Financial Sustainability of Public Sector Entities
The Relevance of Accounting Frameworks

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This series brings together cutting edge research in public administration on the new budgeting and accounting methodologies and their impact across the public sector, from central and local government to public health care and education. It considers the need for better quality accounting information for decision-making, planning and control in the public sector; the development of the IPSAS (International Public Sector Accounting Standards) and the EPSAS (European Public Sector Accounting Standards), including their merits and role in accounting harmonisation; accounting information’s role in governments’ financial sustainability and crisis confrontation; the contribution of sophisticated ICT systems to public sector financial, cost and management accounting deployment; and the relationship between robust accounting information and performance measurement. New trends in public sector reporting and auditing are covered as well. The series fills a significant gap in the market in which works on public sector accounting and financial management are sparse, while research in the area is experiencing unprecedented growth.

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The theme of this book centres around the role of public sector accounting frameworks in the endeavour to make public sector entities financially sustainable. The overall objective of the book is to analyse the role of public sector accounting in the provision of information that would assist financially sustainable policy making, with a focus on the relevance of accounting frameworks in this process.

In this book, the term accounting frameworks is taken to encompass budgeting, management accounting, financial reporting, and other reporting requirements, for example, Governmental Financial Statistics. Besides analysing the suitability of current accounting frameworks for financial sustainability of public sector entities, the book also delves into emerging forms of reporting, for example, popular reporting and integrated reporting, which may also be considered by policy makers, standard setters, and managers of public sector entities as tools suitable to make citizens aware of the financial condition of a local government.

Financial sustainability in public administrations is an emerging area of research. Prior literature has attempted to explain how financial sustainability of public sector entities is assessed; to identify possible causes of financial distress; and to analyse the implementation of financial sustainability initiatives by governments. The usefulness of government financial statements for reporting on the financial sustainability of public sector entities is appreciated, but the literature does not elaborate on how governmental accounting, seen through a broad lens, can contribute towards this objective. In other words, the current literature lacks focus on the role of accounting frameworks in the endeavour to make public sector entities
Financial sustainability of a public sector entity embraces its ability to manage its financial capacity in the short- and long-term while maintaining the level of services. It requires the implementation of policies that ensure feasible provision of public services to the present generation, while protecting the needs of future ones, thus ensuring intergenerational equity. The evaluation of public value should take into consideration the long-term financial sustainability of political programmes and policies. Given that such information involves statistical and economic computations that do not normally fall in the domain of accountants, one could question how information from public sector accounting may support governments to achieve financial sustainability and more sustainable outcomes.

The book chapters refer to various national cases to touch upon the issue of sustainability based on different financial reporting accounting frameworks, including International Public Sector Accounting Standards (IPSAS) and the American Government Accounting Standards Board Statements (GASB statements). The main focus is on the European context due to the recent budgetary reforms aiming for financial sustainability, together with the interest being shown in IPSAS, which are based on International Financial Reporting Standards (IFRS), in the process of formulating specific European financial reporting standards for member states, namely, European Public Sector Accounting Standards (EPSAS). But IPSAS and accrual accounting are a worldwide phenomenon, as are Government Finance Statistics and the underlying System of National Accounts (SNA) framework.

The book is structured as follows.

The first chapter is prepared by Josette Caruana from the University of Malta, Isabel Brusca from the University of Zaragoza, Eugenio Caperchione from the University of Modena and Reggio Emilia, Sandra Cohen from the Athens University of Economics and Business, and Francesca Manes Rossi from the University of Salerno. The chapter starts by referring to the concept of accounting frameworks in order to define the scope of the book. After looking at the various definitions of financial sustainability, the authors elaborate how accounting frameworks may contribute to financial sustainability of public sector entities by expounding on the works contributed in the other chapters in this book. The objective is to provide a holistic approach of the contribution of public sector accounting towards financially sustainable. The underlying aim of the various chapters in this book is to contribute towards this gap in the literature.
financial sustainability. For this reason, the notion of accounting frameworks in this book encapsulates financial reporting mainly through the lens of IPSAS, budgeting, management and cost accounting, national statistics, and financial and non-financial reporting with emphasis on integrated reporting and popular reporting. The fact that the different accounting frameworks are interrelated and intertwined in the pursuit of financial sustainability is clearly evidenced by the fact that the book chapters touch upon more than one facet of accounting frameworks when they discuss sustainability issues from a given standpoint.

Giovanna Dabbicco, from the Italian national statistics institution, focuses on users’ needs relating to information on financial sustainability of public sector entities.

Vicente Montesinos and Rosa Mª Dasí from the University of Valencia, together with Isabel Brusca from the University of Zaragoza, examine how information from governmental reporting systems (i.e., financial, budgetary, and government statistics) can be combined to spur financial sustainability.

Enrico Guarini, from the University of Milano-Bicocca, and Anna Francesca Pattaro, from the University of Modena and Reggio Emilia, explain the effect of budgetary rules on the financial sustainability of public sector entities in a multi-level government context.

André C. B. Aquino, from the University of São Paulo, and Ricardo Lopes Cardoso, from the Fundação Getulio Vargas and the Rio de Janeiro State University, take us to Brazil, where they analyse the reforms in government pension schemes and the relative reporting, showing how financial sustainability is viewed from a short-term and long-term lens, depending on the tensions experienced by various stakeholders in different contexts.

Cristian Carini and Claudio Teodori, from the University of Brescia, look at the role of consolidated financial statements in the assessment of financial sustainability of local governments.

Marco Bisogno, from the University of Salerno, and Beatriz Cuadrado-Ballesteros, from the University of Salamanca, take the view that government effectiveness is an important component of financial sustainability, and then carry out a statistical analysis of data from 33 OECD countries to establish relationships of accrual accounting and IPSAS with the effectiveness of public sector entities.

Zachary Mohr, from the University of North Carolina, focuses on the role of cost accounting to inform decisions that present financial sustainability challenges. He presents a systems-practice framework that opens
the door for more discussion on how cost accounting can lead to financial sustainability in public sector entities.

Guido Modugno, from the University of Trieste, and Ferdinando Di Carlo, from the University of Basilicata, look at the particular context of higher education institutions and the complexities that this creates both to the meaning of financial sustainability and to its assessment.

Natalia Aversano, from the University of Basilicata; Paolo Tartaglia Polcini, from the University of Salerno; and Giuseppe Sannino and Francesco Agliata, from the University of Campania L. Vanvitelli, present a prototype integrated popular report: one that is designed to promote the participation of citizens in financial sustainability decisions relating to their locality.

All the chapters in this book add to current knowledge in the emerging research area on financial sustainability in public administration. The contents can potentially interest academics, researchers, policy makers, public managers, international organisations, and standard setters who are involved in, or are responsible for, the financial sustainability of public administrations.

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CHAPTER 1

Exploring the Relevance of Accounting Frameworks in the Pursuit of Financial Sustainability of Public Sector Entities: A Holistic Approach

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1 Introduction

Financial sustainability in public administrations is an emerging area of research. Prior literature has focused on the possible causal factors of financial distress (Groves and Valente 2003; Kleine et al. 2003; Carmeli 2007; Jones and Walker 2007; Zafra Gómez et al. 2009; Padovani and Scorsone 2011; Cohen et al. 2012), and discussed the need to create favourable conditions to improve financial sustainability (Torres and Pina 2001; Adams et al. 2014; Ball et al. 2014; Drew and Dollery 2014; McKinney 2015). There is an emerging body of literature on the determinants of financial sustainability and the implementation of financial sustainability initiatives by governments (Brusca et al. 2015; Navarro-Galera et al. 2016; Rodríguez Bolívar et al. 2014, 2016). While international organizations (European Commission [EC] 2013; International Public Sector Accounting Standards Board [IPSASB] 2013) and prior literature (Navarro-Galera et al. 2016; Rodríguez Bolívar et al. 2016) appreciate the usefulness of government financial statements for reporting on the financial sustainability of public sector entities, there is no elaboration on how governmental accounting can contribute towards this objective. In other words, the current literature lacks focus on the role of accounting frameworks in the endeavour to make public sector entities financially sustainable.

