMEDIATE SOLUTION ---
frequency cutoff: 2
consistency cutoff: 0.576053
Assumptions:
size (present)
pgov (present)
             raw       unique
          coverage    coverage   consistency
          ----------  ----------  ----------
~ideo     0.702222    0.22        0.586271
eco       0.673333    0.191111    0.54792
solution coverage: 0.893333
solution consistency: 0.552957


Cases with greater than 0.5 membership in term ~ideo: EHB_19_G1 (0.9,0.8),
  EHB_19_G2 (0.9,0), EHB_20_R (0.9,0.2), EHB_16_G (0.9,0.7),
  EHB_16_R (0.9,0), EHB_12_R (0.9,0), EHB_15_G (0.9,0),
  EHB_11_G (0.9,0.2), EHB_01_R (0.9,0), EHB_98_R (0.9,0),
  EHB_94_R (0.9,0.4), EHB_90_R (0.9,0.3), ERC_03_R (0.8,0.3),
  ERC_04_G (0.8,0.1), PQ_03_R (0.8,0.2), PC_07_R (0.7,0.7),
  PC_05_G (0.7,0.6), PC_03_R (0.7,0.4), PC_17_G (0.7,0.2),
  PC_19_G (0.7,0.7)
Cases with greater than 0.5 membership in term eco: VB_91_G (1,0.3),
  VB_10_G (1,0.4), VB_14_R/G (1,0.3), VB_19_R/G (1,0),
  NVA_03_G (1,0.8), VB_99_R/G (1,0.6), VB_95_R/G (1,0.4),
  NVA_04_R (1,0.2), NVA_07_G (1,0.1), NVA_09_R (1,0.9),
  NVA_10_G (1,0.3), NVA_14_R/G (1,0.1), NVA_19_R/G (1,0),
  VB_03_G (1,0.9), VB_04_R (1,0.8), VB_07_G (1,0.7),
  VB_09_R (1,0.4), EHB_12_R (0.9,0), EHB_11_G (0.9,0.2),
  EHB_15_G (0.9,0)
```

Not enough level of consistency (< 0.75).

- Raw consistency threshold: 0.3

```
Model: Ysocioec = f(size, pgov, eco, ideo)
Algorithm: Quine-McCluskey

--- INTERMEDIATE SOLUTION ---
frequency cutoff: 2
consistency cutoff: 0.576053
Assumptions:
size (present)
pgov (present)
             raw       unique
          coverage    coverage   consistency
         ----------  ----------  ----------
~ideo     0.702222    0.22        0.586271
eco       0.673333    0.191111    0.54792
solution coverage: 0.893333
solution consistency: 0.552957


Cases with greater than 0.5 membership in term ~ideo: EHB_19_G1 (0.9,0.8),
  EHB_19_G2 (0.9,0), EHB_20_R (0.9,0.2), EHB_16_G (0.9,0.7),
  EHB_16_R (0.9,0), EHB_12_R (0.9,0), EHB_15_G (0.9,0),
  EHB_11_G (0.9,0.2), EHB_01_R (0.9,0), EHB_98_R (0.9,0),
  EHB_94_R (0.9,0.4), EHB_90_R (0.9,0.3), ERC_03_R (0.8,0.3),
  ERC_04_G (0.8,0.1), PQ_03_R (0.8,0.2), PC_07_R (0.7,0.7),
  PC_05_G (0.7,0.6), PC_03_R (0.7,0.4), PC_17_G (0.7,0.2),
  PC_19_G (0.7,0.7)
Cases with greater than 0.5 membership in term eco: VB_91_G (1,0.3),
  VB_10_G (1,0.4), VB_14_R/G (1,0.3), VB_19_R/G (1,0),
  NVA_03_G (1,0.8), VB_99_R/G (1,0.6), VB_95_R/G (1,0.4),
  NVA_04_R (1,0.2), NVA_07_G (1,0.1), NVA_09_R (1,0.9),
  NVA_10_G (1,0.3), NVA_14_R/G (1,0.1), NVA_19_R/G (1,0),
  VB_03_G (1,0.9), VB_04_R (1,0.8), VB_07_G (1,0.7),
  VB_09_R (1,0.4), EHB_12_R (0.9,0), EHB_11_G (0.9,0.2),
  EHB_15_G (0.9,0)
```

Not enough level of consistency (< 0.75).

- Raw consistency threshold: 0.2

```
Model: Ysocioec = f(size, pgov, eco, ideo)
Algorithm: Quine-McCluskey

--- INTERMEDIATE SOLUTION ---
frequency cutoff: 2
consistency cutoff: 0.576053
Assumptions:
size (present)
pgov (present)
             raw       unique
          coverage    coverage   consistency
         ----------  ----------  ----------
~ideo     0.702222    0.22        0.586271
eco       0.673333    0.191111    0.54792
solution coverage: 0.893333
solution consistency: 0.552957


Cases with greater than 0.5 membership in term ~ideo: EHB_19_G1 (0.9,0.8),
  EHB_19_G2 (0.9,0), EHB_20_R (0.9,0.2), EHB_16_G (0.9,0.7),
  EHB_16_R (0.9,0), EHB_12_R (0.9,0), EHB_15_G (0.9,0),
  EHB_11_G (0.9,0.2), EHB_01_R (0.9,0), EHB_98_R (0.9,0),
  EHB_94_R (0.9,0.4), EHB_90_R (0.9,0.3), ERC_03_R (0.8,0.3),
  ERC_04_G (0.8,0.1), PQ_03_R (0.8,0.2), PC_07_R (0.7,0.7),
  PC_05_G (0.7,0.6), PC_03_R (0.7,0.4), PC_17_G (0.7,0.2),
  PC_19_G (0.7,0.7)
Cases with greater than 0.5 membership in term eco: VB_91_G (1,0.3),
  VB_10_G (1,0.4), VB_14_R/G (1,0.3), VB_19_R/G (1,0),
  NVA_03_G (1,0.8), VB_99_R/G (1,0.6), VB_95_R/G (1,0.4),
  NVA_04_R (1,0.2), NVA_07_G (1,0.1), NVA_09_R (1,0.9),
  NVA_10_G (1,0.3), NVA_14_R/G (1,0.1), NVA_19_R/G (1,0),
  VB_03_G (1,0.9), VB_04_R (1,0.8), VB_07_G (1,0.7),
  VB_09_R (1,0.4), EHB_12_R (0.9,0), EHB_11_G (0.9,0.2),
  EHB_15_G (0.9,0)
```

Not enough level of consistency (< 0.75).

- Raw consistency threshold: 0.1

```
Model: Ysocioec = f(size, pgov, eco, ideo)
Algorithm: Quine-McCluskey

--- INTERMEDIATE SOLUTION ---
frequency cutoff: 2
consistency cutoff: 0.576053
Assumptions:
size (present)
pgov (present)
             raw       unique
          coverage    coverage   consistency
         ----------  ----------  ----------
~ideo     0.702222    0.22        0.586271
eco       0.673333    0.191111    0.54792
solution coverage: 0.893333
solution consistency: 0.552957


