ANALYSIS OF THE EFFECTIVENESS OF FINANCIAL HEALTH REGULATION IN SPANISH LOCAL GOVERNMENTS

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Abstract

The need to reduce public sector costs and debt has resulted in the implementation of requirements in many countries. Spain belongs to a group of countries which monitor the financial health of their local governments, using financial indicators enforced by law, and reporting this information periodically. The objective of this paper is to analyse whether the introduction of the 2012 Spanish legislation regarding fiscal stability and budgetary balance and Ministry of Finance Order 1781/2013, which develop new indicators, have led to improvements in the financial health of local governments. The results of our analysis show that the introduction of legal requirements is effective and that the disclosure of indicators for benchmarking purposes has been beneficial and positive, although this is not so in all cases. The practical implication of this study is that the dual demands of evaluating the financial situations of local governments and disclosing this information reinforce their responsibility with respect to the general interest. This enables the comparative evolution of indicators, concluding that requirements are also needed to ensure that the goals are achieved, thereby helping to restore the reliability and transparency of their activities.

1. Introduction.

After the 2008 financial crisis, public concerns arose regarding countries' the level of borrowing in the Eurozone. Such concerns created pressure on the European Union (EU) and Eurozone countries to make public statements about the sustainability of their debt and how financially prudent they were in order to restore financial market confidence, enhancing the concept of rule-based budgeting which is also complemented by strengthening central control tools (Bethlendi *et al.,* 2020). The need to change through innovation (Robalo and Gago, 2017) and reduce public sector costs and debt has resulted in the implementation of requirements in many countries, together with introducing sustainability management to transform how governments implement policy and deliver public services (Zeemering, 2017). Financial sustainability requirements are a tool chosen by EU policymakers to track the fiscal health (Hendrick, 2004; Zafra *et al.*, 2009) of countries belonging to the Eurozone and, in turn, by the Spanish central government to control the financial conditions (Mead, 2001) of Spanish local governments, and they have a dual obligation: fulfilling financial indicators and disclosing information periodically. In Spain, the financial indicators were implemented in 2012 through the Organic Law on Budgetary Stability and Financial Sustainability of Public Administrations and also in 2013 with Ministry of Finance Order 1781/2013. Both regulations, which allow the financial activities of local government entities to be monitored, are a new source of information for LG management, making it possible to anticipate decision-making, and being something which could be useful and in the public interest.

The objective of this article is to analyse whether the introduction of Spanish legislation in 2012 and 2013 regarding fiscal stability and budgetary balance has led to overall improvements in the financial health of LGs, whether the changes are improvements resulting from benchmarking among LGs' peers or if they have an isomorphic component; peers

involve the LGs comparing themselves with each other, which implies that LGs are trying to improve their financial situations.

To do this, we test if fiscal benchmarking accelerates isomorphism in LGs (DiMaggio and Powell, 1983), applying a model of residual analysis based on that developed by Gerrish and Spreen (2017). Our objective is focused on analysing the effect of information disclosure, and checking if comparing LGs improve the financial performance of LGs with poor ratios due to prevailing trends.

The database consists of an analysis of 10 financial indicators produced annually by the 143 biggest LGs in Spain, representing 53% of the Spanish population, for the period 2010 to 2016. This paper shows the Spanish experience, something which may be useful to other countries because it leads to comparisons between peers, as the disclosure of financial information encourages the improvement of their LGs' financial health.

The article is organised as follows: Firstly the background regarding the assessment of LG financial risk and the Spanish legal financial framework are explained. Secondly, the theoretical approach of this study is introduced. Thirdly, the methodology is described. Then the analysis of the results is shown. A discussion takes place next and, finally, conclusions are drawn.

2. Background to assessing LG financial risks.

The academic literature proposes multiple approaches to define financial risk terms in LGs; these are used interchangeably. Financial condition (Mead, 2001), fiscal health (Hendrick, 2004), fiscal distress (Kloha 2005), or financial health (Zafra *et al.*, 2009), are examples of terms with a similar meaning used by authors, acts, governments, or institutions that have

come into vogue internationally in recent years (Zafra *et al.,* 2009). All these terms are related to indicators that measure the financial position of LGs.

The common idea in all definitions is that LGs have liabilities and debts to third parties and the financial risk refers to the likelihood of failure. To assess this likelihood, some indicators are based on the financial information used to measure the concept of net lending/net borrowing defined by the European System of Accounts (ESA), i.e., the solvency or liquidity of LGs.

Regulatory failures on financial sustainability contributed to the onset of the global financial crisis (Moschella and Tsingou, 2013), giving rise to the adoption of new legislative measures by governments to control financial situations by using specific tools and challenging them to introduce reforms in order to improve management (Meneguzzo *et al.*, 2013). These control tools typically assess the fiscal health of local governments (LGs), based on both national transposition to the local government or regional arena of financial sustainability requirements established by the EU, and monitoring of how each LG performs across several financial indicators. In addition to the indicators, there were compulsory financial limits for LG deficit and debt which were developed with benchmarking programs composed of financial indicators and whose objective is to report financial information that reveals deficiencies and facilitates policy decisions to improve financial performance (Rivenbark and Roenigk, 2011).

From the analysis of previous literature, it seems that authors apply universally accepted benchmarking indicators, which makes it possible to reduce the costs to public officials that arise from factors that characterise political markets (Baber *et al.*, 1984). The most used is the Financial Trends Monitoring System (FTMS) developed by the International City/County

Management Association (ICMA), which defines financial condition as the ability to maintain existing service levels, resistance to local and regional disruptions, and meeting the demands of natural growth, decline and change. ICMA's tool consists of a total of 42 indicators categorised into different factors: revenues, expenditures, operating position, debt, unfunded liability, capital plant, community needs and resources, and disaster risk indicators. Other accepted benchmarking tools are the alert system from the Canadian Institute of Chartered Accountants, and the ratios included in the Comprehensive Annual Financial Report established by the GASBS 34 (Governmental Accounting Standards Board).