Financial sustainability of a public sector entity embraces its ability to manage its financial capacity in the short and long term while maintaining the level of services. It requires the implementation of policies that ensure feasible provision of public services to the present generation, while protecting the needs of future ones, thus ensuring intergenerational equity (IPSASB 2013). The evaluation of public value should take into consideration the long-term financial sustainability of political programmes and policies. Liguori et al. (2012) highlighted the limitations of general-purpose financial statements aimed at satisfying these information needs. From this perspective, Antonio and Hay (1990) identified important disclosures regarding present or expected events that would impact future

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expenditures and revenues to include information on long-term debts, pension obligations and other employee benefits. Given that such information involves statistical and economical computations that do not normally fall in the domain of accountants, one could question how information from public sector accounting may support a financial sustainability framework for governments to achieve more sustainable outcomes.

In the next section, we present a broad view of what accounting frameworks are, since we intend to provide a holistic approach of the contribution of public sector accounting towards financial sustainability. However, it is still necessary to refer to extant conceptual frameworks for financial reporting in order to start exploring the usefulness of accounting frameworks as a reference for useful information to support financial sustainability, which is the objective of this chapter.

The need for financial sustainability in public administrations has been brought in the limelight by the financial and economic crisis (Rodríguez Bolívar 2017). The reaction of the European Union (EU) included a demand for better governmental accounting systems that would provide more reliable data that would ensure better monitoring of EU member states performance and financial condition.

2 Accounting Frameworks

Accounting frameworks are not just conceptual frameworks designed by standard setters and the ensuing financial reporting standards. Accounting frameworks also refer to the underlying legislation of the jurisdiction in which the conceptual frameworks and financial reporting standards are made applicable, which legislation would ideally aim to consolidate good governance and oversight structures. In this sense, accounting frameworks would support accounting in a broader sense. They are not there only for financial reporting but also to enable management accounting and financial management, including budgeting and performance management, and also national accounts and other reporting practices that deviate from the traditional financial statements. Thus, the scope of accounting frameworks is wide enough to include financial reporting, budgetary systems, national accounts, management accounting and performance reporting systems.
Starting our discussion with financial reporting, we refer to Dennis (2018), who, in his exploration of what constitutes a conceptual framework for financial reporting in the private sector, reminds us that a conceptual framework is basically a legitimating tool for standard setters since they have no legal authority to impose their rules. The issuance of a conceptual framework would induce preparers to follow the rules in the standards that they promulgate. As a result, standard setters aim that financial reports would present information that satisfies the objectives of preparing such reports, while the preparers may tend to forget the objectives, because their main concern is to follow the rules issued by the standard setters. Having said this, Dennis (2018) points out that the starting point of designing a conceptual framework is to determine what is wanted from financial reporting, that is, what are the objectives. If different people want different things, then more than one conceptual framework can be envisaged, each starting from a different objective. This would undermine the whole purpose of standard setting, and experts working on conceptual frameworks have adopted different strategies to try and avoid the consequences of this difficulty. As a result, in spite of the years of debate surrounding financial reporting conceptual frameworks, there is still an impression of ‘unfinished business’ (Dennis 2018, p. 27).

Since the focus is on financial sustainability of public sector entities, reference is made to the IPSASB’s conceptual framework for public sector entities, which was finalized in October 2014. It is broadly based on the International Accounting Standards Board (IASB)’s conceptual framework designed for private sector entities, but takes into consideration public sector characteristics. The principles developed in the IPSASB conceptual framework provide guidance for the development of International Public Sector Accounting Standards (IPSAS) and the preparation of General Purpose Financial Reports (GPFRs), which include, but are not limited to, IPSAS financial statements (IPSASB 2014). The principles should assist public sector entities to prepare, for example, reports on long-term sustainability of their finances. These reports would require broader forward-looking information compared to traditional financial reports and would extend beyond the one-year time horizon. To this effect, the IPSASB extended its framework to include a Recommended Practice Guideline for Reporting on the Long-Term Sustainability of an entity’s finances, namely, RPG 1 (IPSASB 2013). Here, the IPSASB took the view that, provided an entity gives appropriate attention to three dimensions of long-term fiscal
sustainability (i.e., service, revenue and debt), users will be given adequate information about whether an entity can maintain existing service levels, meet obligations to the current and future beneficiaries of entitlement programmes and meet financial obligations without increasing revenue from taxation and other sources or increasing borrowing (IPSASB 2013).

But it is not only the financial reporting accounting framework that is relevant to financial sustainability. The framework of budgetary systems is important as well. It includes the rules and principles applicable for elaborating the budget and managing the use of resources. There are important differences among countries in relation to budgeting systems, mainly stemming from national legislation. In most cases, however, budgetary principles include some requirements that aim to prevent financial problems and to achieve financial sustainability at different levels of government. Interventions of the EU during the recent financial crisis on budgeting rules worked towards this aim, as budgeting is a tool for controlling and monitoring the use of public sector resources and it can help governments to achieve financial sustainability in the short and in the long run.

Given the European orientation of the chapters in this book, one cannot fail to mention another reporting framework that is considered fundamental for measuring and assessing the financial performance and financial position of EU member states. This is the European System of National and Regional Accounts (ESA 2010), which is the conceptual framework underlying the preparation of National Accounts from which Government Finance Statistics are calculated. In Chap. 3, Montesinos et al. remind us that the ESA 2010 is a legal requirement for EU member states, and that it is most important for assessing, controlling and comparing the financial sustainability of EU member states in order to maintain the single currency, that is, the Euro. Similarly, non-European jurisdictions report financial statistics information based on the International Monetary Fund (IMF)’s Government Finance Statistics Manual (GFSM) 2014 framework, which are just as relevant for assessing financial sustainability. Both the ESA 2010 and the GFSM 2014 are based on a common international framework issued by the United Nations, that is, the System of National Accounts (SNA) 2008.

Another useful tool that can be used for managing governments and improving financial sustainability in public sector entities is management accounting. Management accounting allows for the identification, measurement and analysis of information about the objectives of the entity and the level of their achievement, including performance measurement.
and cost accounting. The calculation of the cost of services is an inherent dimension in this area; it is related to efficiency and economy estimations and it is therefore strongly linked to financial sustainability.

Finally, the accounting frameworks we touch upon also encapsulate the performance reporting systems that embrace both financial and non-financial information relevant for management and accountability. Performance reporting systems include information that can be used as the basis for decision-making related to financial sustainability. New trends in financial and non-financial reporting in the public sector, such as integrated reporting and popular reporting, would be grouped under such an extended umbrella of performance reporting systems.

3 Defining Financial Sustainability

The importance for public sector entities to be sustainable is often linked with intergenerational equity, that is, meeting the demands of the current generation while protecting the needs of future ones. On this basis, the IPSASB defines long-term financial sustainability as the ability of an entity to meet service delivery and financial commitments both now and in the future. This ability is demonstrable through three dimensions: service, revenue and debt dimensions. As the chapters in this book shall reveal, the literature is rich with various attempts to define financial sustainability, but an actual definition of what financial sustainability for a public sector entity entails remains elusive and controversial. Some describe the term as a ‘social construct of reality’ (Berger and Luckmann 1966), which varies according to the perspectives of the preparer of information and the user. In Chap. 5, Aquino and Cardoso contend that the concept of financial sustainability is proposed and disseminated by regulation, frameworks and normative material. Furthermore, Lamberton (2005) points out that the process of reporting financial information is subject to manipulation by various vested interests being social, economic and political.

Financial sustainability of a public sector entity may refer to its ability to maintain its financial capacity in the long term (Bowman 2011). The IPSASB’s RPG 1 (2013) recognizes the importance of the debt dimension of long-term sustainability. Biondi (2018) emphasizes the need for the balance sheet’s negative net assets to be accompanied with further information that would help users to assess the entity’s ability to meet its financial commitments as they become due; and also on the entity’s ability to maintain, refinance or increase its levels of debt. The debt financial man-
agement of a public sector entity is substantially different from that of a private entity, due to the role that a government plays in the management of a country’s economy. ‘[P]ublic debt management relates to the use of borrowing to fulfil general interest missions with an overall redistributive purpose, including assurance of welfare obligations and guarantees, as well as to the monetary base management’ (Biondi 2018, p. 1). Users of financial statements may be misled by the representation of material negative net assets in the balance sheet. The negative net asset balance is proof that public debt is used to cover investment and operating expenses over time. In fact, it has never deterred potential investors (both local and foreign) from investing in a government’s structural debt. But the balance sheet falls short of illustrating the redistributive purpose underlying the functioning of government; and it also does not inform users on the specific use of public debt issuance and refinancing. Thus, the entity’s balance sheet and cash flow statements need to be re-designed to better represent the specific working of public finances (Biondi 2018).