Cases with greater than 0.5 membership in term ~ideo: EHB_19_G1 (0.9,0.8),
  EHB_19_G2 (0.9,0), EHB_20_R (0.9,0.2), EHB_16_G (0.9,0.7),
  EHB_16_R (0.9,0), EHB_12_R (0.9,0), EHB_15_G (0.9,0),
  EHB_11_G (0.9,0.2), EHB_01_R (0.9,0), EHB_98_R (0.9,0),
  EHB_94_R (0.9,0.4), EHB_90_R (0.9,0.3), ERC_03_R (0.8,0.3),
  ERC_04_G (0.8,0.1), PQ_03_R (0.8,0.2), PC_07_R (0.7,0.7),
  PC_05_G (0.7,0.6), PC_03_R (0.7,0.4), PC_17_G (0.7,0.2),
  PC_19_G (0.7,0.7)
Cases with greater than 0.5 membership in term eco: VB_91_G (1,0.3),
  VB_10_G (1,0.4), VB_14_R/G (1,0.3), VB_19_R/G (1,0),
  NVA_03_G (1,0.8), VB_99_R/G (1,0.6), VB_95_R/G (1,0.4),
  NVA_04_R (1,0.2), NVA_07_G (1,0.1), NVA_09_R (1,0.9),
  NVA_10_G (1,0.3), NVA_14_R/G (1,0.1), NVA_19_R/G (1,0),
  VB_03_G (1,0.9), VB_04_R (1,0.8), VB_07_G (1,0.7),
  VB_09_R (1,0.4), EHB_12_R (0.9,0), EHB_11_G (0.9,0.2),
  EHB_15_G (0.9,0)
```

Not enough level of consistency (< 0.75).

Hence, the (full) empirical sensitivity of the initial solution ranges from 0.8 to 1. Considering both checks, the robustness core of this solution fully coincides with the initial solution.

3.3 The political case for constitutional change

3.3.1 Checks in the calibration

```
Model: Ypol = f(idiff, pgov, nrec, self)
Algorithm: Quine-McCluskey

--- INTERMEDIATE SOLUTION ---
frequency cutoff: 2
consistency cutoff: 0.846154
Assumptions:
idiff (present)
pgov (present)
~nrec (absent)
~self (absent)
                    raw        unique
                  coverage    coverage   consistency
                 ----------  ----------  ----------
~idiff*~self     0.169231    0.0615385   1
~idiff*nrec      0.153846    0.0461538   1
idiff*pgov       0.230769    0.230769    0.882353
solution coverage: 0.446154
solution consistency: 0.935484


Cases with greater than 0.5 membership in term ~idiff*~self: PC_16_R (1,1),
  PC_15_G (1,1), PC_11_R (1,1), PC_10_G (1,1),
  PC_17_G (1,1), PC_19_G (1,1), ERC_96_G (1,1),
  ERC_95_R (1,1), ERC_93_G (1,1), ERC_92_R (1,1),
  VB_95_R/G (1,1)
Cases with greater than 0.5 membership in term ~idiff*nrec: PC_16_R (1,1),
  PC_15_G (1,1), PC_11_R (1,1), PC_10_G (1,1),
  PC_17_G (1,1), PC_19_G (1,1), VB_95_R/G (1,1),
  PQ_18_R (1,1), PQ_07_R (1,1), BQ_15_G (1,1)
Cases with greater than 0.5 membership in term idiff*pgov: SNP_19_G (1,1),
  SNP_17_G (1,1), SNP_16_R (1,0), SNP_15_G (1,1),
  SNP_11_R (1,1), SNP_10_G (1,1), NVA_19_R/G (1,1),
  NVA_14_R/G (1,1), NVA_10_G (1,1), NVA_09_R (1,0),
  NVA_07_G (1,1), NVA_04_R (1,1), PQ_14_R (1,1),
  PQ_03_R (1,1), PQ_98_R (1,1), BQ_00_G (1,1),
  BQ_97_G (1,1)
```

Two out of the six paths of the initial solution are still reflected here (*idiff*pgov* and *~idiff*~self*nrec*). The rest do not appear.

3.3.2 Checks in the consistency thresholds

- Initial solution (0.8 threshold)

```
Model: Ypol = f(pgov, idiff, self, nrec)
Algorithm: Quine-McCluskey

--- INTERMEDIATE SOLUTION ---
frequency cutoff: 2
consistency cutoff: 0.805366
Assumptions:
pgov (present)
idiff (present)
~self (absent)
~nrec (absent)
                        raw        unique
                      coverage   coverage   consistency
                     ---------- ---------- ----------
~pgov*~idiff         0.517282   0.0436891  0.756818
pgov*idiff           0.279223   0.0578642  0.810141
~pgov*~nrec          0.428155   0          0.797757
idiff*~nrec          0.345049   0          0.84218
~idiff*~self*nrec    0.375728   0          0.835853
pgov*~self*nrec      0.200777   0          0.882253
solution coverage: 0.792039
solution consistency: 0.758884


Cases with greater than 0.5 membership in term ~pgov*~idiff: EHB_90_R (1,0.5),
  ERC_96_G (0.9,0.9), ERC_12_R (0.9,0.2), ERC_11_G (0.9,0.6),
  ERC_03_R (0.9,0.7), ERC_00_G (0.9,0.7), ERC_99_R (0.9,0.3),
  EHB_20_R (0.9,0.9), EHB_19_G1 (0.9,0.6), EHB_19_G2 (0.9,1),
  EHB_98_R (0.9,0.5), EHB_94_R (0.9,0), EHB_15_G (0.8,0.8),
  EHB_12_R (0.8,1), EHB_11_G (0.8,0), PC_16_R (0.7,0.7),
  PC_15_G (0.7,1), PC_17_G (0.7,0.8), PC_19_G (0.7,0.7),
  ERC_95_R (0.7,0.8)
Cases with greater than 0.5 membership in term pgov*idiff: SNP_16_R (1,0.4),
  SNP_15_G (1,0.6), NVA_19_R/G (1,1), PQ_03_R (0.8,0.7),
  BQ_00_G (0.8,0.6), SNP_19_G (0.7,0.6), SNP_17_G (0.7,0.8),
  SNP_11_R (0.7,0.5), SNP_10_G (0.7,0.5), PQ_14_R (0.7,1),
  NVA_14_R/G (0.67,0.9), NVA_10_G (0.67,0.9), NVA_09_R (0.67,0.3),
  NVA_07_G (0.67,1), NVA_04_R (0.67,0.9), PQ_98_R (0.6,0.5),
  BQ_97_G (0.6,0.5)
Cases with greater than 0.5 membership in term ~pgov*~nrec: ERC_96_G (0.67,0.9),
  ERC_95_R (0.67,0.8), ERC_93_G (0.67,0.7), ERC_92_R (0.67,0.6),
  ERC_12_R (0.67,0.2), ERC_11_G (0.67,0.6), ERC_03_R (0.67,0.7),
  ERC_00_G (0.67,0.7), ERC_99_R (0.67,0.3), EHB_20_R (0.67,0.9),
  EHB_19_G1 (0.67,0.6), EHB_19_G2 (0.67,1), EHB_16_R (0.67,1),
  EHB_16_G (0.67,0.5), EHB_15_G (0.67,0.8), EHB_12_R (0.67,1),
  EHB_11_G (0.67,0), EHB_01_R (0.67,0.5), EHB_98_R (0.67,0.5),
  EHB_94_R (0.67,0)
Cases with greater than 0.5 membership in term idiff*~nrec: PQ_03_R (0.67,0.7),
  PQ_94_R (0.67,0.4), BQ_04_G (0.67,0.4), BQ_00_G (0.67,0.6),
  BQ_93_G (0.67,0.5), PQ_98_R (0.6,0.5), BQ_97_G (0.6,0.5)
Cases with greater than 0.5 membership in term ~idiff*~self*nrec: PC_16_R (0.7,0.7),
  PC_15_G (0.7,1), PC_11_R (0.7,0.6), PC_10_G (0.7,0.5),
  PC_17_G (0.7,0.8), PC_19_G (0.6,0.7), VB_95_R/G (0.6,0.6)
Cases with greater than 0.5 membership in term pgov*~self*nrec: PC_11_R (0.67,0.6),
  PC_10_G (0.67,0.5)
```

- Raw consistency threshold at 0.9

```
Model: Ypol = f(pgov, idiff, self, nrec)
Algorithm: Quine-McCluskey

--- INTERMEDIATE SOLUTION ---
frequency cutoff: 2
consistency cutoff: 1
Assumptions:
pgov (present)
idiff (present)
~self (absent)
~nrec (absent)
                        raw        unique
                      coverage    coverage   consistency
                     ----------  ----------  ----------
~pgov*~idiff         0.517282    0.0660194   0.756818
~idiff*~self*nrec    0.375728    0.0155339   0.835853
pgov*idiff*self      0.260194    0.0728157   0.858974
~pgov*self*~nrec     0.405243    0           0.797173
idiff*self*~nrec     0.344466    0           0.841955
solution coverage: 0.776311
solution consistency: 0.772262


