

Conformity and Diversity of Accounting and Financial Reporting Practices in Portuguese Local Government

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Abstract

Portuguese governmental accounting has evolved from essentially a cash-based budgetary accounting system to an accrual-based financial and cost accounting system. Evidence from financial reports shows a great level of diversity amongst municipalities' voluntary compliance with the new accounting rules. Using a sample of Portuguese municipalities in the year 2003 we calculate and analyse the levels of compliance with the practices required by law and document the diversity in compliance across municipalities. The differences across municipalities are explained by some fundamental factors: size, financial conditions, urban characteristics, and diffusion across neighbouring municipalities. We show an unexpected effect of size. Larger municipalities comply less with accounting standards. Organizational complexity, conservative practices, and aversion to change may explain this result. Copyright © 2007 ASAC. Published by John Wiley & Sons, Ltd.

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Résumé

La comptabilité du gouvernement local au Portugal a connu des mutations. On est ainsi passé de la comptabilité de trésorerie au système de comptabilité analytique et de comptabilité d'exercice. Toutefois, d'après les rapports financiers, les municipalités ne se conforment pas toujours de la même façon aux nouvelles règles comptables. A partir d'un échantillon de municipalités portugaises constitué en 2003, nous calculons et analysons les niveaux de conformité aux pratiques exigées par la loi et la diversité entre ces pratiques. Les différences entre les municipalités s'expliquent par des facteurs essentiels tels que la taille, les conditions financières, les caractéristiques urbaines et la diffusion entre municipalités voisines. Notre étude met en évidence l'influence insoupçonnée du facteur taille. Les municipalités de grande taille semblent avoir plus de difficulté à appliquer les règles comptables. La complexité organisationnelle, les pratiques conservatrices et l'aversion pour le changement sont quelques-uns des facteurs responsables de cette situation. Copyright © 2007 ASAC. Published by John Wiley & Sons, Ltd.

Mots-clés : Portugal; comptabilité du gouvernement local; rapport financier et budgétaire; conformité; diversité

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Worldwide public administration has undergone several changes in the last twenty-five years that have brought public sector practices closer to those of private business. These changes have come to be known as the 'New Public Management' movement. Specifically with regard to governmental accounting and financial reporting, accrual based financial systems and performance measurement systems have been introduced alongside General Accepted Accounting Principles (GAAP).

Portuguese governmental accounting has undergone considerable developments since the early 1990s. It has evolved from an essentially cash-based budgetary accounting system to an accrual-based financial and cost accounting system. A single double-entry system that integrates budgetary, financial and management subsystems has been in use since 1997. This system is supported by an Official Plan for Governmental Accounting (OPGA)¹ and is very similar to the plan currently used in business accounting. This plan has been adapted to the main subsectors of public administration, namely education (Instruction 794/2000), health (Instruction 898/2000), social security (Law-decree 12/2002), and local government (Official Accounting Plan for Local Government [OAP-LG], Law-decree 54A/99).

However, in practice, there is great diversity in the way in which the plan has been applied across municipalities. This calls into question governmental accounting reform aimed at ensuring standardization and uniformity. In fact, most local governments do not fulfil the main requirements of the new system. Moreover, the diversity in the stages of implementation tends to be higher for financial accounting practices than for budgetary accounting practices.

Despite the obligation since 2002 that all municipalities present their accounts in accordance with the OAP-LG, no audits have occurred. Audit is not required in Portugal, so compliance is essentially voluntary. Because there is no enforcement mechanism and no penalty for noncompliance, municipalities choose which legal requirements to apply and which to ignore.

The main objective of this paper is to evaluate at what stage Portuguese municipalities are with respect to implementing legal requirements of the OAP-LG. In particular, we assess the extent to which municipalities are complying with the new standards and document characteristics that explain differences in level of compliance across municipalities. Although several recent studies on the subject exist (Carvalho & Jorge, 2003; Fernandes & Carvalho, 2004; Jorge, 2003; Jorge, 2004), this body of research has not assessed the determinants of compliance.

Our paper is organized as follows: The next section details the context of Portuguese local government and

the main aspects of the accounting reform. Following that, we calculate the degree of uniformity in accounting practices across municipalities throughout Portugal and the extent to which these municipalities are complying with the requirements of the new system. We then analyse determinants of the levels of compliance. Finally, we offer explanations for why some municipalities are in compliance with OAP-LG while others are not, and conclude by offering suggestions for future research.

Portuguese Local Government Context and Accounting

Portuguese local governments are comprised of parishes, municipalities, and other forms of local territorial organizations that may be created by law, such as metropolitan areas, district assemblies, and associations of parishes and municipalities. Of these, municipalities are the most important from an administrative and financial perspective.