The IPSASB’s definition of long-term financial sustainability takes into consideration the revenue dimension, which focuses on the capacity of an entity to change existing taxation levels and/or to tap new revenue sources (IPSASB 2013). In Chap. 4, Guarini and Pattaro remind us that a government’s sovereign power to tax makes its financial sustainability issues substantially different from those pertaining to other public sector entities. As Modugno and Di Carlo point out in Chap. 9, most public sector entities have limited discretion on their revenue, and depend on budget appropriations from the government. Their ability to raise debt may also be constitutionally limited; while they may be required to maintain, if not increase, the quantity and quality of services that they provide given that they are operating in a competitive environment. Assessing the long-term sustainability of such public sector entities on purely financial factors would be ambiguous and misleading.

Having said this, however, it would be obtuse to ignore the fact that the financial sustainability of public sector entities at micro level contributes towards the overall financial sustainability of a government at macro level, as pointed out by Guarini and Pattaro in Chap. 4. According to these authors, financial sustainability entails both consistent budgetary solvency and the maintenance of satisfactory liquidity, by all public sector entities and by all levels of government. This is in line with the EC’s definition of sustainability of public finances, that is, the ability of a government to sustain its current spending, tax and other policies in the long
run without endangering its solvency or defaulting on liabilities or promised expenditures (EC 2017). Budgetary rules that control the levels of government debts and deficits have been strengthened in order to emphasize the financial sustainability of public finances. However, the budgetary rules at macro level are based on a different framework than that used by accounting systems at micro level. According to Guarini and Pattaro (Chap. 4), this inconsistency is causing uncertainties as to what needs to be measured and aggregated in order to adhere to the budgetary rules, undermining the scope of achieving financially sustainable public finances.

Carini and Teodori (Chap. 6) describe various frameworks that have been developed to measure and assess the level of financial sustainability at local government level. They conclude that while the different approaches utilize various dimensions that are generalizable, for example, sustainability, flexibility, vulnerability and solvency, they tend to use indicators that are particular for the jurisdiction under study. This can also be observed in Aversano et al.’s Chap. 10, where they choose the financial indicators suggested by Padovani et al. (2018) on the assumption that these shall be understood by local citizens, and perhaps even incite them to participate in their locality’s decision-making and thus promote financial sustainability.

At the macro level, the Canadian Institute of Chartered Accountants (CICA 1997) proposed two indicators to measure sustainability, being the debt-to-GDP (gross domestic product) and the deficit-to-GDP. The Government Finance Statistics framework incorporates these two macro indicators, making them the most important measures of financial sustainability in the EU context. However, according to Montesinos et al. (Chap. 3), the EC recognizes that a multi-dimensional approach is required to analyse fiscal sustainability, and has thus developed three composite indicators to assess the fiscal sustainability gap of member states over the short, medium and long term (EC 2016). The composite indicators are based on National Accounts and Government Finance Statistics. The data is based on the ESA 2010 framework, thus ensuring homogeneity.

4 Users and Objectives of Financial Information

The identification of the users of financial information is an issue that has attracted scholars’ interest while discussing the development of accounting frameworks (Mack and Ryan 2007; Liguori et al. 2012).
When referring to the content of the GPFRs, the IPSASB asserts that these reports are intended to meet the information needs of users who are unable to require the preparation of financial reports tailored to meet their specific information needs. Some users may have the authority to request special purpose financial reports, which contain information they need for a particular purpose. The IPSASB contends that the requirements of IPSAS may also be applied effectively and usefully in the preparation of some special purpose financial reports, including long-term financial sustainability reports.

Chapter 2 of the conceptual framework (IPSASB 2014) deals with objectives and users of GPFRs. The IPSASB conceptual framework recognizes the fact that the primary objective of most public sector entities is to deliver services to the public, rather than to make profits and generate a return on equity to investors. Consequently, the conceptual framework recognizes that the performance of such entities can only be partially evaluated by examining their financial position, financial performance and cash flows.

For the purposes of the IPSASB conceptual framework, the primary users of GPFRs are service recipients and their representatives, and resource providers and their representatives. GPFRs provide information to users for accountability and decision-making purposes. The IPSASB recognizes that users of the GPFRs of public sector entities need information to support assessments on matters like, whether the entity provided its services in an efficient and effective manner; the resources available for future expenditures, and the conditions and restrictions of their use; to what extent the burden on future taxpayers to pay for current services has changed; and whether the entity’s ability to provide services has improved or deteriorated.

The GPFRs may include information that enhances, complements and supplements the financial statements, in order to respond to users’ information needs on the above matters, thus widening the scope of a set of financial statements. In fact, besides the core financial statements that provide information about an entity’s financial position, financial performance and cash flows, the IPSASB conceptual framework requires GPFRs to include information about compliance with the budget, service delivery achievements, prospective financial and non-financial information and narrative reports as necessary. However, all the ensuing IPSAS focus on the preparation of the core financial statements, with only one standard describing disclosures of comparison with the budget.
As already stated, the objectives of financial reporting by public sector entities are to provide information about the entity that is useful to users of GPFRs for accountability and decision-making purposes. Therefore, financial reporting is not an end in itself, and the objectives are determined by reference to the users and their information needs. Dabbicco (Chap. 2) depicts this like a ‘chicken and egg situation’. She claims that before attempting to widen the scope of financial statements, it seems more opportune to determine who the actual users are. In this way, their need for information relating to financial sustainability of the public sector entity can be determined. It is very difficult to envisage a set of financial statements that comprehensively covers the needs of all potential users. This problem is exacerbated when the users are not specified.

While one set of financial statements cannot cover the needs of all stakeholders, it may be possible to develop an aggregate information system from which different reports can be extracted for different purposes, as suggested by Montesinos et al. (Chap. 3). In their chapter, Montesinos et al. are referring to the preparation of budgetary, financial and national accounts, which all have different objectives and are targeted for a variety of users. It would be interesting to examine whether such an aggregated system would take into consideration the ‘imminent frictions among financial reporting, budgetary dynamics, and fiscal thresholds’, identified by Aquino and Cardoso (Chap. 5), ‘to accommodate the tensions among different stakeholders in different contexts’.

When it comes to decision-making, Aquino and Cardoso (Chap. 5) point out that, in a public sector context, short-termism dominates the long-term view, as the importance to maintain the current budgetary balance prevails over the need to preserve the sustainability of future payments. Their arguments, based on developments in Brazilian pension schemes, undermine the relevance of any particular form of accounting framework that would promote financial sustainability, as the accounting framework is not the more important factor that would affect decision-making.

Given the limitations of the traditional financial report described earlier, Aversano et al. (Chap. 10) explore developments in governmental reporting that would enhance accountability, transparency and decision-making. They discuss integrated and popular reporting, and then recommend the use of the Integrated Popular Report proposed by Cohen and Karatzimas (2015). The focus is on the information needs of citizens,
because Aversano et al. (Chap. 10) support the view that more citizen involvement would lead to better decisions that support financial sustainability.

Furthermore, users of financial information do not only exist outside the premises of public sector entities; there are users inside these entities that have and need access to information that goes beyond the GPFRs. Cost accounting information that is generated by the cost accounting systems of public sector entities should satisfy the needs of the internal users for decision-making and control.

Mohr elaborates on this issue in Chap. 8. He points out that cost accounting systems and practices may be important tools for increasing operational and financial sustainability. However, these tools are often overlooked, and the focus is more on financial reporting. Accounting per se requires the recording of transactions entered into by an entity. Internal controls would ensure that this database is complete and reliable, thus providing a suitable source of data for management to adequately plan, control and take decisions. This is the fundamental purpose of a cost accounting system, which is distinct from the financial reports that are eventually prepared from the same database. According to Mohr (Chap. 8), more attention should be paid to cost accounting practices as the proper execution of these would ensure that decisions are taken in a way that would support and enhance the financial sustainability of the entity.

