Measures to Assess the Payment Behavior of the Portuguese Subnational Governments

Paula Gomes dos Santos and Carla Martinho

Abstract This study aims to assess the outcomes of the Late Payments Directive (LPD), in the Portuguese subnational governments, which is essential for the sustainability of their commercial debt. It proposes that the control measure of the payment behavior is permeable to creative accounting practices. The investigation is based on a quantitative study of the 308 Portuguese subnational governments, from 2011 to 2017. The data were obtained from the official releases of the Directorate-General of Local Authorities (DGAL). The paper provides empirical insights about the actual outcomes of LPD. It suggests that the official data reported by Portuguese subnational governments is not reliable and does not enable the accurate evaluation of the LPD outcomes, not setting a common methodology for measuring the payment behavior of public authorities neither in Portugal, nor when compared with other Member States. Although all the data was obtained from DGAL, its lack of reliability is highlighted. Researchers are encouraged to study the control measures of the payment's behavior adopted by other Member States.

The paper contributes to the knowledge of the Portuguese actual outcomes of LPD implementation at subnational governments and proposes new control measures.

Keywords Payment behavior measure · LPD outcomes · Financial sustainability · Subnational public governance · Nonreliable Reports

1 Introduction

Financial sustainability has a relevant role on the economic recovery of the last international crisis. Measuring, managing, and controlling it has become a challenge for governments (Montesinos et al. 2019). International organizations have advised

P. G. dos Santos (✉) · C. Martinho
Accounting and Auditing Department, Lisbon Accounting and Business School – ISCAL/IPL, Lisbon, Portugal
e-mail: pasantos@iscal.ipl.pt; cmartinho@iscal.ipl.pt

M. H. Bilgin et al. (eds.), *Eurasian Economic Perspectives*, Eurasian Studies in Business and Economics 16/1, https://doi.org/10.1007/978-3-030-63149-9_3

governments to implement policies aiming for financial sustainability (International Monetary Fund [IMF] 2014; European Parliament [EP] 2009; European Commission [EC] 2012). According to Cabaleiro et al. (2013), these policies are essential for ensure financial health and intergenerational equity. Financial sustainability is the basis for the structural functioning of the public sector and is key to the economic growth and social welfare, contributing to build confidence in the public governance. It includes not only the government's debt control but also the commercial debt control.

The Late Payments Directive (LPD) (Council Directive 2011/7/EC 2011) was issued in response to the negative impact of the late payments in commercial transactions on business' sustainability. The Fiscal Sustainability Report (EC 2012) stated that some Member States such as Portugal, Italy, and Greece had a sustainability gap higher than the average of the European Union (EU). Recurring debt and deficit situations in public sector have been recognized by the literature and international agencies as a risk for sustainability, which need to be controlled (Bolívar et al. 2016; Checherita-Westphal et al. 2014; IMF 2014; Pérez-López et al. 2013; Estevez and Janowski 2013; United States Agency for International Development [USAID] 2011; Pina et al. 2010).

The financial sustainability of the Portuguese subnational governments has a particular relevance, as they experienced financial difficulties in the past decade (as an excessive and chronic indebtedness) (João 2014; Ferreira 2011; Lobo and Ramos 2009; Cabral 2003; Carvalho 1996), giving an extreme importance to subnational governance. A good public governance should not only be effective and efficient, but also transparent (OECD 2013). According to Heald (2003), Grimmelikhuijsen (2012), and Cucciniello and Nasi (2014), to be able to evaluate the LPD it is essential to have information about the "policy outcome transparency." Thus, the challenge of controlling commercial debt and eradicating late payments from public administrations requires the creation of an instrument, automatic and easy to apply, so that its monitoring allows a generalized and effective control, understandable both for the public sector and for citizens.

Therefore, transparent control measures are essential for understanding the public sector payment behavior and to assess the LPD real effects and outcomes. LPD establishes late payments; however, it does not establish how to measure them. Therefore, this investigation contributes (i) to the knowledge of the control measure of the payment behavior of subnational governments and (ii) to the assessment of the actual LPD outcomes.

Being LPD relevant for the Portuguese subnational governments' financial sustainability, and to fully understand payment behavior, this investigation aims to assess the LPD outcomes in subnational governments, during the period of 2011–2017, while studying:

- The Portuguese control measure of late payments, and.
- If it allows an effective control and a common measure to assess the payment behavior of public authorities in Portugal, namely in the subnational governments, as well as in comparison with other Member States.

This paper has five sections. Starts with the investigation purpose and importance, and then details the theoretical framework about the impact of late payments on the European financial sustainability, the control measures of late payments and their transparency. Also, the late payments control measures in Spain and in Portugal are presented. Section 3 explains the data and the methodology used, and Sect. 4 presents the findings. The last section provides the main conclusions and suggests future investigations.

2 Theoretical Framework

2.1 Financial sustainability and Late Payments

Financial sustainability is the capacity to fulfil all commitments (IFAC 2013; IPSASB 2013; EC 2012; Budgetary Framework Law 2015; Financial Regime of Local Authorities and Intercity Entities Act 2013; CICA 2009). Debt sustainability analysis is usually focused on "government debt" (namely debt securities and loans), although government liabilities are wider including additional debt instruments (EC 2019). IMF (2013) considers all debt liabilities as debt.

