



De-agentification Process in Spanish Regional Governments

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Abstract

The aim of the present paper is to explore the effect that the de-agentification process implemented by the Spanish government has had on public expenditure since 2010. Specifically, we analyse the effect of the actions carried out on the number of public agencies. Our sample is composed of a set of data from 17 Spanish Regional Governments in the period 2003-2017. Based on panel data estimations, the findings show a significantly positive association between the number of public agencies and public expenditure. Therefore, these findings extend the debate about the potential benefits for government concerning the creation of public agencies.

Keywords: De-agentification, Public agencies, Public expenditure, Spanish Regional Governments.

JEL Classification: H5, H6, H7.

1. Introduction

Efficiency pressures in the public sector have been intensified since the global financial crisis (Elston and MacCarthaigh, 2016). The main aims sought are an increase of effectiveness and equity in public sector actions, a reduction of administrative costs, a growth of transparency and accountability, a rise of the responsabilisation of the providers of services and the introduction of market-based mechanisms. Different actions have been developed which have had important functional, organisational and institutional consequences, given that the crisis has highlighted some problems related to the structure and the efficiency of the pub-

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lic sector (Bolgherini, 2014; Bolgherini, 2015; García *et al.*, 2019; Kamkhaji and Radaelli, 2013; MacCarthaigh, 2014). Among these measures, those aimed at reducing the size of the public sector stand out, either re-centralising public administrations¹, regrouping territorial entities –provinces, local governments, etc.– eliminating public bodies or reducing staff. In this sense, the termination of quasi-autonomous non-governmental organisations (hereinafter: quangos), agencies, public firms and other organisms² has been one of the strategies of administrative rationalisation applied in the wake of the global financial crisis (Bolgherini, 2014; MacCarthaigh, 2014).

Since 1980 there has been an increase in the number of quangos in the countries that applied the postulates of New Public Management (hereinafter: NPM) (Van Thiel, 2004). These quangos were created with the aim of reducing the rigidity of bureaucracies, avoiding the surveillance exerted by financial and administrative comptrollers, abandoning the public and administrative regulatory framework, favouring a greater managerial initiative and increasing the relevance of citizens, seen in terms of stakeholders (Alonso *et al.*, 2015; Hood, 1995; MacCarthaigh, 2014). This was meant to increase the flexibility of the management of the public administration and save costs (Alonso *et al.*, 2015; Hood, 1995; Laking, 2005; MacCarthaigh, 2014; Óngaro *et al.*, 2006; Osborne and Gaebler, 1992; Park, 2013; Peters *et al.*, 2011; Pollitt and Bouckaert, 2000). This process is known as agentification (Flinders and Smith, 1998). More recently, however, in the wake of the global financial crisis and suddenly faced with an enormous budgetary deficit, quango rationalization became a financial rather than an administrative modernisation issue (Dommett and MacCarthaigh, 2016). This process is known as de-agentification (RandMa-Liiv *et al.*, 2011). In this context, rationalisation is generally interpreted as an overall reduction in the population of agencies, mainly (though not exclusively) through the termination of existing organisations (MacCarthaigh, 2014).

Particularly, Spain, as a member country of the European Union, has transferred all the requirements of the Pact of Stability and Growth to its legal regulation via the reform of article 135 of its Constitution and its development in later laws of Budget Stability and Financial Sustainability. The majority of policies adopted by Spain in the period 2010-2012 aimed at controlling a growing budget deficit (Gil *et al.*, 2019; Martí and Pérez, 2015).

Thus, the main objective of the present paper is to explore the effect that the de-agentification process implemented by the Spanish government has had on public expenditure since 2010. Although, the reform has affected a diverse set of public factors, we specifically analyse the effect of the actions carried out on the number of quangos. This is an important issue for regulators and governments. Moreover, as an additional objective, this paper provides an analysis of the effect of the creation of quangos on public expenditure.

Our sample is composed of 17 Spanish Regional Governments³ (hereinafter: CCAA) from Spain for the period 2003 to 2017. This sample provides a particularly interesting scenario because, on the one hand, Spain is the fifth economy of the Eurozone and it has been one of the countries most affected by the economic crisis (Gallego and Marx, 2017) and, on the other hand, the Spanish state is highly decentralised⁴ with large vertical imbalances where the CCAA generate 30% of public expenditure and they have increased the number of quangos

that depend on them (Fernández and De la Casa, 2016). In fact, they have become the main agent of public spending in Spain because they have assumed many responsibilities in health and education (Fernández and García, 2013; García *et al.*, 2019). Moreover, as a consequence of these responsibilities and their needs to increase financing it is very relevant to know if public expenditure has been assigned efficiently (García *et al.*, 2019). Thus, the CCAA are key actors in ensuring the sustainability and inclusiveness of the reforms (OECD, 2016).

Our results point to a positive association between the number of quangos and the public expenditure. In spite of NPM considering that the creation of quangos should save public expenditure, our findings contradict this argument. This is a relevant issue since quangos were created to save costs and improve public sector performance. However, in Spain these agencies do not seem to reduce government expenditure. Therefore, one of the main contributions of this paper is the empirical evidence obtained in relation to these agencies not managing to reduce public expenditure. On the other hand, from 2010 the Spanish Government has implemented several measures to reduce public expenditure. Among others, these policies have been the reduction of the number of CCAA quangos. Our results confirm the efficiency of this policy. This evidence contributes to the public administration literature by extending the debate concerning whether the implementation of measures proposed by NPM achieves a reduction of public expenditure as could be thought when it was created. Moreover, it is a relevant issue for governments and regulators because they have the capacity to make decisions in order to ensure the efficiency of the public sector.

The structure of the paper is as follows. The next section reviews the theoretical framework and formulates the main hypotheses. Section 3 explains the sample, the variables, and the method employed in the empirical analysis. Section 4 reports the main results and provides a discussion of these findings. The final section summarises the main conclusions of our study.

2. Theoretical background

2.1. Agentification

Neo-institutional economic theories, such as principal agent and transaction cost economics, are used to arguing why agentification would lead to improved public sector performance since it would drive towards specialised and expert public services which could improve quality and efficiency in the public sector (Peters *et al.*, 2011; Overman and Van Thiel, 2016; Van Thiel, 2004).

After years of applying NPM, different authors have posed the matter and questioned that the measures of reducing the size of the public sector (outsourcing, decentralisation and agentification) have generated cost savings for the public sector (Delgado *et al.*, 2019). In this sense, Alonso *et al.* (2015) consider that if outsourcing or externalisation is associated with a reduction of public expenditure in its first periods, with the passing of time these positive effects are fundamentally neutralised by the increase in the prices that private firms charge public bodies.

