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of Party Systems**

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International Studies Program  
Andrew Young School of Policy Studies  
Georgia State University  
Atlanta, Georgia 30303  
United States of America

Phone: (404) 413-0233  
Fax: (404) 413-0244  
Email: [ispaysps@gsu.edu](mailto:ispaysps@gsu.edu)  
Internet: <http://isp-aysps.gsu.edu>

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# *Decentralization and Nationalization of Party Systems<sup>1</sup>*

**Ignacio Lago-Peñas**

*Department of Social and Political Sciences, Universitat Pompeu Fabra, Barcelona, Spain*

**and**

**Santiago Lago-Peñas<sup>2</sup>**

*REDE, IEB, and University of Vigo*

## **Abstract**

Based on a sample of 227 elections in seventeen Western European countries over the period of 1945-1998, this paper examines to what extent party systems are shaped by fiscal and political decentralization. With the exception of a few special cases, empirical evidence does not support the existence of a robust relationship between the degree of decentralization and the nationalization of party systems.

*Key words:* Decentralization, federalism, nationalization, party systems.

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<sup>2</sup> Correspondent author

## 1. Introduction<sup>3</sup>

This paper examines the extent to which party systems are shaped by fiscal and political decentralization or the authority granted to different levels of government. More specifically, we focus on the impact of decentralization on the degree of party system nationalization<sup>4</sup>. As Alemán and Kellam explain (2008: 193), “comparative nationalization interests scholars because it helps to distinguish party systems from one another in ways that have implications for governability and political representation”

The first essential step is to clarify what the nationalization of party systems entails. Through the nationalization processes, highly localized and territorialized politics are replaced with national electoral alignments and oppositions; programs and policies become national in scope and cancel out or at least reduce the scope of local problems, with the most relevant issues being transferred from the local to the national level (Caramani 2004, p. 1). Cox (1999) calls this process *linkage*, and Chhibber and Kollman (1998, 2004) refer to the process as *party aggregation*: it can be defined as a process by which politicians in different districts are allowed to run under a common party label (Cox 1997: chapter 10), or as “the degree to which parties are uniformly successful in winning votes across districts” (Moenius and Kasuya 2004: 545)<sup>5</sup>.

Strongly nationalized party systems are systems in which local and regional parties disappear from national politics and where party affiliation is similar across geographic regions (e.g., districts, provinces, and regions). In weakly nationalized party systems, local or regional parties remain important actors in national politics resulting in a large variation in party affiliations across sub-national units.

Research has demonstrated that the level of political and economic decentralization affects party system nationalization (Brancatti, 2006, 2008; Chhibber and Kollman, 1998, 2004; Samuels, 2003; Cox and Knoll, 2003; Chhibber and Murali, 2006; van Biezen and Hopkin, 2006; Sabatini, 2003; Thorlakson, 2007; Harbers, 2010). This interest is unsurprising

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<sup>4</sup> Thus, this paper does not look at the impact of decentralization on the territorial organization of parties or how they design and coordinate their electoral strategies across different arenas (Laffin 2007; Laffin et al., 2007; Hopkin and van Houten, 2009).

<sup>5</sup> The list of other terms taken more or less as synonymous is rather long. For instance, in chronological order, a short selection would include “a national arena” (Chambers 1966: 82-83); the “permeation” of the party system which may lead to a far-reaching “homogenization between parties at the center and in regional areas” (Daalder 1966: 64); the “politicization” process by which national organized parties broke the traditional rules of local elites through the entry into municipal elections (Rokkan 1970: 227); or the “vote structuring” function of parties, which may determine their predominance in “national patterns” (Epstein 1993 [1979]: chapter 4).

given the broad movement away from centralized patterns of governance, also in new democracies (Gibson, 2004). Increasing the quality of both democracy and governance supports the current wave of decentralization worldwide (Rodríguez-Pose and Sandall, 2008; Kyriacou and Roca-Segalés, 2009). For instance, as Hoogue and Marks (2001: 18) point out, approximately half of European Union member states have carried out significant decentralization and regionalization reforms since the 1980s, while no member state has undergone increased centralization. The argument is clear and extremely parsimonious. Given that national offices control larger budgets and address key issues, parties or candidates will have a strong incentive to join together across districts forming parties which can coordinate in the national political institutions. Chhibber and Kollman (2004: 21) summarize the argument in the following way: “federal policies of the national governments hinder or help minor, regional-based parties to survive on the national scene, and, therefore affect the nature of party coalitions and the party systems. Party systems become more national as governments centralize authority; in contrast, there are more opportunities for regional, state, or provincial parties to thrive as provincial or state governments gain more authority relative to the national government”<sup>6</sup>.

However, the link between party system fragmentation and decentralization has been challenged by what has been termed the ‘party-centred’ approach (Hopkin, 2009: 195). According to Thorlakson (2007, 2009), Hopkin (2009) or Mazzoneli (2009), Chhibber and Kollman’s rational choice institutionalism fails to consider the crucial role played by party competition in decentralization reforms. As Hopkin (2009: 195) explains, institutional changes are mediated by parties’ internal dynamics at their inception, yet the effects of these changes on party behaviour may be limited due to the inertias of long-standing party organization arrangements. The argument connecting decentralization and party system fragmentation is, therefore, not as parsimonious as the rational choice institutional approach presumes given the mediating role of parties’ internal dynamics: “the focus on parties’ internal organizational logics does not provide us with a simple key to understanding the causes and consequences of decentralization (...) making theory-generation far more challenging” (Hopkin, 2009: 196).

In this paper we revisit the link between federalism and the formation of national party systems by performing a time-series cross-section (TSCS) analysis of 227 elections in seventeen Western European countries over the period of 1945-1998. The countries are

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<sup>6</sup> Moreover, decentralization is also expected to increase turnout in sub-national elections insofar as it makes regional elections more relevant and visible. See Blais, Anduiza, and Gallego (2009).

Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom. To our knowledge, this is the most comprehensive study using time-series data to provide insights into how time-varying political and economic decentralization determines party aggregation. We do not find clear and universal support for the rational choice institutionalism approach, with the exception of a few special cases where a connection between nationalization of party systems and decentralization is observed.

The rest of the paper proceeds as follows. Section 2 discusses the relationship between decentralization and party system nationalization and presents the hypotheses. The logic and interpretation of the measures of party system nationalisation are shown in section 3. Section 4 presents the main quantitative findings, and section 5 concludes.