Most indicators previously used are related to debt; however, authors have analysed the financial condition of public entities with different variables (see Table 1). Clark (2015) studies the financial conditions of local governments through the Financial Condition Index (FCI), using 11 variables which measure financial stress. Gorina *et al.* (2018) link financial condition to a regression model in which fiscal distress is the dependent variable, and the financial indicators are the independent variables. We have identified a variable that is similar in our study: *budgetary solvency*. In addition, Bisogno *et al.*, (2019) define this variable as 'the ability of a public sector organisation to raise sufficient revenues to cover its legally required expenditures without falling into deficit', which is in line with the concept of *non-financial budgetary balance* studied here. The asset information is also included as variables explaining financial sustainability by Kaldani *et al.* (2016) and Gerrish and Spreen (2017). Trussel and Patrick (2018) use indicators related to debt that are similar to those in our study: debt service (our indebtedness) and debt per capita, and Robbins *et al.* (2016) apply indicators linking debt to income and assets. Once again, the dependent variable is financial risk, and the indicators are the independent variables. In conclusion, recent international literature aims to explain financial condition as a dependent variable of a set of financial

indicators. The independent variables are internationally accepted indicators related to debt which have also been factored into our study.

Other scholars, such as Navarro Galera *et al.* (2015, 2017), have built a model based on the probability of default (PD) according to Basel II requirements and have studied the impact of socioeconomic variables on LG debt. Their conclusions are that PD is influenced by population, socio-economic and financial factors, mayors who have an economics-related university degree and the presence of a low proportion of women councillors in the municipal corporation during that period. Likewise, the left-wing ideology of the local governing party and its ideological alignment with the party in power in the regional government are political factors that may increase the default risk of LGs. Bastida *et al.* (2011) and Pérez López *et al.* (2013) use debt per capita as a dependent variable. Bastida *et al.* (2011) conclude that population, immigration, economic level, transfers, and taxes have a positive impact on debt per capita and Pérez López *et al.* (2013) conclude that the variable which best explains the level of debt is the transfer index.

There is a consensus in Spanish literature regarding shortcomings in the financial information disclosed in order to study LGs: e.g., 'limitations arising from the information available in Spain' (Cabaleiro *et al.*, 2012); 'lack of information for certain years' (Sole-Olle and Sorribas Navarro, 2012); 'such information was not available for the local governments in our sample' (Navarro Galera *et al.*, 2017). Hence, the deficit of available information has been a limitation for scholars.

Our aim is to analyse the financial indicators implemented in Spain in order to achieve financial sustainability and test the impact before and after this implementation and disclosure, establishing the financial indicators as dependent variables and a selection of

socio-economic variables as control variables. This allows us to obtain the residuals of regressions to be analysed in order to assess the extent to which the disclosure of information, which makes benchmarking between LGs possible, contributes to improve the financial situation of these entities. The perspective analysed hopes to be useful to other decentralised countries which have introduced a dual requirement for LGs: to fulfil financial indicators and periodically disclose financial information.

[Table 1 here]

3. The Spanish legal financial framework

Spain is a decentralised country, and the public sector is made up of three layers of government: central government, regional governments (autonomous communities) and LGs, which according to the law are composed of municipalities, provinces, islands in the Balearic and Canary archipelagos, territorial entities beneath the level of municipality, counties, metropolitan areas and associations or groups of municipalities, characterised by the governing principles in the Spanish Constitution (1978): autonomy (Article 137) and financial sufficiency (Article 142), which define the activities of Spanish LGs. LGs have the autonomy to manage the provision of public services under their responsibility, within the scope of their authority according to Law 7/1985 of 2 April, regarding the Basis of Local Government, being within their own competence or delegated by central or regional governments, and guaranteeing a minimum level of services according to the size of the population. This law distinguishes between four groups: services provided in all LGs (such as public lighting or water supply and basic sanitation), services provided in LGs with more than 5,000 inhabitants (such as parks or waste treatment), services provided in LGs with more

than 20,000 inhabitants (such as protection of situations of poverty or social needs) and services provided in LGs with more than 50,000 inhabitants (such as public transport or protection of the environment). In order to fund the public services provided, the structure of local income allows LGs collect their own taxes and receive transferences and grants from the central government, regional governments, and/or supranational organizations and they can also fund the services provided by borrowing from banks and financial markets up to the limits established by the relevant laws. The weight of different sources of financing LGs is similar (Figure 1) because their own taxation and grants (from Central and Regional government) are the main forms of finance. From 2008 to 2011, the proportion of each form of finance has varied, although the own taxation is the main source of financing. It is necessary to highlighting 2012 as the year with an increase in financial income, maybe as a consequence of changes in regulation regarding credit for LGs. From 2013 onwards, the proportion of financing in LGs is constant.

The Spanish regulatory framework for access to credit changed with the adoption of Royal Decree-Law 8/2010 of 20 May in order to reduce the public deficit while introducing additional constraints with specific approval processes. This established a limit of 110% on the volume of indebtedness for LGs (although limits can be modified over time in the National Budget) in relation to the current income established, in compliance with the principle of financial management that aims to minimise their financial risk. Figure 2 shows the evolution of LGs' debt, 2012 and 2013 being the years with a higher level of indebtedness due to the special measures implemented regarding access credit. It also established a limit of 60% of Gross Domestic Product (GDP) for the whole administration, distributed by administration as 44% for Central Government, 13% for Regional Governments and 3% for LGs. Figure 3 shows the evolution of the Public Administration's debt and a clear upward

trend in Central and Regional Government debt, which exceeds the global debt limit of 60% of GDP. This figure helps us to understand the situation of the three layers of administration and how they contribute to the composition of debt in Spain, where Central and Regional Governments are the most heavily indebted.

The main financial control body in Spain is the Supreme Audit Institution, which requires annual financial statements from LGs. There are also other institutions which reinforce financial control: Regional Government Audit Institutions and the Internal Audit Institution at each LG. At local level, internal control is carried out by the LG's financial controller, who assesses whether items with economic impacts are consistent with the budget and applicable regulations, and who directly monitors the financial situation of LGs. There are two internal control approaches: an ex-ante control related to legal compliance and an ex-post mechanism related to financial control. Our research is focused on the second of these. Spanish legislation in Royal Decree (RD) 424/2017 of April 28 – which regulates the internal control of LGs – includes a description of the concept of risk for LGs, which is defined as *the possibility of events or circumstances occurring that could lead to non-compliance with the applicable regulations, evaluating the reliability of financial information, and effectiveness and efficiency in management*. This RD strengthens the LG financial controller's position, ensuring legal coverage with instructions for internal audits, which should prepare an Annual Financial Plan that describes the permanent control and public audits applied during the year at the entity.