Financial sustainability has been considered as the government's "solvency." However, it should also include the government's liquidity, as the international crises have proven (EC 2019). Concerned with the late payments consequences on the European economy, the European Parliament issued Council Directive 2011/7/EC (2011), the Late Payment Directive (LPD), imposing the need to pay for the acquisitions within 30 days or, exceptionally, within 60 days. According to Bilotta (2013), one in four bankruptcies in the EU was due to late payments, which lead to the loss of approximately 450,000 jobs per year. EC (2015) estimates that, in 2012, the financial costs associated with public authorities' late payments went from 0.005% of GDP in Finland, to 0.19% of GDP in Greece.

2.2 Late Payments Control Measures Assessment

2.2.1 Control Measures Transparency and Accounting Practices

The LPD impact assessment concluded that, in 2015, the average payment duration (of 58 days) did not meet the Directive terms (EC 2015). LPD implementation was also assessed in 2018 (shown in Fig. 1).

Although the situation has improved, namely in the southern countries (as Spain), the average payment duration in some countries overdues the 30-day payment term (as in Italy with over 100 days, Portugal with over 80 days, and in Greece with over 70 days).

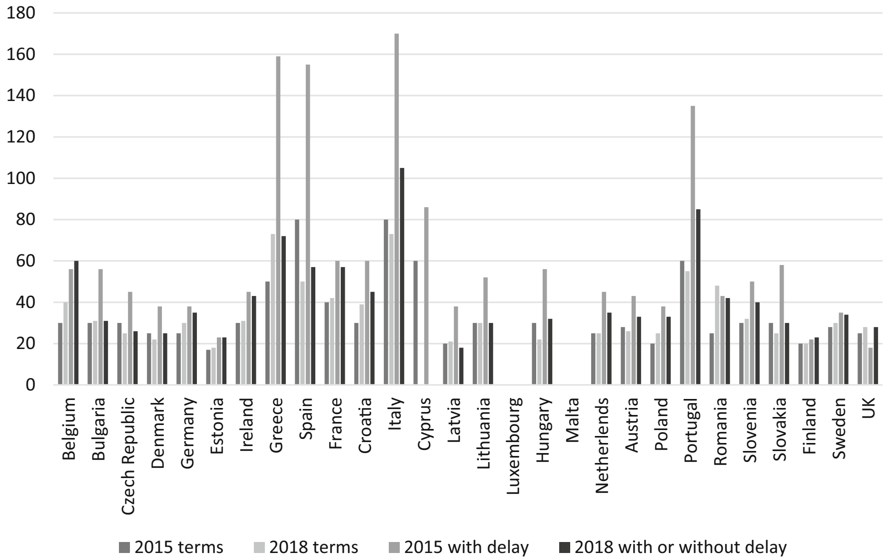

Fig. 1 Terms and delays of public authorities' payments (2015 and 2018). Source: EP (2018, p. 16) (Cyprus, Luxembourg, and Malta were not assessed at 2018)

Despite the need to control late payments, LPD does not establish how to measure them. EC (2015) highlighted that a harmonized measurement would enable the cross-country comparability. EP (2018) has pointed out that it is necessary to establish a common methodology for reporting the payment behavior in Europe, to limit the risk of having noncomparable data.

According to Berry and Berry (2007), the adoption of a given measure by a Government depends, namely, on "other policies" and on the "external environment." So, other government diplomas/policies that have already been implemented that may influence (positively or negatively) the adoption of the new public policy should be examined.

Member States were urged to assure the Late Payment Directive proper implementation by removing national laws that conflict with the Directive aims (EP 2018). LPD was set by law and involves accounting practices and the organization behavior in complying or not with the legal framework. For Dillard et al. (2004), it is necessary to understand how accounting affects and is affected by public policies, namely under the institutional theory. Hopwood (1988) also argues that there is a strong relation between accounting and institutional theory.

Institutional theory studies the relation between the formal organizational structures and their social processes (Dillard et al. 2004). DiMaggio and Powell (1983) argue that isomorphism is what best expresses the homogenization process. For Aldemir and Uysal (2017), isomorphism may be discussed in terms of public sector accounting. DiMaggio and Powell (1983) defend that the institutional isomorphism may be a coercive isomorphism, which emerges from political influences (arising from, for example, legal requirements).

According to Carpenter and Feroz (2001), institutional theory and economic resource dependency theory, being complementary, contribute to better understand public sector accounting decisions. For Pfeffer (1981) and Pfeffer and Salancik (1978), the resource dependency perspective focuses on financial resources problems to explain the individual's behavior within an organization. Hence, in fiscal stress years, government actors focus on ensuring the necessary financial resources (Carpenter and Feroz 2001).

Oliver (1991) focuses on political self-interest to understand organizational strategic responses to institutional pressures for change. The author identified different strategic responses to that pressure, concluding that organizations do not always conform to their institutional environment expectations (Oliver 1991).

According to Carpenter and Feroz (2001), resource dependence may influence the government's accounting practices, resulting in coercive isomorphic pressure for change. DiMaggio and Powell (1983) have noticed that the resistance of individual organizations to institutional pressures for change results of the professional elite's in challenging the norms. As Miller (1992) defended about accounting and objectivity, an organization accounting practices may not always follow the original designs.

To be able to effectively assess the LPD implementation, European Parliament should concern the outcome's transparency. According to Heald (2003), Grimmelikhuijsen (2012), and Cucciniello and Nasi (2014), public policy transparency can be divided into three sequential components, "decision-making transparency" (the process that led up to a particular policy), "policy transparency" (how a policy addresses a particular social issue), and "policy outcome transparency" (data about the actual effects of a particular policy). Thus, to fully understand the LPD outcomes, it is essential to assess its control measures. Without such information, it will not be possible to accurately evaluate LPD.