## 2. Theoretical framework

One crucial and still relatively unexplored phenomenon in the literature on electoral systems and party systems is the link between local or district-level party systems and national party systems. In some countries, (e.g., Austria, Denmark or Sweden) limited party options create an environment where local party systems are virtually the same in every district. As a consequence, given that districts are homogeneous, individual districts have the average features of the country at large. In other words, making inferences for the local party systems based on the national party system does not result in an ecological fallacy. On the contrary, in countries like Belgium, Spain or Switzerland, party options are not limited locally therefore local party systems are substantially different among districts. The national party system is *de facto* an ecological fallacy: it aggregates individual districts that do *not* have the average components of the country at large.

In creating a national party system through the linkage of various local party systems, local parties are faced with a strategic dilemma. To maximize their influence in national politics, local parties should merge to form a single party with a common label or at least nominate national candidates under a common alliance. Yet this coordination also implies replacing allegiance to a geographic constituency with allegiance to a social constituency, with the most relevant issues being transferred from the local to the national level. Being competitive on a national scale requires the recruitment of allies or voters across district lines for the purpose of winning more parliamentary seats. But when parties present themselves as

national conglomerates, they downplay the political importance of local issues; which may lead to the alienation of local support. Given that electoral coordination depends largely on the political preferences of party elites, when social diversity (ethnic or linguistic groups) is concentrated in certain districts, the chances of coordination are reduced.

For purposes of this study, we assume that (most) politicians are *office-seekers*. Therefore, the higher the value of national offices, the higher the probability that parties will resolve the strategic dilemma through cross-district coordination and conversely, the lower the value of the national offices, the higher the probability of resolving the dilemma in favour of the 'go it alone' approach.

According to Cox (1997, 1999), Cox and Knoll (2003) and Chhibber and Kollman (1998, 2004), the value of the national offices depends on three institutional features: the nature of the executive (presidential or parliamentary) branch, the degree of centralization of power and the existence of upper tiers. First, presidential elections may present a large and important prize that is awarded in an essentially winner-take-all fashion (Cox 1999: 157). This impact is exacerbated when presidential coattails are taken into account (Golder, 2006). *All else equal, party aggregation or linkage should be higher in presidential systems than in parliamentary systems.*

Second, offices controlling larger budgets are more attractive to politicians: the primary operational measure of the value of national office is budgetary, concerning how large the central government's revenue, expenditure or employment is a share of total government revenue, expenditure or employment (Cox and Knoll, 2003: 6). Relying on historical data spanning back to the seventeenth century from Canada, Great Britain, India, and the United States, Chhibber and Kollman (1998, 2004) show the causal mechanism. The relative authority of national and subnational governments in a country helps to determine the success or failure of regional and minor parties and, therefore, the formation of a national party system. Voters are more likely to support national political parties as the national government becomes more important in their lives. As this happens, candidates are also more likely to abandon local parties and assume national party labels. Similarly, Thorlakson (2007: 71) argues that "decentralisation gives parties and voters both incentive and opportunity to mobilize and respond to locally defined issues, leading to the development of "unique" party systems at the state level, with fewer competitive linkages to the federal arena". Thus, one expects better linkage in unitary states and worse linkage in federal states. More specifically, *increasing the level of fiscal centralization in a state should increase the incentive to win national office(s) thus increasing party system nationalization; while increasing fiscal*

*decentralisation should increase the incentive to win regional office(s) and thus decrease the incentive to link reducing party system nationalization.* Concerns about endogeneity are inherent to the argument.<sup>7</sup>

However, if decentralization provides sub-national elites with an opportunity to create local and regional parties, this opportunity increases with district magnitude (i.e., the permissiveness of electoral systems). Surprisingly, Chhibber and Kollman select four first-past-the-post countries. Therefore, *party aggregation or linkage should be higher in states that are more federal and at the same time have very permissive electoral systems.*

Third, many electoral systems allocate a certain number of national assembly seats in upper tiers. In order to win these seats, parties must reach a minimum level of national support. In the German electoral system, for example, compensatory seats are distributed at the national level among those parties that secure at least 5% of the national vote (or win at least three district seats). Obviously, this allocation encourages cross-district coordination. Therefore, *a larger proportion of seats allocated in upper-tier districts, ought to result in higher cross district linkages.* The same argument applies when there is a legal national threshold to win seats.

Finally, social heterogeneity or, more specifically, cleavages and whether they are locally concentrated are also crucial in the nationalization of party systems. Electoral coordination also depends to a large extent on the political preferences of party elites. As the number of distinct ethnic, religious or linguistic groups in a district increases, so too does the chance of malcoordination and the number of entrants or parties (Cox 1999, Lago and Montero, 2009a). After all, party elites define the terms of cooperation, assess benefits and costs, shape cleavages, hold expectations, implement electoral strategies and enjoy or suffer the consequences. Their preferences are usually strongly related to both the cleavage structure of the party system, and more importantly in the case of..., the regional cleavage. At the national level, the story depends upon the geographic distribution of voters (Kim and Ohn, 1992). If a third party's supporters are concentrated in a particular region or district(s), then they may be able to compete successfully as a local party, even while remaining a national third party. For both the local and the national parties, the outcome of the coordination process is contingent upon the distance between their locations along the ideological and regional cleavages. If the distance between parties in both areas is small, their preferences are

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<sup>7</sup> According to Chhibber and Kollman (2004: 227), "the processes of centralization and provincialization have nearly always begun prior to changes in party systems. The timing of these changes suggest that while there can be reciprocal causation, it is typically the changing nature of political authority that initiates changes in party systems, and not the other way around". See also Harbers (2009).

more likely to be similar and, thus, coordination outcomes are more likely to be successful. Yet the converse also holds. As S. Golder (2006: 203) finds: ‘Electoral [pre-]coalitions are less likely to form the more ideologically incompatible the potential coalition members.’ Thus, *one would expect poorer linkage in countries where social diversity is concentrated and a better linkage in countries where social diversity is disbursed or does not exist.*

The role of electoral systems, and of district magnitude in particular, remains unclear. It is well-known that electoral systems affect the coordination of political forces within districts when candidates or parties enter a race and voters distribute their votes among them. The general finding is embodied in the  $M + 1$  rule, where  $M$  is the number of seats allocated in an electoral district. The rule states that under some conditions, in contests with more than  $M + 1$  candidates strategic voting will eliminate weaker candidates such that only  $M + 1$  candidates remain (Cox 1997, 1999). According to Cox (1999: 148-149 and 156), there is no clear theoretical reason to expect strategic voting to affect linkage or party aggregation, hence less reason to expect it to affect the size of the national party system. The local contingent or electoral coordination at the district-level provides only a very vague upper bound on the number of parties nationally. A system consisting solely of single-member plurality elections should have no more than  $2D$  parties, where  $D$  is the number of districts. The United Kingdom, for example, has 646 single-member, simple-plurality districts. The number of parties can therefore be no more than  $2 * 646 = 1292$  (Cox, 1997: 186).

