ASYMMETRICAL TREATMENT AND REVENUE FROM REGIONAL PROTEST

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Abstract: This study seeks to empirically determine to what extent continual protest by regionalist parties may generate revenue for their regions. To this end, we perform an econometric estimation using the collaboration agreements between Spanish governments and the autonomous communities as the dependent variable (first-level political and administrative divisions, CCAA in their Spanish initials). We test our hypothesis by analogously applying the economic specifications employed in studies of "pork barrel politics", including control variables regarding per capita income, regional financing systems, political variables such as support for regional governments from the same political party or the existence of pivot parties. The results support the theoretical conclusions reached by Treisman (1999), namely that non-sovereignist regionalism generates revenue while sovereignist nationalism or regionalism leads governments to react by applying unfavourable treatment. Similarly, the fact that a regionalist party plays a key role in the investiture of the national president brings with it even greater revenue to the region in question, concurring with the results predicted by Brancati (2008).

Key words: regionalism, asymmetrical federalism, Hirschman, pork barrel.

JEL classification: H77, D74, D72, D78.

T he present study seeks to compensate for the absence of research which empirically quantifies the possible revenue to emerge from the asymmetrical treatment that central governments may give to areas in which regionalist parties are present in an effort to stabilise the federal system[1].

In recent decades, within research into federalism, studying the stability of federal systems has become increasingly relevant. Federal political systems are a balance (the degree of decentralisation indicated by Riker, 1964) between a centripetal force of the accumulation of power in the centre which guarantees the provision of national public goods and avoids secession and a centrifugal force which aims to shift power

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(1) In international economic and political literature it is common to use the term regionalist to denote territorially established political movements which defend self-government. In Spain, two distinct terms are used: "nationalist", the ultimate objective of which is usually its ideology, confederation or secession; and "regionalist", whose aspiration to self-government is more limited and does not amount to the confederal or secessionist limit.

towards the periphery in order to channel the political ambitions of territorial self-government. The degree of decentralisation, and therefore the point of equilibrium towards which the territorial distribution of power tends at each moment, depends on structural factors such as the level of democratisation, linguistic, ethnic or religious diversity, income, population, the size of the country or the political structures prior to independence [Panizza (1999); Arzaghi and Henderson (2005)]. Yet it also depends on the relationship between central and regional governments and on the political strategies adopted by each government and the political forces which support them.

Regionalist political movements are institutions specialised in capturing votes through territorial conflict in order to come to power in their region and thereby be able to exercise effective quotas of political power. To counteract the instability caused by their protests, and above all the threats of secession in particular cases, central governments may employ an array of strategies, such as increasing the general decentralisation of the political structure, increasing decentralisation asymmetrically by granting wider self-government to those regions which spark the greatest conflicts, treating regions asymmetrically in the distribution of resources in an effort to satisfy asymmetry in their demands, etc. The two former strategies are based on the notion that increased decentralisation has as a "direct effect" vis-à-vis reducing regionalist conflicts and secessionism since it satisfies demands for self-government. In turn, the third path mentioned is based on the assumption that protests can be silenced with money, such that the central government can stabilise the system by ensuring the inhabitants of certain regions or their governments receive greater revenue than others based on the asymmetrical political demands they make. There are numerous theoretical studies of this latter political alternative, with those by Treisman (1999) and De Figueiredo and Weingast (2005) being the most important for our objective, since they are the direct source of our work. Both conclude that, under specific conditions, asymmetry in the distribution of revenue may be an appropriate strategy to achieve equilibrium in the federal system when faced with strong regionalist movements.

Numerous empirical works are devoted to exploring these political processes, although they are descriptive rather than quantitative, such that there are no studies quantifying the effects of asymmetrical treatment and which determine the revenue obtained by the inhabitants or governments of areas in which regionalist movements are active. This explains the objective of the present study as set out at the beginning.

To achieve this, and given the absence of precedents, we turn by analogy to the approach used in research which explores the existence of so-called "pork barrel politics", and which tests the favourable treatment given by federal governments, in the form of greater expenditure on transfers, towards more indecisive electoral districts or those in which federal governments have greater support.

In the current study, we examine the case of Spain through a panel data analysis for the 17 autonomous communities (henceforth - CCAA) for the period 1988-2009, using the collaboration agreements signed by the central government with the governments of the CCAA as the dependent variable and which are not tied to any objective rules of endowment and distribution. Rather, it is the discretion of the state which determines their distribution. In an attempt to evaluate the effects of regionalism in the distribution of resources through agreements, we create diverse scenarios: in scenario 1, as a representative variable of regionalist territories we introduce a dummy which segregates CCAA where the regionalist party has governed the au-

tonomous community during the bulk of the period considered, whether alone or in coalition (the Basque Country, Catalonia. Aragon, the Canary Islands, Cantabria and Navarre); in scenario 2, we introduce two dummies, one representative of CCAA that have been governed by parties with confederal or secessionist aspirations, which in Spain we call "nationalist" parties (the Basque Country and Catalonia), and another representative of the remaining non-sovereignist regionalist governments (Aragon, the Canary Islands, Cantabria and Navarre). Finally, in scenario 3, we introduce two additional dummies to test the effect of "integrated regionalism" in the large national parties; that is to say the possible influence of powerful leaders within national parties which in turn govern CCAA. Specifically, these are the cases of the presidency of Manuel Chaves (PSOE) in Andalusia and Manuel Fraga (PP) in Galicia.

Results show that the theoretical predictions of Treisman (1999) are fulfilled, in such a way that non-sovereignist regionalism obtains considerable revenue, while nationalism is "punished", meaning that non-sovereignist regional protest appears to represent the most productive strategy for securing resources through agreements. In the case of integrated regionalism, this does not lead to any favourable treatment of those CCAA which exercise it. Indeed, results show an unfavourable treatment in the period of the presidency of Manuel Chaves in Andalusia, a paradigmatic example of integrated regionalism in this autonomous community. Finally, it can be concluded that the potential impact of regionalism is amplified by the fact that a regionalist party becomes a pivot; that is to say, it enjoys representation in the national parliament and wields decisive power in the investiture of the president of the government. This result concurs with the proposal of Brancati (2008).