2.2.2 LPD Control Measures in Spain and in Portugal

Given the similarities between Portugal and Spain, both the slowest European southern countries payers in 2015 (EC 2015), and in order to study if there is a common measure to assess the payment behavior of public authorities in EU, this section presents the LPD control measures in those countries.

In Spain, Budgetary Stability and Financial Sustainability Act 2012 establishes the principle of the commercial debt sustainability. The Calculation Method of the Average Payment Period Act 2014 established the average payment period (APP) formula applicable to the public sector. Table 1 shows the APP formula for each entity.

The number of days of the paid transactions and of the pending payment transactions was understood as the calendar days since the 30 days after the invoice entry date or from the approval date, as appropriate. Given the APP methodology, some

Table 1 Average payment formula in Spain

Average payment (APP) formula	Legend
$APP_{entity} = \frac{[(PTR \times \sum PTA) + (PPTR \times \sum PPTA)]}{[(\sum PTA) + (\sum PPTA)]}$	PTR - paid transactions ratio PTA - paid transactions amount PPTR - pending payment transactions ratio PPTA - pending payment transactions amount

Source: Adapted from Calculation Method of the Average Payment Period Act 2014

Table 2 Average payment formula in Portugal

Average payment (APP) formula	Legend
$APP_t = \frac{\sum_{i=t-3}^{t} \frac{DF_i}{4}}{\sum_{i=t-3}^{t} A_i} \times 365$	DF = short-term suppliers' debt at the quarter end A = acquisitions

Source: Adapted from Pay on Time Program Act 2008

public administrations presented a negative APP (because 30 days were subtracted from the number of days until payment). The European Commission considered that this methodology was not compatible with the article 4 of Council Directive 2011/7/EC and, in February 2017, sent a letter of formal notice to the Spanish authorities for having approved a regulation that systematically granted the public authorities an additional period of 30 days regarding the payment period.

The Calculation Method of the Average Payment Period Act 2017 modified the Calculation Method of the Average Payment Period Act 2014, in order to comply with the EC requirement, modifying the APP calculation methodology. The formula is the same but what is understood as the number of days of the paid transactions and of the pending payment transactions are the calendar days since the invoice entry date or from the approval date, as appropriate. The new methodology is being used since April 2018.

In 2011, Portugal requested international financial assistance, which led Portuguese governments to give a special attention on combating the culture of late payments of the public authorities. Measures Against Late Payments in Commercial Transactions Act 2013 transposed the LPD into Portuguese law, establishing the same rules, i.e., the need to pay within 30 days or, exceptionally, within a maximum of 60 days.

Directorate-General of Local Authorities (DGAL) is responsible for releasing quarterly data on the average payment terms of subnational governments (it should be noted that, in Spain, that release is monthly). As LPD has no guidance in how to measure payment terms, the formula established in Pay on Time Program Act 2008 is used, with the changes made by Average Payment Period Formula Act 2009, to measure the Portuguese public authorities average payment duration (presented in Table 2).

Pay on Time Program Act 2008 establishes the concepts of "short-term suppliers' debt" and "acquisitions." It should be noted that the data does not have the same accounting basis in all of the public sector, being gathered in a cash basis and in an

Table 3 Short-term suppliers' debt and acquisitions

Sector	Short-term suppliers' debt (DF)	Acquisitions (A)
Subnational governments	Accounts payable excluding other debts	Fixed asset Inventories Payable expenses
Health units	Accounts payable	Fixed asset Inventories Payable expenses

Source: Adapted from Pay on Time Program Act 2008

Table 4 APP formula weakness

APP formula	Factors
The formula considers the total quarter acquisitions and the debts at the end of the quarter.	An entity that buys on the beginning of the quarter and pays on the end have an APP of zero, when it paid in 90 days.
Fixed assets acquisitions.	These acquisitions are the fixed assets increases. However, these increases may be an exchange transaction or a non-exchange one.
The debts value.	Some entities only recognize the invoices close to or at the payment date.

Source: Adapted from Carvalho et al. (2018)

accrual one, which leads to the coexistence of different control measures depending on the public subsector. Table 3 summarizes the scope of these concepts for subnational governments and health units, for which data is accrual based.

In subnational governments, "short-term suppliers' debts" (DF) does not consider "other debts," unlike what happens in the health units. According to the Local Governments Accounting Standards 1999, "other debts" are "transactions nonclassified in the previous payables accounts," so they should be residual.

Martinho and Santos (2019) and Baleiras et al. (2018) defend that subnational governments average payments period (APPs) may be underestimated by not considering "other debts" as "short-term suppliers' debts," particularly when they are material.

For Carvalho et al. (2018), an APP of 0 or 1 day, as reported by some subnational governments, indicates the data low reliability, although obtained from DGAL. The authors conclude that these small APPs "may result from good payment practices, from noncomplying with accounting rules (recognizing the debt only at the payment date) or from the formula" (Carvalho et al. 2018, p. 291). Table 4 shows the formula weakness exposed by the authors.