Conversely, Cox and Knoll (2003: 6) state that the impact of district magnitude on linkage is a function of the number of wasted votes the system will generate without linkage. The larger the district magnitude, the fewer wasted votes each district will have. Therefore, in low-magnitude districts politicians will face a much greater incentive to combine votes across district lines for the purpose of winning more district seats, simply because they have a lot of votes to “trade”.

Nikolenyi (2008) and Harbers’ (2010) argument is significantly different. What matters is not district magnitude, but the number of districts within an electoral system. The argument is that party aggregation across districts becomes more challenging as the number of districts increases. The causal mechanism is that maintaining an organizational structure over a large number of districts is more demanding for a political party than maintaining structure over a few cohesive districts or even a single nationwide district. This argument contradicts what Cox and Knoll argue, given that first past the post systems have a larger number of districts than proportional representation (PR) systems.

Finally, Morgenstern, Swindle and Castagnola (2009) argue that single-member district (SMD) plurality systems should decrease nationalization relative to PR systems. According to the authors, “since a plurality is required to win the seat in SMD systems, parties may avoid spending the resources (good candidates, costs, and effort) to compete where they have little chance of winning. In proportional representation (PR) systems, by contrast, wasted vote-winning opportunities are costly, because it takes far fewer votes to win a legislative seat” (Morgenstern, Swindle and Castagnola, 2009: 1327). Additionally, SMD systems should indirectly impact nationalization through their influence on district characteristics, parties’ campaign coordination problems and candidate qualities.

In our view, except in those few cases in which the country is comprised of a single electoral district (e.g., Israel or the Netherlands), district magnitude does not affect whether national party systems mirror local party systems. As pointed out above, consistency depends on the degree to which candidates and parties make linkages across districts to establish larger political groupings or organizations based on common party labels. District magnitude has little to do with such groupings. Therefore, *one should not expect different linkage between countries with high- and countries with low-magnitude districts.*

This rational choice institutionalism approach has been challenged by the ‘party-centred’ approach (Hopkin, 2009: 195). This alternative approach is much more a set of ideas on the role of parties than a theory. Additionally, the null hypothesis is never clearly specified so that it is impossible to know what has to be observed to confirm the ‘party-centred’ approach. Given that institutional reforms are closely intertwined with competitive logics of party politics (Mazzoleni, 2009: 215), the rational choice institutionalism approach suffers from the omitted-variable bias when it neglects the crucial role of parties. As Hopkin (2009) explains, decentralization reforms should be seen as a consequence of parties’ responses to strategic opportunities and threats, and the organizational changes resulting from multi-level electoral politics are mediated by parties’ own internal histories and conflict. The analysis of Labour in Britain and the Spanish Socialist, for instance, shows that organization inertias of national parties can act as a break on the potentially centrifugal effects of decentralizing reforms. According to Hopkin (2009: 162), the Chhibber and Kollman’s argument has two limitations. First, it treats decentralizing institutional change as exogenous to party systems dynamics, failing properly to consider the ways in which party competition can be an important cause of decentralization reforms: in some cases decentralization is initiated in response to a decline in voter and candidate aggregation. Second, the argument neglects the

role of parties as organizations: parties may be the initiators of decentralization reforms, while their ability to adapt to changing institutional incentives can mitigate the degree to which these reforms fragment the party system.

Similarly, Thorlakson (2006: 419) has written that “party systems in multi-level contexts can be affected by linkage that occurs at the levels of electoral behaviour and party strategy. For voters, vote choice at either the national or subnational level will invariably be affected by identifications and assessments formed at other levels of government. Party strategies can also result in the development of competitive linkages between party systems when coalition bargaining is subject to intra-party pressures across levels of governments, or when campaign flows across levels”; or Thorlakson, (2007: 88) writes: “we expect, and find, that aggregate voter behaviour measures of congruence are more responsive to the allocation of federal power than structural congruence. This suggests that while decentralization can provide ideal conditions for the differential mobilization and politicization of issues across jurisdictions, thus differentially affecting a party’s effectiveness at winning voters, there are greater organizational obstacles to overcome before strategic action results in the emergence of new parties”. Relying on the examination of regional decentralization in UK, Italy and France in the past 60 years, Mazzoleni (2009) also challenges the Chhibber and Kollman’s argument. According to him, most parties vary their focus on decentralization according to political and electoral logics, suggesting that institutional reforms are closely intertwined with the competitive logics of party politics.

The main implication of the party-centred approach is that the link between decentralization and nationalization is not so parsimonious as the rational choice institutionalist approach assumes. Hopkin (2009: 196) summarizes the argument in the following way: “Stable patterns of social division, and the incentives provided by institutions, are constraints within parties operate, but parties have ‘lives on their own’. Therefore, *one should not expect a strong relationship between the degree of decentralisation and the nationalization of party systems.*”

### **3. Conceptualization and measurement of party system nationalization**

Measuring party system nationalization is a hot issue in political science (see Lago and Montero, 2009b). In their seminal approach, Chhibber and Kollman (1998, 2004) employ the first measure of the *inflation* of the national party system—the extent to which the number of

parties at some level of aggregation may be higher than the number of parties at another level of aggregation (Nikolenyi 2009: 99). The basic idea behind inflation measures is that a territorially heterogeneous party system usually has fewer parties at the local level than at the national level (Bochsler, 2009: 5). Chhibber and Kollman measure the nationalization of party systems by using the difference between the effective number of electoral parties in the national party system and the average effective number of parties in the local party systems. High *deviation* ( $D$ ) indicates low nationalization. Its formal expression is as follows:  $D = ENP_{nat} - ENP_{avg}$ , where  $ENP$ , or the effective number of parties, measures how many “serious” parties are in the race<sup>8</sup>;  $ENP_{nat}$ , the effective number of electoral parties at the national level, and  $ENP_{avg}$ , the average effective number of electoral parties at the district level.