As a Eurozone member, Spain had to approve a regulatory framework consistent with EU requirements to achieve specific commitments towards getting back on the road to growth. As a consequence of pressure from the EU, Article 135 of the Spanish Constitution was

modified by socialist president Zapatero and the Organic Law on Budgetary Stability and Financial Sustainability of Public Administrations was enacted in 2012. This act establishes the requirements to be met by LGs in order to ensure their financial sustainability. According to the Organic Law on Budgetary Stability and Financial Sustainability, all Spanish public sector entities have to meet the following principles: budgetary stability, financial sustainability, multi-annuity investments, transparency, efficiency in allocation and use of public resources, responsibility, institutional loyalty, and the development of mechanisms for the coordination and application of the law. This act also establishes various benchmarking indicators as described in Table 2: *non-financial budgetary balance, expenditure rule, public debt* and *average payment period*.

[Table 2 here]

The Organic Law on Budgetary Stability and Financial Sustainability of Public Administrations establishes a legal mechanism called *reporting requirements* which provides a schedule for different analysis of LGs' financial positions for monitoring their financial health, and developed by Ministry of Finance Order 2105/2012, on 'Information reporting obligations'. LGs have to report on budgetary stability and financial sustainability over the year. LGs have to evaluate budgetary stability and financial sustainability following the specifications included in this act when preparing, in the fourth quarter of the year, the budget for the next fiscal period, and to prepare the financial report at the end of the fiscal period. LGs must upload the information shown in Table 2 onto the Ministry of Finance's website entitled 'Virtual office for financial coordination of local government entities', using the XML taxonomy. The Spanish Ministry of Finance website publishes a set of financial indicators for each LG and makes them available in an online database with the goal of

encouraging benchmarking. Open access to this information allows LGs to compare their financial positions relative to one another each year and over time. The aim of these initiatives is often for LGs to act on that information and make changes to their financial management. This law describes preventive measures, which is an advantage because it is possible to identify signs of fiscal distress at an early stage and LGs can correct the situation before it escalates (Maher *et al.*, 2020). The new regulation also includes corrective and coercive measures: at the end of the fiscal year, in cases of a breach of *budgetary stability, the expenditure rule or the public debt* indicator, LGs must take actions in order to get the LGs back to a position of financial stability. Entities which fail to meet the indicator limits must prepare an *eco-financial plan* aimed at recovering financial stability over the next two fiscal years, because benchmarking is linked to formal and/ or informal sanctions (Kuhlmann and Jäkel, 2013). Although the Spanish Organic Law on Budgetary Stability and Financial Sustainability of Public Administrations was adopted in 2012, its implementation was first reported in January 2013. We therefore analysed the behaviour of LGs before and after 2013 in terms of *non-financial budgetary balance, public debt* and *average payment period.* The ratio expenditure rule, which would also be interesting to analyse, is not available in reporting websites and cannot be tested.

Since 2012, the Law on Budgetary Stability and Financial Sustainability and the Law on Transparency, Access to Public Information and Good Governance (Law 9/2013 of 9 December, which develops the transparency of public activity) have made it easier to access LG financial information, enhancing the transparency and openness of LG financial information (García-Fénix and González- González, 2020).

Together with the indicators included in the Organic Law on Budgetary Stability and

Financial Sustainability, the Spanish Public Sector Chart of Accounts (SPSCA) extended the indicators required in point 25 of the Notes section of the Annual Accounts (containing the balance sheet, the income statement, the statement of changes in equity, the statement of cash flows) establishing another set of indicators: financial, budgetary and asset indicators. Only financial indicators have been chosen in this study because the budgetary character is analysed with indicators included in the Law on Budgetary Stability and Financial Sustainability in order to not be repetitive (see Table 3). These indicators are reported at the end of the fiscal year and uploaded to the Supreme Audit Institution website.

[Table 3 here]

The SPSCA adapted to local administrations was approved in 2013, but the effective date was 1 January 2015. So, we also studied the pre- and post-implementation in 2015 of the following indicators: *current solvency, short-term solvency, solvency ratio, debt per capita, indebtedness, debt ratio* and *cash flow.* These indicators are intended to represent the financial position of LGs because, besides providing public services, LGs are challenged to control the financial sustainability of the services delivered. This information allows managers to take decisions to reach or maintain the financial balance required by the EU.

4. Theoretical approach: improvement and isomorphism.

Institutional theory assumes that organizations respond to pressure from their environments and adopt structures and practices that are considered legitimate and socially acceptable by other organizations in their field (Ribeiro and Scapens, 2006). The basic premise is that the tendency of organizations to conform to predominant norms, traditions, and social influences in their external environments will lead to homogeneity among organizations in their

structures and practices (DiMaggio and Powell, 1991). According to Scott (2008), 'institutional theorists consider organizational fields as contexts imposing requirements and/or constraints on organizations: organizations operating within a given context, if they were to be successful, are obliged to conform to the dictates of their institutional environments' (see DiMaggio 1983; Powell 1988). This theory enhances how organisations tend to take on similar forms which are referred to as a process of isomorphism (Deegan, 2019) promoting their stability and success (Meyer and Rowan, 1977). In line with this and based on Hawley's (1968) definition, isomorphism is considered a constraining process that forces one unit to resemble other units that face the same set of environmental conditions. In this sense, institutions will tend to adopt the isomorphism as a powerful force that encourages imitation (DiMaggio and Powell, 1983), due to mimetic isomorphism. In addition to mimetic isomorphism, there are two possible perspectives that depend on the attitude of LGs showing poor financial ratios. An explanation of why LGs with a worse financial position tend towards the average is because there is an imitation which endeavours to emulate those which manage better. This enhances an improvement approach (mimetic isomorphism), but another explanation is possible: disadvantaged LGs are harnessing maximum indebtedness limits in order to gain more financial resources as a consequence of better quality in the provision of services to citizens. The latter perspective could be considered a financial strategy of LGs that endorses a maximum exploitation of available financial resources within the limits of the law, and arising from a mimetic isomorphism and decoupling.

In other words, it is worth considering whether an improvement in the financial condition of LGs could be achieved by enhancing transparency and promoting benchmarking through the disclosure of financial information, and whether it should be required by law in the case of Spain (and in other bureaucratic/Weberian public administration styles). Identification of

isomorphic components would justify both compulsory regulations in order to be sure that improvements are sufficient to overcome the thresholds established by the EU requirements transposed into Spanish regulations.