James and Van Thiel (2013) consider that decentralisation prevents public administrations from benefitting from economies of scale, and also generates a loss of coordination between the different levels of government, causing duplicities and, ultimately, increasing costs.

On the other hand, there are those who consider that agentification is a complex and multidimensional process which does not guarantee greater levels of efficiency because it involves, among others, the following risks: perceptions of reduced transparency, an increased fragmentation, and duplication, a loss of control of agency operations, an abrogation of political accountability, an evasion of general rules for staffing and budgets, and an exposure of government to financial and employment risks (Smoke, 2003; 2015). Specifically, for LGs, Zafra *et al.* (2013) state that those which decentralise their services to agencies have worse levels of financial performance and if, moreover, they have not established the necessary control mechanisms, the agencies can bring about significant increases of the debt level (Christensen and Laegreid, 2015). In this sense, Delgado *et al.* (2019) for a sample of Spanish regions in the period 2002-2018 find a positive association between outsourcing and public expenditure, therefore externalisation can compromise the efficiency of the public sector.

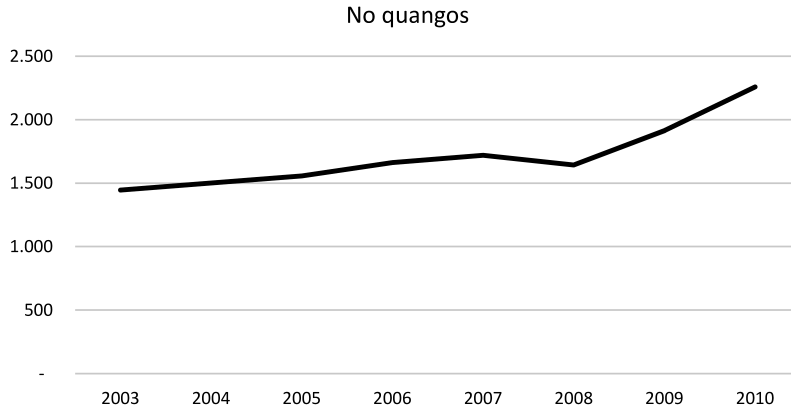
Concretely, all the territorial levels into which the Spanish state is divided have resorted to the creation of instrumental bodies that have had diverse names and configurations (autonomous organisms, business agencies, public enterprises, public law bodies submitted to private laws, etc.). The regulation of the structure and composition of the public administration has been the aim of different norms of a diverse nature throughout recent years, both at the state and the autonomous and local levels. In the case of the State, the last reform is the publication of the Law 40/2015 of the legal system of the Public Sector in which it is established (art. 2) that this will be made up of: (1) the General Administration of the State, (2) the Administrations of the CCAA, (3) the Entities which make up the Local Administration and (4) the institutional public sector. Meanwhile, the institutional public sector will be composed of (art. 84): (1) whatever public organisms and bodies of public law, (2) the bodies of private law linked with or dependent on the Public Administrations which, in any case, have administrative powers, (3) the public Universities which will be governed by their specific norms and additionally by the Law 40/2015.

In the case of the CCAA, as each has been assuming competences transferred by the central government, an increase in the number of quangos has been noted (Fernández and De la Casa, 2016; Fernández and García, 2013). Thus, between 2003 and 2010, which could be called an agentification period, there was a 58% increase in the number of CCAA quangos (see Figure 1).

In line with previous arguments, the increase of efficiency and cost savings were, among others, the reasons which justified the creation and proliferation of the number of quangos. Yet because of the growth in their number, quangos have caused an increase of workers and, consequently, the salary cost that is brought about by creating them (MacCarthaigh, 2014; Óngaro *et al.*, 2006; Park, 2013), which in turn raises public expenditure (Hernández and Pérez, 2015). Therefore, the following hypothesis is formulated:

H1: Changes in the number of quangos generate changes in public expenditure in the opposite sign.

Figure 1
NUMBER OF CCAA QUANGOS THROUGHOUT THE AGENTIFICATION PERIOD



Source: Own elaboration.

2.2. De-agentification process

Since 2007 the economies of the European countries have faced, to a greater or lesser extent, the negative effects of the economic crisis and pressures related to efficiency in the public sector have been intensified. In this sense, García *et al.* (2019) reveal that in Spain the recession has produced a reduction in the efficiency of the CCAA. Thus, to mitigate the effect of the economic crisis and seeking significant cost savings, governments have lowered budgets and have raised the demand for public services (Elston and MacCarthaigh, 2016).

All of this has led to a review of the public spending level in the European context. Mainly, two action lines have been implemented to decrease this:

- a) Reduction of the size of the public sector. The measures taken go from the definitive elimination of some bodies to a remodelling or restructuring of the existing ones. It is interesting to observe how such an enthusiasm for agentification has gradually given way to centralisation and loss of agency autonomy (RandMa-Liiv *et al.*, 2011).
- b) Increase of the efficiency of the public bodies. To do so, actions are carried out aimed at, among others, reducing the levels of corruption, modernising organisational structures, implementing and development *e-government*, fostering the centralisation of purchases, increasing the quality in the services provision, and reducing duplicities and redundancies.

In the European context, Table 1 describes the measures implemented by some European governments to: (1) modernise the public sector, (2) reform the territorial structure and institutional administrations in order to reduce the size of public sector, (3) and cut public expenditure.

Table 1
MEASURES IMPLEMENTED TO REDUCE PUBLIC EXPENDITURE BY SOME EUROPEAN COUNTRIES

Measures	Spain	U.K.	France	Greece	Italy
Austerity measures		*			*
Increase the flexibility in labour organisation			*		
Percentual increase in public services costs that the users must bear		*			*
Reduction in public investments		*		*	*
Reduction of public employment, tighter rules for temporary staff, cancellation of vacant job post and reallocation of staff to priority areas		*	*	*	*
Enacting rules for the non-replacement of people who retire		*		*	*
Extension of working hours (public employments)		*			*
Reduction of public salaries and public pensions		*	*	*	*
Reduction in municipal services		*			*
Cuts in operational and staff public costs		*	*	*	*
Rationalisation of organisational structure			**a	*	*
Reorganising local and central government, increasing the role of urban agglomerations and reduction of small LGs					
Procedures simplification		*	*	*	*
Outsourcing/Privatisation		*	*	*	*
Increase of the efficiency of the public bodies			*	*	*
Reinforcing the compliance of accounting standards					
Digital transformation and introduction of E-government tools		*	*	*	*
Introduction of an expenditure control system		*	*	*	*
Improving aspects of transparency, accountability, efficiency and costs		*	*	*	*
De-agentification		*	*	*	*
Reduction of companies directly owned by LGs, Regions or States through cessations, mergers, liquidations and corporate transformations		*	*	*	*