Cases with greater than 0.5 membership in term ~pgov*~idiff: EHB_90_R (1,0.5),
  ERC_96_G (0.9,0.9), ERC_12_R (0.9,0.2), ERC_11_G (0.9,0.6),
  ERC_03_R (0.9,0.7), ERC_00_G (0.9,0.7), ERC_99_R (0.9,0.3),
  EHB_20_R (0.9,0.9), EHB_19_G1 (0.9,0.6), EHB_19_G2 (0.9,1),
  EHB_98_R (0.9,0.5), EHB_94_R (0.9,0), EHB_15_G (0.8,0.8),
  EHB_12_R (0.8,1), EHB_11_G (0.8,0), PC_16_R (0.7,0.7),
  PC_15_G (0.7,1), PC_17_G (0.7,0.8), PC_19_G (0.7,0.7),
  ERC_95_R (0.7,0.8)
Cases with greater than 0.5 membership in term ~idiff*~self*nrec: PC_16_R (0.7,0.7),
  PC_15_G (0.7,1), PC_11_R (0.7,0.6), PC_10_G (0.7,0.5),
  PC_17_G (0.7,0.8), PC_19_G (0.6,0.7), VB_95_R/G (0.6,0.6)
Cases with greater than 0.5 membership in term pgov*idiff*self: PQ_03_R (0.8,0.7),
  BQ_00_G (0.8,0.6), PQ_14_R (0.7,1), SNP_19_G (0.6,0.6),
  SNP_17_G (0.6,0.8), SNP_16_R (0.6,0.4), SNP_15_G (0.6,0.6),
  SNP_11_R (0.6,0.5), SNP_10_G (0.6,0.5), NVA_19_R/G (0.6,1),
  NVA_14_R/G (0.6,0.9), NVA_10_G (0.6,0.9), NVA_09_R (0.6,0.3),
  NVA_07_G (0.6,1), NVA_04_R (0.6,0.9), PQ_98_R (0.6,0.5),
  BQ_97_G (0.6,0.5)
Cases with greater than 0.5 membership in term ~pgov*self*~nrec: EHB_20_R (0.67,0.9),
  EHB_19_G1 (0.67,0.6), EHB_19_G2 (0.67,1), EHB_16_R (0.67,1),
  EHB_16_G (0.67,0.5), EHB_15_G (0.67,0.8), EHB_12_R (0.67,1),
  EHB_11_G (0.67,0), EHB_01_R (0.67,0.5), EHB_98_R (0.67,0.5),
  EHB_94_R (0.67,0), EHB_90_R (0.67,0.5), PQ_94_R (0.67,0.4),
  BQ_06_G (0.67,0.5), BQ_04_G (0.67,0.4), BQ_93_G (0.67,0.5),
  ERC_12_R (0.6,0.2), ERC_11_G (0.6,0.6), ERC_03_R (0.6,0.7),
  ERC_00_G (0.6,0.7)
Cases with greater than 0.5 membership in term idiff*self*~nrec: PQ_03_R (0.67,0.7),
  PQ_94_R (0.67,0.4), BQ_04_G (0.67,0.4), BQ_00_G (0.67,0.6),
  BQ_93_G (0.67,0.5), PQ_98_R (0.6,0.5), BQ_97_G (0.6,0.5)
```

Partial empirical sensitivity. We can find the first and second paths in the initial solution *(~pgov*~idiff* and *~idiff*~self*nrec*). Moreover, we can also find in the initial solution the results *pgov*idiff* and *~pgov*~nrec* – both without the condition *self*.

- Raw consistency threshold at 1:

```
Model: Ypol = f(pgov, idiff, self, nrec)
Algorithm: Quine-McCluskey

--- INTERMEDIATE SOLUTION ---
frequency cutoff: 2
consistency cutoff: 1
Assumptions:
pgov (present)
idiff (present)
~self (absent)
~nrec (absent)
                        raw        unique
                      coverage    coverage   consistency
                     ----------  ----------  ----------
~pgov*~idiff         0.517282    0.0660194   0.756818
~idiff*~self*nrec    0.375728    0.0155339   0.835853
pgov*idiff*self      0.260194    0.0728157   0.858974
~pgov*self*~nrec     0.405243    0           0.797173
idiff*self*~nrec     0.344466    0           0.841955
solution coverage: 0.776311
solution consistency: 0.772262


Cases with greater than 0.5 membership in term ~pgov*~idiff: EHB_90_R (1,0.5),
  ERC_96_G (0.9,0.9), ERC_12_R (0.9,0.2), ERC_11_G (0.9,0.6),
  ERC_03_R (0.9,0.7), ERC_00_G (0.9,0.7), ERC_99_R (0.9,0.3),
  EHB_20_R (0.9,0.9), EHB_19_G1 (0.9,0.6), EHB_19_G2 (0.9,1),
  EHB_98_R (0.9,0.5), EHB_94_R (0.9,0), EHB_15_G (0.8,0.8),
  EHB_12_R (0.8,1), EHB_11_G (0.8,0), PC_16_R (0.7,0.7),
  PC_15_G (0.7,1), PC_17_G (0.7,0.8), PC_19_G (0.7,0.7),
  ERC_95_R (0.7,0.8)
Cases with greater than 0.5 membership in term ~idiff*~self*nrec: PC_16_R (0.7,0.7),
  PC_15_G (0.7,1), PC_11_R (0.7,0.6), PC_10_G (0.7,0.5),
  PC_17_G (0.7,0.8), PC_19_G (0.6,0.7), VB_95_R/G (0.6,0.6)
Cases with greater than 0.5 membership in term pgov*idiff*self: PQ_03_R (0.8,0.7),
  BQ_00_G (0.8,0.6), PQ_14_R (0.7,1), SNP_19_G (0.6,0.6),
  SNP_17_G (0.6,0.8), SNP_16_R (0.6,0.4), SNP_15_G (0.6,0.6),
  SNP_11_R (0.6,0.5), SNP_10_G (0.6,0.5), NVA_19_R/G (0.6,1),
  NVA_14_R/G (0.6,0.9), NVA_10_G (0.6,0.9), NVA_09_R (0.6,0.3),
  NVA_07_G (0.6,1), NVA_04_R (0.6,0.9), PQ_98_R (0.6,0.5),
  BQ_97_G (0.6,0.5)
Cases with greater than 0.5 membership in term ~pgov*self*~nrec: EHB_20_R (0.67,0.9),
  EHB_19_G1 (0.67,0.6), EHB_19_G2 (0.67,1), EHB_16_R (0.67,1),
  EHB_16_G (0.67,0.5), EHB_15_G (0.67,0.8), EHB_12_R (0.67,1),
  EHB_11_G (0.67,0), EHB_01_R (0.67,0.5), EHB_98_R (0.67,0.5),
  EHB_94_R (0.67,0), EHB_90_R (0.67,0.5), PQ_94_R (0.67,0.4),
  BQ_06_G (0.67,0.5), BQ_04_G (0.67,0.4), BQ_93_G (0.67,0.5),
  ERC_12_R (0.6,0.2), ERC_11_G (0.6,0.6), ERC_03_R (0.6,0.7),
  ERC_00_G (0.6,0.7)
Cases with greater than 0.5 membership in term idiff*self*~nrec: PQ_03_R (0.67,0.7),
  PQ_94_R (0.67,0.4), BQ_04_G (0.67,0.4), BQ_00_G (0.67,0.6),
  BQ_93_G (0.67,0.5), PQ_98_R (0.6,0.5), BQ_97_G (0.6,0.5)
```

Partial empirical sensitivity. Same results as in 0.9 threshold.

- Raw consistency threshold at 0.7