However, Modugno and Di Carlo (Chap. 9) are rather sceptic about the effectiveness of cost accounting practices for certain public sector entities. In Chap. 9, Modugno and Di Carlo focus on higher education institutions, and conclude that organizational issues may hamper the potential of accrual accounting systems to provide complete and reliable information. Accrual accounting technicalities, such as depreciation, research grants and standard requirements for accounting for non-exchange transactions, exacerbate the problem. The authors argue that higher education institutions depend on government funding, which funding is partly dependent on performance measured in terms of outputs and outcomes — and not on costs. Thus, there is a risk that the adoption of cost accounting practices remains symbolic and ceremonial, and would not effectively contribute to such institutions’ financial sustainability unless the contextual and organizational peculiarities of higher education institutions are taken into consideration.
5 Qualitative Characteristics of Financial Information

To be relevant for all types of users, financial information needs to be produced in accordance with some basic qualitative characteristics (Carnegie and West 2005). The IPSASB’s conceptual framework (IPSASB 2014) elaborates on the qualitative characteristics that the information presented in GPFRs of public sector entities needs to have so that the objectives of a set of financial statements are achieved. These qualitative characteristics are relevance, faithful representation, understandability, timeliness, comparability and verifiability.

The IPSASB’s RPG 1 (2013) extends these qualitative characteristics as requirements for any other additional information that may be presented when reporting on long-term financial sustainability. This means that any projections of future inflows and outflows; any narrative describing the underlying principles, assumptions and methodology; any narrative discussions on the three dimensions of long-term financial sustainability would need to take into consideration these qualitative characteristics. For example, ‘in order for long-term fiscal sustainability information to faithfully represent an entity’s projected future flows, assumptions used should be based on the best available information’ (IPSASB 2013, par. 18). If an entity uses assumptions, projections and indicators prepared by other entities, it needs to ensure that such sources of information meet the qualitative characteristics (IPSASB 2013, par. 22). The IPSASB also requires an entity to balance the qualitative characteristics of verifiability, faithful representation and relevance, when choosing the time horizon for reporting long-term financial information (IPSASB 2013, par. 25).

Bisogno and Cuadrado-Ballesteros (Chap. 7) consider the quality of financial information in terms of the accounting basis and standards used. The financial sustainability of a public sector entity can be perceived from the level of its effectiveness, that is, its capacity to formulate and implement public policies (Kaufmann et al. 2010); and the extent that such public policies satisfy the needs of citizens in the form of adequate public services (García-Sánchez et al. 2013). Given that financial information plays a central role in decision-making, government effectiveness could be affected by the quality of such information. The results of Bisogno and Cuadrado-Ballesteros’ study (Chap. 7) lead them to conclude that, while the adoption of IPSAS per se is not sufficient to improve government effectiveness, an accrual accounting system would provide financial
information that enables public managers to foresee the consequences of public policy implementation through enhanced evaluation of performance in terms of service costs, efficiency and accomplishments.

At local government level, Aversano et al. (Chap. 10) emphasize that the need for both financial and non-financial information to be presented concisely, and in a way that is understandable by the citizens, could be satisfied by the use of the Integrated Popular Report. Accessibility of the information by the citizens is also emphasized by taking advantage of information communication technologies. Local councils could present their report by creating a ‘virtual democratic space’ (Aversano et al., Chap. 10), which citizens can explore and use to help them participate in decisions that affect the financial sustainability of their locality.

In order for financial information to be more relevant for assessing financial sustainability, Carini and Teodori (Chap. 6) contend that consolidated financial statements would be better than separate financial statements, especially at local government level. Provided that the boundary of the reporting entity is carefully identified, consolidated financial statements would present a more holistic picture of operational performance and debt situation. It can be argued that separate financial statements are more useful for accountability purposes; however, a consolidated view of financial performance and situation could help higher levels of government take better financing decisions regarding lower levels.

Comparability of statistical data reported by governments at macro level can be deduced from Guarini and Pattaro’s Chap. 4, since all jurisdictions are required to adhere to the SNA framework. However, given that the underlying data is extracted from accounting systems at micro level that are based on different accounting frameworks, the extent and diversity of adjustments required in order to reach this comparability may negatively affect the reliability of such data — thus undermining faithful representation and verifiability. Referring to the EU’s harmonization project for government accounting and the proposed development of European Public Sector Accounting Standards (EPSAS) on the premise of enhancing the reliability of statistical reporting, facilitating better control, thus leading to financial sustainability through better adherence to budgetary policies, Montesinos et al. (Chap. 3) contend that if EPSAS development proceeds on the basis of IPSAS, the problem would not be solved. The authors refer to prior research that showed that the proximity to IPSAS would not lead to more convergence between governmental and national accounts. In their analysis, Montesinos et al. (Chap. 3) found no
significant relationship between accounting maturity and the materiality of the adjustments required to make financial accounting data suitable for macro assessment of financial sustainability. In spite of this, Montesinos et al. (Chap. 3) suggest that the EPSAS project should aim to lead to the development of an aggregated information system that would facilitate the production of financial, budgetary and macro reports, claiming that this would enhance the comparability and reliability of financial sustainability indicators. However, it can be argued that comparability already exists at macro level, given that all data presented by EU governments follow the same ESA framework. Furthermore, if the underlying aim is to enhance the quality of the data, it is important to bear in mind that the reliability of information is linked to faithful representation and verifiability, but the role of audit in this whole process seems to be overlooked (Caruana and Grima 2019).

6 Conclusion

Financial sustainability of public sector entities is indeed a fundamental concern for all citizens and public administrators, and has become a paramount objective of governments in the last years. The chapters in this book illustrate that financial sustainability is a complex construct that cannot be captured in a simple definition. It is widely acknowledged that accrual accounting would facilitate better measurement of financial health (Bisogno and Cuadrado-Ballesteros Chap. 7; Aversano et al. Chap. 10). However, financial reporting standards on their own are not a holistic solution to financial sustainability. They need to be complemented with other frameworks that can help governments on the road to financial sustainability.

The definition of a conceptual framework for financial reporting has been considered useful in order to produce a set of accounting standards with the common objective to develop financial reporting that can be used by the different users of the financial statements. The information disclosed, sharing specific qualitative characteristics, is useful to measure and understand the financial situation of public sector entities and different levels of government and therefore offers an important input for achieving financial sustainability.
In the public sector, the financial reporting framework is complemented with other accounting frameworks that can offer relevant information useful for assessing and improving financial sustainability. In particular, budgeting frameworks contain rules and principles that prevent the occurrence of financial problems in most of the countries — the rule for a balanced budget being one of them.

National accounts are another source of information to measure and compare financial sustainability of governments. At the moment, this is the accounting framework that is used for comparing countries in the EU, in spite of some problems of comparability that emerge due to the differences at the micro level of government accounting systems. This is the main reason why EPSAS have been proposed. It is anticipated that the EPSAS, based on IPSAS, may provide the solution to overcome comparability problems stemming from the heterogeneously generated input data to compile national accounts. This hypothesis would need to be tested once EPSAS are established and in operation.

Management accounting frameworks produce useful information in order to measure the performance of entities, as well as the cost of services, which can be considered the first step towards rationalizing resource spending in public administrations. Management accounting and cost accounting systems are meant to help and support managers in the decision-making process.

The last accounting framework covered in the book, under the broader concept of performance reporting system, includes the presentation of both financial and non-financial information in one report that summarizes important issues for accountability purposes, including, therefore, aspects that are highly relevant to financial sustainability. These reporting frameworks refer to integrated reporting and popular reporting.

To sum up, accounting frameworks are important and relevant, but represent just one cog in the complicated issue of financial sustainability. Furthermore, the adoption of a particular accounting framework would not necessarily lead to a change in the decision-making process (Aquino and Cardoso, Chap. 5). At the end of the day, public sector accounting may help governments and stakeholders understand the financial issues, but it does not provide some magical solution that improves the financial sustainability of public sector entities. Trusting that accounting frameworks would be a panacea for financial sustainability is too good to be true.
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CHAPTER 2

The Potential Role of Public Sector Accounting Frameworks Towards Financial Sustainability Reporting

Giovanna Dabbicco

1 Introduction

While the role of accounting has been primarily concerned with developing a suitable theoretical framework for annual financial reporting, the attention of academia and practitioners worldwide is increasingly being drawn to broader information than traditional financial accounting, beyond a time horizon of one year—such as forward-looking reporting. The importance of long-term financial sustainability\(^1\) reporting has also been underlined by international organisations (EC 2013; IFAC 2013; Rodríguez and Lopez 2017). This information goes well beyond the

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\(^1\) In some literature, the terms ‘financial sustainability’ and ‘fiscal sustainability’ are often used interchangeably.