In short, this research represents a novelty in three fields of study: in the field of the theories of "pork barrel politics", as there are no studies in this field examining the effect of regionalism as such in the territorial distribution of resources by central administration; in the area of the assumptions of reaction by Hirschman (1970), because it attempts to econometrically quantify the special benefits or revenues derived from protesting and, consequently, to economically value one of Hirschman's alternatives; and finally, in the field of studying empirical models regarding the stability of federal systems, as we move from descriptive empiricism to the econometric testing of the asymmetrical treatment hypothesis. Furthermore, in this latter aspect, we contribute the novelty of analysing three possible strategies of regionalism: nationalist, non-sovereignist and regionalism integrated within nationalist parties, which allows us to test Treisman's (1999) theoretical results.

The study is organised as follows. The next section provides a review of the preceding literature. In the third, we define the econometric specification used and describe the data sources employed. In the fourth section, we offer the results to emerge. To conclude, the fifth section discusses the results and provides a brief summary of our conclusions.

1. Literature review

Following Hirschman's reaction model (1970), regionalist political movements can be defined as institutions which seek to capture votes via protest and the threat of exit [Masseti and Schakel (2013)]. In decentralised systems, these political movements have the opportunity to win elections in regional legislatures and thereby exercise ef-

fective quotas of political power [Chhibber and Kollman (1998) and (2004); Sorens (2008) or Brancati (2008)]. If, in addition, regionalist parties are able to obtain representation in the central chambers, their capacity for political impact is enhanced, increasing the likelihood of them exploiting the conflict with the federal government or with the federation itself as a means of pressuring to obtain a greater capacity for self-government, which favours the instability of the federal system [Brancati (2008)].

To counteract the instability caused by protests and threats of secession, central governments usually act in three ways: increasing decentralisation in a general way, symmetrically; increasing it specifically or asymmetrically in favour of those who protest, and dealing asymmetrically with the various regions when distributing resources.

With regard to the first strategy, it has often been conjectured in political practice that increasing decentralisation has a "direct effect", namely a reduction in regionalist conflicts and secessionism [Lijphart (1975); Stepan (2001); Murshed, Tadjoeddin and Chowdhury (2009); Gromes (2010); Brinkerhoff (2011)].

However, as stated by Erk and Anderson (2009) and Vaillancourt, Roy-Cesar and Bird (2010), whether or not this hypothesis is supported is a question that is yet to be solved scientifically. Certain studies, such as those by Curtice (2006) and Roeder (2009), conclude that decentralisation does not reduce secessionist demands. Another empirical line of research, which includes the work of Jenne, Saideman and Lowe (2007), posits that decentralisation encourages secession, either because it makes citizens believe that secession is a more realistic possibility or because it favours secessionism by giving minority groups access to the centres of regional power.

Indeed, if decentralisation increases the political weight of regionalist parties, these in turn may encourage conflicts and secessionism [Snyder (2000); Eaton (2006)]. Put differently, decentralisation would produce an "indirect effect", consisting of the denationalisation of the political system (parties losing clout at the central level). Within this notion are found the statistical analyses of Brancati (2008) and Harbers (2010), although on the basis of an empirical study of 71 countries Lublin (2012) argues that the indirect effect is curbed if the institutional design increases regional autonomy but fails to allow regionalist party access to central power.

Sorens (2008) proposes a more complex vision and one in line with our study, distinguishing between two different strategies for territorial minorities: secessionism and regionalism. While secessionists demand the right to free determination, regionalists seek limited autonomy within the central state. If voters are rational, secessionist parties will be stronger in regions which can benefit economically and politically from independence, and regionalist parties will be stronger in regions which would benefit from autonomy but not from independence. Sorens concludes that decentralisation increases the votes obtained by regionalist parties, but that these do not evolve towards secessionism but rather concentrate on broadening their proposal to other regions and/or reducing tax flows to the regions with fewest resources. In the same line, the work by Lago and Lago (2011) finds no relationship between decentralisation and denationalisation of the political system for Western European countries.

One alternative which can be used by central government to stabilise the system is to increase the degree of decentralisation asymmetrically, which Tarlton (1965) terms "asymmetrical federalism". Congleton (2006) suggests the economic and political reasons for the emergence of asymmetrical federalism. According to this author, the real degree of political decentralisation is determined by political

agreements, within and between national and regional entities, in such a way that differences in the interests and negotiating power of regional entities will affect the distribution of political power in a decentralised state. In turn, Wehner (2000) maintains that the asymmetrical configuration of a federation structure may respond to motives of macroeconomic efficiency, administrative cohesion, or the incapacity of certain subcentral governments to effectively exercise all their powers. However, it may also be due to political reasons, such as reducing territorial tensions and ensuring the stability of the political system. Kymlicka (1998) and Burgess (2006) hold that asymmetry is a central government reaction to the different political pressure exerted by each area and, in extreme cases, may be the strategy to maintain the very unity of the country. Numerous studies into this question have been carried out. Prominent among the most important and recent theoretical works are: Kyriacou, Bacaria and Congleton (2003), who analyse the political foundations for the asymmetrical distribution of authority in a federal state and in international organisations; the work of Filippov, Ordeshook and Shvetsova (2004), who examine the process of negotiation when forming a federal system and its subsequent functioning; the theoretical model of Hombrado (2011), who employs a game which includes the remaining regions as a discordant third party, and who may form a bloc in reaction to the asymmetrical model; or that of Zuber (2011), who concludes that asymmetric federalism is, by its very nature, unstable given that it is a three-way relationship between the central government, privileged regions in the asymmetric distribution, and the rest.

Asymmetrical federalism is not necessarily apparent solely in the form of the power structure; it is also possible to employ asymmetrical distribution of resources as a stabilising mechanism of the state. Treisman (1999) analyses theoretically the possibility of using intergovernmental resources to "appease" the protest of regions who make the greatest demands for self-government. To this end, he proposes a game theory model in which the central government has a utility function related positively to the total revenue obtained from the regions and negatively to the rejection of its authority. Opposing it, there are two subcentral governments which can obtain more votes if in exchange for supporting the central government they secure more resources with which to increase their public services. Alternatively, subcentral governments can also receive electoral support if they oppose the central government. For this to occur, however, the electorate needs to be predisposed towards this type of approach as a result of tense historical relations between central and regional government, cultural or ethnic factors, and the organised presence of centralist and separatist groups in the region. In this electoral environment, regional leaders can exploit the potential mobilisation which protest allows in order to generate confrontation and attract new voters who reinforce the support they already have [Tarrow (1991); Vaillancourt (1992); Przeworski (1995)].