Chhibber and Kollman’s measure is subject to several statistical and substantive shortcomings. Statistically, the measure (i) lacks an upper limit, (ii) does not account for territorial unit size, (iii) is not sensitive to the number of territorial units, and (iv) has a bias through large local party systems (Bochsler, 2009). From a substantive point of view, (i) the measure neglects random variation in the political world that results in a slightly different total vote for a given party across districts, due to non-systematic features of election campaigns; (ii) it neglects that different distributions of votes and/or the order of parties receiving votes lead to the same fragmentation; (iii) it does not take into account that parties behave strategically in election campaigns resulting in different resource (and electoral support) allocation across districts; (iv) it neglects that the supply of a given party is not exactly the same in every district within a country; and (v) it is not sensitive to variation in district magnitude (Lago and Montero, 2009b).

In this paper, we will use the measures of party system nationalization proposed by Lago and Montero (2009b) and by Chhibber and Kollman (1998, 2004) as dependent variables. According to Lago and Montero, *party system nationalization is a combination of the homogeneity of the supply of parties across districts, their electoral results, and the number of seats to be filled in those districts where parties compete*. Nationalization depends upon the extent to which parties enter the electoral fray in each district or, the extent to which the supply of parties is the same in each district in a country. If every party runs candidates in

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<sup>8</sup> This is calculated in accordance with Laakso and Taagepera (1979). For  $n$  parties receiving votes,

$$ENP = \frac{1}{\sum_{i=1}^n p_i^2}; p \text{ is the proportion of votes obtained by party } i \text{ in the election.}$$

every district, there are only national parties; the degree of nationalization is then perfect. At the opposite extreme, if each party fields candidates in just one district, there are only local parties; the degree of nationalization is thus virtually zero. Therefore, parties' entry decisions, not the uniform distribution of votes across districts, are the key variable used to measure the nationalization of party systems. But given that parties do not have the same (electoral) size, and that districts do not necessarily allocate the same number of seats, parties and districts should not receive equal weight in their contribution to the nationalization of the party system. Accordingly, the measure incorporates a weighted average of party system nationalization by which parties' entry decisions are the primary variable and the national vote share of each party and the proportion of seats allocated to each district are the secondary variables. Its formal expression is as follows:

$$E = \sum_{i=1}^n v_i * s_i,$$

where  $v_i$  is the proportion of votes obtained by party  $i$  at the national level, and  $s_i$  is the proportion of seats to be allocated in districts where party  $i$  has entered the race.

This equation is known as the *local entrant measure*,  $E$ . If every party runs candidates in every district,  $E$  equals 1, and the party system is perfectly nationalized, independent of the distribution of national vote shares or of the number of seats across districts. At the opposite extreme, if each party fields candidates in just one district, the party system is poorly nationalized, and  $E$  approaches 0. As  $E$  increases, the nationalization of a party system does as well. Party electoral size and district magnitude need not be considered when parties enter the race in every district or in countries whose national legislatures are elected using districts that do not vary in magnitude; that is, in countries that have single-member districts (e.g., plurality systems as in the United Kingdom, runoff systems as in France, or alternative vote systems as in Australia) or a single national district (e.g., Israel or the Netherlands).

#### 4. Econometric analysis

The hypotheses of the rational choice institutionalist and the party-centred approaches are first tested using TSCS data. Subsequent analyses are conducted using individual time-series data.

#### 4.1 TSCS analyses

The argument that political and economic centralization affects the number of national parties is tested systematically by Chhibber and Kollman (1998) on the basis of the following model:

$$N_t = \alpha_0 + \alpha_1 D_{t-1} + \alpha_2 X_t + \mu_t \quad (1)$$

Where the number of national parties ( $N_t$ ) in a given election year ( $t$ ) is regressed on its lag ( $N_{t-1}$ ) and on central (i.e., non-defence) spending as a proportion of GNP ( $X_t$ ). The model is computed using time-series data from the U.S over the period 1880-1971 (46 observations). The coefficient of interest is alpha-2. Controlling for the previous number of national parties, the coefficient should be negative if decentralization is significantly correlated to the current number of national parties. The greater the fiscal and political centralization the fewer the national parties. Both OLS and Hildreth-Lu estimators yield a negative alpha-2 coefficient; the variable is statistically significant at the 0.05 level in the Equation (1) and at the 0.10 level when additional lags of the number of national parties are added.

Our analysis differs in several aspects. First, we use cross-sectional time-series data from 17 European countries. Time spans are irregular, but in most cases cover almost 50 years. In total, the sample is comprised of 227 observations (election years). Matching available data for the different variables included in the estimations yields the following list of countries and time spans: Austria (1950-1994), Belgium (1950-1995), Denmark (1950-1998), Finland (1950-1995), France (1950-1993), Germany (1950-1994), Greece (1974-1996), Iceland (1950-1995), Ireland (1950-1997), Italy (1950-1996), Luxembourg (1950-1994), Norway (1950-1997), Portugal (1975-1995), Spain (1977-1996), Sweden (1950-1998), Switzerland (1950-1995), and United Kingdom (1950-1997).

Second, given that party nationalization is also affected by institutional and sociological features other than the level of decentralization, our analysis controls for the nature of the executive (presidential or parliamentary) branch, the existence of upper tiers, the mean district magnitude of each electoral system and ethnolinguistic fractionalization. Additionally, a dummy variable coded 1 for Belgium has been added on the grounds that Belgium is the most extreme example of an established democracy undergoing a significant decrease in the party system nationalization<sup>9</sup>.

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<sup>9</sup> See Cox and Knoll (2003) or Caramani (2004) for additional information.

Third, the main nationalization measure used in our analysis is the *local entrant measure* ( $E$ ) proposed by Lago and Montero (2009b). As pointed out above, the higher the value of  $E$ , the higher the degree of nationalization. Using stacked data,  $E$  correlates very highly (-0.92) with Chhibber and Kollman's party aggregation measure,  $D$ , suggesting that both indicators measure similar outcomes.

Fourth, in order to explore the robustness of the results, we use several measures of the degree of political and economic centralization. Debate surrounding the measurement of decentralization continues in economics and political science literature<sup>10</sup>. To measure the different meanings of decentralization, we take into account political, fiscal and institutional dimensions using a database compiled by Hooghe, Marks, and Schakel (2008). The database includes four variables of interest. *Fiscal autonomy* measures the extent to which a regional government can independently tax its population. *Policy scope* reflects the range of policies for which a regional government is responsible. *Self-rule* measures the authority exercised by a regional government over those who live in the region. *Self-rule* is a scale composed of four items: *Fiscal autonomy*, *Policy scope*, the extent to which a regional government is autonomous rather than deconcentrated, and the extent to which a region is endowed with an independent legislature and executive. Finally, *Fiscal control* reflects the extent to which regional representatives co-determine the distribution of national tax revenues. In all cases, variables are ordinal with several categories. The four measures are computed using time averages over the electoral cycle. Let us define two consecutive elections years,  $t$  and  $t+s$ , then average values from year  $t$  to year  $t+s$  are used. Because the effects of decentralization on the number of parties may not be contemporary and in order to reduce the risk of inverse causality, lagged values are used<sup>11</sup>.