```
Model: Ypol = f(pgov, idiff, self, nrec)
Algorithm: Quine-McCluskey

--- INTERMEDIATE SOLUTION ---
frequency cutoff: 2
consistency cutoff: 0.773859
Assumptions:
pgov (present)
idiff (present)
~self (absent)
~nrec (absent)
             raw       unique
          coverage    coverage   consistency
         ----------  ----------  ----------
~self     0.53398     0.0108737   0.78125
~pgov     0.713786    0.128544    0.583956
idiff     0.629126    0.0361164   0.712088
nrec      0.728932    0.00194168  0.691727
solution coverage: 0.949515
solution consistency: 0.603927


Cases with greater than 0.5 membership in term ~self: SNP_97_G (1,0),
  SNP_92_G (1,0), PC_16_R (0.8,0.7), PC_15_G (0.8,1),
  PC_11_R (0.8,0.6), PC_10_G (0.8,0.5), PC_07_R (0.8,0.2),
  PC_05_G (0.8,0.6), PC_03_R (0.8,0.8), PC_17_G (0.7,0.8),
  VB_91_G (0.7,0.6), PC_19_G (0.6,0.7), ERC_96_G (0.6,0.9),
  ERC_95_R (0.6,0.8), ERC_93_G (0.6,0.7), ERC_92_R (0.6,0.6),
  VB_99_R/G (0.6,0.5), VB_95_R/G (0.6,0.6)
Cases with greater than 0.5 membership in term ~pgov: SNP_97_G (1,0),
  SNP_92_G (1,0), PC_16_R (1,0.7), PC_15_G (1,1),
  PC_07_R (1,0.2), PC_05_G (1,0.6), PC_03_R (1,0.8),
  PC_17_G (1,0.8), VB_91_G (1,0.6), PC_19_G (1,0.7),
  ERC_96_G (1,0.9), ERC_95_R (1,0.8), ERC_93_G (1,0.7),
  ERC_92_R (1,0.6), VB_99_R/G (1,0.5), VB_95_R/G (1,0.6),
  SNP_07_R (1,0.6), SNP_05_G (1,0), SNP_03_R (1,0.1),
  SNP_01_G (1,0.5)
Cases with greater than 0.5 membership in term idiff: SNP_15_G (1,0.6),
  VB_19_R/G (1,1), VB_09_R (1,0.6), NVA_10_G (1,0.9),
  NVA_09_R (1,0.3), SNP_16_R (1,0.4), VB_10_G (1,0.8),
  NVA_19_R/G (1,1), NVA_14_R/G (1,0.9), VB_03_G (0.9,0.1),
  VB_14_R/G (0.9,0.9), NVA_03_G (0.9,0.5), VB_99_R/G (0.9,0.5),
  PQ_03_R (0.8,0.7), BQ_00_G (0.8,0.6), SNP_19_G (0.7,0.6),
  SNP_17_G (0.7,0.8), VB_91_G (0.7,0.6), SNP_11_R (0.7,0.5),
  SNP_10_G (0.7,0.5)
Cases with greater than 0.5 membership in term nrec: SNP_97_G (1,0),
  SNP_92_G (1,0), PC_16_R (1,0.7), PC_15_G (1,1),
  PC_11_R (1,0.6), PC_10_G (1,0.5), PC_07_R (1,0.2),
  PC_05_G (1,0.6), PC_03_R (1,0.8), PC_17_G (1,0.8),
  SNP_03_R (1,0.1), PC_19_G (1,0.7), SNP_01_G (1,0.5),
  SNP_99_R (1,0.1), SNP_19_G (1,0.6), SNP_17_G (1,0.8),
  SNP_16_R (1,0.4), SNP_15_G (1,0.6), SNP_11_R (1,0.5),
  SNP_10_G (1,0.5)
```

Not enough level of consistency (< 0.75).

- Raw consistency threshold at 0.6

```
Model: Ypol = f(pgov, idiff, self, nrec)
Algorithm: Quine-McCluskey

--- COMPLEX SOLUTION ---
frequency cutoff: 2
consistency cutoff: 0.692436
                        raw        unique
                     coverage    coverage   consistency
                    ----------  ----------  ----------
~pgov*~idiff        0.517282    0.0442719   0.756818
self*~nrec          0.530485    0.0322331   0.75574
~pgov*nrec          0.540194    0.0366991   0.691009
idiff*self          0.55534     0.0733982   0.794445
~idiff*~self*nrec   0.375728    0.00854373  0.835853
solution coverage: 0.896893
solution consistency: 0.670101


Cases with greater than 0.5 membership in term ~pgov*~idiff: EHB_90_R (1,0.5),
  ERC_96_G (0.9,0.9), ERC_12_R (0.9,0.2), ERC_11_G (0.9,0.6),
  ERC_03_R (0.9,0.7), ERC_00_G (0.9,0.7), ERC_99_R (0.9,0.3),
  EHB_20_R (0.9,0.9), EHB_19_G1 (0.9,0.6), EHB_19_G2 (0.9,1),
  EHB_98_R (0.9,0.5), EHB_94_R (0.9,0), EHB_15_G (0.8,0.8),
  EHB_12_R (0.8,1), EHB_11_G (0.8,0), PC_16_R (0.7,0.7),
  PC_15_G (0.7,1), PC_17_G (0.7,0.8), PC_19_G (0.7,0.7),
  ERC_95_R (0.7,0.8)
Cases with greater than 0.5 membership in term self*~nrec: BQ_93_G (0.67,0.5),
  EHB_20_R (0.67,0.9), EHB_19_G1 (0.67,0.6), EHB_19_G2 (0.67,1),
  EHB_16_R (0.67,1), EHB_16_G (0.67,0.5), EHB_15_G (0.67,0.8),
  EHB_12_R (0.67,1), EHB_11_G (0.67,0), EHB_01_R (0.67,0.5),
  EHB_98_R (0.67,0.5), EHB_94_R (0.67,0), EHB_90_R (0.67,0.5),
  PQ_03_R (0.67,0.7), PQ_98_R (0.67,0.5), PQ_94_R (0.67,0.4),
  BQ_06_G (0.67,0.5), BQ_04_G (0.67,0.4), BQ_00_G (0.67,0.6),
  BQ_97_G (0.67,0.5)
Cases with greater than 0.5 membership in term ~pgov*nrec: SNP_97_G (1,0),
  SNP_92_G (1,0), PC_16_R (1,0.7), PC_15_G (1,1),
  PC_07_R (1,0.2), PC_05_G (1,0.6), PC_03_R (1,0.8),
  PC_17_G (1,0.8), SNP_03_R (1,0.1), PC_19_G (1,0.7),
  SNP_01_G (1,0.5), SNP_99_R (1,0.1), SNP_07_R (1,0.6),
  SNP_05_G (1,0), VB_91_G (0.67,0.6), VB_99_R/G (0.67,0.5),
  VB_95_R/G (0.67,0.6), NVA_03_G (0.67,0.5), VB_19_R/G (0.67,1),
  VB_14_R/G (0.67,0.9)
Cases with greater than 0.5 membership in term idiff*self: PQ_03_R (0.8,0.7),
  BQ_00_G (0.8,0.6), BQ_93_G (0.7,0.5), PQ_14_R (0.7,1),
  PQ_12_R (0.7,0.8), PQ_94_R (0.7,0.4), BQ_11_G (0.7,0),
  BQ_04_G (0.7,0.4), SNP_03_R (0.6,0.1), SNP_01_G (0.6,0.5),
  SNP_99_R (0.6,0.1), NVA_19_R/G (0.6,1), NVA_14_R/G (0.6,0.9),
  NVA_10_G (0.6,0.9), NVA_09_R (0.6,0.3), NVA_07_G (0.6,1),
  NVA_04_R (0.6,0.9), NVA_03_G (0.6,0.5), VB_19_R/G (0.6,1),
  SNP_19_G (0.6,0.6)
Cases with greater than 0.5 membership in term ~idiff*~self*nrec: PC_16_R (0.7,0.7),
  PC_15_G (0.7,1), PC_11_R (0.7,0.6), PC_10_G (0.7,0.5),
  PC_17_G (0.7,0.8), PC_19_G (0.6,0.7), VB_95_R/G (0.6,0.6)
*** ERROR(Quine-McCluskey): The 1 Matrix Contains All Configurations. ***
```

The results do not throw an intermediate solution. Not enough consistency level (< 0.75).

- Raw consistency threshold at 0.5