There are currently 308 municipalities (continental area and autonomous regions of Madeira and Azores) representing approximately 9% of the total public expenditure and 5% of the Gross Domestic Product. Local authorities and municipalities in particular aim to satisfy the interests of a certain geographic territory. Their main responsibilities cover the following governmental domains: environment; culture; leisure; sports; economic development; civil protection; urban transports; territorial arrangement; social housing and support; and heritage preservation. Their political organization is comprised of an executive committee and a local (deliberative) council, which follows the central government model. Their revenues essentially come from:

- grants from the Central Government and European Union (earmarked and non-earmarked transfers);
- municipal (property and income) taxes;
- loans;
- fees, rates, prices, and fines;
- property revenues (rents and assets sales, heritages and donations, income from financial participation in municipal business companies, and other financial assets).

Municipalities and other local government entities are financially autonomous, meaning that they manage their own budget, finances, property, loans, and treasury. The services they provide have budgetary independence from the State's budget. Central government intervention is merely inspective of legal compliance, particularly

with respect to: multi-annual plans for investment; budget and budgetary execution; accounting; revenue generation and collection; authorization and payment of expenditures; debt; property management; and fiscal obligations.

With respect to budgeting and accounting, the implementation of a true local government accounting system occurred only after the restoration of the democratic regime² and the 1976 Constitution's recognition of the political merit of local government. After this historical turn, local government's political and financial autonomy suggested the need for a specific accounting regime and in 1979, the first Local Finances Law was approved. The current Local Finances Law caused considerable changes to the previous accounting system. Of significance was the introduction of accrual-based, double-entry financial and cost accounting systems, which replaced cash-based, single-entry budgeting. The newer system is similar to business accounting and includes cost accounting for the so-called "municipalized services" – autonomous and business oriented units within municipalities – and federations of municipalities. The Local Finance Law requires the local government accounting regime to apply uniform and standardized systems. The most important features of the new local government accounting framework are:

- a single system that records and integrates operations in three subsystems – budgetary, financial, and economic – beginning with approval and execution of budgets and extending through to the allocation of costs;
- accounting principles that align closely to business GAAP and follow specific budgetary rules;
- the valuation of fixed assets at historical cost, allowing for valuation at net realizable value or replacement cost only in exceptional circumstances;
- calculation of costs of services provided, allowing costs by functions, activities, and departments for internal management purposes;
- complementary legislation for fixed assets actualization (Instruction 671/2000) and an economic budgetary classification for revenues and expenditures (Law-decree 26/2002);
- financial statements such as balance sheets (disclosing total assets recorded at book value, stocks, debts, and other liabilities) and operating statements (disclosing information on costs and revenues by category and annual results of operations) that are reported together with budgetary execution statements;
- public domain assets (infrastructure, cultural, and heritage assets) to be listed in the balance sheet and compulsory depreciation if appropriate;

- assets acquired under a financial leasing system to be immediately recognized as fixed assets;
- information to account for each entity's budgetary, financial, and economic situation, as well as to support decision-making (management);
- a legal framework of standards produced by national oversight bodies, namely the Ministry of Finance and The Court of Accounts (Supreme Audit Office),³ supported by the Public Administration Accounting Standardization Commission (Law-decree 68/98).

Moreover, the three mandatory accounting subsystems that currently exist in local administration have different features and objectives: budgetary accounting aims at controlling the budget execution, financial accounting reports the entities' economic and financial situation, and cost accounting calculates the cost of services, activities, or departments (Fernandes & Carvalho, 2004).

The new system presents some drawbacks (Jorge, 2003; Fernandes & Carvalho, 2004), with the most significant including:

- The "patrimonial perspective" (listing of all property) has created difficulties in tracking inventory and valuing public domain assets. In particular, historical cost accounting fails to capture any artistic or cultural value attaching to these assets.
- Full costing, required to be used in cost accounting, has raised questions related to cost allocation, particularly the allocation of indirect costs.
- The absence of consolidation rules: considering that municipalities have increased their peripheral sector, an overall picture of the economic-financial position of the entity as a whole (namely embracing municipalized services and municipal business enterprises) is increasingly imperative.
- There is a lack of further development in management accounting and performance reporting. Improving municipal management and performance measurement would contribute to assessing economy, efficiency, and effectiveness in public services.
- Budgets and budgetary accounting are still prepared on a cash (or modified cash) basis. Because the budget is the most important political instrument in local government, control of its execution is central to daily management. The continued use of cash reporting may be because politicians potentially have problems understanding accrual basis accounting and therefore do not see the utility of the balance sheet and results statement.