The information on the definition of each variable is summarized in table 1, while summary statistics are displayed in table 2.

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<sup>10</sup> Among the most recent contributions in the field of economics, see Ebel and Yilmaz (2003) and Martínez-Vázquez and Timofiev (2009). From the standpoint of political science, see Rodden (2004) and Schakel (2008).

<sup>11</sup> In preliminary estimates (not included in table 3) we also lagged the dependent variable a second and third time. Results did not change significantly.

Table 1: Dependent and independent variables

<i>Variable</i>	<i>Definition and data sources</i>
<i>D</i>	Chhibber and Kollman's party aggregation measure. Data on district-level electoral results come from Caramani (2000)
<i>E</i>	Lago and Montero's party nationalization measure. Data on district-level electoral results come from Caramani (2000)
<i>Belgium</i>	A dummy variable coded 1 for Belgium and 0 for all other countries
<i>Fiscal autonomy</i>	Extent to which a regional government can independently tax its population: 0: the central government sets base and rate of all regional taxes 1: the regional government sets the rate of minor taxes 2: the regional government sets base and rate of minor taxes 3: the regional government sets the rate of at least one major tax: personal income, corporate, value added or sales tax 4: the regional government sets base and rate of at least one major tax: personal income, corporate, value added or sales tax Source: Hooghe, Marks, and Schakel (2008)
<i>Fiscal control</i>	Extent to which regional representatives co-determine the distribution of national tax revenues: 0: regional governments or their representatives in the legislature are not consulted with regard to the distribution of tax revenues 1: regional governments or their representatives in the legislature negotiate the distribution of tax revenues, but do not have veto power 2: regional governments or their representatives in the legislature have veto power over the distribution of tax revenues Source: Hooghe, Marks, and Schakel (2008)
<i>Fragmentation</i>	The most commonly used measure of aggregate ethnic diversity is <i>Fractionalization</i> , defined as the probability that two individuals selected at random from a country will be from different ethnic groups. If the population shares of ethnic groups in a country are denoted $p_1, p_2, p_3 \dots p_n$ , then fractionalization is $F = 1 - \sum_{i=1}^n p_i^2$ . Obviously, higher F values indicate higher fractionalization. For our analyses, we have calculated the mean between ethnic and linguistic fractionalizations. The source is Alesina et al. (2003)
<i>District magnitude</i>	The average district magnitude in an electoral system. Sources: Caramani (2000) and Golder (2005)
<i>Policy scope</i>	Range of policies for which a regional government is responsible: 0: no authoritative competencies over economic policy, cultural-educational policy, welfare state policy 1: authoritative competencies in one area: economic policy, cultural-educational policy, welfare state policy 2: authoritative competencies in at least two areas: economic policy, cultural-educational policy, welfare state policy (state welfare policy?) 3: authoritative competencies in at least two of the areas above, and in at least two of the following: residual powers, police, authority over own institutional set-up, local government 4: regional government meets the criteria for 3, and has authority over immigration or citizenship Source: Hooghe, Marks, and Schakel (2008)
<i>Self-rule</i>	The authority exercised by a regional government over those who live in the region, which is the sum of <i>policy scope</i> , <i>fiscal autonomy</i> , <i>institutional depth</i> <sup>12</sup> , and <i>representation</i> <sup>13</sup>

<sup>12</sup> This variable measures the extent to which a regional government is autonomous rather than deconcentrated:

0: no functioning general-purpose administration at the regional level

1: deconcentrated, general-purpose, administration

2: non-deconcentrated, general-purpose, administration subject to central government veto

3: non-deconcentrated, general-purpose, administration not subject to central government veto

<sup>13</sup> This variable measures the extent to which a region is endowed with an independent legislature and executive:

*Assembly*:

0: no regional assembly

1: an indirectly elected regional assembly

<i>Semipresidential</i>	Source: Hooghe, Marks, and Schakel (2008) A dummy variable coded 1 for semipresidential countries (Austria, Finland, Iceland and Portugal) and 0 for parliamentary countries
<i>Upper</i>	This variable is the percentage of all assembly seats allocated in the upper tier(s) of the polity. It ranges from zero for democracies without upper tiers to a maximum of 50% for Germany. The source is Golder (2005)

Table 2: Descriptive statistics (Stacked data, 210 observations)

<i>Variables</i>	<i>Mean</i>	<i>Maximum</i>	<i>Minimum</i>	<i>Std. deviation</i> <i>(overall)</i>	<i>Std. deviation</i> <i>(between)</i>	<i>Std. deviation</i> <i>(within)</i>
<i>D</i>	0.604	5.11	0.00	0.909	0.725	0.531
<i>E</i>	0.880	0.99	0.25	0.150	0.126	0.080
<i>Belgium</i>	0.071	1.00	0.00	0.258	0.242	0.00
<i>Fragmentation</i>	0.174	0.55	0.04	0.156	0.161	0.00
<i>District magnitude</i>	7.69	20.33	1.00	5.18	4.71	2.59
<i>Semipresidential</i>	0.290	1.00	0.00	0.455	0.469	0.00
<i>Upper</i>	12.34	50.27	0.00	15.54	15.46	3.47
<i>Self- rule</i>	8.01	22.42	0.00	6.25	6.26	2.10
<i>Fiscal control</i>	0.447	2.99	0.00	0.776	0.632	0.434
<i>Policy scope</i>	1.71	4.96	0.00	1.50	1.48	0.521
<i>Fiscal autonomy</i>	1.46	4.94	0.00	1.46	1.39	0.661

Our hypotheses are tested systematically on the basis of the following model:

$$Nationalization_{it} = \beta_0 + \beta_1 Belgium_{it} + \beta_2 Fragmentation_{it} + \beta_3 District\ magnitude_{it} + \beta_4 Semipresidential_{it} + \beta_5 Upper_{it} + \beta_6 Nationalization_{it-1} + \beta_7 Decentralization_{it-1} + \varepsilon_{it} \quad (2)$$

Given that some variables are time invariant, multi-colinearity with individual fixed-effects might be troublesome if individual effects were necessary<sup>14</sup>. Fortunately, this is not the case according to the Baltagi and Li modification for incomplete panels of the Breusch and Pagan Lagrangian multiplier test. The null hypothesis  $Var(v_i)=0$ , where  $v_i$  are the individual random effects, cannot be rejected at the 0.10 level.