The impact on the financial position of Spanish LGs before and after the passing of a law on new financial condition requirements and the disclosure of new financial indicators on the official Spanish Ministry of Finance website is analysed from the perspectives of improvement and isomorphism approaches. With the introduction of new financial requirements, central government expected that the financial conditions of LGs would converge towards Eurozone requirements and that, with the disclosure of the new financial indicators, benchmarking information would be used to correct fiscal problems on a peer comparison basis.

The improvement approach notes the benefits of disclosing financial information for benchmarking because the display of financial indicators can contribute to improve the mean of financial indicators by providing information to LG managers in order to facilitate better decision-making (Rivenbark and Roenigk, 2011). Ammons and Rivenbark (2008), Rivenbark and Roenigk (2011), and Ammons and Roenigk (2014) find a positive effect in the disclosure of financial indicators; they argue that benchmarking is a way to transfer knowledge from another organization judged to be superior because of the results it achieves. This approach considers that the use of benchmarking can redirect the financial situation of LGs because managers can compare financial stages over time and receive extra information which helps them to adopt better financial decisions. However, other authors (Behn, 2003; Moynihan and Pandey, 2010) state that the implementation of benchmarking is not, by itself, enough to achieve beneficial results in financial situations (isomorphic approach), because

benchmarking tools simply summarise and report financial conditions, leaving LGs to use that information as they please (Gerrish and Spreen, 2017). The isomorphic approach states null effect of these tools on LGs, which is not a negative perspective, because low-performing LGs will converge towards their peers. Following Gerrish and Spreen (2017), this study considers the concept of improvement in contrast to isomorphism; however, both terms are not mutually exclusive, because the convergence toward the mean can mean an improvement in some cases. Requirements may therefore be required in order to achieve improvements in the means of financial indicators and to reach the financial thresholds required by the EU. Gerrish and Spreen (2017) applied these theories to North Carolina's benchmarking tool, which is composed of 14 fiscal indicators. They clarified both possibilities: the introduction of a benchmarking tool will have an impact on the mean values of the monitored indicator values (improvement approach) and low-performing LGs will converge towards their peers, but so too will LGs with healthy financial ratios (isomorphic approach). The results of the study lend support to the fact that isomorphic and decoupling forces are stronger than improvement forces.

5. Methodology

The impact on the LGs' financial condition caused by the adoption of the new financial requirements and indicators mentioned above was studied by considering two base years (2013 and 2015) to compare the effect of these indicators before and after their implementation. This is why we analyse the behaviour of indicators which belong to two different laws that have been adopted in different years, indicators in the Spanish Organic Law on Budgetary Stability and Financial Sustainability of Public Administrations and SPSCA indicators.

This analysis assesses the effect of adopting new reporting requirements (composed of different indicators which test financial condition) on LGs. The results of the pre- and post-analysis will confirm isomorphism or improvement approaches. The isomorphic approach upholds the view that the implementation of benchmarking is not enough to achieve beneficial results in financial situations, while the improvement approach supports the positive effect of benchmarking on financial decisions.

The aim is to analyse the LGs with the largest populations in order to ensure that the sample contains the entities which are obliged to provide all the basic public services established by law. As a result, a dataset of LGs responsible for a population of greater than 50,000 was built from 2010 to 2016, the sample containing 143 entities. When there was not enough information about the indicators selected in the fiscal years 2010–2012, proxy variables were calculated by applying the legal procedures for LGs provided by the *Manual on Government Deficit and Debt* in the European System of Accounts, published by the Central Government Internal Audit Office (Intervención General de la Administración del Estado, IGAE), and the procedures included in the SPSCA adapted to local administrations in point 25 of the Notes section of the Annual Accounts. Budgetary execution statements disaggregated into economic classifications, the Statement of Financial Position and the Statement of Financial Performance were used to build proxies of indicators by following the legal definition of these indicators. Tables 2 and 3 include a column with the formula for proxy indicators (calculation column).

Following Gerrish and Spreen (2017), after running the Hausman test, the methodology applied was the fixed effects model. The change in the mean was checked to test the improvement hypothesis and the change in the standard deviation was checked to test the

isomorphic hypothesis. The changes in the mean of each financial indicator, after the start of the benchmarking tool established by law, was analysed to confirm the improvement hypothesis. An advantageous change in the mean indicates a benefit for LGs; i.e., they improve the LGs' financial position after the effective date of the financial sustainability legislation. We also verified if the change in the mean was statistically different from zero by using standard errors of the regressions.

The model includes the following control variables: percentage of residents aged over 65, percentage with a college degree, median income, poverty rate, logarithm of population, logarithm of immigrant population density and unemployment rate. The choice of control variables was selected according to the control variables applied by Gerrish and Spreen (2017), and the logarithm of immigrant population density was chosen because we consider it an interesting variable. All this information was gathered from the National Statistics Institute (INE) at regional or local levels, according to availability. The analysis was made using a linear regression for each indicator. The dependent variables are these indicators: *non-financial budgetary balance, public debt, average payment period, current solvency, short-term solvency, solvency ratio, debt per capita, debt ratio* and *cash flow.* In addition, a linear time trend control was included in the regression model.

Equation 1 shows the data panel regression:

Dependent variable = f (control variables, linear time trend control)   *Equation 1*

The change in the standard deviation pre- and post-new regulations of the 10 financial indicators was calculated to study the isomorphism hypothesis. Bartlett's test was applied as an ANOVA-variant, which is appropriate for samples with equal variances (homoscedasticity). In this case, we used Equation 1 to calculate the residuals in both periods:

pre and post. We used the residuals model because it controls other components that may have created dispersion in the post-implementation period, *ceteris paribus*.

Descriptive statistics

The summary of the descriptive statistics is shown in Table 4, providing an overview of the mean and standard deviation of the 10 Spanish indicators. The sign (+/-) in parenthesis shows the behaviour of the indicator after a beneficial inter-period change. This table highlights the mean of the *average payment period,* which is 51.95 days; this implies a breach of the legal average payment period, which is established by law at 30 days. In addition, this table shows a mean of the *current solvency* at 1.07 and a *debt per capita* of €1,104.62. Table 5 reports the summary statistics of the control variables included in the regression model.