Empirical Assessment of Compliance and Diversity throughout Portugal

Data

The data we used are based on a random sample representing 57% of Portuguese municipalities – 175 out of 308. We collected the data from the 2003 municipal annual accounts from the archives of the Supreme Audit Office of the Court of Accounts and from the municipalities themselves where necessary. Since resident population is one of the factors used to determine inter-governmental grants (Local Finance Law 42/98), we group municipalities according to population size as follows: small $\leq 20,000$ residents; medium 20,000 to 100,000 residents; large $\geq 100,000$ residents.

Analyses

Compliance. We begin by computing a total compliance index that measures the level of implementation of the new accounting system while taking into account municipality size. It allows us to compare practices reflected in the annual accounts, namely, financial and budgetary statements and notes (with standards such as those established in the OAP-LG as well as in The Court of Accounts Resolution 4/2001).

The analysis is limited to a given set of issues that combines information on budgetary items with the major innovations brought in by the new accounting framework (Allen & Sanders, 1994; Christiaens, 1999; Pina Martínez & Torres, 1995; Torres & Pina Martínez, 2003). Twenty different issues were selected and grouped according to practices of the three accounting subsystems: budgetary, financial, and management accounting (see Table 1). Given that 6 of these 20 items are common

to more than one subsystem, there are a total of 26 items compared across systems.

Municipal practices and information are scored against these items, scoring 1 when they are conducted and 0 when they are not. We assumed that all items are equally important, therefore, all have the same weight in the index: ⁴

$$\text{Index} = \sum_{i=1}^m p_i,$$

where p_i represents the item in question ($m \leq 26$). Each municipality may reach a maximum compliance index of 26 points. From this we calculate the global compliance index for the whole sample. This is the mean of all municipal compliance indexes. We also report a global index of partial compliance documenting which practices and information subsystems have a greater level of compliance. In order to assess possible differences in compliance among groups, both indexes are calculated taking into consideration municipality size.⁵

Table 2 shows the partial compliance indexes for each of the three accounting subsystems grouped according to size.

Compliance is higher with practices and information within the budgetary accounting subsystem. In fact, the average level of compliance with budgetary accounting parameters is 87% for our sample as a whole. In other words, all entities comply with 6 out of 7 of the items on average. The indexes for financial and management accounting systems are only 54.5% and 26.7% respectively. With regard to the subsystems, compliance is greater in the financial accounting subsystem in medium-sized municipalities, where we observe a compliance level of 58%. However, this partial compliance index does not vary much when we turn to small or large entities. It is very similar across the subsystems regardless of municipalities' size.

Compliance with management accounting parameters is slightly higher for large and medium municipalities, both of which comply with 29% of the parameters, as compared to their smaller counterparts, who comply with 25% of the parameters. The similarity of these results casts doubt as to whether size truly has an effect on whether municipalities comply with practices and information in the management accounting subsystem.

The χ^2 test results, shown in Table 3 suggest independence between size of municipality and compliance with respect to budgetary and management accounting subsystems. This is not the case with the financial accounting system where the χ^2 test results demonstrate a significant association between size of municipality and compliance ($p < .05$).

Figure 1.
Municipalities according to size

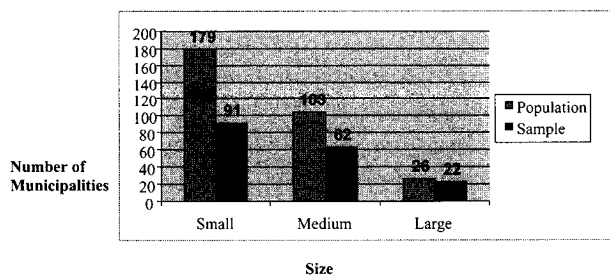


Table 1
Information and Practices of the New Local Government Accounting System

Subsystems	Parameters	No. of Municipalities complying
Budgetary accounting	1. Expenditure execution	175
	2. Revenue execution	175
	3. Economic classification	175
	4. Functional classification	111
	5. Degree of budgetary execution (budget/actual)	151
	6. Liabilities (short and long term)	169
	7. Long-term investment projects	111
Financial/ patrimonial accounting	8. Public domain assets	164
	9. Operational assets	169
	10. Public domain assets depreciation	84
	11. Operational assets depreciation	150
	12. Deferred revenues	137
	13. Accrued expenses	90
	14. Provisions (assets)	25
	15. Provisions for contingencies	3
	16. Receivables	159
	17. Liabilities (short and long term)	169
	18. Costs of goods/services, functions and departments	0
	19. Results of goods/services, functions and departments	0
	20. Long-term investment projects	111
	21. Accounting policies (valuation criteria, derogated establishments, etc.)	75
	22. Public domain assets depreciation	84
Management accounting	23. Operational assets depreciation	150
	24. Costs of goods/services, functions and departments	0
	25. Performance measurement (3E)	0
	26. Results of goods/services, functions and departments	0

Diversity. In this section, we calculate a concentration index that measures diversity in municipal practices. We calculate this index for the whole sample and for the two systems analyzed above with the greatest compliance index (budgetary and financial) according to municipality size. We group these according to three intervals: below 33.3%, between 33.3–66.6%, and above 66.6%. These intervals represent three alternatives of compliance against which the relative frequencies are weighted; a greater relative frequency implies a greater weight. The relative frequency represents the percentage of municipalities that comply with a percentage of items within those intervals.