According to the Levin, Lu and Chu test (for common unit root processes) and the Im, Pesaran, and Shin test (for individual unit root processes) the existence of unit root in the dependent variables *E* and *D* may be discarded (p-values<0.0001 in all cases). Serial correlation is also very weak and has not been corrected. Regressing residuals from column 1

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2: a directly elected assembly

*Executive:*

0: the regional executive is appointed by central government

1: dual executives appointed by the central government and the regional assembly

2: the regional executive is appointed by a regional assembly or directly elected

<sup>14</sup> Moreover, the standard within-group estimator for dynamic models such as ours with individual fixed effects generates inconsistent estimates (Nickell, 1981).

of table 3 on a lag yielded a coefficient close to 0 (-0.15) that are not statistically significant at the usual levels (p-value=0.12).

The Cook-Weisberg test for heteroskedasticity was also carried out. According to the results, the null hypothesis of constant variance is clearly rejected (p-value < 0.0001). Hence Panel-Corrected Standard Errors are used instead of OLS standard errors in order to account for panel heteroskedasticity. Estimating individual variances in order to estimate by Feasible Generalized Least Squares (FGLS) was ruled out due to the small number of individual observations. Potential correlation between countries was ruled out given non-contemporaneous electoral cycles across countries.

Multi-collinearity is not of concern according to estimates of multiple correlations among regressors (the Klein's rule). For each regressor the coefficient of determination was calculated and all were below 0.685 in all columns (table 3).

Finally, we checked the robustness of the results using the quasi-maximum likelihood estimator (QMLE) suggested by Papke and Woolridge (1996) to account for constrained fractional response variables. By definition, the variable  $E$  is constrained on the unit interval [0,1]. However, OLS do not guarantee that the predicted values of the dependent variable lie on the unit interval. The QMLE does not suffer from this shortcoming. In order to control by cross-section heteroskedasticity, clustered robust errors are computed<sup>15</sup>.

[Table 3 about here]

Table 3 presents the results of the (which) estimates. In the first column, *Fragmentation* and *Belgium* have the expected negative signs and *Upper* the expected positive sign (i.e., lower social diversity, Belgium and the more seats allocated in the upper tier of the polity, indicates higher party system nationalization), but only the two first variables are statistically significant at the 0.01 level. Similarly, as expected, party system nationalization is not a function district magnitude. Contrary to the argument put forth above, *Semiresidential* does not significantly affect party linkage and even showed a negative relationship. Conversely, the authority exercised by a regional government over those who live in the region (*Self-rule*) is positively related to party linkage, although it is not statistically significant. Finally, party system nationalization is subject to a strong rigidity: the lag of  $E$  has a coefficient of 0.81. It is statistically significant at the 0.01 level.

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<sup>15</sup> See Arze, Martínez-Vázquez, and McNab (2005) for a similar methodological approach to explain the functional composition of public expenditure with international data.

In the second column the Lago and Montero party nationalization measure is replaced with the Chhibber and Kolman measure resulting in sign-changes for each dependent variable. These changes result in little change to the impact of *Self-rule*. However, using the Chhibber and Kolman measure the coefficient on *Upper* is now statistically significant at the 0.10 level with the expected positive / negative sign. Finally, *Fragmentation* is not statistically significant and the lag of the dependent variable, *D*, now has a larger coefficient: 0.90.

The third, fourth, and fifth columns, in which *E* is again the dependent variable and *Self-rule* is replaced with *Fiscal control*, *Policy scope* and *Fiscal autonomy*, results in little change to the results. None of the three variables are statistically significant (i.e. decentralization is not related to party linkage).

A logistic estimate in the sixth column replicating the first model supports our finding. Although the coefficients are not directly comparable, their signs and statistical significance do not change dramatically. *Upper* is an exception, now statistically significant at the 0.01 level. To facilitate the comparison between the OLS and the QMLE estimates, in the last column of table 3 the marginal effects or changes to the variables in the sixth model are shown. Since the value of the marginal effect depends on the value of all variables in the model, they have been computed with all variables held at their mean. The main difference between the OLS and the QMLE estimates is the size of the dependent variable lag time coefficient: sluggishness would be lower according to the QMLE (0.812 vs 0.377).

Finally, we also checked the robustness of conclusions examining the relationship between changes in *E* and changes in *Self-rule* from the beginning to the end of the sample. This analysis was deemed necessary given the relatively low within-variation of both variables (see Table 2). Taking extreme values increases variability. Hence, the following specification was also estimated:

$$\Delta E_i = \alpha_0 + \alpha_1 \Delta \text{Self rule}_i + \mu_i \quad (3)$$

Variations ( $\Delta$ ) are computed as the difference between the last and the first available observation for each country, yielding 17 observations. Results from an OLS estimate seemingly support a negative relationship between both variables ( $\hat{\alpha}_1 = -0.02$  with  $p=0.03$ ). However, the coefficient is no longer significant ( $\hat{\alpha}_1 = -0.0005$  with  $p=0.89$ ) once extreme observations (Germany and Belgium) are excluded. In figure 1 a scatter plot is constructed

with both series and the nearest neighbour<sup>16</sup>. This non-parametric technique (the *Loess* or *Louvess* procedure) is less sensitive than OLS to outliers and shows no negative relationship for most of the sample.

[Figure 1 about here]

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<sup>16</sup> The nearest neighbor fit displays local polynomial regressions for two series with bandwidth based on nearest neighbors. For each data point in a sample, a locally weighted polynomial regression is fitted. It is a local regression since we use only the subset of observations which lie in a neighborhood of the point to fit the regression model; it may be weighted so that observations further from the given data point are given less weight. See QMS (2007).