[Table 4 here]

[Table 5 here]

6. Analysis of Results

We adopted the year of approval as a benchmark to establish the pre and post periods in order to analyse the performance of the indicators. For the Organic Law on Budgetary Stability and Financial Sustainability of Public Administrations, the pre-implementation period is FY2010–2012 and the post-implementation period is FY2013–2016, because 2012 is the year in which this law came into force. In the SPSCA, the pre-implementation period is FY2010–2014 and the post-implementation period is FY2015–2016, because the SPSCA came into force in 2015. Table 6 shows the main results, using the output from the fixed effects regression model. This table includes the pre and post percentage change in the mean and

standard deviation (SD) of each indicator in the Organic Law on Budgetary Stability and Financial Sustainability of Public Administrations (2012) and SPSCA (2015).

According to the methodology, the percentage change in the mean was calculated using the parameter for the post-implementation variable, divided by the mean of the pre-implementation period. The residuals of the model were used in order to test the percentage change in SD. If an indicator shows a favourable change in the mean (for example, an increase in *non-financial budgetary balance* or a reduction in *public debt*), this is considered to be an improvement. If the mean indicator shows improvement, but the SD analysis shows something statistically significant (p<0.05), improvement is supported. Hence, we analysed two tests: one focused on the mean, the other on the SD. The improvement hypothesis is accepted if the change in the mean is statistically significant (p <0.05). The isomorphism hypothesis is accepted when a change in the mean is not statistically different from zero (p ≥.05) and there is a decline in the SD which is statistically significant (p <0.05). Bartlett's test and Levine's test revealed similar results. As can be seen in Table 6, in most cases, for both types of indicators, it can be concluded that there is isomorphism. This means that after the implementation of the new indicators (2012 and 2015), six out of ten indicators did not produce any beneficial changes in the mean. However, the behaviour of public debt, current solvency, solvency ratio, and cash-flow indicators suggests the existence of improvement in post-implementation. In other words, around 60% of indicators present isomorphic behaviour. Specifically, two out of three indicators show isomorphism for the Organic Law on Budgetary Stability and Financial Sustainability, and four out of seven indicators in the case of SPSCA.

[Table 6 here]

Table 7 shows the percentage change (it is calculated as (Post-Pre)/Pre*100) in the interquartile range of each indicator from the pre- to post-implementation periods. These results confirm the conclusion stated above which supports the isomorphism hypothesis. IQR is a measure of statistical dispersion that studies variation among the mid-50% of the LG distribution. In this table, seven out of ten indicators show that there is no advantageous behaviour after the introduction of the new indicators. Specifically, for the Organic Law on Budgetary Stability and Financial Sustainability, two out of three indicators confirm the isomorphism hypothesis. For SPSCA, five out of seven indicators support isomorphism.

[Table 7 here]

We have also found evidence of some LGs applying strategic behaviour by adopting an isomorphism with a decoupling perspective, exploiting indebtedness limits to the maximum in order to gather more financial resources for a better provision of services to citizens. We have compared the evolution of LG debt indicators with a higher level of indebtedness, focusing on *public debt, debt per capita* and *debt ratio* with indicators whose numerator is composed of liquid funds (*current solvency* and *short-term solvency)*. An increase in liquid funds could mean that LGs have more financial resources as a consequence of new borrowing transactions, maximising their level of indebtedness within limits established by law. After analysing the evolution of the LGs with a higher level of debt, there is evidence that some LGs have increased their solvency ratios as a result of an increase in liquid funds, which would support the perspective of mimetic isomorphism and decoupling.

7. Discussion

The main objective of this article was to test the effectiveness of Spanish legislation enacted for the fulfilment of Eurozone financial condition requirements. Since the reform of the Spanish Constitution in 2011, whose objective was to reduce public debt and to curb public expenditure, the financial control of public administration activities (especially the LGs) has intensified due to new financial sustainability requirements enforced by the central government, with a fixed timetable of financial reporting established by law, and creating a dual requirement, the fulfilment of financial sustainability and the disclosure of this information. The requirements include indicators for the regular assessment of the LGs' financial situations, in order to strengthen budgetary and financial discipline, and the disclosure of all of this information on the official Spanish Ministry of Finance website. Spanish legislation requires LGs to both reach the financial thresholds established by the Eurozone and to disclose this information for benchmarking. For these purposes, we have analysed whether Spanish legislation (Law on Budgetary Stability and SPSCA) has led to improvement or isomorphism behaviours, after the implementation of those legal requirements.

Although Law 2/2012 is mandatory for everyone and the fact that all LGs should have improved their financial situation to the minimum levels required by this law in order to meet legal requirements, some have reached this goal and others have not, some have improved more and others less. Our hypothesis is based on the fact that these differences can be explained because the effect of the trend towards the average is generated by the disclosure of information which makes that comparison between peers possible and improves the situation of those with worse financial health. The trend towards the average of LGs with poor financial ratios could be explained as a consequence of two possible perspectives: as an

emulation of those LGs with better management (mimetic isomorphism) or because they are harnessing the maximum limits of indebtedness allowed by the law (mimetic isomorphism and decoupling, disclosing information). This means that LGs could move towards the limits to be seen as fulfilling the regulation, without the need of greater efforts or maximising their available resources. The average approach (mimetic isomorphism and decoupling, disclosing information) can promote also to healthy performers to move towards the average rather that maximise the financial situation. In sum, the improvement approach is related to the importance of the disclosure part and the average approach, to the importance of determining limits by law.

The empirical results suggest that, in seven out of ten indicators of the study, the isomorphism approach is stronger than the improvement approach. The analysis shows that a high proportion of indicators converges towards the average, which confirms isomorphism. There are two exceptions: the *public debt* indicator and *solvency ratio*. *Public debt* had a satisfactory and positive evolution because, after the implementation of the requirements and the disclosure of indicators, the results show that *public debt* decreased in all cases. *Public debt* and the *solvency ratio* are limited by Eurozone requirements and their variations are under the close scrutiny of the Ministry of Finance. In the case of budgetary stability and public debt indicators, when a breach occurs the law imposes corrective actions (*eco-financial plan*) to remove the financial instability. Therefore, although it converges towards the mean, it is confirmed that corrective actions have been required to redirect the financial situation towards Eurozone thresholds.