We rely on the Herfindahl-H index:

$$H = \sum_{i=1}^n (p_i^2) = 1,$$

where p_i is the relative frequency of the interval and n is the number of intervals. Values vary between 0 and 1. The lower the concentration index, the greater

the diversity among municipalities' practices and information.

Table 4 shows that the concentration indexes are higher for budgetary than for financial accounting practices, implying that there is less diversity in compliance with budgetary (as opposed to financial) parameters across municipalities of differing sizes. The sample H value is 0.86, but it is even higher for medium-sized municipalities (around 0.91). This seems to indicate that concentration might somehow be related to size. However, regardless of size, more than 90% of the entities analyzed concentrate their practices on more than 66.6% of the parameters.

With respect to financial accounting, the concentration index is in the vicinity of 0.6 for the whole sample and is slightly higher for large municipalities (0.63), which indicates that concentration may be affected by size. Compared to the results for the budgetary accounting subsystem, the concentration index is lower regardless of municipality size. Approximately 75% of entities

Table 2
Partial Compliance

Number of total parameters per subsystem	Number of municipalities			
	Sample	Large	Medium	Small
Budgetary accounting				
0	0	0	0	0
1	0	0	0	0
2	0	0	0	0
3	1	0	0	1
4	12	2	3	7
5	51	6	19	26
6	16	2	7	7
7	95	12	33	50
Weighted mean	6.0971	6.0909	6.129	6.0769
%	(87.10%)	(87.01%)	(87.56%)	(86.81%)
Financial accounting				
0	1	0	0	1
1	0	0	0	0
2	3	0	1	2
3	2	1	0	1
4	3	0	0	3
5	14	2	2	10
6	23	2	7	14
7	33	4	12	17
8	34	5	15	14
9	27	4	10	13
10	27	3	10	14
11	8	1	5	2
12	0	0	0	0
13	0	0	0	0
14	0	0	0	0
Weighted mean	7.6343	7.7272	8.1129	7.2857
%	(54.53%)	(55.19%)	(57.95%)	(52.04%)
Management accounting				
0	25	0	1	24
1	66	12	32	22
2	84	10	29	45
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
Weighted mean	1.3371	1.4545	1.4516	1.2307
%	(26.74%)	(29.09%)	(29.03%)	(24.62%)
Total compliance index				
Weighted mean	15.06857	15.27273	15.69355	14.59341
%	57.96%	58.74%	60.36%	56.13%
Mode	16	16	16	14

Notes: 1. Values in columns 2–5 tell us how many parameters (budgetary, financial, or management) are partially complied with by Portuguese municipalities (e.g., with respect to budgetary parameters, 95 municipalities comply with all 7 budgetary parameters – row 8, column 2); 2. There are maximums of 7 budgetary parameters, 14 financial parameters, and 5 management accounting parameters; 3. As an illustration of the computation of the compliance percentages, the 87.1% compliance with budgetary accounting parameters over the entire sample is computed as follows: $(0*1 + 1*0 + 2*0 + 3*1 + 4*12 + 5*51 + 6*16 + 7*95)/1,225$. The numerator of this calculation indicates that no municipalities complied with 2 or fewer parameters, 1 municipality complied with 3 parameters, 12 municipalities complied with 4 parameters, 51 municipalities complied with 5 parameters, 16 municipalities complied with 6 parameters, and 95 municipalities complied with all 7 parameters. In order to compute the % compliance, we divide by the perfect compliance score of 1,225 ($175*7$), which would be attained if all 175 municipalities complied with all 7 budgetary accounting parameters.

concentrate their practices in the median interval, complying with a number of items somewhere around 50%.

The χ^2 test results presented in Table 5 show that we cannot reject the null hypothesis in the case of budgetary accounting, indicating that size does not seem to affect the diversity of accounting parameters analyzed. The same is not so in the case of financial accounting where we can reject the null at a significance level of 5%.

Determinants of Compliance

Our analyses of compliance and diversity raise the following questions: Why do some local governments implement the new accounting system while others do not? Why do some municipalities have high levels of compliance and others low levels? What accounts for this difference in the level of compliance?