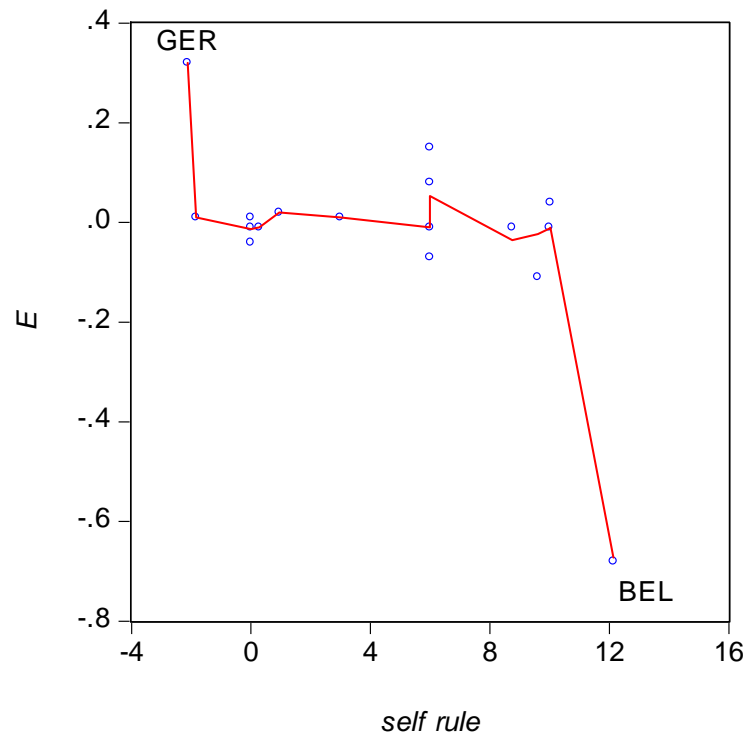
Table 3: Panel estimates of equation [2]

<i>Independent Variables</i>	<i>Dependent Variable</i>						<i>dy/dx</i>
	<i>E</i>	<i>D</i>	<i>E</i>	<i>E</i>	<i>E</i>	<i>E</i>	
<i>Constant</i>	0.181*** (0.050)	-0.04 (0.04)	0.188*** (0.048)	0.183*** (0.050)	0.178*** (0.049)	-2.04*** (0.479)	
<i>Belgium</i>	-0.084** (0.040)	0.431*** (0.163)	-0.081** (0.041)	-0.087** (0.042)	-0.074** (0.038)	-1.15*** (0.205)	-0.137
<i>Fragmentation</i>	-0.102*** (0.036)	0.304 (0.261)	-0.089** (0.041)	-0.096*** (0.037)	-0.125*** (0.041)	-0.883* (0.511)	-0.070
<i>District magnitude</i>	-0.00006 (0.0001)	0.0035 (0.0027)	0.00002 (0.0007)	-0.00004 (0.0007)	-0.00003 (0.0007)	0.013 (0.015)	0.010
<i>Semipresidential</i>	-0.002 (0.008)	0.028 (0.052)	-0.002 (0.007)	-0.002 (0.007)	-0.0002 (0.008)	0.039 (0.192)	0.003
<i>Upper tier</i>	0.0007 (0.0004)	-0.0023* (0.0013)	0.0008 (0.0005)	0.0007 (0.0005)	0.0006 (0.0004)	0.026*** (0.004)	0.0020
<i>E<sub>-1</sub></i>	0.812*** (0.059)		0.803*** (0.057)	0.810*** (0.060)	0.814*** (0.058)	4.76*** (0.440)	0.377
<i>D<sub>-1</sub></i>		0.899*** (0.057)					
<i>Self-rule<sub>-1</sub></i>	0.00001 (0.0003)	0.0024 (0.0023)				-0.0001 (0.017)	-0.00001
<i>Fiscal control<sub>-1</sub></i>			-0.008 (0.006)				
<i>Policy scope<sub>-1</sub></i>				-0.001 (0.001)			
<i>Fiscal autonomy<sub>-1</sub></i>					0.003 (0.003)		
R <sup>2</sup>	0.898	0.918	0.903	0.898	0.899		
Log pseudolikelihood						-45.358	
Number of observations	210	210	210	210	210	210	
Estimation method	Pooled OLS	Pooled OLS	Pooled OLS	Pooled OLS	Pooled OLS	Clustered Robust QMLE	

Notes: White cross-section standard errors (corrected by degrees of freedom) in parenthesis, except in the sixth column, with clustered robust errors.

*dy/dx* is the marginal effect computed with all variables held at their mean values.

\*\*\*p<0.01; \*\*p<0.05; \*p<0.10

Figure 1: Cross-sectional relationship between changes in *Self-rule* and *E*. Loess fit.

#### 4.2 Individual time-series data analysis

The absence of a clear pattern connecting fiscal and political decentralization to party system nationalization fails to provide support for the rational choice institutionalist approach. In order to see whether the theory holds for some countries, our second round of analysis was conducted using individual, country-level data.

Figure 2 displays trends from our sample of 17 European countries, including the correlation between the Lago and Montero's measure of party system nationalization, *E*, and the authority exercised by a regional government over those who live in the region, *Self-rule*. Countries have been divided into three groups with federal or quasi-federal democracies (i.e., Spain and Italy) in the top row, democracies with medium levels of regional decentralization in the middle row, and countries with low levels of decentralization in the bottom row.

[Figure 2 about here]

Initially the data shows no systematic increase in nationalization when moving from the bottom to the top row. Moreover, the response of  $E$  to the lag of *Self-rule* shows no clear pattern. However, it is difficult to infer robust conclusions from this description given that we are not controlling for the previous degree of party system nationalization. To correct for this, equation 4 summarizes a regression model in which the degree of party system nationalization ( $E$ ) in a given election year ( $t$ ) is regressed on its lag ( $E_{t-1}$ ) and on *Self-rule*. The coefficient of interest is  $\gamma_2$ . If party systems are shaped by decentralization, it should be negatively related to the degree of nationalization. Due to the short time span, time series range from a maximum of 20 observations for Denmark to a minimum of 6 observations for Spain. No control variables have been included:

$$E_t = \gamma_0 + \gamma_1 E_{t-1} + \gamma_2 \text{Selfrule}_{t-1} + \mu_t \quad (4)$$