Ausloos et al. (2017) argue that, in Italy, data reliability concerns (related to poor auditing procedures) have become more relevant since the bankruptcy of several subnational government entities under the last financial crisis. The Portuguese Audit Authority (IGF) defend the need to review the APP methodology, adopting a common measure for all subsectors to achieve comparability (IGF 2012). The Portuguese APP methodology does not allow to obtain negative APPs (as it did in

Spain), but it may give entities until 90 days to make payments and still have an APP of zero, provided that they paid until the end of the quarter.

3 Data and Methodology

Having a sustainable commercial debt is of most relevance for the government's financial sustainability, namely for Portugal that had to request international assistance. To achieve this challenge, it is essential to comply with LDP, paying to suppliers within 30 days. To actually understand the effects of the LPD, it is essential to have transparent information about the control measures and its outcomes.

Following the literature (Heald 2003; Grimmelikhuijsen 2012; Cucciniello and Nasi 2014), to be able to evaluate the LPD it is essential to have information about the "policy outcome transparency," i.e., access to information that details the actual effects of LPD.

This investigation aims to assess the LPD outcomes in subnational governments, for the period of 2011–2017, studying:

- The Portuguese control measure of late payments, and.
- If it allows an effective control and a common measure to assess the payment behavior of public authorities in Portugal, namely in the subnational governments**,** as well as in comparison with other Member States.

The investigation focuses on the 308 Portuguese subnational governments and it was based on the APPs data and on the Statements of Financial Position released by DGAL for the years 2011–2017 (last year for which data was available). Following Pay on Time Program Act 2008, "short-term suppliers' debt" is the payables accounts excluding "other debts." It was considered the last quarter APPs of each year, except in Oeiras in 2017 where the third quarter APP was used (the last quarter was not available). The subnational governments have been classified into three categories according to the number of inhabitants, following the criteria of Carvalho et al. (2018):

- Small: up to 20,000 inhabitants.
- Medium: between 20,000 and 100,000 inhabitants.
- Large: more than 100,000 inhabitants.

The number of subnational governments in each category, small, medium, and large, from 2011 to 2017, is shown in Table 5 (inhabitants' data are from "Pordata" site).

Most of the Portuguese subnational governments are of small size, and only about 8% are large ones (being the same ones in the period). In that period, the number of inhabitants had some variations, leading to a residual difference in the number of the medium and small municipalities over the years.

Table 5 Subnational governments by category (2011–2017)

	2011	2012	2013	2014	2015	2016	2017
Large	24	24	24	24	24	24	24
Medium	103	101	100	100	99	99	98
Small	181	183	184	184	185	185	186
Total	308	308	308	308	308	308	308

Source: Own source

Table 6 Percentage of subnational governments with APPs up to 5 days (2011–2017)

	2011	2012	2013	2014	2015	2016	2017
Large	0%	0%	4%	4%	13%	13%	13%
Medium	1%	4%	5%	7%	8%	9%	13%
Small	2%	5%	7%	9%	12%	14%	17%
Total	2%	5%	6%	8%	11%	12%	15%

Source: Own source

4 Findings

The average payments period (APP) measures the capacity to fulfil the obligations in commercial transactions. Carvalho et al. (2018) question the reliability of the available data, namely in what concerns to the "strange" small reported APPs. Table 6 presents the percentage of subnational governments, by category, with an APP less or equal to 5 days (according to the Ministry of Finance, after 5 days since the invoices entry date they are considered as payables).

The percentage of subnational governments with APPs up to 5 days is getting higher in all categories, being 13% of the large and medium ones, and 17% of the small ones in 2017. Given the expenses of legal procedures, in a bureaucratic public administration (Carvalho et al. 2018), it is not plausible that so many Portuguese subnational governments have these APPs. Remember that the APPs consider the quarterly debts, so it systematically grants an additional period until 90 days regarding the payment period.

According to Baleiras et al. (2018) and Martinho and Santos (2019), the APP measure is limited by not considering the "other debts." Thus, the APP was adjusted in order to consider those debts as "short-term suppliers' debt." The adjusted APPs (called "overall APP") were obtained from a proportional ratio between the payable's accounts considered by Pay on Time Program Act 2008 and those added to the "other debts." When subnational governments had a "short-term suppliers' debt" of 0 and value in the APP, it was considered an overall APP of 0 (the nonreliable data would distort the new measure). When those debts (under Pay on Time Program Act 2008 framework) were less than € 10,000, relevant "other debts" would also distort the overall APPs, so the same solution was followed. The annual averages evolution of the official APPs and of the overall APPs (in days) of the Portuguese subnational governments during the period is shown in Fig. 2.

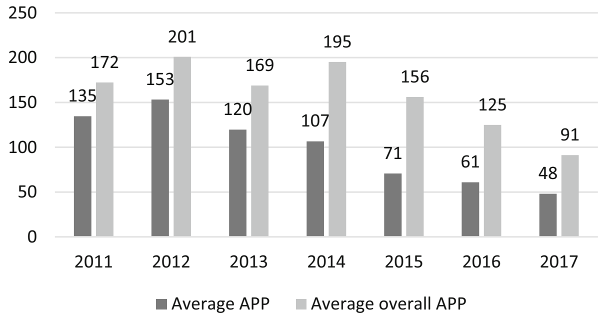

Fig. 2 Annual averages, in days, of APPs and overall APPs of Portuguese subnational governments (2011–2017). Source: Own source