In Treisman's model, the result depends on central government preference for controlling resources and reducing conflicts, on voter sensitivity towards the increased offer of public goods and services, and on their aversion to centralist policies. In principle, in the absence of regionalist radicalism, the optimum strategy for central government is asymmetrical treatment; that is to say, redistribution in favour of the most regionalist region. However, if voter aversion to the central government runs high, it is preferable for the central government to employ punishment through monetary penalisation.

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This conclusion of asymmetrical treatment in the distribution of resources is also shared by the theoretical model of Figueiredo and Weingast (2005). According to these authors, the heterogeneity of the exit costs function for each region implies that the compensation obtained by remaining in the federation differs. Thus, central government activity based on "price discrimination", which can be translated into a difference in the distribution of revenue, may be a strategy to generate system equilibrium.

Empirical treatment of the asymmetrical response to the pressure of regionalist political movements, not only in the power structure but also in the distribution of resources, is well documented in various descriptive studies. The existence of asymmetries can be observed in contexts as different as Germany [Benz (1999)], Canada [Swenden (2002)], Belgium [Bayenet and De Bruycker (2006)], India [Rao and Singh (2007)], Russia [Martinez-Vazquez (1999)], Spain [Agranoff (1999), Werner (2009)], South Africa, and the United Kingdom [Watts (1999), McGarry (2005)][2]. Nevertheless, it must be emphasised that although descriptive studies allow us to identify asymmetry in power structures, no effort has been made to attempt to quantify the revenue obtained by the inhabitants or governments of the areas where regionalist movements exist. Accordingly, we propose the objective of the present study, which we now address.

2. METHODOLOGY AND DATA

Given the lack of empirical studies aimed at quantitatively estimating asymmetrical treatment in the distribution of resources due to the effect of regionalism, we recur by analogy to the empirical methodology of research which tests the favourable treatment of certain electoral districts for political motives, or so-called "pork barrel politics".

The two classical models which study public expenditure decisions on the basis of political and/or electoral profitability are the contributions by Lindbeck and Weibull (1987) and Cox and McCubbins (1986). In both of these studies, politicians seek to remain in power, and spending policies among the different electoral districts are decided with this aim in mind. The principal prediction of Lindbeck and Weibull (1987) is that public funds will be directed towards undecided districts; that is to say those with a high percentage of voters who are prone to change their vote on the basis of their financial situation. This type of region is characterised by the fact that the representatives of the party in power obtained a narrow margin of differential votes. By contrast, Cox and McCubbins (1986) consider that politicians are risk averse. Consequently, public funds are directed towards regions where a sizeable majority has been obtained, since such investment is safe.

At the empirical level, certain studies show that spending is allocated to areas where the difference in votes was smaller [Dahlberg and Johansson (2002); Castells and Solé-Ollé (2005)], whereas others point to rewarding "loyal" districts through

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(2) See the compilation studies of Bird (2007), Weller and Nobbs (2011), the comparative work of Hooghe, Marks and Schakel (2010) and that of Snyder (2000), which describes different processes of decentralisation and concludes that experience demonstrates that it is cheaper for regionalists to negotiate regional and cultural agreements, autonomy and the redistribution of some funds than to foment continued insurgence.

expenditure [Joanis (2011)]. Dahlberg and Johansson (2002) feel that these am-biguous results may, in part, be due to the method employed or to the fact that the two hypotheses may be fulfilled simultaneously. Furthermore, as Stromberg (2008) indicates, distribution of funds is conditioned by the electoral system, and thus more funds are awarded to regions in which the vote is undecided but also pivotal; that is to say, it is essential to decide who will win the elections.

More closely aligned with our objective, Crain and Oakley (1995), Cadot, Röller and Stephan (2006), Kemmerling and Stephan (2002) and Golden and Picci (2008) find evidence that political factors influenced the focus of regional expenditure in the USA, France, Germany and Italy, respectively. In the case of Spain, the studies by Castells and Solé-Ollé (2005), Solé-Ollé (2013) and Agnani and Aray (2012) estimate an equa-tion of investment decisions in infrastructure among the autonomous communities. In the three studies, the conclusion is that the political profitability of investing influences the distribution made by the central government. In De la Calle and Orriols (2010), con-cerning the investment to expand the Madrid metro system, the conclusion is that the hypothesis of Cox and McCubbins (1986) is not validated, but that there does exist weak support for the hypothesis of Lindbeck and Weibull (1987). The work of Hierro, Atienza and Gómez-Álvarez (2014) and Simón, Lago and Vaquero (2014) refers to the investment agreements with the CCAA. The first of these studies concludes that the ideological affinity between the two levels of government and electoral motivations are fundamental criteria for signing investment agreements. In turn, the second study con-cludes that priority is given to CCAA in which regional elections are more competi-tive, where the party in power at the national level obtains better electoral results in na-tional elections and where there are more seats to be won.

In order to test whether asymmetrical treatment is used as a compensation mech-anism for the demands of asymmetrical self-government when distributing re-sources, as predicted by Treisman (1999) and De Figueiredo and Weingast (2005), we use an econometric specification based on panel data and derived from the stud-ies cited above. Payments for agreements between central government and the CCAA are taken as the dependent variable, on which we seek to gauge the possible effect of regionalist protest and the existence, or otherwise, of asymmetrical treat-ment by central government towards the various regions, such treatment being de-rived from said regionalist protest.

However, before advancing further we must reflect upon the term regionalist. In Spain, the concept of regionalism does not correspond to what is traditionally at-tributed to the term in the economic field. While general research employs the term regionalism to include pro-sovereignist and non-sovereignist territorial political movements, two terms are commonly used in Spain. On the one hand, the term na-tionalist is used to refer to parties with sovereignist objectives of secession or con-federation, while on the other hand the term regionalist is used for those who aspire to maximise self-government within the common state[3]. In other words, in Spain we

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(3) The Royal Academy of Spanish Language defines nationalism as: "The ideology of a people who, affirming their condition as a nation, aspire to constitute themselves as a state"; and regionalism as: "the political tendency or doctrine according to which, when governing and forming the organisation of a state, special attention must be paid to the way of being and to the aspirations of each region".

find ourselves with the more complex vision proposed by Sorens (2008), which requires positing differences with regard to protest strategies and to the possible effect of secessionist objectives, but which will also allow us to evaluate more precisely the different reactions set out by Treisman (1999).