```
Model: Ypol = f(pgov, idiff, self, nrec)
Algorithm: Quine-McCluskey

--- COMPLEX SOLUTION ---
frequency cutoff: 2
consistency cutoff: 0.692436
                      raw       unique
                     coverage   coverage   consistency
                    ---------- ---------- ----------
~pgov*~idiff        0.517282   0.0442719  0.756818
self*~nrec          0.530485   0.0322331  0.75574
~pgov*nrec          0.540194   0.0366991  0.691009
idiff*self          0.55534    0.0733982  0.794445
~idiff*~self*nrec   0.375728   0.00854373 0.835853
solution coverage: 0.896893
solution consistency: 0.670101


Cases with greater than 0.5 membership in term ~pgov*~idiff: EHB_90_R (1,0.5),
  ERC_96_G (0.9,0.9), ERC_12_R (0.9,0.2), ERC_11_G (0.9,0.6),
  ERC_03_R (0.9,0.7), ERC_00_G (0.9,0.7), ERC_99_R (0.9,0.3),
  EHB_20_R (0.9,0.9), EHB_19_G1 (0.9,0.6), EHB_19_G2 (0.9,1),
  EHB_98_R (0.9,0.5), EHB_94_R (0.9,0), EHB_15_G (0.8,0.8),
  EHB_12_R (0.8,1), EHB_11_G (0.8,0), PC_16_R (0.7,0.7),
  PC_15_G (0.7,1), PC_17_G (0.7,0.8), PC_19_G (0.7,0.7),
  ERC_95_R (0.7,0.8)
Cases with greater than 0.5 membership in term self*~nrec: BQ_93_G (0.67,0.5),
  EHB_20_R (0.67,0.9), EHB_19_G1 (0.67,0.6), EHB_19_G2 (0.67,1),
  EHB_16_R (0.67,1), EHB_16_G (0.67,0.5), EHB_15_G (0.67,0.8),
  EHB_12_R (0.67,1), EHB_11_G (0.67,0), EHB_01_R (0.67,0.5),
  EHB_98_R (0.67,0.5), EHB_94_R (0.67,0), EHB_90_R (0.67,0.5),
  PQ_03_R (0.67,0.7), PQ_98_R (0.67,0.5), PQ_94_R (0.67,0.4),
  BQ_06_G (0.67,0.5), BQ_04_G (0.67,0.4), BQ_00_G (0.67,0.6),
  BQ_97_G (0.67,0.5)
Cases with greater than 0.5 membership in term ~pgov*nrec: SNP_97_G (1,0),
  SNP_92_G (1,0), PC_16_R (1,0.7), PC_15_G (1,1),
  PC_07_R (1,0.2), PC_05_G (1,0.6), PC_03_R (1,0.8),
  PC_17_G (1,0.8), SNP_03_R (1,0.1), PC_19_G (1,0.7),
  SNP_01_G (1,0.5), SNP_99_R (1,0.1), SNP_07_R (1,0.6),
  SNP_05_G (1,0), VB_91_G (0.67,0.6), VB_99_R/G (0.67,0.5),
  VB_95_R/G (0.67,0.6), NVA_03_G (0.67,0.5), VB_19_R/G (0.67,1),
  VB_14_R/G (0.67,0.9)
Cases with greater than 0.5 membership in term idiff*self: PQ_03_R (0.8,0.7),
  BQ_00_G (0.8,0.6), BQ_93_G (0.7,0.5), PQ_14_R (0.7,1),
  PQ_12_R (0.7,0.8), PQ_94_R (0.7,0.4), BQ_11_G (0.7,0),
  BQ_04_G (0.7,0.4), SNP_03_R (0.6,0.1), SNP_01_G (0.6,0.5),
  SNP_99_R (0.6,0.1), NVA_19_R/G (0.6,1), NVA_14_R/G (0.6,0.9),
  NVA_10_G (0.6,0.9), NVA_09_R (0.6,0.3), NVA_07_G (0.6,1),
  NVA_04_R (0.6,0.9), NVA_03_G (0.6,0.5), VB_19_R/G (0.6,1),
  SNP_19_G (0.6,0.6)
Cases with greater than 0.5 membership in term ~idiff*~self*nrec: PC_16_R (0.7,0.7),
  PC_15_G (0.7,1), PC_11_R (0.7,0.6), PC_10_G (0.7,0.5),
  PC_17_G (0.7,0.8), PC_19_G (0.6,0.7), VB_95_R/G (0.6,0.6)
*** ERROR(Quine-McCluskey): The 1 Matrix Contains All Configurations. ***
```

The results do not throw an intermediate solution. Not enough consistency level (< 0.75).

- Raw consistency threshold at 0.4

```
Model: Ypol = f(pgov, idiff, self, nrec)
Algorithm: Quine-McCluskey

--- COMPLEX SOLUTION ---
frequency cutoff: 2
consistency cutoff: 0.692436
                          raw        unique
                        coverage    coverage   consistency
                       ----------  ----------  ----------
~pgov*~idiff           0.517282    0.0442719   0.756818
self*~nrec             0.530485    0.0322331   0.75574
~pgov*nrec             0.540194    0.0366991   0.691009
idiff*self             0.55534     0.0733982   0.794445
~idiff*~self*nrec      0.375728    0.00854373  0.835853
solution coverage: 0.896893
solution consistency: 0.670101



Cases with greater than 0.5 membership in term ~pgov*~idiff: EHB_90_R (1,0.5),
  ERC_96_G (0.9,0.9), ERC_12_R (0.9,0.2), ERC_11_G (0.9,0.6),
  ERC_03_R (0.9,0.7), ERC_00_G (0.9,0.7), ERC_99_R (0.9,0.3),
  EHB_20_R (0.9,0.9), EHB_19_G1 (0.9,0.6), EHB_19_G2 (0.9,1),
  EHB_98_R (0.9,0.5), EHB_94_R (0.9,0), EHB_15_G (0.8,0.8),
  EHB_12_R (0.8,1), EHB_11_G (0.8,0), PC_16_R (0.7,0.7),
  PC_15_G (0.7,1), PC_17_G (0.7,0.8), PC_19_G (0.7,0.7),
  ERC_95_R (0.7,0.8)
Cases with greater than 0.5 membership in term self*~nrec: BQ_93_G (0.67,0.5),
  EHB_20_R (0.67,0.9), EHB_19_G1 (0.67,0.6), EHB_19_G2 (0.67,1),
  EHB_16_R (0.67,1), EHB_16_G (0.67,0.5), EHB_15_G (0.67,0.8),
  EHB_12_R (0.67,1), EHB_11_G (0.67,0), EHB_01_R (0.67,0.5),
  EHB_98_R (0.67,0.5), EHB_94_R (0.67,0), EHB_90_R (0.67,0.5),
  PQ_03_R (0.67,0.7), PQ_98_R (0.67,0.5), PQ_94_R (0.67,0.4),
  BQ_06_G (0.67,0.5), BQ_04_G (0.67,0.4), BQ_00_G (0.67,0.6),
  BQ_97_G (0.67,0.5)
Cases with greater than 0.5 membership in term ~pgov*nrec: SNP_97_G (1,0),
  SNP_92_G (1,0), PC_16_R (1,0.7), PC_15_G (1,1),
  PC_07_R (1,0.2), PC_05_G (1,0.6), PC_03_R (1,0.8),
  PC_17_G (1,0.8), SNP_03_R (1,0.1), PC_19_G (1,0.7),
  SNP_01_G (1,0.5), SNP_99_R (1,0.1), SNP_07_R (1,0.6),
  SNP_05_G (1,0), VB_91_G (0.67,0.6), VB_99_R/G (0.67,0.5),
  VB_95_R/G (0.67,0.6), NVA_03_G (0.67,0.5), VB_19_R/G (0.67,1),
  VB_14_R/G (0.67,0.9)
Cases with greater than 0.5 membership in term idiff*self: PQ_03_R (0.8,0.7),
  BQ_00_G (0.8,0.6), BQ_93_G (0.7,0.5), PQ_14_R (0.7,1),
  PQ_12_R (0.7,0.8), PQ_94_R (0.7,0.4), BQ_11_G (0.7,0),
  BQ_04_G (0.7,0.4), SNP_03_R (0.6,0.1), SNP_01_G (0.6,0.5),
  SNP_99_R (0.6,0.1), NVA_19_R/G (0.6,1), NVA_14_R/G (0.6,0.9),
  NVA_10_G (0.6,0.9), NVA_09_R (0.6,0.3), NVA_07_G (0.6,1),
  NVA_04_R (0.6,0.9), NVA_03_G (0.6,0.5), VB_19_R/G (0.6,1),
  SNP_19_G (0.6,0.6)
Cases with greater than 0.5 membership in term ~idiff*~self*nrec: PC_16_R (0.7,0.7),
  PC_15_G (0.7,1), PC_11_R (0.7,0.6), PC_10_G (0.7,0.5),
  PC_17_G (0.7,0.8), PC_19_G (0.6,0.7), VB_95_R/G (0.6,0.6)
*** ERROR(Quine-McCluskey): The 1 Matrix Contains All Configurations. ***
```

The results do not throw an intermediate solution. Not enough consistency level (< 0.75).

- Raw consistency threshold at 0.3