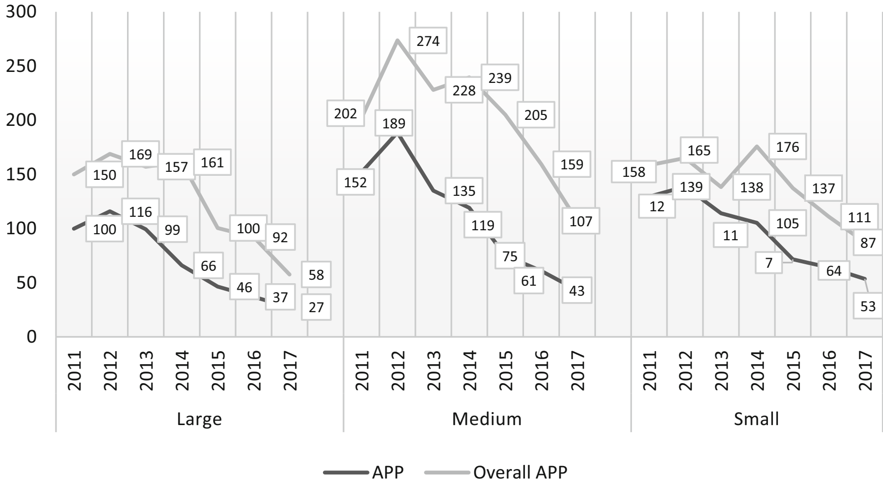

Fig. 3 Annual averages, in days, of APPs and overall APPs of Portuguese subnational governments, by category (2011–2017). Source: Own source

The official APPs of the subnational governments show a tendency of reduction since 2012 (where the longest term of 153 days can be observed), achieving an APP of 48 days in 2017. Although they have improved, they do not, however, comply with the LPD 30 days. The overall APPs allow to confirm the downward trend, although not in 2012, but since 2014. The payment practices showed by this measure are further away of the LPD objective. At the end of 2017, the average payment period of 91 days is more than three times higher than the 30-day limit.

The "other debts" impact in the control measure became clear by comparing the overall and the official APPs. The overall APPs greatly exceed the official ones in all the years, being more than the double in 2015 and 2016. This is ~~a~~ strong evidence that the average payment period has a relevant increase when the control measure considers the "other debts" (although they should be residual, they recognize very material amounts). Figure 3 allows to understand the payment behavior of the

Table 7 Portuguese Subnational Governments, by category, with APP and overall APP >30 days (2011–2017)

	2011	2012	2013	2014	2015	2016	2017
APP > 30							
Large	83%	75%	54%	42%	38%	38%	21%
Medium	85%	84%	74%	57%	43%	40%	36%
Small	76%	70%	65%	53%	38%	38%	40%
% of Total	**80%**	**75%**	**67%**	**54%**	**40%**	**39%**	**37%**
Ov. APP > 30							
Large	96%	96%	92%	75%	71%	75%	63%
Medium	93%	92%	86%	86%	84%	79%	77%
Small	84%	80%	78%	75%	83%	75%	70%
% of Total	**88%**	**85%**	**81%**	**79%**	**82%**	**76%**	**71%**

Source: Own source

subnational governments, by size, under the APPs and the overall APPs methodology.

2012 recorded the highest official APPs of the period in all the categories. The highest term of 189 days was observed in medium-sized municipalities. Despite the downward tendency, only the large subnational governments, and in 2017, met the 30 days term (with 27 days). The average payment period of the medium and of the small municipalities in all the years does not comply with LPD (even in 2017, where there is an average of 43 and 53 days, respectively).

The overall APP by category allows to understand that subnational governments have payment terms that stray too far from the LPD objective. Although the positive evolution of the payment practices since 2014, it is possible to observe that there is no category where they have average APPs within 30 days. Even the large ones have, in 2017, an overall APP of 58 days which is more than the double of the official APP. Table 7 shows the percentage of subnational governments, by size, that have APPs and overall APPs over 30 days, enabling the LPD assessment.

If we consider the official APPs, the number of subnational governments that have payments terms of more than 30 days has been reducing since 2011, in all categories. However, in 2017 there are still 37% of them that have APPs higher than 30 days, being the large ones the most compliant (with only 21% having APPs over 30 days).

Under the overall APPs methodology, although there is a positive trend, it can be observed that there are more subnational governments with a payment period of more than 30 days. This is the situation of 71% of them in 2017 (against the 37% when using the official APPs), and happens in all categories (for example, the large ones are the triple when compared to the officials APPs).

The assessment of the payment practices following the overall APP method leads to a substantial different outcome than the one that is currently achieved by official method. The difference between the percentage of subnational governments with an overall APP over 30 days and the ones with an official APP over 30 days, calculated

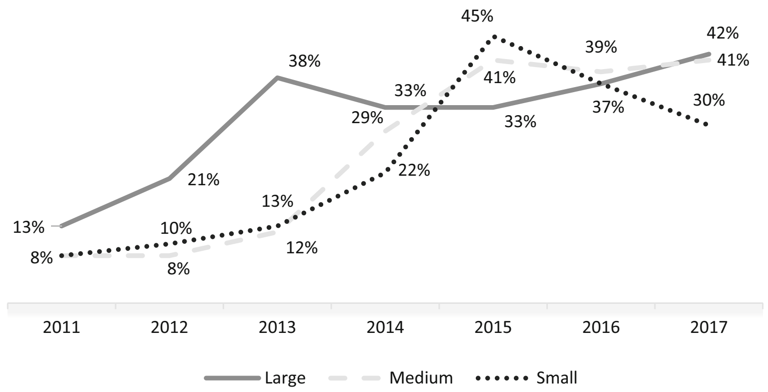

Fig. 4 Percentage of subnational governments, by category, with "overall APP >30" higher than "APP >30" (2011–2017). Source: Own source