That means that both low-performing and high-performing LGs converge to the mean, which does not guarantee the fulfilment of Eurozone requirements. So, there are beneficial effects of the requirements implemented by the law on the alignment of Spanish LGs' financial

conditions with Eurozone requirements. These results are consistent with those presented in the seminal article by DiMaggio and Powell (1983), as well as the one by Gerrish and Spreen (2017). In this line, isomorphism could be a result of trying to implement best practices and not only aiming to implement them.

A new paradigm for LGs is emerging in a society in which citizens are demanding discipline in the management of public funds after years of corruption and instability which was a partial reason for the Spanish financial crisis. All economic players mandate stringent financial control: citizens want to know how much and in what way tax money is spent. Likewise, the EU needs to know if Spain meets its financial obligations because such control is linked to the general interests of that country's economy and the EU. The control of financial risk is required as a preventive measure, so that LGs are able to restore their financial situation through corrective actions, such as eco-financial plans to avoid a relapse into financial instability.

Much remains to be done in the area of financial risk control, but all signs suggest that working with discipline, responsibility and commitment, and the use of efficient and appropriate reporting tools should improve the financial situation. Disclosure benchmarking helps governments to make comparisons, but requirements are also needed. An analysis of the common traits in the financial situations of those LGs which approved eco-financial plans following legal requirements and those that did not would make for interesting future research. Approval of the Budgetary Stability Law and the Law on Transparency has facilitated access to public bodies and allowed a dataset of LG indicators to be built; this marks the beginning of new opportunities to investigate this topic.

8. Conclusions

This article analyses the effect of introducing new requirements in Spanish law that are approved by the central government to reduce public debt and curb public expenditure by LGs up to the thresholds required by the Eurozone, causing a dual requirement: the fulfilment of financial sustainability and the disclosure of this information. It allows a comparison between LGs, allowing for a benchmarking process with respect to improvement. Spain which is a decentralised country, thus belongs to the group of states that monitor the financial health of their local governments by using compulsory indicators which are regularly reported according to the applicable laws in order to enhance transparency. For these purposes, two hypotheses were tested in the Spanish case, based on the isomorphic or improvement approaches, and regarding the effect of both the entry into force of financial indicators for LGs and their required disclosure. The evidence supports the isomorphic approach, except for *public debt* and the *solvency ratio* which are critical indicators under specific scrutiny by the Spanish Ministry of Finance and the EU. These results confirm the effectiveness of the disclosure of indicators for benchmarking purposes because, although corrective actions are taken to redirect the financial situation, the effect converges towards the mean. In the Spanish case, the results can be considered beneficial because the compulsory passing of a law on financial indicators has moved the threshold of the indicators' mean over the limits required by the EU. The results also support the effectiveness of the new reporting requirements enforced by the abovementioned legislation to restore public debt and public expenditure to the limits established by the EU for Spain, because the analysis finds improvements in the means of both indicators that coexist with a general isomorphic effect. Those LGs with poor financial indicators improve over time, whereas LGs with healthy ratios decline towards the mean, offsetting poor performers at the mean of the

distribution. Both results – the improvements brought about by the passing of a law on new reporting requirements, which have increased the mean of critical indicators identified in those laws and the isomorphic effect between LGs – both have implications for evaluating the performance of laws and benchmarking programmes.

We should note that although the term improvement is used in contrast to isomorphism, they are not mutually exclusive. In fact, isomorphism would likely result in LGs, both above and below the mean, converging towards the mean, implying improvement for some governments. For example, local governments with high liquidity ratios may be withholding valuable resources from the local economy; spending accumulated reserves would likely benefit the local economy (Gerrish and Spreen, 2017). Notwithstanding, the isomorphism evidence justifies the need for introducing legal requirements in order to make sure that all indicators achieve the minimum values required by law. In our study we include (besides mimetic isomorphism trough imitation) another possibility of explaining why LGs with a worse financial position tend towards the average: disadvantaged LGs are availing maximum indebtedness limits in order to gain more financial resources as a consequence of better quality in the provision of services to citizens. The mandatory disclosure of financial information with a reporting requirement schedule creates pressure on LGs as their financial health is shown to society, something which could help to restore their reliability after years of irresponsible management in the years prior to the 2008 global crisis. Disclosure of financial information contributes to improve the decision-making processes as a consequence of the increased availability of public financial information, something which makes it possible for them to compare their own financial evolution, and compare it with other LGs with similar characteristics. Our study highlights the dual implementation by the government consisting in evaluating the financial situation of government entities and disclosure of this

information in a decentralised country, adding the advantage of applying the knowledge which emanates from the disclosure of financial information. In this way, each LG can be compared with itself in order to understand its financial evolution and also with other LGs to find similarities. Our evidence suggest, that the fact that the disclosure of financial information is public and may be also consulted by any stakeholder reinforces the responsibility in the LGs' general interest, which allows us to conclude that positive feedback exists, thus building a new era for Spanish LGs, and showing the great effort of restoring the responsible management of public administration by enhancing the transparency of their activities.

Declaration of interest statement
The authors declare that there is no conflict of interest.

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Tables
Table 1. Variables studied in researches on financial condition.

Authors	Indicators
Bastida *et al.*, 2011	Debt per capita.
Cabaleiro *et al.*, 2012	Sustainability (long-term debt), flexibility (net current budgetary revenues-net budget obligations), vulnerability (net current budgetary revenues-taxes-transfers).
Solé-Ollé *et al.*, 2012	Own revenues, grants, expenditures, debt service, and deficit.
Pérez López *et al* 2013	Debt per capita.
Clark 2015	Cash ratio, quick ratio, current ratio, operating ratio, surplus (deficit) per capita, net asset ratio, long-term liability ratio, long-term liabilities per capita, taxes per capita, revenues per capita, expenditures per capita.
Navarro Galera *et al* 2015, 2017	Cash surplus, capital or current debt, current assets/current liabilities, current revenue-current expenditure.
Kaldani *et al.*, 2016	Budget balance, asset flexibility, pension funding,
Robbins *et al.*, 2016	Current ratio, average collection period, self-income ratio, operating surplus, operating surplus per resident, operating surplus ratio, commercial rates collection efficiency ratio, housing rents collection efficiency ratio, commercial charges collection efficiency ratio, housing loans collection efficiency ratio, net financial liabilities, net financial liabilities ratio, gross debt to income ratio, debt to assets ratio.
Gerrish and Spreen, 2017	Total margin ratio, percent change in net assets, charge to expense ratio, debt service ratio, quick ratio, net assets ratio, debt to assets ratio, capital assets condition ratio, operations ratio, intergovernmental ratio, debt service ratio, quick ratio, fund balance as a percentage of expenditures, debt as a percentage of assessed value).
Trussel and Patrick, 2017	Revenue per capita, intergovernmental revenues, expenditures per capita, operating position, user charges, public works, debt service, debt to revenue, debt per capita, debt to assets, fund balance to revenues, fund balance to assets, cash to revenue, cash to debt, current ratio, pension costs, employee benefits, tax revenue concentration, tax capacity.
Gorina *et al.*, 2018	Fiscal distress. Independent variables: cash solvency, budgetary solvency, long-term solvency, revenue structure and service-level solvency.
Bisogno *et al.*, 2020	Budgetary solvency.