Although bigger cities have more facilities to adapt their accounting system to the reforms, size of municipi-

pality does not seem to consistently explain the differences in implementation of generally accepted accounting principles in local administration. Further empirical tests, particularly a more robust test of the influence of size and of other possible explanations, are necessary. The literature on the determinants of disclosure both in the private sector and in the public sector is abundant (Allen & Sanders 1994, Christiaens 1999, Street & Gray 2002). Agency theory, political costs theory, signalling theory, legitimacy and institutional theory, property costs theory, and contingency theory are just a few of the theoretical frameworks used to study disclosure.

When analysing the effect of several factors on an information disclosure index in US municipalities, Allen and Sanders (1994) concluded that city size (measured using population) does not affect disclosure, although the findings seem to indicate that an association might exist when size alone is considered in the absence of other explanatory variables. In turn, Christiaens (1999) carried out a regression analysis considering, among other determinants, the effect of size on a compliance index of accounting practices for Flemish municipalities. His findings support a significant and positive effect on the compliance index confirming the hypothesis that municipal size is a significant determinant of the level of compliance. Following these studies, we test the hypothesis of the influence of size including population. Following the standard statistical recommendation, we applied a logarithmic transformation to measure population size (*log population*).

Table 3
Chi Square Tests Results for Partial Compliance

Subsystems	χ^2 (*)
Budgetary accounting	0.1286
Financial accounting	7.3315
Management accounting	2.1901

Note: (*) $\chi^2 = 5.99$ with 5% significance level and 2 dfs.

Table 4
Concentration Index: Diversity of Practices and Information

Subsystems	% of parameters complied with	Relative frequencies			
		Sample	Large	Medium	Small
Budgetary accounting	$\leq 33.3\%$	0.000	0.000	0.000	0.000
	$> 33.3\%$	0.074	0.091	0.048	0.088
	$\leq 66.6\%$				
	$> 66.6\%$	0.926	0.909	0.952	0.912
	H	0.8625	0.8347	0.9079	0.8396
Financial accounting	$\leq 33.3\%$	0.051	0.045	0.016	0.077
	$> 33.3\%$	0.749	0.773	0.742	0.747
	$\leq 66.6\%$				
	$> 66.6\%$	0.200	0.182	0.242	0.176
	H	0.603	0.6322	0.6093	0.5952

Notes: 1. This table documents the percentage of parameters with which municipalities comply by size of municipality. Values in columns 3–6 represent relative frequencies (i.e., the percentage of municipalities that comply with a percentage of items within those

intervals). 2. "H" refers to the Herfindahl-H index: $H = \sum_{i=1}^n (p_i^2) = 1$.

Table 5
Chi Square Tests Results for Concentration

Subsystems	χ^2 (*)
Budgetary accounting	3.5794
Financial accounting	16.3903

Note: (*) $\chi^2 = 7.81$ with 5% significance level to 3 dfs.

H1: The level of compliance is higher in larger municipalities.

The literature also notes that profitability is associated with the extent of compliance (Street & Gray, 2002), meaning that an adequate financial condition makes it easier to comply with accounting standards. The reliance on debt negatively affects implementation and compliance (Christiaens, 1999). Taking into account the data limitations, we include three variables to test the influence of resource availability. The first is budgetary surplus (revenues minus expenditures). The second is the number of financial transfers received from the central government (grants). The third is financial dependency, which is the proportion of grants to local government revenues. In the first two cases, the expected sign is positive, while in the last it is negative. The amount of public debt is excluded because municipalities are bound by debt limitations, which means that the inclusion of this variable would not reveal any real influence of this factor. Many municipalities have reached their limit meaning that the measurement of the variable would be truncated, severely biasing results.

H2: The financial condition of a municipality is related positively to its level of compliance.

Environmental factors that the municipality has to face are also relevant in explaining differences in conformity among municipalities. Arguably, a democratically elected local government has to respond to the needs of its citizens. In this context, studies on the determinants of what is called fiscal transparency (Alt, Lassen, & Rose, 2006) have pointed to political competition and specifically to the nature or characteristics of the local electorate. In the Portuguese political context, urban areas are characterized by more educated electorates that usually vote for more progressive and reformative political agendas. Accordingly, we hypothesize that this type of electorate should be more sensitive to reforms that improve on fiscal transparency such as the implementation of accounting reforms. We posit that more densely populated or urban areas are more prone to require higher levels of compliance and therefore include a variable to

account for population density and a dummy variable signifying the two largest metropolitan areas of Lisbon and Porto.

H3: Municipalities of the urban and more populated areas have higher levels of compliance.

Christiaens (1999) describes the influence of the municipal accounting staff on level of compliance. We examined the association between number of municipal employees (per thousand inhabitants) and level of compliance of the municipality. Since the total number of employees is almost perfectly correlated with population, inclusion of total employees simply serves as an additional proxy for size of municipality.