In addition to these differences, in certain regions, regionalism in Spain has been exercised from within nationwide parties. Put differently, regionalism has been channelled not through the creation of a regionalist party but by exercising internal power in a nationwide party. This would be somewhat similar to the third actor in the game proposed by Hombrado (2011), but proposed not as a coalition of non-regionalists but rather as an internal power within a nationwide party.

Faced with these singularities, we propose incorporating three alternative scenarios into our study: one in which all the areas with regionalist parties are considered as a whole; a second scenario which distinguishes between regions with nationalist parties and those with non-sovereignist parties, and finally, a third scenario which takes account of the fact that in certain regions, at certain times, major national political figures, who could exercise integrated regionalism, are in government.

The three scenarios described are estimated through the following specifications:

Scenario 1:

$$Lnagreemensts_{i,t} = \beta_0 + \beta_t + \beta_1 \cdot \text{Re } gionalism_{i,t} + \beta_2 \cdot Pivotal_{i,t} + \beta_3 \cdot PSOEPSOE_{i,t} + \beta_4 \cdot PPPP_{i,t}$$
$$+ \beta_5 \cdot LnGDPpc_{i,t} + \beta_6 \cdot LnFCIFEDER_{i,t} + \beta_7 \cdot Foral_{i,t} + \varepsilon_{i,t}$$

Scenario 2:

$$Lnagreemensts_{i,t} = \beta_0 + \beta_t + \beta_1 \cdot Nationalism_{i,t} + \beta_2 \cdot Nonsovereigntistregionalism_{i,t} + \beta_3 \cdot Pivotal_{i,t}$$
$$+ \beta_4 \cdot PSOEPSOE_{i,t} + \beta_5 \cdot PPPP_{i,t} + \beta_6 \cdot LnGDPpc_{i,t} + \beta_7 \cdot LnFCIFEDER_{i,t} + \beta_8 \cdot Foral_{i,t} + \varepsilon_{i,t}$$

Scenario 3:

$$Lnagreemensts_{i,t} = \beta_0 + \beta_t + \beta_1 \cdot Nationalism_{i,t} + \beta_2 \cdot Nonsovereigntistregionalism_{i,t} +$$
$$\beta_3 \cdot Integratedregionalism(Chaves) + \beta_4 \cdot Integratedregionalism(Fraga) + \beta_5 \cdot Pivotal_{i,t}$$
$$+ \beta_6 \cdot PSOEPSOE_{i,t} + \beta_7 \cdot PPPP_{i,t} + \beta_8 \cdot LnGDPpc_{i,t} + \beta_9 \cdot LnFCIFEDER_{i,t} + \beta_{10} \cdot Foral_{i,t} + \varepsilon_{i,t}$$

The dependent variable we use ($Lnagreemensts_{i,t}$) is the contributions made by the central government through cooperation agreements signed with the CCAA. These are published in the Official State Gazette (*Boletín Oficial del Estado*, BOE) and normally involve co-financing by the autonomous community in question. They are mostly directed towards co-funding investment expenditure and are justified by the existence of a certain concurrence of competencies. The main feature which makes them ideally suited as the variable in our study is that the agreements are signed at the discretion of the central government on the basis of bilateral and opaque negotiations with each autonomous community. That is to say, the distribution of resources is not subject to any explicit, objective and formulated distribution criterion, but is decided subjectively and discretionally by central government[4]. The

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(4) In fact, in the standard regional financing system, unconditioned transfers are all non-discretionary since they have a formulated distribution aimed at sufficiency, covering the spending needs of the CCAA [see Hierro (1996) or Monasterio and Suárez (1998) for the financing system until the 1997-2001 model

variable is expressed in euros per inhabitant at constant 1988 prices for the 17 CCAA and the 22 years considered (from 1988 to 2009) (in a Napierian logarithm). The data source is: "*Informes Económico-Financieros de las Administraciones Territoriales*", published annually until 2009 by the Ministry of Public Administrations[5].

With regard to the data source, it should be clarified that there have traditionally been two data sources concerning regional financing: the one just cited, which for the variable under consideration obtains its figures from the agreements published in the BOE, and that taken from the "*Informes sobre la Financiación de las Comunidades Autónomas y Ciudades Autónomas*" from the Ministry of Finance, known as "*Autonomous Financing in Figures*" since 2002, for which the source is the *Intervención General de la Administración del Estado, (IGAE)*, which we take to be liquidated data like the rest in the report. This dual origin means that data are different.

The merger of the two ministries (Finance and Public Administrations) in 2011 led to the report published by Public Administrations being discontinued and the series being truncated. As regards the other series, which comes from the surviving report, data are found in two sources: the Economic Database of the Spanish Public Sector[6] and the reports of the "*Haciendas Autonómicas en Cifras*". The first source offers data on investment agreements until 2001 and the second from 2002 to 2013. The problem is that between 2002 and 2005 the data on agreements ceased to be published in isolation and, in their place, data were offered from a series which included state subsidies managed by the CCAA, the agreements and the programme contracts. That is to say, this second series was also truncated, although in this case in intermediate years.

Given this problem and owing to the need to opt for one series or another, we chose to use the continuous series from Public Administrations and truncated from 2010 onwards. Otherwise, it would be necessary to apply a reconstruction method for the unavailable intermediate data, which would always prove arbitrary. Furthermore, given that the years lost in the series correspond to those of the economic crisis and the agreements are characterised by being a co-financed instrument, distribution in recent years has been affected by deficit control policies and liquidity

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and Bassols, Bosch and Vilalta (2010) and De la Fuente (2009a, 2009b, 2009c) for the 2002-2008 models and the current one]. These spending requirements, estimated from a distribution formulated on the basis of necessity indicators (where population is fundamental), are covered by the taxes ceded to the state and by participation in national revenue (*Participación en los Ingresos del Estado*). In turn, current conditional transfers are also not discretionary, since they are fundamentally aimed at fulfilling a single objective, which is related to spending requirements for health and social services, power over which was only decentralised, up until 2001, to five CCAA in the common system (those with a broad ceiling of competencies) in addition to the two *foral* (special) CCAA. As regards capital transfers, all are non-discretionary, with the exception of investment agreements and programme contracts. Indeed, both the Interterritorial Compensation Fund (*Fondo de Compensación Interterritorial*, FCI) and European structural funds are explicitly geared towards achieving the interterritorial re-equilibrium and economic development of regions with the lowest per capita income. In the FCI, distribution is formulated on the basis of indicators of said need for re-equilibrium. Eligibility criteria of structural funds also respond to that objective [see Atienza, Hierro and Patiño (2008)].