^a Yet, four years after the Law 27/2013 we can basically say that its implementation has been minimal (Bolgherini, 2015). There has still not been action on regrouping the local bodies or even on the elimination of some others, such as the Provincial Governments and Associations (Bolgherini, 2015). In this respect, it is to be pointed out that Spain has not opted for a massive decrease or a forced regrouping in other bodies of a greater territorial area as has taken place in countries such as Greece or Italy (Sánchez, 2014). (Bolgherini, 2014; Boto, 2015a; Buglione *et al.*, 2013; Cabinet Office, 2015; Deloitte, 2015; Foschi and Tagliabue, 2012; Gil *et al.*, 2019; Lampropoulou, 2018; Marti and Pérez, 2015; Monogios *et al.*, 2016; OECD, 2016; Ramos *et al.*, 2014; Salmon, 2017; Verney and Bosco, 2013; Zahariadis, 2016).

Meanwhile, the measures adopted by Spain to reduce public expenditure are similar to those adopted in European countries (Martí and Pérez, 2015; Gil *et al.*, 2019; Salmon, 2017; Viver, 2010):

- a) Stimulus measures and structural reforms have been introduced by the Central Government with the aim of restructuring diverse sectors of the economy to ‘improve the economic efficiency of Spain’ that should ‘accelerate the updating of the production model’ and lead to ‘a new step in the modernisation of the Spanish economy’:
 - i) The ‘Spanish Plan to Stimulate the Economy and Employment’ approved by the state government in 2009.
 - ii) The labour reform was approved first by the government law-decree dated June 16th 2010 and finally by the law dated September 9th 2010. The main goals of this reform are to lower the cost of indemnification for dismissed workers, to make dismissals easier and to reduce the differences between permanent and temporary work contracts.
 - iii) Three measures have been implemented in the realm of Social Security Funds: the freezing of pensions during 2010 and 2011, the postponement of the retirement age from 65 to 67, and a lengthening in the contribution period taken into account when calculating pensions.
 - iv) Regarding the financial systems, it has forced them to merge, making economic aid contingent upon merging and threatening to intervene if they do not do so, and they are expected to exercise their financial activity in a way quite similar to banks while maintaining—at least partially—their character as foundations that pursue social goals.
- b) Austerity measures were adopted to reduce the public deficit and the public debt. These include a wide range of measures that the state began to adopt in early 2010. In 2010 the article 135 of the Constitution was reformed in order to limit the level of public debt and public spending and in 2012 the law of Budget Stability and Financial Sustainability was passed.

Later, in 2012, the Commission for the Reform of the Public Administrations was created for the specific design of measures with the goal of improving the efficiency and effectiveness of public activity, without undermining the quality of the services provided (hereinafter: CORA). CORA elaborated a report in June 2013 with 138 measures whose target was the improvement and simplification of the functioning of the public administrations (CORA, 2013; Martí and Pérez, 2015). The Office for the Execution of the Reform of the Administration was created in 2013 to carry out, boost and follow-up these measures.

In addition, from December 2009 until July 2012 a set of fiscal measures was adopted to increase taxes (Gil *et al.*, 2019). Concretely, it produced significant increases in personal income tax, corporate income tax, and value added tax, as well as the suppression of a large number of deductions (Gil *et al.*, 2019). Some of this fiscal policy had effects until the years 2013-2014, after the economic recovery. Regarding fiscal policies in Spain, Martí and Pérez

(2015) consider three phases: (i) 2008-2009, the aim of the counter-cyclical measures implemented was public revenue-decreasing and spending-increasing; (ii) 2010-2011, the first stage of the consolidation of the fiscal process; (iii) 2012, the second stage of the fiscal consolidation process, several number of structural fiscal reforms were implemented during this period.

As Spain is territorially decentralised, some measures exclusively affect the Central Administration, while others are targeted at the CCAA and LGs. However, a second basic feature of these measures is the almost absolute preeminence and leadership of the State over the CCAA and LGs. This phenomenon is common to the majority of other decentralised states and to the majority of preceding economic crises, and in fact it is endorsed by one sector in the theory of fiscal federalism. The state's leadership role can be seen in both the economic volume of the measures adopted and in the direction and coordination of the process for the stimulus, austerity and structural reform measures (see Table 1) (Viver, 2010; CORA, 2013; OECD, 2016; Salmon, 2017). However, some measures promoted by the Central Administration were applied in a lax manner by the CCAA in spite of the mechanisms adopted by the Central Government (Martí and Pérez, 2015).

Focusing on the process of de-agentification at the Central Government, the Law 40/2015 plans to rationalise, organise and simplify the state, foundational and business public sector and reform the regulation applicable⁵ and means to keep only the bodies necessary for carrying out the functions legally entrusted to the public sector. It therefore eliminates those specialised figures that, without much justification, encouraged the exception of the application of administrative controls which must exist in all public actions (Boto, 2015). It introduced a regime of transformations and mergers of public organisms of the same legal nature for the state public sector, either via their extinction or integration into a new public organism, or via their absorption by another one that already existed.

For their part, the CCAA and the Government of Spain signed a first agreement in 2010⁶, concerning the sustainability of public finances for the 3-year period 2010-13. The approval of a plan of rationalisation of the structures of their general administrations and business public sectors that, with the intention of improving efficiency and reducing public spending, will lead to the dismantling, recasting or restructuring the organs which are necessary (Agreement 1/2010, Council of Tax and Financial Policy).

Following this first agreement, and to continue advancing in the commitments of reorganising the public sector, a second agreement was adopted in January 2012.

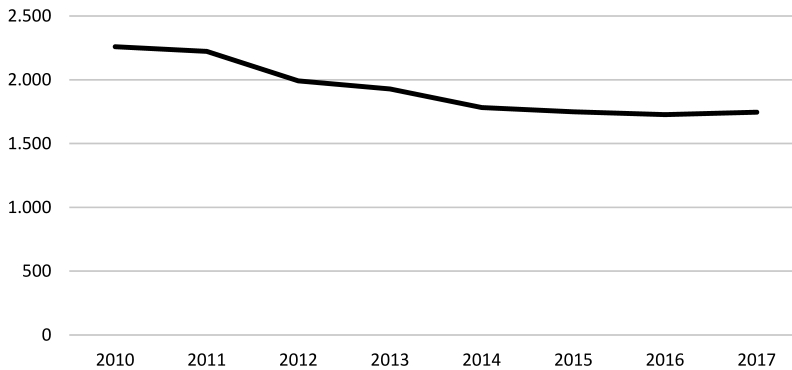
Figure 2 shows the evolution of the number of quangos by CCAA. They have experienced a considerable reduction from 2010.