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bottom line and debt measures from the financial statements and derived macroeconomic indicators, to include information over a number of years about future service delivery and debt service. Liguori et al. (2012) argued that these extensions to financial statements are important for politicians and public managers.

Although reporting on long-term fiscal sustainability has received increased attention in public financial management of national governments, to date, this has generally engaged the work of economists, statisticians and policy analysts, and only marginally that of accountants. However, public sector accountants are now being asked to take on a broader strategic and innovative role to support a financial sustainability framework for governments to achieve more sustainable outcomes (ICAEW 2013).

Nevertheless, a research gap remains in the current literature on the role of accounting frameworks for financial sustainability reporting (FSR). This offers new areas for research, notably on the role of public sector accounting (PSA) in the provision of information that would assist financially sustainable policy-making and the relevance of accounting frameworks in this process. An analysis of this role is of both practical and scholarly interest, including approaches to define long-term financial sustainability, with the identification of its reporting dimensions.

Given the ‘institutionalisation’ of International Public Sector Accounting Standards (IPSAS) reporting within national governments, this chapter focuses on initiatives taken by practitioners and standard setters in order to meet user needs regarding financial sustainability data. Subsequently, the objective of this chapter is to examine the potential role of PSA (based on IPSAS) for financial sustainability issues, in order to supplement the traditional approach using macroeconomic data—highlighting the contributions of the IPSAS financial reporting framework and of standard setters towards financial reporting that supports financial sustainability.

The discussion argues that putting FSR into practice is challenging due to a complex interdependence with the social, environmental and economic conditions in which it is developed. Accounting standard setters have endeavoured to fit FSR into their conceptual frameworks, but all this work may seem futile because it is not based on a fundamentally important clear distinction between the type of information offered by different types of reports and how this may satisfy the need for financial
sustainability information by various users. Joint work of accountants and standard setters with other professions is needed to identify Public Sector Reporting stakeholders in terms of their needs, expectations and information format preferences.

After describing the research methodology, the chapter proceeds with background information on developments in FSR, referring to publications by standard setters and practitioners. This is then followed, in Sect. 4, by an examination of the academic literature on users of public sector financial reports and their needs, which include data on financial sustainability. Section 5 compares and discusses these developments and related literature, and draws some conclusions.

2 Research Methodology

A qualitative-interpretative research methodology is applied in this study, drawing on existing literature by academics and standards setters/practitioners; archival material and responses to past International Public Sector Accounting Standards Board (IPSASB) public consultations and guidance on reporting on long-term financial sustainability.

Public domain documents, such as comment letters received by the IPSASB on its FSR consultation, were used to understand the user needs and preferences of stakeholders. Moreover, a number of non-scientific studies carried out by practitioners were examined to draw on these common needs and importance attached to relevant aspects and definitions of FSR. With reference to academic studies, the ‘general’ needs literature highlighted ‘conceptual’ views on hypothetical users and the potential, appropriateness and enlargement of objectives of accounting frameworks for FSR. Subsequently, a body of more specific literature on sustainability accounting, and its dimensions, drivers and criticalities were examined.

While it was relatively easy to identify high-quality studies on general user needs, the identification of academic papers on specific user needs in the field of financial sustainability proved limited, in particular for the public sector. Research on sustainability seems to be more focused on the private sector. Another limitation might be observed with respect to using standard setters’ comment letters as the means to understand user needs.

Refer to the Appendix for details of responses to IPSASB’s consultation on FSR.
These respondents might not be systematic users but may rather represent the particular interests of organisations which would be affected by the standards. Moreover, it appears that terms and concepts of (financial) sustainability are traditionally anchored within (macro) economic theory on monetary and fiscal policy interactions (e.g., Balassone and Franco 2000; Prammer et al. 2011) rather than financial or management accounting literature. This chapter does not consider specific presentational issues, such as web-reporting practices.

3 DEVELOPMENTS IN FINANCIAL SUSTAINABILITY REPORTING

A number of studies have been carried out by practitioners, describing current practice or issuing guidance. In 2010, the Association of Chartered Certified Accountants (ACCA 2010) published a report on how sustainability reporting is understood and managed in the public sector, notably in national government reporting. The Chartered Institute of Public Finance and Accountancy (CIPFA 2010) has also developed guidance focused on sustainability reporting for the UK public sector, including economic and social aspects. It refers to examples of the progress in UK public sector sustainability reporting, notably HM Treasury guidance on sustainability reporting, which is mandatory for all central government bodies; and the Scottish government’s Public Sector Sustainability Reporting guidance for central government bodies in Scotland. The result is that a number of central government departments and local authorities produce sustainability reports or provide information on their performance against particular sustainable development indicators.

In 2005, the Global Reporting Initiative (GRI), which sets a sustainability reporting framework including environmental, social and economic issues at the global level, added a Sector Supplement for Public Agencies in order to address the specificities of the public sector. The GRI Sustainability Accounting Guidelines developed a wide range of indicators to measure financial sustainability in terms of performance within a complete sustainability reporting model for the three sustainability dimensions (economic, social and environmental). The GRI guidelines envisage the possibility of supplementing the economic, environmental and social performance report with other economic and financial reporting tools, and emphasise the advantages of coordinated timing in terms of consistency.
between measuring financial performance and economic, environmental and social performance (GRI 2005, 2010; Farneti and Guthrie 2008, 2009). One can envisage the difficulties to apply such a triple framework in the public sector due to the size of entities and the availability of information, as well as the difficulty to compare different types of organisations.

At the global level, the International Monetary Fund (IMF) assesses external and fiscal sustainability in member countries by producing financial transparency reviews. At the supranational level, in the EU, the budgetary framework based on macroeconomic accounts, that is ESA 2010 (EC 2013) and the Maastricht Treaty set ceilings for government deficits and debt-to-GDP ratios. This framework also includes medium-term budgetary objectives differentiated for individual member states, together with a coordinated assessment of the long-term sustainability of public finances (EC 2016). These developments acknowledged that government deficit and debt ratios are unsuitable for sustainability analysis.

Finally, a number of national and federal governments, such as Australia, Denmark, Germany, France, the Netherlands, New Zealand, Sweden, Switzerland, the UK and the USA, publish reports on long-term financial sustainability of their programmes—for example, in the context of inter-generational reports, assessment of the impact of ageing on pension expenditure and sustainability of public finance in terms of health, employment and education.

The above examples show that sustainability reporting is present in many jurisdictions, but as a separate reporting stream from financial reporting. This opens the question as to if, and how, the two should be linked. Some point to the concept of General Purpose Financial Reports (GPFRs), which include both traditional financial statements and other reports, such as those on sustainability. Standard setters have debated if it is their role to set standards for GPFRs, which go beyond general purpose financial statements.

The IPSASB GPFR definition includes multiple reports and additional information that may enhance, complement and supplement financial statements (referred to as GPFS). Therefore, the conceptual framework has a scope which is more comprehensive than that of financial statements. However, it is mentioned that this more comprehensive scope will build on information from financial statements.
3.1 The Contribution of Standard Setters on Financial Sustainability Reporting

Standard setters, such as the Governmental Accounting Standards Board (GASB), the Federal Accounting Standards Advisory Board (FASAB), the Public Sector Accounting Board (PSAB) and the IPSASB, have developed requirements or guidance on reporting for long-term financial sustainability. This work has considered aspects such as the capacity of governments to deliver their service objectives, to meet current and future commitments, to maintain stable and predictable future taxation rates, and to issue debt and meet current and future debt service obligations.

The GASB (1987), describing the nature of information needed by users in the context of the stewardship objective of government financial reporting, established that:

Financial reporting should assist users in assessing the level of services that can be provided by the governmental entity and its ability to meet its obligations as they become due … [notably] … should provide information about the financial position and condition of a governmental entity… [and] … about a governmental entity’s physical and other nonfinancial resources having useful lives that extend beyond the current year, including information that can be used to assess the service potential of those resources. This information should be presented to help users assess long- and short-term capital needs. (1§79)

This approach supports an enlargement of the scope of reporting to information on prospective and future delivery of services (GASB 2010).