Table 8 Ratio of 'other debts' and 'short-term suppliers' debt' (2011–2017)

	2011	2012	2013	2014	2015	2016	2017
APP > 30							
Large	1.8	6.4	6.0	6.2	9.5	11.2	4.4
Medium	5.4	4.1	10.5	8.2	20.9	11.6	12.3
Small	1.6	1.3	1.6	2.5	4.3	3.8	3.3
Total	**2.5**	**2.3**	**4.3**	**4.6**	**9.7**	**6.9**	**6.3**
Ov. APP > 30							
Large	0.8	0.5	0.6	0.3	0.4	2.2	0.4
Medium	0.4	0.4	0.7	1.5	1.0	2.2	1.0
Small	0.3	0.3	0.3	1.4	1.0	0.6	0.5
Total	**0.4**	**0.4**	**0.5**	**1.3**	**0.9**	**1.3**	**0.7**

Source: Own source

by the difference of the data presented in the previous table, can be observed in Fig. 4.

As can be seen in Fig. 4, in the last 3 years, the percentage of municipalities with an overall APP higher than the official APP is, for all categories, greater than 30%. If it is considered that the commercial debt is sustainable when the average payment period to suppliers does not exceed 30 days, it can be concluded that Portuguese subnational governments still have a sustainability problem (namely if the overall APP methodology is followed, i.e., the same methodology followed by other Portuguese public subsectors). Given the relevance that "other debts" have in the payment behavior control measure, Table 8 allows to see the ratio of "other debts" and "short-term suppliers' debt" in the subnational governments with an APP up to and over 30 days.

Observe that "other debts" are more relevant, in all categories, in the subnational governments that comply with LPD ("other debts" are much higher than the "short-term suppliers' debt," when they should be residual). In the medium ones, that ratio is of 20.9 in 2015 and of 12.3 in 2017.

It can be observed that this ratio tends to increase in the subnational governments that have the smallest official APPs and report payment practices that comply with LPD. Thus, subnational governments are recognizing as "other debts," material debts that should probably be considered as "short-term suppliers' debt" (obtaining small official APPs).

5 Conclusions

The last international crisis has brought the challenge to governments of adopting policies aiming for financial sustainability, namely regarding the need to reduce late payments which have been recognized as having a negative impact on businesses sustainability. Having a sustainable commercial debt (for which it is essential to pay suppliers within 30 days, complying with LDP) it is of most relevance for the Portuguese financial sustainability.

Given its importance to actually assess the effects of the LPD, the Portuguese control measure of late payments was studied. Following Berry and Berry (2007), the Pay on Time Program Act 2008 was examined, diploma that establishes the APP formula. This study confirms the conclusions of Carvalho et al. (2018), Baleiras et al. (2018), and Martinho and Santos (2019) concerning the APP measure weaknesses. Being quarterly, the measure considers the quarter end debts, granting an additional period until 90 days regarding the payment term.

Subnational governments APPs disregard "other debts" as "short-term suppliers' debts," contrary to other sectors of Government, which limits the comparability within the public sector. Being LPD a coercive isomorphism, the actor's behavior (Berry and Berry 2007) should be considered as well as the individual organizations resistance to institutional pressures for change (DiMaggio and Powell 1983). Thus, it was studied the relevance of the "other debts" when compared with the "short-term suppliers' debts" to see if it could influence the control measure.

The number of subnational governments reporting an APP until 30 days is getting higher since 2011, but the same ones are reporting "other debts" much higher than "short-term suppliers' debts." In 2017, these are 4.4 times more than "short-term suppliers' debts" in the large municipalities, 12.3 times more in the medium and 3.3 times more in the small ones. Therefore, the trend to increase the value recognized in "other debts" is followed by the trend to reduce the official APPs. It can be concluded that subnational governments are reporting smaller official APPs than the ones they would have if the APP measure did not except those debts.

As showed by the literature (Carpenter and Feroz 2001; Miller 1992; Oliver 1991; DiMaggio and Powell 1983), there may occur resistance to institutional pressures for change (even being coercive). By not considering "other debts," the APP formula is permeable to accounting practices that are discrepant of their "original designs." The investigation allows to conclude that the Portuguese APP formula does not set a common methodology for measuring the payment behavior of public authorities neither in Portugal, neither when compared with other Member States, as Spain. Also, it has many weaknesses, it is permeable to unethical behavior and practices and does not allow a generalized and effective control of the commercial debt. Therefore, the available data led to the conclusion that the information reported about the payment behavior of subnational governments is not reliable, not allowing an effective control of the LPD implementation and not contributing for the Portuguese financial sustainability.

The revision of the Pay on Time Program Act 2008 is recommended, in what concerns the "short-term suppliers' debt," harmonizing the control measure in the public sector in order to obtain comparable statistical elements. Also, a monthly report instead of a quarterly should be considered, in order to be able to compare with other Member States. The diploma analysis led to the conclusion that it may negatively influence the real adoption of the LPD, not enabling the assessment of the actual outcomes. Remember that the Member States should remove any domestic laws that conflict with the aims of the Directive, ensuring the proper LPD implementation (EP 2018).