In order to go more thoroughly into the reforms, in 2018 a Strategic Plan for the promotion and transformation of public administration was designed, which proposed as strategic objectives:

- a) The digital transformation of public administration.
- b) A boost of public governance.

- c) An open government strategy and improvement of transparency.
- d) An improvement and modernisation of public employment.

Figure 2
NUMBER OF CCAA QUANGOS THROUGHOUT THE DE-AGENTIFICATION PERIOD
No quangos



Source: Own elaboration.

As a result, one of the measures implemented by countries to decrease public expenditure has been de-agentification, as it is presumed that the dismantling of quangos will generate important cost savings (Carpenter and Lewis, 2004; MacCarthaigh, 2014; Nakrosis and Budraitis, 2012; Sarapuu, 2012). Nonetheless, the results in countries such as Italy have not been in this sense (Cabinet Office, 2015; Deloitte, 2015). Based on this, the following hypothesis is established:

- H2: Changes in the number of quangos as a result of the process of cost reduction generate changes in public expenditure in the same sign.

3. Sample, variables and methodology

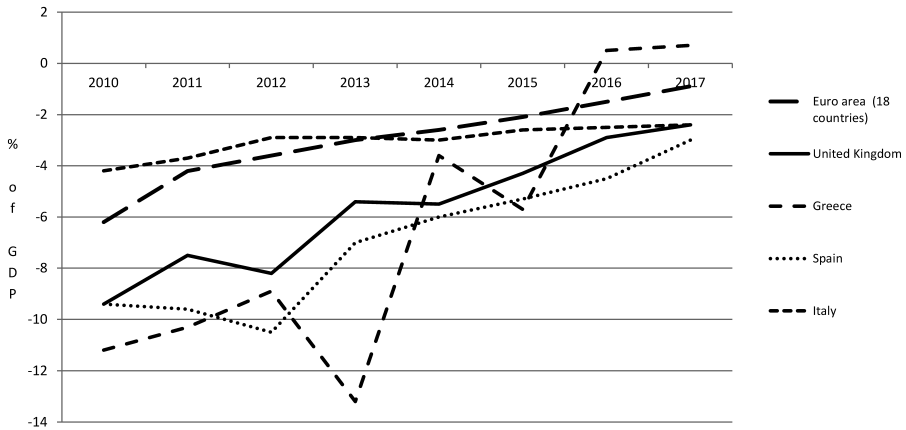
3.1. Sample

Spain, Ireland, Greece and Portugal have been the countries of the European Union in which the economic crisis has had a greater negative impact (OECD, 2016; Gallego and Marx, 2017). This is shown by the levels of deficit reached, among other matters (see Figure 3). The deficit of the whole of the Spanish public administrations reached its maximum (-11 percent of GDP) in 2009, maintained these levels until 2012 and from then began to decrease. In 2017 it was around -3.1 percent of the GDP. In all these years this deficit has been above that of the average of the Eurozone.

Given the highly decentralised nature of the Spanish state the CCAA are key actors in ensuring the sustainability and inclusiveness of the reforms (OECD, 2016). Concretely, within the

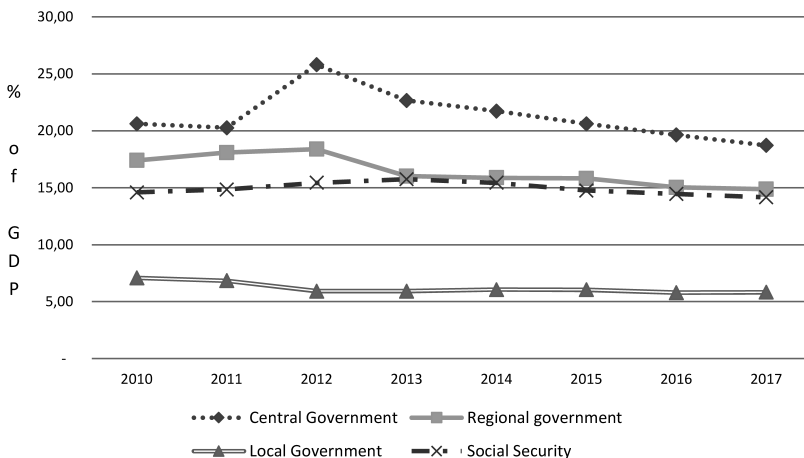
whole public sector, the general administration subsector is what generates greater figures of public expenditure –around 37 percent– followed by the CCAA subsector –around 30 percent– the Social Security Funds –around 23 percent– and lastly the LGs –around 11 percent (see Figure 4).

Figure 3
GENERAL GOVERNMENT DEFICIT/SURPLUS



Source: Eurostat, 2018.

Figure 4
NON FINANCIAL EXPENDITURE BY SPANISH PUBLIC SUBSECTORS



Source: IGAE, 2018.

Thus, the study employed panel data for the period 2003 to 2017 and this is composed of 17 CCAA from Spain with a total of 240 observations. To implement this approach towards evaluation, we collected data from a number of available public sources of information (see Table 2).

Table 2
DESCRIPTION OF THE VARIABLES EMPLOYED IN THE EMPIRICAL APPROACH

Data	Measure	Source
Total Public Expenditure	Non-financial expenditure	Intervención General de la Administración del Estado (IGAE) http://www.igae.pap.minhfp.gob.es/cjgae/Anual.aspx
Quangos	Number of Quangos	Reports on the autonomous public sector. Ministerio de Hacienda y Administraciones Públicas (2008 a 2016) http://serviciostelematicos.minhfp.gob.es/ISPANET/InformesSectorPublicoAutonomico.aspx Inventory of Public Bodies http://www.minhfp.gob.es/es-ES/CDI/Paginas/Inventario/Inventario.aspx
Wage compensation of public employees	Public salaries used per CA (Section D.1.p)	Intervención General de la Administración del Estado (IGAE) http://www.igae.pap.minhfp.gob.es/cjgae/Anual.aspx
Government employees	N° public employees per CA	Banco de España https://www.bde.es/webbde/es/estadis/infoest/bolest13.html
Public debt	Debt according to the Protocol of Excessive Debt (PED) per CA	Intervención General de la Administración del Estado (IGAE) http://www.igae.pap.minhfp.gob.es/cjgae/Anual.aspx
Unemployment	N° unemployed	Labour force survey. Instituto Nacional de Estadística http://www.ine.es/dynt3/inebase/es/index.htm?padre=990andcapsel=994
Working-age population	Working age population	Instituto Nacional de Estadística http://www.ine.es/jaxiT3/Tabla.htm?t=9681andL=0
Population	N° inhabitants CA	Instituto Nacional de Estadística http://www.ine.es/jaxiT3/Tabla.htm?t=9681andL=0
GDP	GDP	Regional Accounts. Instituto Nacional de Estadística http://www.ine.es/dyngs/INEbase/es/operacion.htm?c=Estadistica_Candido=1254736167628andmenu=resultadosandidp=1254735576581#