Table 2. The Organic law on Budget Stability and Financial Sustainability indicators (2012)

Indicator	Description	Calculation	Interpretation
Current solvency	It reflects the percentage of budgetary and non-budgetary debts that can be met with the liquidity immediately available.	Liquid funds divided by current liabilities.	If the ratio is greater than one, it means that liquid funds are sufficient to satisfy current obligations.
Short-term solvency	It reflects the ability of the LGs to meet their outstanding obligations in the short term.	Liquid funds plus receivables outstanding, divided by current liabilities.	If the ratio is greater than one, it means that the liquid funds and the charges pending collection are sufficient to cover current obligations.
Solvency ratio	It shows if current assets cover current liabilities.	Current assets divided by current liabilities.	If the ratio is greater than one, it means that the current assets are sufficient to cover current obligations.
Debt per capita	In LGs this index divides the total debt of the public entity by the total population.	Current liabilities plus non-current liabilities, divided by population.	It shows the amount of short and long term debt for each inhabitant in cities.
Indebtedness	Represents the relationship between the total liabilities required (current and non-current) with respect to equity	Current liabilities plus non-current liabilities, divided by the sum of	It shows the total liability of the LGs in the short and

		plus the total liabilities of the entity.	current liabilities, non-current liabilities and equity.	long-term.
Debt ratio		It represents the relationship between current and non-current liabilities.	Current liabilities, divided by non-current liabilities.	It shows the relationship between short-term debt and long-term debt.
Cash flow		It shows whether net flows of cash managed cover the entity's liability.	Current liabilities plus non-current liabilities, divided by net flows managed.	It shows the relationship between short and long-term and cash.

Table 3. SPSCA adapted to Local Administration Financial Indicators (2015)

Indicator	Description	Calculation	Interpretation
Current solvency	It reflects the percentage of budgetary and non-budgetary debts that can be met with the liquidity immediately available.	Liquid funds divided by current liabilities.	If the ratio is greater than one, it means that liquid funds are sufficient to satisfy current obligations.
Short-term solvency	It reflects the ability of the LGs to meet their outstanding obligations in the short term.	Liquid funds plus receivables outstanding, divided by current liabilities.	If the ratio is greater than one, it means that the liquid funds and charges pending collection are sufficient to cover current obligations.
Solvency ratio	It shows if current assets cover current liabilities.	Current assets divided by current liabilities.	If the ratio is greater than one, it means that current assets are sufficient to cover current obligations.
Debt per capita	In LGs this index divides the total debt of the entity by the total population.	Current liabilities plus non-current liabilities, divided by population.	It shows the amount of short and long-term debt for each inhabitant in cities.
Indebtedness	Represents the relationship between the total liabilities required (current and non-current) with respect to equity plus the total liabilities of the entity.	Current liabilities plus non-current liabilities, divided by the sum total of current liabilities, non-current liabilities and	It shows the total liability of the LG in the short and long-term.

equity.

Debt ratio	It represents the relationship between current and non-current liabilities.	Current liabilities, divided by non-current liabilities.	It shows the relationship between short-term debt and long-term debt.
Cash flow	It shows whether net flows of cash managed cover the entity's liability.	Current liabilities plus non-current liabilities, divided by net flows managed.	It shows the relationship between short and long-term and cash.

Table 4. The Organic Law on Budgetary Stability and Financial Sustainability of Public Administrations and SPSCA adapted to Local Administration indicators Descriptive Statistics.

	Mean	SD
Non-financial budgetary balance (+)	16,253,690.11	25,125,054.26
Public debt (-)	104,132,553.90	154,645,221.00
Average payment period (-)	51.95	46.94
Current solvency (+)	1.07	1.38
Short-term Solvency (+)	2.39	2.06
Solvency ratio (+)	1.36	1.22
Debt per capita (-)	1,104.62	2,604.79
Debt (-)	0.37	0.25
Debt ratio (-)	1.15	2.88
Cash flow (+)	-36.93	1,157.45

Table 5. Social and Economic Control Variables Summary Statistics, 2012-2016.

	Mean	SD
Percentage of residents over 65	17.34	32.15
Percentage with a college degree	27.85	56.39
Income average	27,024.63	4,554.83
Poverty rate	0.27	0.83
Ln (Population)	11.63	0.81
Unemployment rate (country)	0.24	0.08
ln (Density of Immigrant population)	9.09	1.04

Table 6. Pre and Post Percent Change in the Organic Law on Budgetary Stability and Financial Sustainability of Public Administration indicators (2012), and SPSCA (2015) Mean and SD.

|	Pct Chg in Mean	Pct Chg in SD	Evidence of…
Non-financial budgetary balance	0.19	-1.07[+++]	Isomorphism
Public debt	-0.10*	0.07	Improvement
Average payment period	-0.38	-0.65[+++]	Isomorphism
Current solvency	0.58**	-1.24[++]	Improvement
Short-term Solvency	0.22	-1.16[+++]	Isomorphism
Solvency ratio	0.42**	-0.81	Improvement
Debt per capita	-0.55	-0.07[+++]	Isomorphism
Debt	-0.29	-0.13[+++]	Isomorphism
Debt ratio	-1.63	-1.91[+++]	Isomorphism
Cash flow	1.34**	0.35	Improvement

Statistical significance of the change in the mean is indicated with asterisks: *p<.05, **p<.01, ***p<.001, statistical significance of the change in the SD is indicated with a plus sign: +<.05, ++p<.01, +++p<.001, applying Bartlett's test.