(5) For 2007 to 2009, these data are available online at *http://www.seap.minhap.es/web/areas/politica_autonomica/info_basica/2anaeco/iefaatt.html.* For earlier years, publication is on paper.

(6) Economic database of the Spanish public sector, offered by the Institute of Fiscal Studies online at *http://www.estadief.meh.es/bancodedatos/finanauto.html*

restrictions, which differed among the CCAA, meaning that the variable in those years loses part of its virtues. In short, we felt it preferable to use the source which offers continuous data between 1988 and 2009.

As for the independent variables, with regard to the regionalism variable which is the fundamental object of interest in this study, we constructed three scenarios. In scenario 1, we use a single dummy variable, *Regionalism*$_i$, with a value of 1 in the CCAA in which for most of the years in the period considered a regionalist party governed alone or in coalition (for the formation of government and/or investiture of the president) (the Basque Country, Catalonia, Aragon, the Canary Islands, Cantabria and Navarre), whether sovereignist or not.

In scenario 2, we distinguish two types of regionalism, with *Nationalism*$_{i,t}$ being a dummy with the value of 1 in those CCAA where, either alone or in coalition, a sovereignist party governed, as is the case in Catalonia and the Basque Country and *Nonsovereigntisregionalism*$_{i,t}$ for the remaining CCAA in which a non-sovereignist regionalist party normally governed (Aragon, the Canary Islands, Cantabria and Navarre). The historical sequence of government in those CCAA is as follows[7]:

- Basque Country: throughout the period, the PNV governed in coalition with: the PSE between 1988 and 1990, Euskadiko Esquerra (EE) in 1991, the PSE and EE between 1992 and 1994, the PSE and Eusko Alkartasuna (EA) between 1995 and 1997, EA between 1998 and 2001, and EA and Ezker Batua (EB) between 2002 and 2009.
- Catalonia: throughout the period, nationalist parties governed: CiU until 2003, and from 2003 to 2009 the tripartite coalition formed by the PSC, Iniciativa per Catalunya Verds (IC-V) and the nationalist Esquerra Republicana de Catalunya (ERC).
- Canary Islands: Canary Islands regionalist parties also governed in all the years, either in coalition with other regional parties or alone. From 1988 to 1991 Agrupaciones Independientes de Canarias (AIC), together with the CDS; from 1991 to 1993, AIC together with the PSOE; from 1994 to 1995 a coalition of three regionalist parties, AIC, Centro Canario Independiente (CCI) and Iniciativa Canaria Nacionalista (ICAN); and from 1996 to 2009, Coalición Canaria always governed (grouping together the parties mentioned above) together with the PP.
- Aragon: except between 1993 and 1995, when the PSOE governed, in the remaining years of the period considered the Partido Aragonés Regionalista (PAR) governed alone (1988-1989), in coalition with the PP (1990 to 1993 and 1995 to 1999) and participating in government with the PSOE (from 1999 to 2009).
- Cantabria: between 1988 and 1990 the PP governed alone and, following a turbulent period in 1990, in 1991 a coalition of the Partido Regionalista de Cantabria (PRC) transitorily governed together with the PP, PSOE and CDS. Between 1991 and 1994, Unión para el Progreso de Cantabria (UPC) gov-

erned in coalition with the PP, and from then on the PRC entered into government with the PP until 2003 and governed with the PSOE for the remaining years of the study.

– Navarre: although between 1988 and 1991 the Partido Socialista Navarro (PSN) governed alone, after that regionalist parties governed alone or in coalition. From 1991 until 1995, the Unión del Pueblo Navarro (UPN) governed alone; in 1995-1996 there was a coalition government agreement involving the PSN, Convergencia de Demócratas de Navarra (CDN) and Eusko Alkartasuna (EA); from 1997 to 2003 the UPN governed alone and, from 2003 onwards the UPN governed in coalition with the CDN.

In scenario 3, we add the variables *Integratedregionalism(Chaves)$_{i,t}$* and *Integratedregionalism (Fraga)$_{i,t}$*, which capture the influence of national leaders such as Manuel Chaves in the case of the PSOE, President of Andalusia from 1990 to 2009, for practically the whole period considered, and in the case of the PP, Manuel Fraga, President of Galicia from 1990 to 2005.

The control variables respond to political and non-political considerations. Those of a political nature are based on the idea that political factors affect the distribution of resources by central governments in the direction predicted by the theory of pork barrel politics, as stated. Consequently, we have included *Pivote$_{i,t,}$* a dummy variable with a value of 1 for those CCAA and during the years of the legislature in which two conditions are met: a regionalist party, in the broad sense of the term, voting in favour of investing the president of the government when he or she did not hold an overall majority, and when the regionalist party which supported the investiture governed alone or in coalition in the C.A. (autonomous community)[8].

Both conditions were fulfilled in the following cases: in the investiture of Felipe González on 9 July 1993, when the parliamentary group of the PSOE obtained 159 seats (a parliamentary majority requires 176 seats), and votes in favour were given by CiU and PNV, parties which governed in their respective CCAA; in the appointment of Aznar on 4 May 1996, when the parliamentary group of the PP obtained 156 seats and received support from CiU, the PNV and Coalición Canaria, whose parties governed their respective CCAA; and finally, in the investiture of José Luis Zapatero on 16 April 2004, when the PSOE obtained 164 seats and required the favourable vote of the BNG, ERC and Coalición Canaria, thereby fulfilling the second condition, that they governed in their CCAA in coalition.

A second political hypothesis of this type which we include concerns whether the ideological concurrence between the two levels of government, that is to say when the parties governing the nation and the CCAA are the same, has resulted in favourable treatment towards such CCAA. This effect is represented by two dummies, *PSOEPSOE$_{i,t}$* and *PPPP$_{i,t}$*, which take the value 1 when the same party occupies the

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(8) Including this variable is unusual in empirical estimations. However, it can be found in Solé-Ollé (2013). Artés and Bustos (2008) analyse the gains obtained by CiU with regard to the extent to which the electoral promises made for supporting the investiture of Felipe González in 1993 and José María Aznar in 1996 were fulfilled. It was clear that CiU becoming the pivotal party for the investiture of the central government proved beneficial for that party, in that there was notable compliance with their electoral promises.

national government and the regional government, regardless of whether the latter is governed alone or in coalition[9].