3.2. Variables

First, we have to define the concept of the Public Sector. To identify the units which are included within the sector of the public administrations we have adopted the methodological criterion of institutional classification established by the European System of National and Regional Accounts of the European Region (hereinafter: SEC 2010)⁷. The Public Administrations sector (S13) includes producers not in public markets, irrespective of their legal form (administrative organs of the different levels of government, other public organisms, foundations, agencies, trading companies which are institutional units and sell their production at prices that do not cover 50 percent of the costs of production, instrumental societies which do not carry out a genuine economic activity, and consortiums). In turn, this is subdivided into different subsectors: S1311-State, S1312-CCAA, and S1313-LGs.

In this work financial and non-financial measures are incorporated to quantify the size of the public sector of the CCAA (Mink, 2004). The measures chosen reflect the role played by the public sector in its action: generator of spending, borrower and employer (Peters and Verrinder, 2004).

The main dependent variable of the study aims to capture the total public expenditure ('Government expenditure'). In accordance with previous studies, this variable is calculated by the ratio of total public expenditure to total population (Cai *et al.*, 2018; Rahman, 2008).

There is not a single statistical measurement generally accepted to quantify public expenditure. One of the most used, for its easy access, is that which is determined from the information contained in the liquidations of the public administrations' budgets (Domínguez and Rueda, 2005; Dublin *et al.*, 2004). Taking into account the diverse nature of the concepts included in the budgets, public expenditure can be quantified including all of them or only some (Mink, 2004):

- Total public expenditure, which includes current expenditure, capital expenditure, transfers and borrowing operations. This has the inconvenience that it includes borrowing accounts, which are not properly measures of public expenditure.
- Non-financial public expenditure, which only includes current expenditure, capital expenditure and transfers. This therefore leaves aside expenditure related to financial assets and liabilities. This really does not represent items of expenditure, but acquisitions and disposals of financial assets and liabilities that serve to finance expenditure.
- Non-financial public expenditure without transfers. Thus defined, it only includes current expenditure and capital, excluding transfers as, in its role of producer, the size of the public sector does not need to include them, given that they do not affect it (Pigou, 1947).

Notwithstanding, all these variables are determined based on the data extracted from the different budget liquidations which, in the Spanish case, only the administrative bodies elaborate. Therefore, it would be incomplete as it does not include the expenditure of agencies, quangos, public firms, etc.

That is why to measure public expenditure in this work we have chosen the variable ‘Non-Financial Expenditure’ (hereinafter: NFE) of subsector S1312 of the CCAA that the SEC 2010 supplies, which does include the expenditure of the quangos⁸.

On the other hand, the main explanatory variable employed in the study, proxying the impact of the expenditure review, is defined as the number of agencies and public organisations of each CCAA, included in the Inventory of Public Bodies (‘Quangos’). Quangos were created to control or reduce public expenditure. However, as has been explained before, there is not enough evidence about the efficiency of these agencies. In this sense, the main objective of this paper is to contribute to clarifying the real function of quangos in the public sector. Therefore, we have considered the number of quangos as the main independent variable because we try to explain some factors that are associated with public expenditure.

Based on the previous literature (Alonso *et al.*, 2015; Hoffmann, 2004; Peters and Verrinder, 2004; Sala, 2013), we control for several variables that are felt to be related to government expenditure: salary and the number of public employees, leverage, unemployment rate, and a time variable. First, the salary of government employment (‘Salary’) is calculated as the ratio of salary of total public employees to the GDP (Alonso *et al.*, 2015; Hoffmann, 2004; Peters and Verrinder, 2004). Second, public employees (‘Government employment’) have been calculated as the ratio of government employees to the working-age population (Hoffmann, 2004; Mink, 2004; Peters and Verrinder, 2004). Meanwhile, leverage (‘Leverage’) is calculated as the ratio of public debt to GDP. In addition, we consider the unemployment rate (‘Unemployment’). Finally, in Spain the economic crisis has produced new regulatory controls of the CCAA (Sala, 2013) which have been included in the cost reduction process. Thus, to consider the process of de-agentification and test our research hypotheses we have included in the empirical model a dummy variable to capture the effect of the period of cost reduction (‘Level shift 2010’). This period started in the year 2010, therefore, this variable takes the value 1 from the period 2010-2017 and 0 otherwise.

3.3. Empirical model

To test the hypotheses formulated, we employed a fixed effect panel data estimation model for the regression analysis with Public Expenditure as the dependent variable. A panel data approach allows us to effectively control for possible unobserved heterogeneity (i.e., the existence of time-invariant explanatory variables which are not observed but correlated with the observed explanatory variables). Therefore, within-firm changes are used to explain variations in the dependent variable (Coles *et al.*, 2008). The general model used to test our first hypothesis is presented in Equation 1:

$$\begin{aligned} \text{Government expenditure}_{i,t} = & \beta_0 + \beta_1 \text{Quangos}_{i,t} + \beta_2 \text{Salary}_{i,t} + \\ & \beta_3 \text{Government employment}_{i,t} + \beta_4 \text{Leverage}_{i,t} + \beta_5 \text{Unemployment}_{i,t} + \\ & \beta_6 \text{Level shift 2010}_{i,t} + \varepsilon_{it} \end{aligned} \quad (1)$$

where β_0 is the intercept and β_i is the coefficient of each independent variable. The sub-index i identifies the individual, and the sub-index t identifies the time and ε_{it} , the error term.

Moreover, to verify H2, interaction tests were performed to explore the moderating effect of the period of expenditure review on the overall government expenditure. These analyses were run as two-way interactions and the variables were centred at their within-firm means, which control for the unobserved time-invariant characteristics of firms (Banalieva *et al.*, 2015).