The GASB initiated a research project in 2010 with the objective to identify user needs information on government entity fiscal sustainability, to compare those needs with the current accounting and financial reporting standards and from other sources, and to potentially consider fiscal sustainability additional guidance and reporting, such as in financial statements and notes, statistical section or other forms of supporting information as part, for example, of GPFRs. Its initial findings indicated that users of financial reports are interested in a government entity’s future financial viability or fiscal sustainability as the ongoing ability to raise revenue, to deliver services, to issue debt and to meet its obligations and commitments as they become due. However, the project was suspended in 2013, pending discussion of the GASB’s scope.

The FASAB (2016) establishes that:
Federal financial reporting should provide information that helps the reader to determine whether … future budgetary resources will likely be sufficient to sustain public services and to meet obligations as they come due.

In this context, the FASAB (2015) considered essential the contribution of comprehensive long-term fiscal projections in the US consolidated financial report.

After a public consultation, the IPSASB (IFAC 2013) issued a non-mandatory Recommended Practice Guideline (RPG) on reporting on the long-term financial sustainability of a public sector entity’s finances. This followed a debate within the IPSASB, between those who preferred to concentrate on ‘traditional’ (backward-looking) general purpose financial statements and those who wished to extend the boundary of standard setting to a variety of (potentially forward-looking) GPFRs.

### 3.2 Some Views of Users and Stakeholders from the IPSASB Consultation on Financial Sustainability Reporting

Diverse comment letters were received by the IPSASB on its consultation, revealing the points of view and reasoning of different stakeholders.

At the national government level, the analysis of responses to the IPSASB’s (IFAC 2009, 2011) consultation and exposure draft on Reporting on the Long-Term Sustainability of Public Finances shows diverging views, with some government authorities and standard setters (e.g., the French CNOP) supporting the view that information on FSR should be under non-IPSAS frameworks since it is not accounting information. In this vein, these respondents supported a separate and supplementary ‘paper’ including prospective information, while long-term financial sustainability should be under another framework.

Others (e.g., Switzerland and Quebec) felt that governments should be free to decide the type of information on fiscal sustainability to disclose, taking the view that FSR has nothing to do with accounting in the narrower sense, and thus it should not be a mandatory standard. Others, such as the GASB in the USA, supported the view that an entity that prepares general purpose financial statements under IPSAS may prepare FSR under the same basis.

Other responses, for example from the Netherlands, supported the view that analysis of fiscal sustainability of public finance is mainly meaningful at the aggregate level of government.

There were also views (e.g., in Australia) that although this information is useful and conceptually relevant to all reporting entities, standard setting
cannot regulate this subject since it is a political and policy activity and, therefore, not all such information is suitable for financial reporting, even more so for general purpose financial statements. The Australian Accounting Standards Board (AASB) observed that ‘some’ long-term financial sustainability information is part of GPFRs but considered that this depends on how the scope of GPFRs is defined, highlighting the related issue in the conceptual framework. They (alongside a similar view from the UK) opposed the approach presented in the consultation paper that long-term financial sustainability information in GPFRs should be presented either through additional statements providing details of projections, or as summarised projections in narrative reporting, proposing more flexibility for the presentation of long-term financial sustainability information. They also suggested that guidance on long-term financial sustainability reporting should focus on how GPFRs for an entity, collectively, could provide all of the information that is useful to users for accountability and decision-making purposes.

Heads of Treasuries Accounting and Reporting Advisory Committee (HoTARAC)’s view was that long-term financial sustainability reporting should not be presented as part of annual reports but would be better issued as a separate report because it provides economic, statistical and demographic data. They expressed their concern that including long-term financial sustainability in the annual report would require long-term sustainability reports to be prepared every year and audited. While they pointed to forms of assurance for long-term financial sustainability, they also expressed concerns for the audit implications given the prospective characteristic of this information and for the different bases applied in the report if included in GPFRs.

By contrast, the UK Accounting Standards Board (ASB) agreed with most of the proposals made by the IPSASB, considering information on long-term financial sustainability as falling within the scope of GPFRs and particularly suited to the narrative report. As for the boundary for reporting on long-term financial sustainability, the ASB’s view was that it should be the same as that used for GPFRs.

The table in the Appendix lists the responses to the IPSASB’s consultation.

### 3.3 The IPSASB’s RPG on Long-Term Financial Sustainability Reporting

Crucially, the IPSASB decided not to issue a standard, but to use a new (voluntary) form of guidance known as a ‘Recommended Practice Guideline’ (RPG).
In accordance with the ‘user needs’ model, the IPSASB considered that reporting on long-term financial sustainability depends on an assessment of the existence of potential users for prospective financial information and identified possible users for long-term financial sustainability information for those reporting entities with particular characteristics (e.g., those having tax/revenue- and/or debt-raising powers). The IPSASB attributed the need for such information to the twofold objectives of accountability and decision-making, and did not acknowledge the stewardship objective referred to by the GASB and some national-level standards.

Information on the flows relating to social benefits programmes was seen as a significant component of reporting on long-term financial sustainability. Indeed, the whole project was born from the inability to reach a consensus on accounting for social benefits. According to the IPSASB, assessments of long-term financial sustainability included broad financial and non-financial information (such as, future economic and demographic conditions) and accepted that a combination of presentation approaches would be meaningful, where, for example, (additional) statements are complemented by cross-references in GPFRs to other reports and narrative reporting.

Information on long-term sustainability was considered complementary to the core information in the financial statements to help meet the objectives of financial reporting by including future flows that are not considered as liabilities at the reporting date. As there is a perceived cost burden of such information (compared to the benefits), the IPSASB considered that this may be reduced by using indicators, budgets or forecasts prepared by other entities, for example, Ministries of Finance, when they meet the IPSASs’ qualitative characteristics of verifiability and faithful representation. This emphasises that the work of different institutions in this field are complementary, giving rise to significant benefits of close liaison between accountants and economists. In this regard, the IPSASB considered that narrative reporting could make reference to principles, assumptions and methodology from other frameworks, for example, European budgetary governance and IMF frameworks.

It is interesting to note that the IPSASB gave examples of disclosures to include in the narrative discussion of the projections, and stressed that ‘projections are not forecasts’ (that is, they may differ from the actual

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4 Another attempt is currently underway, with the IPSASB aiming to issue a social benefits standard in early 2019.

5 To this point, one might note the distinct difference between forecasts of governmental figures based on previous available information and key assumptions, and the budget, which shows how the government plans to use public resources to meet policy goals.
outcome, which will be influenced by policy responses to the projections) (RPG1:12).

An important aspect addressed by the IPSASB is that of the reporting boundary, which should be the same as for the financial statements, to enhance the understandability of projections and to increase their usefulness to the users of GPFRs. However, it also admitted that an entity may use another reporting boundary, such as the general government sector (GGS), to enhance consistency and comparability with other countries or jurisdictions, or to connect with indicators based on GGS.

The IPSASB identified three dimensions (service, revenue and debt) as relevant for information on long-term financial sustainability. For each dimension, aspects of capacity (to influence the dimension) and vulnerability are brought into focus.

The IPSASB proposed reporting components as part of a framework for sustainability reporting—projections of future inflows and outflows—for an appropriate time horizon, accompanied by a narrative discussion of the identified dimensions of long-term financial sustainability, including indicators, and the principles, assumptions and methodology underlying the projections.

Examples of indicators to assess long-term financial sustainability were identified. Among these, the importance given to the level of net debt in the assessment of the debt dimension (on this, see Dabbicco 2018) may be observed, as it represents the amount of goods and services already provided, which need to be financed in the future. The IPSASB also mentioned net worth and net financial worth, fiscal gap and ratios, such as fiscal dependency and net debt as a proportion of total revenues. The IPSASB also appeared aware of the importance at national/macroeconomic level of interest payable on debt, and considered relevant for users the presentation of both the ‘primary balance’, which excludes interest payable on debt, and the ‘overall balance’, which includes interest payable on debt.