The lack of reliability of the data is a study limitation, although it was obtained from DGAL. Also, the consideration of an overall APP of zero in some subnational governments, as explained in Sect. 4, could be a limitation, although it is considered as having no significant effect on the conclusions which only would be reinforced with the inclusion of those entities. The paper contributes to the knowledge of the control measures of the payment behavior of subnational governments and to the assessment of the actual LPD outcomes. As future research, the study about LPD outcomes and their transparency in all of Government sectors is proposed. Also, the study of the control measures of late payments adopted by other Member States is proposed.

Acknowledgements *This work was supported by IDI&CA 2019 of the* Instituto Politécnico de Lisboa *(*IPL/2019/AVLCPA_ISCAL*).*

References

Aldemir, C., & Uysal, T. (2017). Public Accounting Reform from Institutional Theory Perspectives: Case of Turkey. In S. Gokten (Ed.), *2017. Accounting and Corporate Reporting - Today and Tomorrow* (pp. 277–293). InTech: Croatia.

Ausloos, M., Cerqueti, R., & Mir, T. (2017). Data science for assessing possible tax income manipulation: The case of Italy. *Chaos Solitons and Fractals, 10*, 238–256.

Average Payment Period Formula Act. (2009). *2009 SI 2009/9870*. Lisbon: MFAP.

Baleiras, R., Dias, R., & Almeida, M. (2018). *Local finance: Economic principles, institutions, and the Portuguese experience since 1987*. Lisbon: Portuguese Public Finance Council.

Berry, F., & Berry, W. (2007). Innovation and Diffusion Models in Policy Research. In P. A. Sabatier (Ed.), *Theories of the Policy Process* (pp. 223–260). Boulder, CO: Westview Press.

Bilotta, C. (2013). Ending the Commercial Siesta: The Shortcomings of European Union Directive 2011/7 on Combating Late Payments in Commercial Transactions. *Brooklyn Journal of International Law, 38*(2), 699–727.

Bolívar, M., Navarro-Galera, A., Muñoz, L., & Lopez Subires, M. (2016). Analyzing Forces to the Financial Contribution of Local Governments to Sustainable Development. *Sustainability, 8*, 925.

Budgetary Framework Law. (2015). *2015 SI 2015/151*. AR: Lisbon.

Budgetary Stability and Financial Sustainability Act. (2012). *2012 SI 2012/2*. Madrid: CG.

Cabaleiro, R., Buch, E., & Vaamonde, A. (2013). Developing a Method to Assessing the Municipal Financial Health. *The American Review of Public Administration, 43*(6), 729–751.

Cabral, N. (2003). *The Use of Credit by Portuguese Local Authorities*. Lisbon: Academic Association of the Lisbon Faculty of Law.

Calculation Method of the Average Payment Period Act 2014. (2014). *SI 2014/635*. Madrid: MHFP.

Calculation Method of the Average Payment Period Act 2017. (2017). *SI 2017/1040*. Madrid: MHFP.

Carpenter, V. L., & Feroz, E. H. (2001). Institutional theory and accounting rule choice: An analysis of four US state governments' decisions to adopt generally accepted accounting principles. *Accounting, Organizations and Society, 26*(7–8), 565–596.

Carvalho, J. (1996). *The Budget Process of Local Authorities*. Coimbra: Almedina.

Carvalho, J., Fernandes, M., & Camões, P. (2018). *Financial Yearbook of Portuguese Municipalities – 2017*. Lisbon: Portuguese Order of Certified Accountants.

Checherita-Westphal, C., Hallett, A., & Rother, P. (2014). Fiscal Sustainability Using Growth-Maximizing Debt Targets. *Applied Economics, 46*(6), 638–647.

CICA. (2009). Indicators of financial condition. In *Public Sector Statements of Recommended Practice (SORP)*. Toronto, ON, Canada: CICA.

Council Directive 2011/7/EC on combating late payment in commercial transactions. (2011). *Official Journal* [online] L48*, pp. 1–10.* Accessed Jan 3, 2019, from http://data.europa.eu/eli/dir/2011/7/oj

Cucciniello, M., & Nasi, G. (2014). Transparency for trust in government: How effective is formal transparency? *International Journal of Public Administration., 37*(13), 911–921.

Dillard, J. F., Rigsby, J. T., & Goodman, C. (2004). The making and remaking of organization context— duality and the institutional context. *Accounting, Auditing and Accountability Journal, 17*(4), 506–542.

DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review, 48*, 147–160.

EC. (2012). *Fiscal sustainability report 2012*. EU: Brussels, Belgium. Accessed Nov 28, 2019, from http://ec.europa.eu/economy_finance/publications/european_economy/2012/pdf/ee-2012-8_en.pdf

EC. (2015). *Ex-post evaluation of late payment directive*. Accessed Dec 3, 2019, from https://publications.europa.eu/en/publication-detail/-/publication/400ecc74-9a54-11e5-b3b7-01aa75ed71a1

EC. (2019). *Fiscal sustainability report 2018*. Volume 1. EU: Brussels, Belgium. Accessed Dec 3, 2019, from https://ec.europa.eu/info/business-economy-euro/economy-finance-and-euro-publications_en

EP. (2009). *Proposal for a directive of the european parliament and of the council on combating late payment in commercial transactions*. Accessed Dec 3, 2019, from http://www.europarl.europa.eu/RegData/docs_autres_institutions/commission_europeenne/com/2009/0126/COM_COM(2009)0126_EN.pdf

EP. (2018). *Directive 2011/7/EU on late payments in commercial transactions*. European Implementation Assessment. Accessed Dec 3, 2019, from http://www.europarl.europa.eu/RegData/etudes/IDAN/2018/621842/EPRS_IDA(2018)621842_EN.pdf

Estevez, E., & Janowski, T. (2013). Electronic Governance for Sustainable Development-Conceptual framework and state of research. *Government Information Quarterly, 30*, 94–109.