The non-political control variables have two justifications: on the one hand, they clarify the economic logic behind the distribution of resources due to cooperation agreements[10]. Rao (2000) calculates the income elasticity of transfers, regressing them with per capita GDP (in Napierian logarithms) in order to gauge the imbalance in the distribution of resources among the various regions[11]. Following Rao (2000), we include per capita GDP in constant euros (in logarithm) ($LNGDPpc_{i,t}$).

Moreover, given that the CCAA receive resources from the *Fondo de Compensación Interterritorial* (FCI) and from Structural Funds in order to achieve interterritorial rebalancing, there is the possibility that the territorial allocation of resources from cooperation agreements maintains a relationship of substitution or complementarity with the FCI and European Regional Development Fund (ERDF). In other words, discretionality in distribution might follow the pattern of complementing the funds obtained in this way by the CCAA or, by contrast, might serve to compensate those CCAA which do not receive FCI and ERDF funds by providing them with other substitute transfers. For this reason, we include the set of FCI and ERDF transfers received by each of the CCAA among the control variables in constant euros per capita (in logarithm) ($LNFCIFEDER_{i,t}$).

This latter reason is why the final control variable, the $Foral_{i,t}$ dummy, is included. As there are two systems of financing, the common and the *foral*[12], which differ enormously in their design and since the *foral* provides autonomous communities with per capita funding far in excess of the common system[13], it is logical that these discretionary transfers made via agreements, which are an additional resource, should be used at a minimum level (the essential sums of the resources of the agreements) in

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(9) When empirically testing the theory of pork barrel politics, it is common to introduce an ideological concurrence variable between the two levels of government. Some examples include Bungey, Grossman and Kenyon (1991), Worthington and Dollery (1998), Khemani (2007), Arulampalam *et al.* (2009), Solé-Ollé and Sorribas (2008), Gonçalves and Veiga (2013) or Gonçalves and Pinho (2007).

(10) The literature on fiscal federalism includes studies such as those by Martínez and Boex (1999), Brodjonegoro and Martínez (2002), Hofman and Cordeira (2004), De la Fuente and Gundín (2008) or Hierro, Atienza and Patiño (2010), which quantify the distributive effects of intergovernmental transfers, using statistical dispersion or even concentration index indicators.

(11) In Hofman and Cordeira (2004) and Hierro, Atienza and Patiño (2010), regressions are performed, firstly, between per capita tax resources and per capita GDP (in logarithms) and, secondly, between total per capita resources (aggregating transfers to tax resources) and per capita GDP, in order to test how the income elasticity of resources varies due to the inclusion of transfers.

(12) The *foral* regime basically consists of a pact between the state and these CCAA, through which the latter enjoy broad fiscal autonomy in the matter of national taxes, both in the regulatory capacity of taxes within general national fiscal regulations and in their management and collection. In exchange, these CCAA must transfer to the state a sum to finance the spending the state makes in their region. Consequently, it is a very different model to that of the common regime [see Zubiri (2007), Monasterio (2010) or De la Fuente (2011)].

(13) Thus, with reference to 2011 and to the total financing per inhabitant derived from the resources of the regional funding system, the Basque Country obtained 4,969 euros and Navarre 4,141.7, while the average of the remaining CCAA was 2,285.5 euros. Data were obtained from the Ministry of Finance and Administrations "Regional Treasuries in Figures", *www.minhap.gob.es/es-ES/Areas% 20Tematicas/Financiacion%20Autonomica/Paginas/haciendas%202005.aspx*.

the case of the *foral* CCAA. That is to say, it is reasonable for there to be a discriminatory treatment in a negative sense for the Basque Country and Navarre[14].

The data source of the FCI and ERDF is the Ministry of Economy and Finance (1986 to 2001) and the Ministry of Finance and Public Administrations (various years (b)). Regional GDP was obtained from the Regional Accounting of the Spanish Statistical Office (*Instituto Nacional de Estadística*, INE)[15]. In order to deflate to 1988 euros, we took the interannual variation rates of the general consumer price index according to the information from the INE[16].

Finally, the β_t are annual dummy variables included in the specification to control for the temporary shocks which affect all the CCAA simultaneously, thereby preventing them from being absorbed by our dummy variables which are the subject matter, and thus distorting the results.

3. Results

Table 1 presents the descriptive statistics of the 374 observations included in the econometric model of panel data. It should be clarified that for the non-dichotomous variables, those corresponding to values in level, not in logarithm, are presented.

Table 1: Descriptive statistics of the variables

	Variables	Mean	Standard deviation	Min.	Max.
Dependent variables	Agreements	16,0814	21,2258	0,0040	143,9521
	Regionalism	0,3529	0,4785	0	1
	Nationalism	0,1176	0,3226	0	1
Explanatory variables	Non sovereignist regionalism	0,2353	0,4247	0	1
	Integrated Regionalism (Chaves)	0,0535	0,2253	0	1
	Integrated Regionalism (Fraga)	0,0428	0,2026	0	1
Controls	Pivotal	0,0775	0,2678	0	1
	PSOEPSOE	0,3529	0,4785	0	1
	PPPP	0,2219	0,4161	0	1
	GDPpc	8.794,255	2.211,692	4.265,161	14.492,61
	FCIFEDER	28,3347	24,8803	0,0004	117,4073
	Foral	0,1765	0,3226	0	1

Source: Own elaboration.

Note: In the non-dichotomous variables (Agreements, GDPpc and FCIFEDER) the statistics of the series are presented in levels (euros per inhabitant to constant euros of 1988) and not in logarithms.