```
Model: Ypol = f(pgov, idiff, self, nrec)
Algorithm: Quine-McCluskey

--- COMPLEX SOLUTION ---
frequency cutoff: 2
consistency cutoff: 0.692436
                          raw       unique
                        coverage    coverage   consistency
                       ----------  ----------  ----------
~pgov*~idiff           0.517282    0.0442719   0.756818
self*~nrec             0.530485    0.0322331   0.75574
~pgov*nrec             0.540194    0.0366991   0.691009
idiff*self             0.55534     0.0733982   0.794445
~idiff*~self*nrec      0.375728    0.00854373  0.835853
solution coverage: 0.896893
solution consistency: 0.670101



Cases with greater than 0.5 membership in term ~pgov*~idiff: EHB_90_R (1,0.5),
  ERC_96_G (0.9,0.9), ERC_12_R (0.9,0.2), ERC_11_G (0.9,0.6),
  ERC_03_R (0.9,0.7), ERC_00_G (0.9,0.7), ERC_99_R (0.9,0.3),
  EHB_20_R (0.9,0.9), EHB_19_G1 (0.9,0.6), EHB_19_G2 (0.9,1),
  EHB_98_R (0.9,0.5), EHB_94_R (0.9,0), EHB_15_G (0.8,0.8),
  EHB_12_R (0.8,1), EHB_11_G (0.8,0), PC_16_R (0.7,0.7),
  PC_15_G (0.7,1), PC_17_G (0.7,0.8), PC_19_G (0.7,0.7),
  ERC_95_R (0.7,0.8)
Cases with greater than 0.5 membership in term self*~nrec: BQ_93_G (0.67,0.5),
  EHB_20_R (0.67,0.9), EHB_19_G1 (0.67,0.6), EHB_19_G2 (0.67,1),
  EHB_16_R (0.67,1), EHB_16_G (0.67,0.5), EHB_15_G (0.67,0.8),
  EHB_12_R (0.67,1), EHB_11_G (0.67,0), EHB_01_R (0.67,0.5),
  EHB_98_R (0.67,0.5), EHB_94_R (0.67,0), EHB_90_R (0.67,0.5),
  PQ_03_R (0.67,0.7), PQ_98_R (0.67,0.5), PQ_94_R (0.67,0.4),
  BQ_06_G (0.67,0.5), BQ_04_G (0.67,0.4), BQ_00_G (0.67,0.6),
  BQ_97_G (0.67,0.5)
Cases with greater than 0.5 membership in term ~pgov*nrec: SNP_97_G (1,0),
  SNP_92_G (1,0), PC_16_R (1,0.7), PC_15_G (1,1),
  PC_07_R (1,0.2), PC_05_G (1,0.6), PC_03_R (1,0.8),
  PC_17_G (1,0.8), SNP_03_R (1,0.1), PC_19_G (1,0.7),
  SNP_01_G (1,0.5), SNP_99_R (1,0.1), SNP_07_R (1,0.6),
  SNP_05_G (1,0), VB_91_G (0.67,0.6), VB_99_R/G (0.67,0.5),
  VB_95_R/G (0.67,0.6), NVA_03_G (0.67,0.5), VB_19_R/G (0.67,1),
  VB_14_R/G (0.67,0.9)
Cases with greater than 0.5 membership in term idiff*self: PQ_03_R (0.8,0.7),
  BQ_00_G (0.8,0.6), BQ_93_G (0.7,0.5), PQ_14_R (0.7,1),
  PQ_12_R (0.7,0.8), PQ_94_R (0.7,0.4), BQ_11_G (0.7,0),
  BQ_04_G (0.7,0.4), SNP_03_R (0.6,0.1), SNP_01_G (0.6,0.5),
  SNP_99_R (0.6,0.1), NVA_19_R/G (0.6,1), NVA_14_R/G (0.6,0.9),
  NVA_10_G (0.6,0.9), NVA_09_R (0.6,0.3), NVA_07_G (0.6,1),
  NVA_04_R (0.6,0.9), NVA_03_G (0.6,0.5), VB_19_R/G (0.6,1),
  SNP_19_G (0.6,0.6)
Cases with greater than 0.5 membership in term ~idiff*~self*nrec: PC_16_R (0.7,0.7),
  PC_15_G (0.7,1), PC_11_R (0.7,0.6), PC_10_G (0.7,0.5),
  PC_17_G (0.7,0.8), PC_19_G (0.6,0.7), VB_95_R/G (0.6,0.6)
*** ERROR(Quine-McCluskey): The 1 Matrix Contains All Configurations. ***
```

The results do not throw an intermediate solution. Not enough consistency level (< 0.75).

- Raw consistency threshold at 0.2

```
Model: Ypol = f(pgov, idiff, self, nrec)
Algorithm: Quine-McCluskey

--- COMPLEX SOLUTION ---
frequency cutoff: 2
consistency cutoff: 0.692436
                          raw        unique
                       coverage    coverage   consistency
                      ----------  ----------  ----------
~pgov*~idiff          0.517282    0.0442719   0.756818
self*~nrec            0.530485    0.0322331   0.75574
~pgov*nrec            0.540194    0.0366991   0.691009
idiff*self            0.55534     0.0733982   0.794445
~idiff*~self*nrec     0.375728    0.00854373  0.835853
solution coverage: 0.896893
solution consistency: 0.670101