Ferreira, D. (2011). *Determinants of municipal debt in Portugal. Braga: University of Minho*. Accessed Nov 29, 2019, from https://comum.rcaap.pt/bitstream/10400.26/6196/1/Disserta%C3%A7%C3%A3o_Meatrado_A.Melo_2013.pdf

Financial Regime of Local Authorities and Intercity Entities Act 2013. (2013). *SI 73/2013*. Lisbon: AR.

Grimmelikhuijsen, S. G. (2012). *Transparency and trust. An experimental study of online disclosure and trust in government*. PhD Dissertation, Utrecht University, the Netherlands.

Heald, D., (2003). *Fiscal transparency: Concepts, measurement and UK practice*. Public Administration. Accessed Nov 29, 2019, from https://onlinelibrary.wiley.com/doi/abs/10.1111/j.0033-3298.2003.00369.x

Hopwood, A. G. (1988). Accounting and organization change. *Accounting, Auditing and Accountability Journal., 3*(1), 7–17.

IFAC. (2013). *Recommended practice guideline*. Reporting on the long-term sustainability of an entity's finances; IFAC: Toronto, ON, Canada. Accessed Nov 29, 2019, from https://www.ifac.org/publications-resources/recommended-practice-guideline-reporting-long-term-sustainability-public-sect

IGF. (2012). *Control of the impacts of financial assistance in municipalities: global results and weaknesses of the legal framework, Information 1949/2012*. Lisbon: Portuguese Audit Authority.

IMF. (2013). *Staff guidance note for public debt sustainability analysis in market-access countries*. IMF: Washington, DC, USA. Accessed Nov 28, 2019, from https://www.imf.org/external/np/pp/eng/2013/050913.pdf

IMF. (2014). *International monetary fund annual report 2014*: From stabilization to sustainable growth. IMF: Washington, DC, USA. Accessed Nov 28, 2019, from https://www.imf.org/en/Publications/AREB/Issues/2016/12/31/International-Monetary-Fund-Annual-Report-2014-From-stabilization-to-sustainable-growth-41823

IPSASB. (2013). *Reporting on the long-term sustainability of an entity's finances*. Accessed Nov 28, 2019, from https://www.ipsasb.org/projects/reporting-long-term-sustainability-public-finances

João, V. (2014). Comparative study of local finance laws 2/2007 and 73/2013: The indebtedness of local authorities. Braga: University of Minho. *Working papers*. Accessed Nov 30, 2019, from http://tributarium.net/uploads/3/0/9/1/3091332/wp_14_-_vadim_manuel_joo.pdf

Lobo, F., & Ramos, P. (2009). Analysis of the legal framework of the municipalities debt in Portugal–The new law on local finance. *15th Congress of the Portuguese Regional Development Association,* Praia, Cape Verde. Accessed Nov 30, 2019, from http://www.apdr.pt/congresso/2009/pdf/Sess%C3%A3o%209/47A.pdf

Local Governments Accounting Standards 1999. (1999). *SI 1999/54-A*. MEPAT: Lisbon.

Martinho, C., and Santos, P., 2019. Reliability of the PMP Indicator to measure payment practices in Portuguese municipalities. *OCC, Lisbon*. Accessed Nov 30, 2019, from https://www.occ.pt/dtrab/trabalhos/iicicp//finais_site/72.pdf

Measures Against Late Payments in Commercial Transactions Act 2013. (2013). *SI 2013/62*. Lisbon: MF.

Miller, P. (1992). *Accounting and objectivity: The invention of calculating selves and calculable spaces*. Accessed Nov 30, 2019, from https://scinapse.io/papers/4560274

Montesinos, V., Dasí, R. M., & Brusca, I. (2019). A Framework for comparing financial sustainability in EU Countries: National accounts, government accounting, and the challenge of harmonization. In *Financial sustainability of public sector entities. Public Sector Financial Management* (pp. 41–61).

OECD. (2013). *Accountability and democratic governance: Orientations and principles for development*. DAC Guidelines and Reference Series. Accessed Dec 11, 2019, from http://www.oecd.org/dac/accountable-effective-institutions/

Oliver, C. (1991). Strategic response to institutional processes. *Academy of Management Review, 16*(1), 145–179.

Pay on Time Program Act 2008. (2008). *SI 2008/34*. Lisbon: PCM.

Pérez-López, G., Plata-Díaz, A. M., Zafra-Gómez, J. L., & López-Hernández, A. M. (2013). Municipal debt in a context of economic crisis: analysis of the determinant factors and forms of management. *Revista de Contabilidad-Spanish Accounting Review, 16*(2), 83–93.

Pfeffer, J. (1981). *Power in Organizations*. Marshfield, MA: Pitman Publishing.

Pfeffer, J., & Salancik, G. (1978). *The external control of organizations: A resource dependence perspective*. New York: Harper & Row.

Pina, V., Torres, L., & Royo, S. (2010). Is E-Government promoting convergence towards more accountable local governments? *International Public Management Journal, 13*(4), 350–380.

USAID. (2011). *Fundamentals of NGO Financial Sustainability*. USA: Abt Associates.