(14) See Hierro, Atienza and Gómez-Álvarez (2014).
(15) *http://www.ine.es/jaxi/menu.do?type=pcaxis&path=%2Ft35%2Fp010&file=inebase&*.
(16) *http://www.ine.es/ss/Satellite?L=0&c=Page&cid=1254735893337&p=1254735893337&pagename=ProductosYServicios%2FPYSLayout.*

All the estimations evidenced problems of heteroscedasticity, autocorrelation and contemporary correlation. Autocorrelation was detected by applying the Wooldridge test (2002) for autocorrelation of panel data, while contemporary correlation was revealed by applying the Pesaran test (2004). An attempt was made to resolve these problems by applying generalised least squares. Moreover, we confirm that the panels of the non-dichotomous variables are stationary by applying the Levin, Lin and Chu (2002), Im, Pesaran and Shin tests (2003), the Lagrange multiplier test of Hadri (2000), the Harris and Tzavalis test and Fisher-type tests, using an Augmented Dickey-Fuller (ADF) test and the Phillips and Perron (PP) test, proposed by Maddala and Wu (1999) and Choi (2001). For this reason, it was not necessary to perform an analysis of co-integration among the variables.

Table 2 presents the results of the three scenarios explained.

The results of the explanatory variables which are the subject of interest in this study show that if we integrate the two types of regionalism, sovereignist and non-sovereignist, in a single variable (*Regionalism*), this proves statistically significant and results in greater additional revenue (scenario 1). In turn, if we disaggregate the two types of regionalism, the existence of non-sovereignist regionalism in a CA can be seen to produce favourable asymmetrical treatment (between 73% and 74%, according to scenarios 2 and 3, respectively), while sovereignist regionalism (*Nationalism*) entails penalisation towards the CCAA in which this is present (50-51% below the average). On the other hand, regionalism integrated in national political parties is only statistically significant in the case of the presidency of Manuel Chaves in Andalusia, but with a result contrary to that expected, since it entailed 31% fewer resources for his CA than the national average.

In turn, among the remaining political factors considered, it can be affirmed that CCAA with regionalist parties benefited from having played a key role in certain terms of office with regard to ensuring the investiture of the national president; that is to say, due to their condition of pivots, although the variable is only statistically significant for scenarios 2 and 3. Similarly, we can observe that, for the period considered, ideological concurrence between the two levels of government significantly influenced the distribution of discretionary resources, but with one difference. In the case of concurrence with PSOE governments, the CCAA involved received between 29% and 46% above the average according to the scenario considered, while concurrence with PP governments meant the respective CCAA received between 21% and 26% fewer resources in this way.

Results also show that all the non-political control variables are significant, such that: resources followed a regressive distribution; that is to say, they benefited more those CCAA with a greater per capita GDP; a complementarity effect existed between the distribution of collaboration agreements and FCI and ERDF; and that the *foral* CCAA (the Basque Country and Navarre), received between 92% and 95% less from these resources than the average of the CCAA.

Finally, it can be observed that the coefficients of the annual dummies are all statistically significant, except for 1996. Thus, only in 1994 and 1995 are the coefficients negative, which means that only in these years did the CCAA receive on average fewer resources through cooperation agreements than the year which serves as the basis for the estimation, in other words, 1988. In the remaining years, more resources were received on average than in the base year.

Table 2: EXPLANATORY VARIABLES OF THE DISTRIBUTION OF DISCRETIONARY
TRANSFERS VIA COLLABORATION AGREEMENTS BETWEEN CENTRAL GOVERNMENT
AND THE AUTONOMOUS COMMUNITIES. 1988-2009

Variables	Scenario 1	Scenario 2	Scenario 3
Regionalism	0,3553***		
	(0,0583)		
Nationalism		-0,6991***	-0,7245***
		(0,0748)	(0,0789)
Non sovereignist regionalism		0,5460***	0,5543***
		(0,0689)	(0,0784)
Integrated Regionalism (Chaves)			-0,3651***
			(0,0750)
Integrated Regionalism (Fraga)			0,1837
			(0,1316)
Pivotal	0,0060	0,3651***	0,3682***
	(0,0837)	(0,0828)	(0,0855)
PSOEPSOE	0,2512***	0,3390***	0,3799***
	(0,0530)	(0,0483)	(0,0490)
PPPP	0,0226	-0,2325***	-0,2974***
	(0,0618)	(0,0676)	(0,0729)
LNGDPpc	0,4760**	0,9422***	0,9372***
	(0,2049)	(0,1999)	(0,2063)
LNFCIFEDER	0,0975***	0,1017***	0,1050***
	(0,0236)	(0,0239)	(0,0246)
FORAL	-2,6549***	-2,3632***	-2,3410***
	(0,2079)	(0,2183)	(0,2243)
CONSTANT	-3,2569*	-7,3531***	-7,3440***
	(1,8430)	(1,7984)	(1,8590)
YEAR 1989	0,1508***	0,1098***	0,1071***
	(0,0251)	(0,0242)	(0,0242)
YEAR 1990	0,2649***	0,2030***	0,2115***
	(0,0281)	(0,0266)	(0,0325)
YEAR 1991	0,4243***	0,3404***	0,3475***
	(0,0287)	(0,0271)	(0,0330)
YEAR 1992	0,1571***	0,0611**	0,0755**
	(0,0290)	(0,0279)	(0,0341)
YEAR 1993	0,3397***	0,2357***	0,2422***
	(0,0339)	(0,0325)	(0,0381)
YEAR 1994	-0,1509***	-0,2736***	-0,2655***
	(0,0315)	(0,0319)	(0,0387)

Table 2: EXPLANATORY VARIABLES OF THE DISTRIBUTION OF DISCRETIONARY
TRANSFERS VIA COLLABORATION AGREEMENTS BETWEEN CENTRAL GOVERNMENT
AND THE AUTONOMOUS COMMUNITIES. 1988-2009 (continuation)