Table 7. Pre and Post Percent Change in the Organic Law on Budgetary Stability and Financial Sustainability of Public Administration indicators (2012), and the SPSCA (2015) Interquartile Range.

|	Pct Chg in IQR	Evidence of Isomorphism?
Non-financial budgetary balance	-31.28	Yes
Public debt	24.86	No
Average payment period	-4.11	Yes
Current solvency	-13.60	Yes
Short-term Solvency	-23.85	Yes
Solvency ratio	68.68	No
Debt per capita	-7.44	Yes
Debt	-28.58	Yes
Debt ratio	-15.94	Yes
Cash flow	71.84	No

Figures

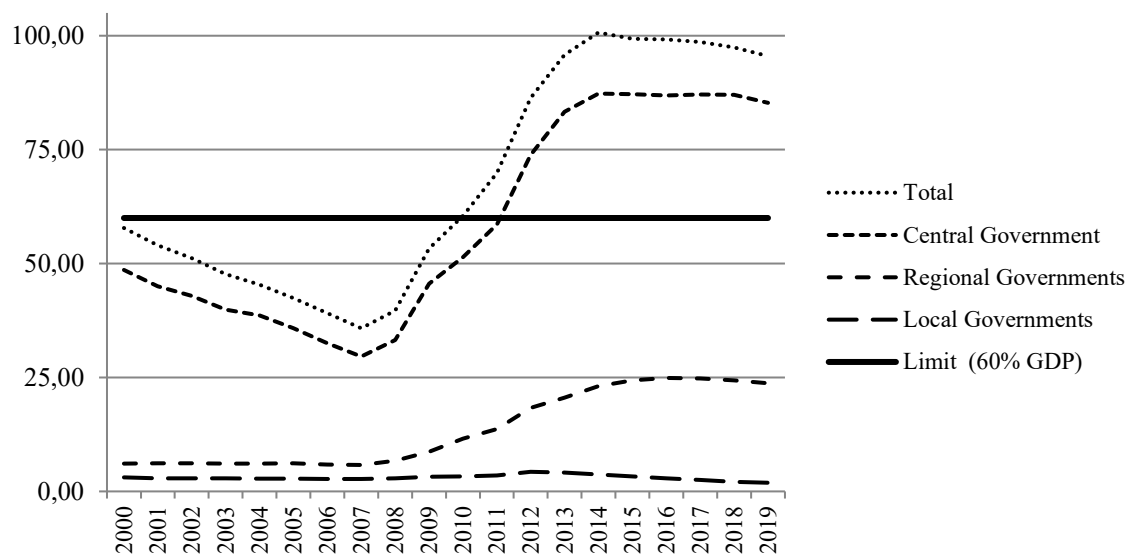**Figure 1. Evolution of income structure of LGs.**
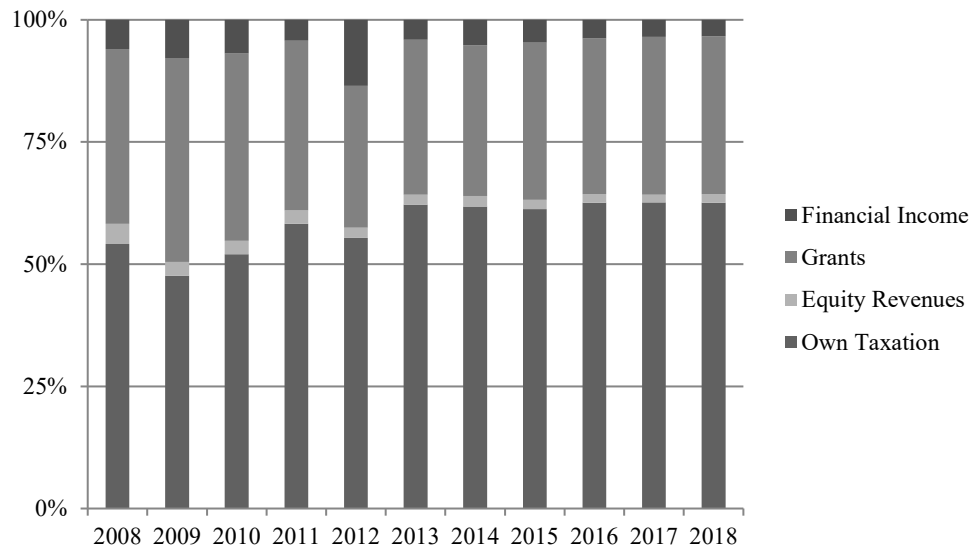
Source: Spanish Ministry of Finance

Figure 2. Evolution of LG debt, in thousands of Euros.
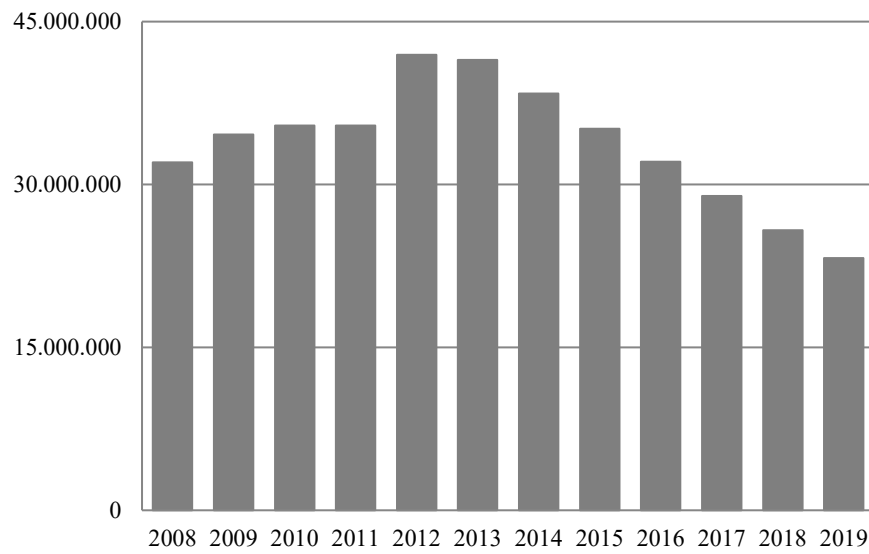
Source: Spanish Ministry of Finance

Figure 3. Evolution of Public Administration's debt according to the Excessive Deficit Procedure protocol, as a percentage of Gross Domestic Product (GDP).

Source: Bank of Spain.