H4: Personnel size of a municipality is positively associated with levels of municipality compliance.

Finally, we speculate that geographical proximity may influence the adoption of the new accounting standards. It is plausible to expect that the level of compliance is high in regions where the neighbouring municipalities also have high levels of compliance. The process of propagation or emulation of reforms is not new and is more likely in the cases of geographical proximity. We include a variable that measures the average compliance level in the region of the municipality. Since there are 18 administrative regions (called districts) that serve as the basis for the organization of the national government administrative, we use the average compliance in the district. We expect it to positively affect the level of compliance of a municipality.

H5: The average district level of compliance positively affects the level of compliance of a municipality.

We test the above hypotheses using multiple linear regression analysis. The appendix shows the descriptive statistics used in this analysis and the expected signs derived from each of our hypotheses. Results are shown in Table 6.

Although size does seem to have an effect, it is contrary to our predictions. Given the other factors, the results indicated that the larger the population, the lower the average level of compliance. These results differ from the simple relations between size and compliance observed in Table 2. Figure 1 shows that the three groups considered to obtain partial levels of compliance have very unbalanced numbers of municipalities. While the small sized group includes 91 municipalities and the medium sized group includes 62, the large sized group includes only 22 municipalities. This unbalanced grouping of municipalities may produce artificial results. This

Table 6
Ordinary Least Squares Results for the Determinants of Total Compliance

Variables	
Log population	-4.408158*** (1.348004)
Budgetary surplus	6.66e-07* (3.53e-07)
Grants	1.64e-06*** (6.08e-07)
Financial dependency	-3.391186 (2.355998)
Population density	-.0002731 (.0004051)
Metropolitan areas	1.868679** (.9154943)
Municipal employees per thousand inhabitants	-.0535108*** (.0169436)
Average compliance in the district	1.02518*** (.2155479)
Constant	18.93614*** (6.936853)
F(8, 160)	5.56
Prob > F	0.0000
R-squared	0.1675
Root MSE	2.9387

Notes: 1. Total compliance is defined as $INDEX = \sum_{i=1}^m p_i$ where

$p_i = 1$ for every parameter complied with and 0 otherwise ($m = 26$). 2. Values in parentheses are standard errors; 3. *: $p < .05$; **: $p < .01$; ***: $p < .001$, two-tailed tests of statistical significance; 4. To account for the potential problems of heteroskedasticity, robust standard errors were computed using the command `robust` of the Stata statistical package.

potential problem is avoided with this regression analysis, in which the cases are treated individually. In addition, one of the strengths of multivariate analysis is that it allows control for other influences or explanations that very often modify a relation previously seen in bivariate analyses. In more substantive terms and in contrast to some studies, it seems that larger municipalities have difficulties complying with accounting standards possibly due to organizational complexity, conservative practices, and aversion to change.

The effect of financial conditions is as expected. Both the amount of grants received and the magnitude of the budgetary surplus have positive effects on the level of compliance. The level of financial dependency seems to have no bearing.

The hypothesis regarding the effect of urban areas (H3) is partially confirmed. The municipalities that

belong to the metropolitan areas of Lisbon and Porto have significantly higher levels of compliance. This appears to be in line with the notion that municipal decision-makers in these areas respond to electorates that are presumably more demanding in terms of the quality of information they receive, including financial information.

Finally, the results also suggest that a diffusion or propagation of accounting practices may be present. On average, the level of compliance is higher where the levels of compliance of neighbouring municipalities are also high. This finding is consistent with the diffusion of innovation.

Table 7 shows similar regression results for partial compliance levels: budgetary, financial, and management.

The results of partial compliance levels are substantively similar to those discussed above but weaker in explanatory power, with the exception of financial compliance. This finding is driven by the fact that the dependent variables measuring budgetary and management compliance exhibit considerably less variation than the dependant variable measuring financial compliance. As seen in Tables 1 and 2, the levels of budgetary compliance are very high, suggesting that the variation is insufficient to obtain statistically significant coefficients. In contrast, levels of management compliance are very low, meaning again that variation is low. The table of descriptive statistics in the appendix shows that in both cases the standard deviation of these two variables is very low.

Since there is much more variation in the levels of financial compliance, the regression results are much stronger than in the other two cases. The findings are very similar. They suggest the same type of effect in the case of size, financial conditions, and the diffusion process.