Variables	Scenario 1	Scenario 2	Scenario 3
YEAR 1995	-0,3425***	-0,4710***	-0,4656***
	(0,0428)	(0,0421)	(0,0486)
YEAR 1996	0,0204	0,0885	0,1629**
	(0,0589)	(0,0571)	(0,0649)
YEAR 1997	0,3076***	0,3777***	0,4597***
	(0,0621)	(0,0594)	(0,0680)
YEAR 1998	1,0542***	1,0878***	1,1662***
	(0,0677)	(0,0663)	(0,0742)
YEAR 1999	0,9161***	0,9459***	1,0284***
	(0,0663)	(0,0629)	(0,0720)
YEAR 2000	1,0969***	1,1088***	1,1822***
	(0,0657)	(0,0629)	(0,0705)
YEAR 2001	0,9819***	0,9883***	1,0567***
	(0,0809)	(0,0798)	(0,0864)
YEAR 2002	0,6249***	0,6093***	0,6824***
	(0,0836)	(0,0819)	(0,0888)
YEAR 2003	1,2726***	1,2631***	1,3289***
	(0,0861)	(0,0845)	(0,0914)
YEAR 2004	0,9114***	0,6634***	0,6821***
	(0,0877)	(0,0879)	(0,0950)
YEAR 2005	1,3136***	1,0574***	1,0763***
	(0,0921)	(0,0920)	(0,0994)
YEAR 2006	1,7915***	1,5086***	1,5427***
	(0,0809)	(0,0820)	(0,0859)
YEAR 2007	1,9482***	1,6463***	1,6784***
	(0,0898)	(0,0900)	(0,0940)
YEAR 2008	2,2122***	1,9868***	2,0151***
	(0,0901)	(0,0884)	(0,0916)
YEAR 2009	2,1923***	1,9899***	2,0187***
	(0,0803)	(0,0785)	(0,0813)
Wald χ^2	70.735,71	78.582,30	81.585,30
P-value	0,0000	0,000	0,0000

Source: Own elaboration.

Note: Standard errors in parentheses. *, **, ***: significance to 10%, 5% and 1% respectively.

Note: Base year in the estimation of annual dummies: 1988.

4. DISCUSSION

Firstly, the results from scenario 1 make it clear that, overall, regional protest generated additional profitability for the CCAA in question in the sense that the central government appears to have used asymmetrical treatment as a pacifying mechanism. In other words, persistent demand for more self-government led the central government to disburse asymmetrical treatment, as predicted in previous theoretical studies.

However, when we distinguish between regions which have nationalist parties and those with regionalist non-sovereignist formations, a clear difference emerges, since now, in the case of the nationalism variable, the coefficient has a negative value, while for the non-sovereignist regionalism variable it takes a positive value. This occurs in the two scenarios considered. This behaviour allows us to empirically demonstrate the theoretical forecasts of Treisman (1999). Indeed, as Treisman predicts, the absence of radicalism, that is to say what we term non-sovereignist regionalism, favours asymmetrical treatment by the central government in favour of the region where that non-sovereignist regionalism is located, whereas more radical nationalism which stirs antipathy towards the central government, suffers monetarily as a result. From this result, one can deduce a kind of gradualism vis-à-vis the extent to which regionalism proves profitable, such that electoral support for regionalist ideas is beneficial for regions in financial terms, provided that such regionalist ideas do not become sovereignist or advocate secession. However, when taken too far and when they cross the line and arouse voter aversion towards the state and, by extension, the central government, the latter reacts by sanctioning the region in order to prevent destabilisation of the system.

In turn, if we relate the result obtained by the non-sovereignist regionalism variable to the *Pork Barrel* variables, it could be inferred that this kind of regionalism proved even more profitable than political concurrence between central and regional government, since when such concurrence appears with a PSOE central government, favourable treatment is much lower than that obtained by regionalism. When the central government is PP, regions with governments of the same hue even end up losing resources (between 21% and 26%).

Another interesting aspect to consider concerns the coefficients estimated for the pivot variable. When we consider regionalism as a whole (scenario 1), the variable is not statistically significant. Nevertheless, when we separate non-sovereignist regionalism from nationalism, it proves significant in the sense that it increases the resources with regard to the national average in CCAA where a regionalist party proved decisive in the investiture of the national government president. This result coincides with the proposal of Brancati (2008), namely that the potential impact of regionalism is amplified with representation in the central chambers and the subsequent decisive power when investing the national government president.

With regard to what we term integrated regionalism, and which we represent through two variables for the regional governments of two national political "heavyweights", such as Manuel Chaves (PSOE) and Manuel Fraga (PP), as can be observed, the presence of these figures at the head of their CCAA did not result in a significant positive coefficient. Thus, it cannot be concluded that their influence proved instrumental in the agreements. Indeed, in the case of Manuel Chaves's term as pres-

ident, fewer resources than the national average were obtained. Needless to say, when their party is in government, these figures can influence government action through other more important channels such as statutory reforms or reforms of the financing system, transfer of powers, etc. They could also exert this regionalist influence by proposing the appointment of ministers and high-ranking posts who could in turn make their influence felt through other channels. In other words, this particular aspect requires further study, which lies outside the scope of our objective.

From these latter considerations it follows that, given that this study offers an initial approach to the empirical exploration of possible revenue from regionalism, it opens up possibilities for a new line of research. In the same way as we have empirically obtained an estimation of revenue for regionalist protest in terms of cooperation agreements for the period considered, we could calculate the effects of other financial relationships between CCAA and government as well as other expenditure and revenue items contained in the central administration budget in order to ascertain the overall size of the revenue obtained. This is important because, as agreements constitute a secondary aspect of the financial relationships between the two levels of government, the revenue obtained through this channel might be offset or increased by other concepts, thereby altering the direction of our conclusions. In sum, we understand that the present study opens up future research strands which have only previously been explored theoretically, and which might be addressed empirically following the framework proposed here.

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RESUMEN

El objetivo de este trabajo es determinar empíricamente en qué medida el ejercicio de la protesta continua por parte de los partidos regionalistas puede producir rentas para sus territorios. Para ello realizamos una estimación econométrica utilizando como variable dependiente los convenios de colaboración entre el Gobierno de España y las Comunidades Autónomas. Testamos nuestra hipótesis aplicando por analogía las especificaciones econométricas utilizadas en los trabajos sobre *Pork Barrel Politics*, incluyendo variables de control referidas a nivel de renta por habitante, los regímenes de financiación autonómica, variables de tipo político como el apoyo a gobiernos autonómicos del mismo partido político o la existencia de partidos pivote. Los resultados corroboran las conclusiones teóricas de Treisman (1999) de que el regionalismo no soberanista genera rentas mientras que el nacionalismo o regionalismo soberanista provoca como reacción un trato desfavorable por parte del Gobierno. Asimismo, el hecho de que un partido regionalista sea decisivo en la investidura del Presidente del Gobierno conlleva incluso mayores rentas al territorio en cuestión, lo cual coincide con los resultados previstos por Brancati (2008).

Palabras clave: regionalismo, federalismo asimétrico, Hirschman, pork barrel.

Clasificación JEL: H77, D74, D72, D78.