According to Simon-Cosano *et al.* (2014), another statistical technique is applied as a robustness test: Panel Corrected Standard Errors (PCSEs). This estimation to handle a possible contemporaneous correlation of the errors (i. e., being correlated across trusts within the same time period) and heteroscedasticity (i. e., having unequal variances across the different CCAA subsets).

4. Results and discussion

4.1. Descriptive statistics

The number of CCAA quangos grew until 2010. This growth can be explained by the process developed by Spanish Government to transfer responsibilities to the CCAA, which led to an increase in the number of public enterprises (Fernández and García, 2013). From 2010 the number of quangos decreased because the measures of rationalisation of the autonomous public sector began to be implemented and a decrease was noted (see Table 3). From then, they started to go down and this reduction is most accentuated in 2012 (10.36 percent). In the last years we can speak of a quasi-stability in the figures. However, an increase in 2017 has occurred. In the Spanish case, the causes that lead to de-agentification have been external and have obeyed the tax pressures and deficit reduction coming from the European Union (Carpenter and Lewis, 2004; Lewis, 2002; Park, 2013). However, each CCAA decides what actions to take on the quangos.

In spite of the public spending control measures in Spain which began to be implemented in 2010, the total public expenditure presents annual rises until 2010 when it starts to decrease, the most important drop being in 2012 (9.50 percent).

Table 3
EVOLUTION OF THE NUMBER OF QUANGOS AND PUBLIC EXPENDITURE

Year	Number of quangos	Variation of quangos	Variation of public expenditure
2003	1446	—	—
2004	1501	3.80%	9.88%
2005	1556	3.66%	11.82%
2006	1663	6.88%	8.89%
2007	1719	3.37%	8.88%
2008	1642	-4.48%	11.07%

(Continued)

Year	Number of quangos	Variation of quangos	Variation of public expenditure
2009	1913	16.50%	5.42%
2010	2258	18.03%	-2.23%
2011	2221	-1.64%	-3.03%
2012	1991	-10.36%	-9.50%
2013	1927	-3.21%	-2.44%
2014	1782	-7.52%	-0.06%
2015	1747	-1.96%	2.80%
2016	1726	-1.20%	-1.30%
2017	1746	1.16%	3.33%

Regarding the particular characteristics of the quangos that compose the sample, Table 4 describes their legal form and the type of activity that they developed in the period 2010-2017, as data for previous years are not available. On the one hand, four categories are identified for the legal form: business consortium, anonymous societies, non-profit entities and agencies, public enterprises and autonomous entities. For all the period each one of them represents around 25% of the total number of quangos. On the other hand, in relation to the type of activity, the categories Health activities and social services and others are the most representative with a percentage around 17% and 21% respectively. In addition, the activity of other services is very significant for the years 2011 and 2012. Further, the type of activity that considers the water supply, sanitation, and waste is less representative, with a percentage around 4%.

Table 5 shows the descriptive statistics for the variables included in the statistical analyses. As regards the measure of government expenditure, it can be seen that the mean value of this variable is around 3,400€, which represents the public expenditure per capita by the CCAA. On the other hand, the mean of the number of quangos is 112. The level of the standard deviation of this variable shows the differences in the number of quangos dependent on the largest CCAA –measured by both the population and the NFE– compared to the smaller ones. However, the competences developed by the quangos of each CCAA are the same.

The Pearson bivariate correlations between the variables of interest were well below the normal threshold levels. Nevertheless, we employed Variance Inflation Factor (VIF) analysis to alleviate concerns of potential multicollinearity. As the lack of multicollinearity is broadly accepted when VIF values are under 5 (Studenmund, 1997), these figures further supported our choice of variables and confidence in the results of the regression estimations.

On the other hand, the correlation matrix shows a positive and significant association between government expenditure and the Level shift 2010. Thus, we have run Chow's test (Chow, 1960) to identify significant differences due to the de-agentification process. The results show a structural change (p -value=0.000) as consequences of the implementation of measures proposed during this process.

Table 4
DESCRIPTION OF THE LEGAL FORM AND THE TYPE OF ACTIVITY OF THE QUANGOS INCLUDED IN THE SAMPLE

Panel A. Distribution of quangos by legal form																
	2010		2011		2012		2013		2014		2015		2016		2017	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Business consortium	609	27%	617	28%	561	28%	441	23%	485	27%	400	23%	474	27%	377	22%
Anonymous societies	597	26%	617	28%	563	28%	512	27%	475	27%	410	23%	410	24%	398	23%
Non-profit entities	600	27%	573	26%	486	24%	535	28%	495	28%	509	29%	505	29%	535	31%
Agencies, public enterprises, and autonomous entities	452	20%	414	19%	381	19%	440	23%	327	18%	428	24%	336	19%	435	25%
Total	2,258	100%	2,221	100%	1,991	100%	1,927	100%	1,782	100%	1,747	100%	1,726	100%	1,746	100%
Panel B. Distribution of quangos by type of activity																
	2010**		2011		2012		2013		2014		2015		2016		2017	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Professional and technical activities	n.a.	n.a.	257	12%	248	12%	279	14%	278	16%	276	16%	273	16%	272	16%
Health activities and social services	n.a.	n.a.	461	21%	356	18%	330	17%	301	17%	299	17%	295	17%	272	16%
Artistic and entertainment activities	n.a.	n.a.	165	7%	185	9%	101	5%	162	9%	161	9%	159	9%	181	10%
Other services	n.a.	n.a.	386	17%	369	19%	304	16%	278	16%	253	14%	250	14%	249	14%
Water supply, sanitation, and waste	n.a.	n.a.	129	6%	90	5%	76	4%	69	4%	69	4%	68	4%	91	5%
Construction	n.a.	n.a.	257	12%	216	11%	203	11%	162	9%	161	9%	159	9%	159	9%
Administrative activities and auxiliary services	n.a.	n.a.	241	11%	193	10%	177	9%	162	9%	161	9%	159	9%	159	9%
Other*	n.a.	n.a.	326	15%	335	17%	456	24%	370	21%	368	21%	363	21%	363	21%
Total	n.a.	n.a.	2,221	100%	1,991	100%	1,927	100%	1,782	100%	1,747	100%	1,726	100%	1,746	100%

* Note: This category includes activities as Agriculture, fishing, mining, transport, energy, communications, and real estate.