Discussion

In this section, we present some reasons that might justify the observed levels of compliance with the Portuguese local government's new accounting system. In contrast to the previous section where we explained differences in compliance across municipalities, here we explain general reasons that may account for the delay in the implementation of the accounting system. Since these reasons apply equally to all municipalities, they do not explain differences in implementation. They are as follows:

- No legal establishment for municipalities' accounts to be audited - Audits are carried out by the Court of

Table 7
Ordinary Least Squares Results for Determinants of Partial Compliance

Variables	Budgetary compliance	Financial compliance	Management compliance
Log population	-.3720859 (.4679755)	-3.155892*** (.8790023)	-.8801804*** (.3265608)
Budgetary surplus	-1.76e-08 (1.24e-07)	5.83e-07** (2.24e-07)	1.00e-07 (7.98e-08)
Grants	6.17e-08 (2.05e-07)	1.31e-06*** (4.06e-07)	2.76e-07* (1.41e-07)
Financial dependency	-.7186432 (.7745403)	-2.303959 (1.548764)	-.3685837 (.5474944)
Population density	.0000728 (.0000949)	-.0002854 (.0002744)	-.0000605 (.0000776)
Metropolitan areas	-.0927911 (.3393132)	1.403941** (.5916822)	.5575294*** (.1921043)
Municipal employees/1000	-.0064971 (.0077705)	-.0374101*** (.0109209)	-.0096035 (.0043199)**
Compliance in the district	.2870186*** (.0795698)	.5542595*** (.1452448)	.1839019*** (.0566169)
Constant	3.733096 (2.540107)	12.90161*** (4.593188)	2.301442 (1.785142)
F(8, 160)	4.59	5.06	3.63
Prob > F	0.0000	0.0000	0.0007
R-squared	0.0789	0.1603	0.1343
Root MSE	1.0625	1.8983	.67991

Notes: 1. Total compliance is defined as $INDEX = \sum_{i=1}^m p_i$ where $p_i = 1$ for every parameter complied with and 0 otherwise ($m = 26$).

2. Values in parentheses are standard errors; 2) *: $p < .05$; **: $p < .01$; ***: $p < .001$, two-tailed tests of statistical significance; 3. To account for the potential problems of heteroskedasticity, robust standard errors were computed using the command `robust` of the Stata statistical package.

Accounts and the Finance General Inspection only for the purpose of scrutinizing legal form and fiscal regularity. Audits do not assess compliance with the new accounting system requirements in terms of policies and practices.

- No penalties (neither fiscal nor economic) for those that do not comply with the new system requirements.
 - Although compliance is required by the Court of Accounts in terms of types of financial and budgetary statements to be presented for inspection, noncompliance with accounting policies and reporting contents is acceptable.
- Lack of further clarification, namely a conceptual framework that supports the implementation of accrual-based accounting – As in other countries, accrual accounting and financial reporting has been presented as a “good thing” bringing large advantages to the municipalities’ accounts. The business accounting policies and reporting model have not been adapted

to municipalities’ specificities, requiring all assets to be listed in the balance sheet. Entities have faced serious problems in inventorying and valuing all assets, as well as applying the accrual concept. On the other hand, the main users, namely local politicians, have problems in understanding the usefulness of such accrual-based financial statements for decision-making.

- Problems with qualification levels of the accounting staff and professional involvement of the chief financial officer – Lack of training in accrual accounting techniques and lack of involvement in professional accounting organizations (i.e., bookkeepers who are not familiar with business accounting) might have hindered the adoption of new practices such as double-entry accounting and the accrual principle. Furthermore, contrary to what happens in the business sector, there is not yet a career of certified accountant for the public administration context.

- Cost/management accounting difficulties – There is a lack of software availability, particularly with functional classification of costs. Also, because there is a full costing requirement, there are problems with the allocation of certain types of costs. Additionally, there is no requirement to use standard costs against which actuals could be compared in order to assess effectiveness.
- Hesitancy to hire a consulting firm – Given the autonomy in decision-making of these firms, as well as the municipalities' financial capacity, few municipalities can easily hire external consulting firms that would help implement the new accounting system.

Conclusion

We have assessed compliance of public offices throughout Portugal with respect to the standards introduced by the OAP-LG. Through reviewing and analyzing the information reflected in the accounts and management reports of a sample of Portuguese municipalities for 2003, we have shown that the implementation of the new accounting system is still far from complete. The average level of total compliance with the new system is 58%. We considered the three accounting subsystems separately and found that their implementation evolved at different speeds. The highest average partial compliance level is for the budgetary accounting subsystem (87%), followed by the financial accounting system with a level of 54%, and then by the management accounting system with a level of only 26.7%.

We have also assessed the cross-sectional diversity of practices and information within both budgetary and financial accounting subsystems. The diversity of practices and information is lower for those concerning budgetary accounting, regardless of municipality size.