Other issues reflected in the IPSASB RPG are the conditions of uncertainty inherent in the assumptions underlying the model used for projections reported in long-term financial sustainability information. A particularly important source of uncertainty surrounding projections of debt and debt service is associated with contingent liabilities, such as those associated with explicit or implicit guarantees of debt. The IPSASB wrapped up this issue by stressing that such assumptions are to be based on the best available information, provided that such information meets the IPSASB’s qualitative characteristics.
4 Literature Review

4.1 Users, Uses and Usefulness of Public Sector Accounting

The role of PSA has been attributed by the literature to two main frameworks: accountability and decision-making usefulness (Chan 2003; Mack and Ryan 2006). With the recognition by academia and practitioners of the interests of the parties involved (Hay 1994; Clark 2010; IFAC 2016), the role of accounting has developed under the stimulus of a (potential) user needs model—analysis of who the users are; what their information needs are; and the purposes of the required information. User needs include information to satisfy interests in future plans (and their financial implications) on the effectiveness and efficiency of planning and resource allocations, and on the ability to repay debt—all relevant for financial sustainability (GASB 1987; Antonio and Hay 1990; Hay 1994; Clark 2010; IFAC 2016).

Table 2.1 summarises literature on so-called recipients/users of annual (public and private) reports and their ‘general’ information needs.

This body of literature, emerging mostly from American and Australasian countries, and the UK, appears primarily concerned with developing a suitable theoretical framework for annual reporting. Studies on users/ recipients of public sector information appear to aim to test both the accountability and decision-usefulness frameworks (Broadbent and Guthrie 2008). Such studies range from ‘stakeholder theory’—suggesting a wide range of users (e.g., those discussed by the seminal paper by Freeman and Reed 1983)—to ‘institutionalism’ and public choice theory, where some authors have argued that there is no demand/interest by the public for GPFRs in the public sector—this being a ‘matter for government officials’ (Jones 1992, p. 226).

Among the empirical studies, Brusca (1997) surveyed finance directors of Spanish local governments and identified internal management as a stakeholder of financial information, whilst use by politicians and citizens was considered limited due to their lack of accountancy training and the need for a change in culture (contradicting the results of Daniels and Daniels 1991). In an Australian empirical study, Mack and Ryan (2007) found that annual reports were rated the second most important source of information (after personal contacts) in almost all the types of entities surveyed, except for public corporations. These results can be reinterpreted in the light of the more recent and tremendous development of the
internet as a source of information for government reporting (notably, on sustainability) (Navarro et al. 2014).

Interestingly, some research has assumed a speculative approach, which in turn may be beneficial to financial sustainability reporting, since it focuses not only on what information users do require but also on what information users should or could require (Young 2006; Mack and Ryan 2007). Alongside a list of users, such studies also developed the concept of users’ ‘information needs’, which is defined as information to satisfy the various interests, including financial sustainability (on this see Coy et al. 1997; Clark 2010). In their analysis of a GASB research study on note disclosures, Antonio and Hay (1990) showed the importance of notes to financial statements, demonstrating that users want more detail (but tailored and concise) on items in financial statements, subsequent material

<table>
<thead>
<tr>
<th>Main approach</th>
<th>Results</th>
<th>Academic papers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normative/Conceptual: based on perceptions or own experience</td>
<td>Normative lists of (potential or ‘hypothetical’) users and stakeholders, for example, internal (management bodies at various levels and employees interested in accounting for internal purposes, such as to support decision-making) and external (political groups, trade associations, trade unions, communities, potential employees and customers, and the public at large, higher level institutions, supervisory bodies, auditors and regulators, market investors and creditors, to whom an accountability obligation is identified) Users’ classifications (i.e., groups) ‘hypothetically’ interested in PSA on the basis of commonalities observed in user lists and user needs</td>
<td>Anthony (1978); Antonio and Hay (1990); Jones (1992); Hay (1994); Young (2006); Jones and Pendlebury (2010); Ellwood and Rixon (2011); Cascino et al. (2014); Nogueira and Jorge (2016)</td>
</tr>
<tr>
<td>Empirical: focused on actual users/recipients of reports to obtain evidence of ‘actual stakeholders’ that used annual reports</td>
<td>Lists of actual users and stakeholders Deductive needs’ lists Information is to satisfy the various interests(needs) including financial sustainability</td>
<td>Daniels and Daniels (1991); Mayston (1992a, b); Brusca (1997); Coy et al. (1997); Mack and Ryan (2006, 2007); Clark (2010).</td>
</tr>
</tbody>
</table>
events and other disclosures—for example, material contingent liabilities, and whether reported annual revenues and expenditures ‘fit the trend of revenues and expenditures over time’. Among other, information on present or expected events that would impact expenditures in advance of future revenues would be also useful for ‘serious readers’, as well as significant information on long-term debt, pension plan obligations and other employee benefits (Antonio and Hay 1990, p. 92).

Identifying groups of potential users, such as voters and their representatives, policy-makers, managers and employees, monitoring bodies and lenders, Mayston (1992a, p. 229) argued that their interests relate to wider information on non-profit measures of performance, such as quality of service delivery. A broader, more recent view adds ‘contingencies’, such as the nature and roles of governments, culture, management styles and pressures from institutional environment as further factors forming the basis of the financial and non-financial information needs of governments and citizens (e.g., Nogueira and Jorge 2016).

### 4.2 Development of Financial Sustainability Reporting for Users

Some conceptual advances in the role of PSA for FSR may be observed in more specific studies addressing sustainability accounting concepts, practices and the drivers of sustainability reporting in the public sector.

Lamberton (2005) studied attempts from the early 1990s on the complexity of linking accounting with sustainability. He identified the needs of stakeholders, and in particular business decision-makers, within the objectives of sustainability information needs, which would include economic, social and environmental dimensions. Gray (1993, cited in Lamberton 2005) developed concepts of sustainability accounting with reference to sustainable cost, natural capital inventory and input–output analysis. The study identified the need for natural capital stock preservation for future generations and suggested approaches to calculate monetary measures of unsustainability within financial statements (as the excess of sustainability costs over accounting profit). Lamberton (2005) described an alternative input–output analysis (which is mainly in physical units), but

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6 According to Gray (2010), sustainable cost is the amount that an entity would have had to spend if it had been sustainable.
it should be pointed out that this is a technique used in the macroeconomics framework rather than Public Financial Management and PSA. He thus advocated for a financial accounting model where the role and contribution of accountants is considered to respond to the objective of sustainability (or sustainable development). However, conscious that ‘the process of reporting sustainability accounting information is open to manipulation by vested interests’, Lamberton (2005, p. 16) highlighted the potentially critical role of accounting to overcome or reduce manipulation, a well-known issue in financial accounting.

Marcuccio and Steccolini (2005), when examining the adoption of social and environmental reporting in Italian local authorities, concluded that this has been driven by a ‘managerial fashion’ based on socio-psychological and techno-economic forces, in searching for improvements in financial and service performance, but also in some cases simply ‘cosmetically’. Farneti and Guthrie (2008, 2009), studying sustainability reporting within a group of Australian public sector ‘best practices’, found that, from a preparers’ perspective, disclosure of sustainability information in reports focused on informing internal stakeholders and the process was championed by key individuals within the organisations.

On the other hand, Lamberton (2005) also referred to criticism by accounting academics on the valuation of externalities and a sustainable cost framework. He noted how research on accounting for sustainability, although drawing on concepts of traditional accounting (such as inventory and maintenance cost), did not clarify which would be the public sector reporting entity and which principles would be applied (e.g., regarding materiality). Gray (2010) questioned the role of traditional accounting for sustainability, highlighting the critical aspects of (narrative) attempts in this field of reporting as based on organisational and political needs and that the meaning of sustainability seems controversial. Gray (2010, p. 56) also pointed out that ‘what these states [of sustainability] might look like is an exercise in imagination’, arguing that a limited set of sustainability dimensions should be considered, such as economic and financial sustainability. He suggested multiple sustainability narratives rather than a single (un)sustainability account. A more recent Italian study in local government by Liguori et al. (2012, p. 10) highlighted the limitations of GPFS in the evaluation of ‘public value’ as follows: ‘[public value] encompasses not only financial viability, but also the long-term sustainability of political programmes and policies, and the
capacity to pursue the public interest through the use of assets and the provision of services’.