** There are not available data for this year.

Table 5
DESCRIPTIVE STATISTICS AND CORRELATION MATRIX

Variable	Obs.	Mean	Std. Dev.	(2)	(3)	(4)	(5)	(6)	(7)
(1) Government expenditure	240	3.377	0.518	0.073	0.178 ^{***}	0.142 [*]	0.012	-0.020	0.189 ^{**}
(2) Quangos	240	111.875	90.109		-0.218 ^{***}	-0.150 ^{***}	0.122 [*]	0.218 ^{***}	0.101
(3) Salary	240	0.074	0.025			0.164 ^{**}	0.505 ^{***}	0.389 ^{***}	0.182 ^{**}
(4) Government employment	240	0.066	0.046				0.011	-0.007	0.076
(5) Leverage	240	0.134	0.125					0.412 ^{***}	0.590 ^{***}
(6) Unemployment	240	16.150	7.439						0.673 ^{***}
(7) Level shift 2010	240	0.533	0.500						
VIF			1.34	2.19	1.08	2.43	2.64	3.05	

Note: Asterisks denote statistical significance ^{*} for p-value (p) < 0.10; ^{**} p < 0.05; ^{***} p < 0.01.

4.2. Regression analysis

The results of the multivariate analysis are presented in Table 6. This set of regressions focused on investigating whether the number of quangos would be related to higher public expenditure. We have considered two time-related variables as a control: Level shift 2010 and year dummies. Thus, Model 1 reports results introducing the variable Level shift 2010 and Model 2 shows results considering year dummies. The findings revealed that there is a positive association between the number of quangos and public expenditure (Model 1). Thus, H1 is rejected. Quangos were created by the public sector at the beginning of the 80s with the postulates of NPM. The main idea was the flexibility of the public sector's task, which aimed to achieve a higher efficiency and a reduction of public-sector expenditure. Thus, with the application of the NPM postulates in Spain the creation of instrumental bodies was fostered, their number growing until 2011 (Óngaro *et al.*, 2006). Nevertheless, our results indicate that this main objective of a reduction of public expenditure has not been achieved. This can be explained by one of the most characteristic features of instrumental administrations in the search for this flexibility being to flee administrative law and to end up in private law. As a result of this, these bodies are not subject to strict administrative controls and public expenditure control (Fernández and García, 2013). This has generated a significant increase of public expenditure (Lico and Ríos, 2014; Pascual, 2010). Therefore, these results indicated that to attain a reduction of public expenditure it is necessary to terminate agencies (Carpenter and Lewis, 2004; MacCarthaigh, 2014; Nakrosis and Budraitis, 2012; Sarapuu, 2012). Furthermore, according to James and Van Thiel (2013) our results also can be explained by decentralisation preventing public administrations from benefitting from economies of scale, and as well generating a loss of coordination between the different levels of government, causing duplicities, a rise in the number of public workers and, ultimately, increasing costs. On the other hand, PCSE is employed as a robustness test as an alternative statistical methodology (Model 3). The findings are consistent with those previously commented on.

The financial crisis has caused politicians to focus on ways of reducing the growth of government expenditure (Flinders and Skelcher, 2012; Giordano *et al.*, 2015) and its efficiency (Elston and MacCarthaigh, 2016). Thus, in this context we investigate the moderating effects of the cost reduction period on quangos and its relationship with overall public expenditure. We tested the effect of adopting measures to reduce public sector expenditure from the year 2010. Table 7 presents the results from the regression analyses. Concretely, Model 1 reports the potential moderation of the cost reduction period in the link between the number of quangos and public expenditure. Our evidence shows that the period of austerity measures (Quangos*Level shift 2010) negatively moderates the relationship between the number of quangos and the government expenditure, thus supporting Hypothesis 2. The causes or motives which lead to the elimination of quangos can be internal –inefficiencies, ineffectiveness– or external –a change of the government's political sign, an economic crisis (Lewis, 2002; Park, 2013). In this sense, Carpenter and Lewis (2004) point out that the decision to eliminate quangos is affected by fiscal pressures and deficit reduction. Specifically, our results stress that the reduction of quangos in the CCAA has taken place as a consequence of the pressure from the European Union on the member countries for them to reduce their

deficits. On the other hand, prior to 2010 in the United Kingdom, and as a consequence of the global crisis, the government adopted the reduction of the number of quangos as an austerity measure. However, the objective proposed was not achieved because there was not a reduction of resources (Heald and Steel, 2018). Therefore, in 2010 policies were imposed to reduce them. The decrease of public expenditure has not only taken place due to the elimination or restructuring of the quangos, the containment and the reduction of public employment salaries have also contributed to this (Giordano *et al.*, 2015; Ramos *et al.*, 2014). Other countries of the European Union, such as Ireland, Greece, Italy, Cyprus, Portugal, Austria, Denmark and the United Kingdom, applied these measures and achieved similar results related to the reduction of public expenditure (Giordano *et al.*, 2015; Hernández *et al.*, 2016). According to the reports published by the Spanish Government, a saving of about 24,000 million euros has been achieved, basically by savings in staff costs. Public sector salaries have suffered significant adjustments according to the fiscal policies implemented, mainly they were frozen, and they have been affected by a great number of public job losses (Ramos *et al.*, 2014). Consequently, public employees' salaries grew more than those of private sector employees in the period 1999-2007 (Giordano *et al.*, 2015).

Table 6
DO QUANGOS LEAD TO HIGHER GOVERNMENT EXPENDITURE?
RESULTS OF THE EMPIRICAL ANALYSIS

Variables	Panel Data		PCSE
	Model 1	Model 2	Model 3
Quangos	0.004*** (0.001)	0.002*** (0.000)	0.000* (0.000)
Salary	12.829*** (2.516)	3.112** (1.405)	1.500*** (0.728)
Government employment	0.542 (0.528)	0.204 (0.205)	0.003 (0.069)
Leverage	-2.155*** (0.480)	-0.744** (0.295)	-0.278** (0.138)
Unemployment	0.006 (0.006)	-0.016*** (0.005)	-0.008*** (0.003)
Level shift 2010	0.272*** (0.102)		
Years dummies		Yes	Yes
Observations	240	240	224
R-squared	0.304	0.906	0.965
F-Test/Wald Chi	15.85***	104.39***	22824.18***

Note: T-statistics in parentheses. Asterisks denote statistical significance * for p-value (p)<0.10; ** p<0.05; *** p<0.01.

In this manner, evidence was found that the adoption of policies to control public expenditure, has achieved the main objective, which was the reduction of public sector expenditure. As robustness tests, we then replicated the previous analysis considering PCSE methodology (Model 2), confirming the previous results.