We have also offered explanations for differences across municipalities in the levels of compliance. Our regression analyses show some interesting results. Above all, size of municipality has a negative effect on compliance. Larger municipalities appear to have more difficulty in complying with accounting standards, which may be due to organizational complexity, conservative practices, and aversion to change. The differences in compliance are also explained by the financial conditions of the municipality, particularly the availability of financial resources. The number of grants received, as well as having a budgetary surplus, has positive effects on compliance. Also of interest is the fact that municipalities in the Porto and Lisbon metropolitan areas have significantly higher levels of compliance. High levels of com-

pliance are found where levels of compliance in neighbouring municipalities are also high.

The substantive relevance of these results is twofold. Firstly, there is still a significant gap between intention and practice regarding the reform of Portuguese local government accounting. Much is yet to be done, particularly at the level of management accounting. This is an accounting subsystem that is absolutely necessary to produce detailed information on the costs of public activity and ultimately, to evaluate the efficiency of the use of public resources. In more general terms, citizens and other users need more quality in local government accounting information so that this information is reliable and comparable in a way that allows for evaluation.

Secondly, a number of the explanations for the delay in compliance are municipality-specific: some municipalities simply take more time than others in the implementation of reforms. It is, however, important, that municipalities adapt quickly due to the increasing pace of additional reporting requirements. A new challenge to municipalities is forthcoming in the form of a Local Finance Law introducing new requirements with respect to borrowing, intergovernmental grants, and consolidated accounts. Municipal governments need to be concerned with fully implementing the new accounting system.

Our research also opens some avenues for future research. Because this is the first attempt to study the Portuguese local government case, the present analysis could be refined. To compute the compliance index, we assumed that the 26 accounting parameters are equally important and therefore have the same weight. This is obviously a simplification justified by the exploratory nature of this work. Future work should carefully consider different weights.

Notes

- 1 This is a law-based general accounting plan similar to others existing in France, Belgium and Spain. In Portugal it is the fundamental set of instructions for governmental accounting practices and it contains: a standard decimalized chart of accounts, instructions relating to the presentation of uniform published financial and budgetary statements, and standard definitions of items and their valuation methods.
- 2 This was a military coup that restored democracy after a forty-year dictatorship.
- 3 According to the Constitution (article 214, n.1), The Court of Accounts is the 'supreme body of supervision of the legality of public expenses and of judgement of the reporting statements that the law decides to submit to it'. It supervises the legality and financial regularity of the public expenses and revenues. Therefore, the State and its ser-

vices, autonomous regional governments, local government, public institutes and social security institutions, are subjected to the jurisdiction and financial control of The Court of Accounts.

The number of entities under this condition surpasses 11,000 and the reporting statements to be submitted to auditing/inspection are defined in two resolutions: for Local Government, Resolution 04/2001 and for all the other entities, Resolution 01/2004.

- 4 Similar methodologies were followed by Christiaens (1999) and Torres and Pina (2003), among others. The latter additionally discusses other approaches (within the business context) that weigh each item in the index differently, highlighting problems of subjectivity associated with establishing the importance of each item while considering different users and objectives of the information provided.
- 5 Following the suggestion of an anonymous reviewer, we segmented the parameters (Table 1) into those that represent long-term asset accounting (financial accounting parameters 1–4) as opposed to the other accrual accounting parameters (financial accounting parameters 5–10) and we computed an index for each set separately. The expectation was to find compliance for financial accounting parameters 5–10 to be significantly higher than those for 1–4. Nevertheless, the results showed a different picture. The compliance for long-term assets parameters (1–4) is significantly higher than those for accrual accounting parameters (5–10).

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- Law Decree 26/2002 – Economic budgetary classification for revenues and expenditures.
- Resolution 4/2001 – Rules to prepare the accounts statements for The Court of Accountants.

Appendix

Descriptive Statistics and Expected signs

Variable	Obs.	Mean	Std. Dev	Min.	Max	Exp. Sign
Total compliance	170	15.05294	3.14212	3	20	n.a.
Budgetary compliance	170	6.111765	1.079328	3	7	n.a.
Financial compliance	170	7.605882	2.018544	0	11	n.a.
Management compliance	170	1.335294	.7128916	0	2	n.a.
Log population	170	4.326175	.5000385	3.431042	5.745697	+
Budgetary surplus	170	-09273.9	1002470	-.28e+07	555238.1	+
Grants	170	1227811	1077360	382015	1.08e+07	+
Financial dependency	170	.4374843	.1808688	.1007097	.9029949	-
Population density	170	417.4022	1084.703	6.56	7597.17	+
Metropolitan areas	170	.1647059	.3720107	0	1	+
Municipal employees/1000	170	16.69439	10.96734	2.081332	99.0502	+
Compliance in the district	170	15.03412	.9653835	13.1	17.7	+