Cases with greater than 0.5 membership in term ~pgov*~idiff: EHB_90_R (1,0.5),
  ERC_96_G (0.9,0.9), ERC_12_R (0.9,0.2), ERC_11_G (0.9,0.6),
  ERC_03_R (0.9,0.7), ERC_00_G (0.9,0.7), ERC_99_R (0.9,0.3),
  EHB_20_R (0.9,0.9), EHB_19_G1 (0.9,0.6), EHB_19_G2 (0.9,1),
  EHB_98_R (0.9,0.5), EHB_94_R (0.9,0), EHB_15_G (0.8,0.8),
  EHB_12_R (0.8,1), EHB_11_G (0.8,0), PC_16_R (0.7,0.7),
  PC_15_G (0.7,1), PC_17_G (0.7,0.8), PC_19_G (0.7,0.7),
  ERC_95_R (0.7,0.8)
Cases with greater than 0.5 membership in term self*~nrec: BQ_93_G (0.67,0.5),
  EHB_20_R (0.67,0.9), EHB_19_G1 (0.67,0.6), EHB_19_G2 (0.67,1),
  EHB_16_R (0.67,1), EHB_16_G (0.67,0.5), EHB_15_G (0.67,0.8),
  EHB_12_R (0.67,1), EHB_11_G (0.67,0), EHB_01_R (0.67,0.5),
  EHB_98_R (0.67,0.5), EHB_94_R (0.67,0), EHB_90_R (0.67,0.5),
  PQ_03_R (0.67,0.7), PQ_98_R (0.67,0.5), PQ_94_R (0.67,0.4),
  BQ_06_G (0.67,0.5), BQ_04_G (0.67,0.4), BQ_00_G (0.67,0.6),
  BQ_97_G (0.67,0.5)
Cases with greater than 0.5 membership in term ~pgov*nrec: SNP_97_G (1,0),
  SNP_92_G (1,0), PC_16_R (1,0.7), PC_15_G (1,1),
  PC_07_R (1,0.2), PC_05_G (1,0.6), PC_03_R (1,0.8),
  PC_17_G (1,0.8), SNP_03_R (1,0.1), PC_19_G (1,0.7),
  SNP_01_G (1,0.5), SNP_99_R (1,0.1), SNP_07_R (1,0.6),
  SNP_05_G (1,0), VB_91_G (0.67,0.6), VB_99_R/G (0.67,0.5),
  VB_95_R/G (0.67,0.6), NVA_03_G (0.67,0.5), VB_19_R/G (0.67,1),
  VB_14_R/G (0.67,0.9)
Cases with greater than 0.5 membership in term idiff*self: PQ_03_R (0.8,0.7),
  BQ_00_G (0.8,0.6), BQ_93_G (0.7,0.5), PQ_14_R (0.7,1),
  PQ_12_R (0.7,0.8), PQ_94_R (0.7,0.4), BQ_11_G (0.7,0),
  BQ_04_G (0.7,0.4), SNP_03_R (0.6,0.1), SNP_01_G (0.6,0.5),
  SNP_99_R (0.6,0.1), NVA_19_R/G (0.6,1), NVA_14_R/G (0.6,0.9),
  NVA_10_G (0.6,0.9), NVA_09_R (0.6,0.3), NVA_07_G (0.6,1),
  NVA_04_R (0.6,0.9), NVA_03_G (0.6,0.5), VB_19_R/G (0.6,1),
  SNP_19_G (0.6,0.6)
Cases with greater than 0.5 membership in term ~idiff*~self*nrec: PC_16_R (0.7,0.7),
  PC_15_G (0.7,1), PC_11_R (0.7,0.6), PC_10_G (0.7,0.5),
  PC_17_G (0.7,0.8), PC_19_G (0.6,0.7), VB_95_R/G (0.6,0.6)
*** ERROR(Quine-McCluskey): The 1 Matrix Contains All Configurations. ***
```

The results do not throw an intermediate solution. Not enough consistency level (< 0.75).

- Raw consistency threshold at 0.1

```
Model: Ypol = f(pgov, idiff, self, nrec)
Algorithm: Quine-McCluskey

--- COMPLEX SOLUTION ---
frequency cutoff: 2
consistency cutoff: 0.692436
                        raw        unique
                      coverage    coverage   consistency
                     ----------  ----------  ----------
~pgov*~idiff         0.517282    0.0442719   0.756818
self*~nrec           0.530485    0.0322331   0.75574
~pgov*nrec           0.540194    0.0366991   0.691009
idiff*self           0.55534     0.0733982   0.794445
~idiff*~self*nrec    0.375728    0.00854373  0.835853
solution coverage: 0.896893
solution consistency: 0.670101