Table 7
DOES THE DE-AGENTIFICATION PROCESS REDUCE THE GOVERNMENT
EXPENDITURE BY A REDUCTION IN THE NUMBER OF QUANGOS?
RESULTS OF THE EMPIRICAL ANALYSIS

Variables	Panel Data	PCSE
	Model 1	Model 2
Quangos	0.012*** (0.002)	0.002** (0.001)
Quangos*Level shift 2010	-0.004*** (0.001)	-0.001* (0.001)
Salary	8.522*** (2.512)	10.858*** (1.896)
Government employment	0.323 (0.500)	0.334 (0.339)
Leverage	-1.331*** (0.479)	-2.220*** (0.430)
Unemployment	0.003 (0.006)	-0.004 (0.005)
Level shift 2010	0.124 (0.101)	0.143** (0.066)
Observations	240	224
R-squared	0.382	0.695
F-Test / Wald Chi	19.20***	36.08***

Note: T-statistics in parentheses. Asterisks denote statistical significance * for p-value (p)<0.10; ** p<0.05; *** p<0.01.

5. Conclusions

Actions to reduce public expenditure in Spain have led to the introduction of diverse measures in the different territorial levels—State, the CCAA and LGs. Among these measures the elimination of quangos stands out. This article analyses the effects which plans of the rationalisation of public organisms implemented by the CCAA have had on public expenditure. In this sense, this paper provides new empirical evidence concerning the effect of the creation of quangos and the de-agentification process on public expenditure.

Due to ongoing political debates in the European Union, and particularly in Spain, regarding the efficiency of quangos, governments are being forced to think about how to solve the problem of managing to reduce public expenditure. One major concern is whether or not quangos achieve a reduction of costs. Some authors justify the cost savings as the main reasons that justified their existence (MacCarthaig, 2014; Park, 2013). However, in the case in which these savings have been produced, the effect on the reduction of public expenditure has been overridden by the increase of expenditure of other items. This is why, when the need arises to control public expenditure and reduce the size of the public sector in Spain, the same as in other European countries, one of the strategies for the reduction of total public expend-

iture has been the reduction of the number of quangos (Carpenter and Lewis, 2004; Lewis, 2002; MacCarthaigh, 2014; Nakrosis and Budraitis, 2012; Park, 2013; Sarapuu, 2012).

On the other hand, the de-agentification process was implemented by European countries according to the Stability and Growth Pact. Thus, in Spain, as in other countries, it was necessary to implement some measures to control public expenditure. In this sense, in the literature there is not a consensus related to the effectiveness of these measures. Our findings support the contribution of the de-agentification process to the reduction of government expenditure. However, these results are contrary to those obtained in countries such as Italy, where the reduction of the quangos has not cut public expenditure (Buglione *et al.*, 2013; Cabinet Office, 2015; Deloitte, 2015). Mainly, the differences related to the empirical evidence are a consequence of the way these measures have been implemented.

This study makes an important contribution both to research and policy debates. Firstly, it offers what is, to our knowledge, one of the first quantitative evaluations of the impact of the cost reduction process on public expenditure in Spain. In this regard, the study fills an important gap in the literature by responding to the policies which the governments should implement to achieve a reduction of public expenditure. Secondly, our results help to advance debates regarding the impact of some policies on controlling public sector expenditure. Contrary to the initial arguments for the creation of quangos to reduce public expenditure, they actually contribute to increasing this expenditure. In this respect, our findings lend support to both critical and cautious accounts which have questioned the creation of quangos. In this sense, a future line of research could be the study of the reasons why the creation of quangos has not reduced public expenditure but has, on the contrary, contributed to increasing it. Moreover, the main element of the latter is the idea that policies should not interfere with day-to-day organisational practice, so that agencies can concentrate on their main executive tasks. Thus, their efficiency can depend on the labour of their directors. Therefore, a future line of research could be to go thoroughly into the analysis of the skills and experience of directors who manage quangos.

This paper reveals a limitation that may be considered when undertaking future research. Although Spain offers a relevant context for analysing the evolution of its public expenditure, there is not available data related to the expenditure and the number of employees of the quangos.

Notes

1. Re-centralisation is the opposite process to decentralisation. Re-centralisation implies the regrouping in higher levels of competences previously transferred or delegated to lower instances. On the other hand, Falleti (2005) defines the concept of decentralisation as 'a process or reform consisting of a number of public policies that transfer responsibility, resources, or authority from a higher to a lower level of government. It can be at the fiscal, administrative or political level'.
2. There is not a generic term which groups together the different entities that are dependent on public administrations (agencies, quangos, autonomous organisms, public firms, etc.). This work is going to use the term quango or agency to refer to all these bodies.

3. In Spain there are 20 CCAA, however, we could not include the País Vasco, Ceuta and Melilla because their data were not available.
4. The Spanish state is territorially divided into three levels. The General Administration of the State, the Administration of the Regional Governments and the Administration of the Local Governments (hereinafter: LGs). At each level, the administrative entities coexist with the instrumental entities.
5. For a better comprehension of the different figures which make up the institutional public sector see Title II, Chapters I to VIII of the Law 40/2015.
6. Agreement of 1/2010, of March 22, of the Council of Tax and Financial Policy, by which the framework agreement with the CCAA and Cities with Autonomous Status concerning the sustainability of public finances 2010-2013 is adopted.
7. The European system of national and regional accounts was passed by the Regulation (EC) 2223/96 of the Council, 25 June 1996 and later reformed by the Regulation N° 549/2013 of the European Parliament and of the Council, 21 May 2013. In Spain the article of the Organic Law 2/2012, 27 April, of Budget Stability and Financial Sustainability replicates the content of this regulation.
8. See Manuals of calculation of the deficit in the national accounting and conciliation document between the public accounting and the data of the SEC 2010 published by the General Intervention Board of the State Administration (IGAE).

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Resumen

El objetivo de este trabajo es analizar el efecto que el proceso de reestructuración del sector público institucional autonómico desarrollado en España desde el año 2010 ha tenido sobre el gasto público. Para ello, se ha utilizado una muestra formada por 17 comunidades autónomas durante el periodo 2003-2017. Aplicando la metodología de datos de panel los resultados muestran una asociación positiva entre el número de entes institucionales y el gasto público. Por tanto, nuestros resultados contribuyen al debate existente sobre los posibles beneficios que tiene la creación de tales entidades públicas para contener, o incluso reducir, el gasto público.

Palabras clave: reestructuración, administración institucional, gasto público, Comunidades Autónomas.

Clasificación JEL: H5, H6, H7.