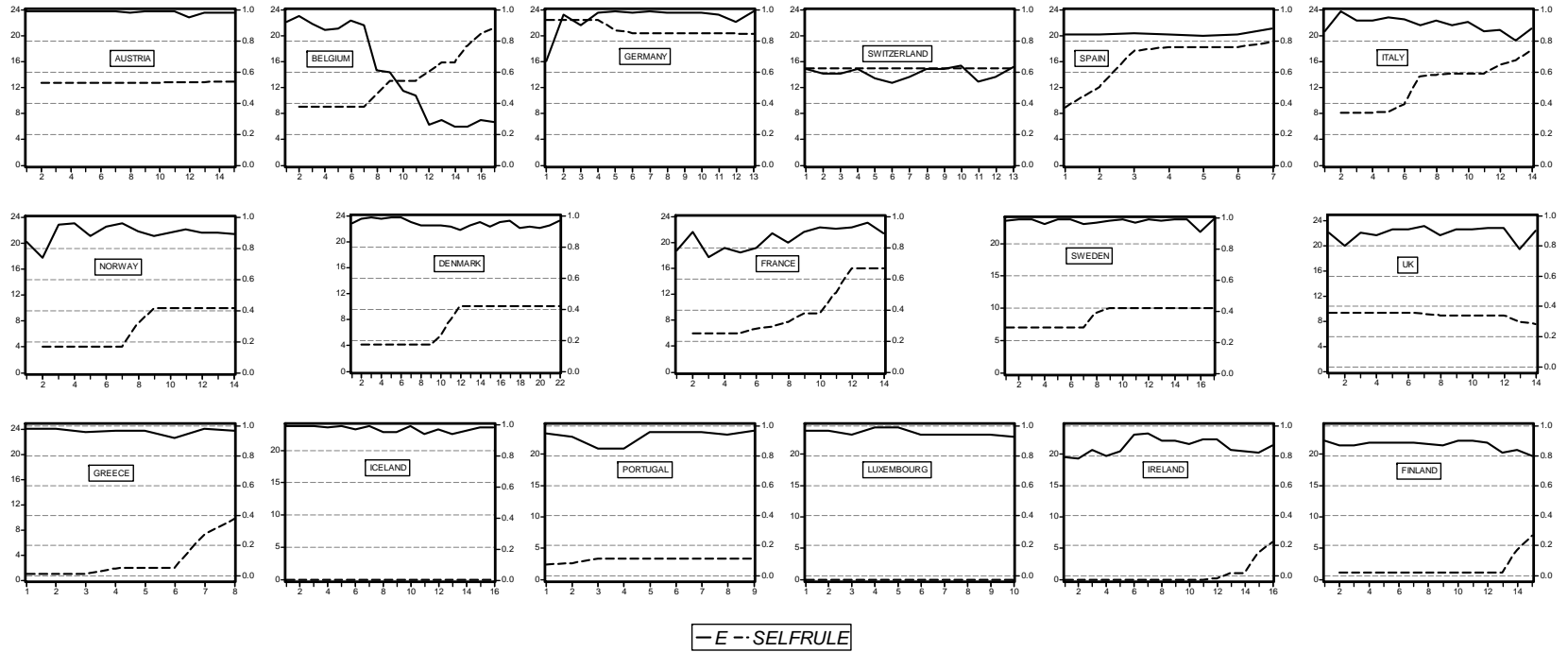
Main results are displayed in table 4. Only coefficients with p-values lower than 0.20 are presented. Iceland, Switzerland, and Luxembourg are not considered because *Self-rule*<sub>.1</sub> is constant over time. Whereas in a number of countries (e.g., Italy, Norway, Finland, and Austria) decentralization has the expected negative relationship, in France the sign of the variable is positive and statistically significant at the 0.10 level. In Austria and Portugal the coefficient on *Self-rule*<sub>.1</sub> is also negative, but not statistically significant. Finally, in another group of countries (e.g., Germany, Spain, Sweden, UK, Greece, Belgium, Denmark and Ireland), no trend in either direction is observable. However, in Belgium, Denmark and Ireland the lag of  $E$  is statistically significant such that the fit of the model is much better than in the remaining fourteen countries. This group of findings supports the notion that the impact of decentralization on party system nationalization is far from being automatic and universal.

Table 4: Individual estimates of equation (4)

	<i>Intercept</i>	<i>E<sub>.1</sub></i>	<i>Self-rule<sub>.1</sub></i>	<i>R<sup>2</sup></i>	<i>Number of observations</i>
Austria	(+)**		(-)§	0.202	13
Belgium		(+)***		0.901	15
German	(+)***			0.079	12
Spain				0.017	6
Italy	(+)***		(-)*	0.488	12
Norway	(+)***		(-)**	0.384	12
Denmark	(+)*	(+)**		0.383	20
France	(+)**		(+)*	0.478	12
Sweden	(+)***			0.083	16
United Kingdom	(+)**			0.015	13
Greece	(+)**			0.071	7
Portugal				0.385	8
Ireland	(+)*	(+)**		0.401	15
Finland	(+)§	(+)§	(-)**	0.554	13

Notes: OLS estimates. \*\*\*p<0.01; \*\*p<0.05; \*p<0.10; §p<0.20

Figure 2: National evolution of variables *Self-rule* (left axis scale) and *E* (right axis scale)



## 5. Conclusions

We have examined the role of decentralization in explaining changes in party system nationalization in seventeen Western European countries between 1945-1998. The literature supports two different predictions. According to the rational choice institutionalist approach, as national governments centralize power, party system nationalization should increase. Conversely, the ‘party-centred’ approach does not neglect the importance of decentralization, but stresses the crucial role played by party competition in decentralization reforms. Consequently, the theory connecting decentralization and party system fragmentation would not be as parsimonious as the rational choice institutionalism approach presumes as a consequence of the mediating role of party’s internal dynamics.

Our empirical analysis is developed in two steps. The first is based on TSCS data and is grounded in econometric specifications imposing common parameters across all countries. The second analysis uses individual, time-series data relaxing the hypothesis of homogeneity in parameters. Combining results from both analyses we have not found clear and general support for the rational choice institutionalist approach all Western European countries used in the analysis; but the approach seems to function for a few specific countries (Italy, Norway, and Finland).

The weakness of the decentralization variable in explaining nationalization strongly supports Morgenstern, Swindle and Castagnola's (2009) findings, although this study focuses on countries, while theirs focuses on parties. This could also result from the fact that the causal mechanisms behind the relationship between decentralization and nationalization are more complex than what the institutionalist argument suggests. However, our findings do not constitute support for the ‘party-centred’ approach. Given that this approach cannot be labelled a theory, and the null hypothesis is never clearly specified, it is not possible to test this alternative approach regarding the impact of decentralization.

This paper provides grounding for two additional studies. The first study will account for more sophisticated measures of nationalization, analyzing the effect of fiscal and political decentralization not only on the supply of parties across districts but also on the internal decentralization of national parties. The second study will focus on the nationalization of parties instead of party systems. It might be hypothesized that some parties demonstrate more elasticity with regard to level of decentralization. It is likely

that the lion's share of the impact of decentralization has to do with subnational or ethnic parties and not with national parties.

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