Cases with greater than 0.5 membership in term ~pgov*~idiff: EHB_90_R (1,0.5),
  ERC_96_G (0.9,0.9), ERC_12_R (0.9,0.2), ERC_11_G (0.9,0.6),
  ERC_03_R (0.9,0.7), ERC_00_G (0.9,0.7), ERC_99_R (0.9,0.3),
  EHB_20_R (0.9,0.9), EHB_19_G1 (0.9,0.6), EHB_19_G2 (0.9,1),
  EHB_98_R (0.9,0.5), EHB_94_R (0.9,0), EHB_15_G (0.8,0.8),
  EHB_12_R (0.8,1), EHB_11_G (0.8,0), PC_16_R (0.7,0.7),
  PC_15_G (0.7,1), PC_17_G (0.7,0.8), PC_19_G (0.7,0.7),
  ERC_95_R (0.7,0.8)
Cases with greater than 0.5 membership in term self*~nrec: BQ_93_G (0.67,0.5),
  EHB_20_R (0.67,0.9), EHB_19_G1 (0.67,0.6), EHB_19_G2 (0.67,1),
  EHB_16_R (0.67,1), EHB_16_G (0.67,0.5), EHB_15_G (0.67,0.8),
  EHB_12_R (0.67,1), EHB_11_G (0.67,0), EHB_01_R (0.67,0.5),
  EHB_98_R (0.67,0.5), EHB_94_R (0.67,0), EHB_90_R (0.67,0.5),
  PQ_03_R (0.67,0.7), PQ_98_R (0.67,0.5), PQ_94_R (0.67,0.4),
  BQ_06_G (0.67,0.5), BQ_04_G (0.67,0.4), BQ_00_G (0.67,0.6),
  BQ_97_G (0.67,0.5)
Cases with greater than 0.5 membership in term ~pgov*nrec: SNP_97_G (1,0),
  SNP_92_G (1,0), PC_16_R (1,0.7), PC_15_G (1,1),
  PC_07_R (1,0.2), PC_05_G (1,0.6), PC_03_R (1,0.8),
  PC_17_G (1,0.8), SNP_03_R (1,0.1), PC_19_G (1,0.7),
  SNP_01_G (1,0.5), SNP_99_R (1,0.1), SNP_07_R (1,0.6),
  SNP_05_G (1,0), VB_91_G (0.67,0.6), VB_99_R/G (0.67,0.5),
  VB_95_R/G (0.67,0.6), NVA_03_G (0.67,0.5), VB_19_R/G (0.67,1),
  VB_14_R/G (0.67,0.9)
Cases with greater than 0.5 membership in term idiff*self: PQ_03_R (0.8,0.7),
  BQ_00_G (0.8,0.6), BQ_93_G (0.7,0.5), PQ_14_R (0.7,1),
  PQ_12_R (0.7,0.8), PQ_94_R (0.7,0.4), BQ_11_G (0.7,0),
  BQ_04_G (0.7,0.4), SNP_03_R (0.6,0.1), SNP_01_G (0.6,0.5),
  SNP_99_R (0.6,0.1), NVA_19_R/G (0.6,1), NVA_14_R/G (0.6,0.9),
  NVA_10_G (0.6,0.9), NVA_09_R (0.6,0.3), NVA_07_G (0.6,1),
  NVA_04_R (0.6,0.9), NVA_03_G (0.6,0.5), VB_19_R/G (0.6,1),
  SNP_19_G (0.6,0.6)
Cases with greater than 0.5 membership in term ~idiff*~self*nrec: PC_16_R (0.7,0.7),
  PC_15_G (0.7,1), PC_11_R (0.7,0.6), PC_10_G (0.7,0.5),
  PC_17_G (0.7,0.8), PC_19_G (0.6,0.7), VB_95_R/G (0.6,0.6)
*** ERROR(Quine-McCluskey): The 1 Matrix Contains All Configurations. ***
```

The results do not throw an intermediate solution. Not enough consistency level (< 0.75).

Hence, the (partial) empirical sensitivity range of the initial solution is 0.8-1. Considering both checks, the robustness core is *idiff*pgov* and *~idiff*~self*nrec*.

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Supplement to Article 3

Part A: Party vignettes shown to the respondents

Identity frame vignette in Catalonia

> "Spain does not want to evolve towards a multinational State. Spain wants to remain a single nation with no room for Catalonia's national project. In this context, the independence of Catalonia becomes essential to move forward as a nation and to protect and promote our language and culture. Knowledge of Catalan language by 100% of the population will be a priority in the new country: Catalan will be the working language at all levels of education. In addition, the international dimension and prestige of the Catalan language will be guaranteed by the new state, which will ensure its use and recognition in all international bodies. Catalan will therefore be a state language"[39].

Adapted from 2015 "JxS" Manifesto

Identity frame vignette in Scotland

> "Scotland is an ancient nation, renowned for the ingenuity and creativity of our people, the breath-taking beauty of our land and the brilliance of our scholars. Our national story has been shaped down generations by values of compassion, equality, and a passion and curiosity for invention that has helped to shape the world around us. We have a proud history, progressive traditions, fine intellectual and artistic accomplishments, a strong identity, and many friends across the world. It is in this spirit that Scotland deserves to secure its own place in the world as an independent country".

[39] Own translation from the original Catalan: "Espanya no té cap voluntat d'evolucionar cap a un Estat plurinacional. Espanya vol continuar sent *una única nació on no hi ha cabuda per al projecte nacional de Catalunya. En aquest context, la independència de Catalunya es torna imprescindible per a avançar com a nació i per a protegir i promoure la nostra llengua i cultura. El coneixement de la llengua catalana per part del 100% de la població serà una prioritat en el nou país: el català serà la llengua vehicular a tots els nivells d'ensenyament. A més, la dimensió internacional i el prestigi de la llengua catalana estaran garantits pel nou Estat, que vetllarà pel seu ús i reconeixement en tots els organismes internacionals. El català serà, doncs, llengua d'Estat*".

Adapted from 2013 "*Scotland's future*" document, SNP's government

Socioeconomic frame vignette in Catalonia

> "Many economic studies show that small countries are economically more competitive than larger countries. Countries similar in size to Catalonia have more agility to adapt to a changing global world and can work in international markets more easily. In addition, Catalonia currently suffers from a fiscal deficit (that is, the economic transfers from Catalonia to Spain that never return) of about 8% of our GDP each year. This fact exerts a negative influence on our economy. If Catalonia were an independent state, we would have additional resources that could be used to increase our public services. This would let us get closer to the welfare levels of socio-economically similar countries such as Sweden or Denmark"[40].

Adapted from 2015 "JxS" Manifesto

Socioeconomic frame vignette in Scotland

> "The Scottish economy has key strengths in growth industries such as food and drink, energy, creative industries, tourism, and life sciences. Per head of population we have more top universities than any other country in the world. We perform strongly as a location for inward investment and we have a strong financial services industry. However, under the Westminster system Scotland is treated as a regional economy within the UK. We are locked in to one of the most unequal economic models in the developed world. With independence we can make Scotland the fairer

[40] Own translation from the original Catalan: "*Nombrosos estudis econòmics constaten que els països petits son econòmicament més competitius que els països més grans. Els països de dimensió semblant a la de Catalunya tenen més agilitat per adaptar-se a un món global canviant i tenen més facilitat per moure's en els mercats internacionals. A més, en l'actualitat Catalunya pateix un dèficit fiscal (és a dir, el que Catalunya paga a l'Estat espanyol i que aquest no li retorna) del 8% del nostre PIB cada any, fet que influeix negativament sobre la nostra economia. Si Catalunya fos un Estat independent, disposaríem de recursos addicionals que es podrien destinar a incrementar els nostres serveis públics, de manera que ens acostaríem als nivells de benestar de països semblants socioeconòmicament com Suècia o Dinamarca*".

and the most successful country we all know it should be. We can make Scotland's vast wealth and resources work much better for everyone in our country".

Adapted from 2013 "*Scotland's future*" document, SNP's government

Political frame vignette in Catalonia

"Catalonia has the potential to be a different country, capable to address the challenges of modernity and the aspirations of its citizens without the limitations of belonging to a hostile state. Independence is the opportunity to open democracy to everyone: we want to distribute power in the service of freedom and equality for all, because we understand that true representative democracy merges with open and participatory democracy. A new country also offers the opportunity to develop a close, simplified, efficient, agile, and modern Catalan public administration. Furthermore, Catalan society wants to become a European benchmark in terms of equality between people and respect for diversity, so in the new country, we will make decisive progress in establishing a legal framework to fight any kind of discrimination[41]"

Adapted from 2015 "JxS" Manifesto

Political frame vignette in Scotland

"Independence means that Scotland's future will be in our hands. Decisions currently taken for Scotland at Westminster will instead be taken by the people of Scotland. An independent Scotland will build on existing, robust, and well-established foundations to develop our governance and a modern participative democracy. In addition, independence will provide the Scottish parliament and the

[41] Own translation from the original Catalan: "*Catalunya pot ser un país diferent, capaç de fer front als reptes de la modernitat i a les aspiracions de la seva ciutadania sense les limitacions que es deriven de la pertinença a un estat hostil. La independència és l'oportunitat d'obrir la democràcia a tothom: volem repartir el poder al servei de la llibertat i la igualtat de tots, perquè entenem que la veritable democràcia representativa es fusiona amb la democràcia oberta i participativa. Un nou país ens ofereix també l'oportunitat de desenvolupar un model d'administració catalana propera, simplificada, eficient, àgil i moderna. Per últim, la societat catalana vol esdevenir referent europeu en matèria d'igualtat entre les persones i de respecte a la diversitat, per la qual cosa, en el nou país, avançarem decididament en l'establiment d'un marc legal que combatin la discriminació per qualsevol causa*".

Scottish government with the opportunity to address significant issues that will help define the nature of our society. For example, a new written constitution will protect and enshrine our distinctive justice and legal systems to support the rule of law, human rights, and a strong democracy".

Adapted from 2013 "*Scotland's future*" document, SNP's government

Part B: ANOVA analysis and results

G-Power analysis

F tests - ANCOVA: Fixed effects, main effects and interactions

Analysis:	A priori: Compute required sample size		
Input:	Effect size f	=	0.25
	α err prob	=	0.05
	Power (1-β err prob)	=	0.95
	Numerator df	=	10
	Number of groups	=	4
	Number of covariates	=	1
Output:	Noncentrality parameter λ	=	25.0000000
	Critical F	=	1.8546920
	Denominator df	=	395
	Total sample size	=	400
	Actual power	=	0.9504191

Results of the one-way ANOVA

Results of the one-way ANOVA in Scotland.

	Df	Sum Sq	Mean sq	F value	Pr(>F)
Group	3	12	3.921	0.261	0.853
Residuals	442	6636	15.014		

Results of the one-way ANOVA in Catalonia.

	Df	Sum Sq	Mean sq	F value	Pr(>F)
Group	3	4	1.434	0.125	0.946
Residuals	422	4854	11.502		

Results of the two-way ANOVA

Results of the two-way ANOVA (joint effects) in Scotland.

	Df	Sum sq	Mean sq	F value	Pr(>F)
Frame	3	12	4.0	0.378	0.769
Identity	2	1973	986.5	92.579	<2e-16 ***
Frame:Identity	6	40	6.6	0.623	0.712
Residuals	432	4603	10.7		

Signif. codes : 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ‘ 1

2 observations deleted due to missingness

Results of the two-way ANOVA (joint effects) in Catalonia.

	Df	Sum sq	Mean sq	F value	Pr(>F)
Frame	3	7	2.35	0.206	0.8924
Identity	2	83	41.36	3.616	0.0278 *
Frame:Identity	6	96	15.98	1.397	0.2145
Residuals	397	4542	11.44		

Signif. codes : 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
17 observations deleted due to missingness