Rodríguez et al. (2014a, p. 233) discussed the role of governmental financial reports, particularly the income statement, in the assessment of ‘financial’ sustainability in local governments, that is, ‘the capability of public administrations to maintain the level of public services over time’. However, they recognised that government financial reports are unsatisfactory for such an assessment, as this involves assessing the capacity to represent intergenerational equity, for example, from a future decision-making perspective rather than from the past financial year. To this end, they suggest improvements to the income statement with adjustments related to extraordinary and unforeseeable or uncertain activities. Some studies also focused on factors determining the financial sustainability of local government, how it can be measured and controlled, and the implementation of the financial sustainability model by governments (Zafra et al. 2009; Rodríguez et al. 2014b, 2016a, b; Brusca et al. 2015).

Bergmann et al. (2014) analysed sustainability reporting in Swiss cantons and noted that there is no general definition of long-term sustainable public finances, neither for national nor for sub-national levels of government. Other empirical studies (Rodríguez 2017) highlighted the need for the definition and analysis of financial sustainability in the public sector and the challenges connected to this.

On this point, a definition of financial sustainability in the public sector is offered by Bowman (2011, p. 81) as the ability of an organisation to maintain its financial capacity in the long term, proposing, as a quantitative measure, its rate of change in each period: ‘a sustainability principle is introduced ensuring consistency between the short run (as measured by annual surpluses) and the long run (as measured by asset growth)’. Besel et al. (2011) and Struthers (2004), both cited by Booth et al. (2015), defined financial sustainability as the ability of public sector entities to diversify their funding, including financial resources capacity. They suggested that public sector entities should extend their budget over a five-year period, to demonstrate their ability to meet needs in the future. Booth et al. (2015) also consider going beyond revenue and expenditure, to include assets and liabilities and measures of reserves (surpluses) accumulated in the long term. This long-term horizon is in contrast with the concepts of vulnerability and viability, which have a shorter-term focus.
5 Discussion and Conclusion

A variety of research has contributed to the identification of users of government reporting, describing a wide interest for various public sector reports and a diversity of information needs, including financial sustainability. The relevant literature shows that extension to a multiplicity of users of financial reporting necessarily involves a widening of its objectives. Users looking for a long-term future perspective focus on ecological, social and economic sustainability.

Reporting on long-term financial sustainability has received increased attention in public financial management of national governments; but to date, fiscal sustainability projections have generally been undertaken by economists, statisticians and policy analysts, and only marginally involved financial accountants, if at all. The objective of this chapter was to examine whether PSA (based on IPSAS) can play a role in FSR by supplementing the traditional approach using macroeconomic data. The following analysis highlights practical limitations to the developments so far.

The conceptual frameworks of PSR seem to have been influenced by the normative approach of literature, specifying the purposes for external reporting with reference to the actual and prospective users of public sector reports in the frame of both accountability and decision-making models (GASB 1987; CICA 20157; IFAC 2016). However, this raises a debate amongst standard setters who prefer to concentrate on ‘traditional’ (backward-looking) general purpose financial statements and those who wish to extend the boundary of standard setting to a variety of (potentially forward-looking) GPFRs. This debate has still not been fully resolved—the IPSAS approach of using an RPG admits long-term financial sustainability issues into standard setting processes, but at a different level from general purpose financial statements. Even the status of long-term financial sustainability documents within GPFRs remains uncertain. From this, one can observe the multifaceted challenges in the public sector in establishing standardised forms of FSR, in relation to, for example, the size and type of entities, and the issue of comparability. For example, the GRI represents a positive development that must be, however, managed and

7 A recent Canadian task force of the Public Sector Accounting Standards Board’s (PSAB 2015) Conceptual Framework has exposed Consultation Papers to seek opinions on an approach that increases emphasis on accountability to the public and their elected representatives as the primary objective of public sector financial reporting rather than an approach focused on the needs of discrete user groups.
controlled so that it does not just become a ‘management fashion’ within organisations.

The review of the literature suggests that there are key areas that should be addressed in guidance and assessment (such as those identified by the IPSASB). In this context, it appears that the guidelines issued by the IPSASB offer advice on approaches for FSR, from a principles-based perspective that can be applied to all public sector entities, even if only at an RPG level.

Different views have also been expressed on the reporting boundary, with some supporting the application of the IPSASB’s definition of the reporting entity, also at the individual reporting level, whilst others believe that the GGS would be more meaningful since it refers to an aggregate government. Other views focus on levels of government that have the capacity to levy taxes and to set tax rates to fund future expenditures, or support a ‘Whole of Government’ reporting entity rather than the GGS. Since the analysis of fiscal sustainability is part of the whole economy analysis, the application of the (consolidated) reporting entity has implications, for example, in terms of significant financial transactions between sectors.

Due to the complexity of modelling, the time horizon for projections and the way in which such information could or should be audited, are also subject to debate, as well as whether there should be a standardised format or model comparability. Extension of the scope of reporting to long-term financial sustainability also involves clarification of the meaning of sustainability, reporting dimensions and principles, which should lead to unbiased reporting, free from political interests (Lamberton 2005).

In spite of the recognised role of PSA and financial accountants in reporting on sustainability issues, putting this in practice is challenged by a complex interdependence with the social, environmental and economic conditions which should prevail when reporting such issues. Even the standard setters themselves question whether their role should extend beyond financial statements. Thus, reporting on sustainability issues requires a joint work of accountants and standard setters with other professions, in order to develop relevant approaches. Such a role of Public Sector Accounting Standards may involve considering how information from PSA, in monetary and non-monetary terms, may support a financial sustainability framework for national governments.

On the other hand, considering the lack of systemisation and focus on FSR needs, the diversity of users and their information needs with
(fragmented) empirical findings (Mack and Ryan 2006; Young 2006; Clark 2010; Cascino et al. 2014), the studies’ mixed results and the acknowledged difficulty to meaningfully obtain views of users of government reports (Hay 1994; Young 2006), there is still a need for scholars and standard setters to agree upon a common list of users and stakeholders (and their information needs), and thereby to investigate in more depth the type and amount of information to be provided in either IPSAS GPFRs or separate specific reports based on common needs of users. It appears that developing the role of PSA in financial sustainability by researchers and standard setters must involve a research agenda to design a users’/stakeholders’ map. This map would allow the identification of their relationship with PSR, that is, in terms of their needs, influence and contribution, expectations, to weigh their legitimate interests at stake and information preferences in terms of content and form.

The objective of financial reporting should be clarified but this can only be done once the users have been identified. This could then solve the dilemmas between the different, likely conflicting, nature of the interests of different groups (e.g., investors may have different interests than citizens on detailed disclosures) (Ellwood and Rixon 2011).

One can conclude that there is still considerable debate on the correct scope of GPFRs and the delimitation between GPFRs and specific separate reporting. The IPSASB’s conceptual framework mentions the inclusion of additional information, such as non-financial, prospective financial, compliance and/or additional explanatory material. As the IPSASB believes that the scope of financial reporting should evolve in response to users’ information needs—that is, the usefulness of the information—this has an impact on the legitimate type and format of information on fiscal sustainability in each entity’s financial reporting. A concern here is that, without specific mandatory reporting, governments will avoid ‘inconvenient’ financial sustainability reporting.

Financial accountants have an increasing potential role in FSR, and the initiatives of standard setters could influence the way that governments institutionalise (mandatory) reporting on this area. However, this role is challenged by the interdependence with political and policy activities of governments and by the uncertainty of the assumptions related to long-term and future-focused modelling. Thus, in order to fill the gap in the conceptual framework of PSR towards FSR, future research on financial sustainability should involve the joint work of accountants with other professions: economists, statisticians and policy-makers.
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CHAPTER 3

A Framework for Comparing Financial Sustainability in EU Countries: National Accounts, Governmental Accounting and the Challenge of Harmonization

Vicente Montesinos, Rosa Mª Dasí, and Isabel Brusca

1 INTRODUCTION

The financial sustainability of governments is considered an essential part of the economic recovery from the crisis (European Commission 2009). Its measurement, management and control are a challenge to public administrations around the world. With the crisis, public administrations have had to increase the services they provided, while facing revenue reductions and pressures that led to financial difficulties.

In the European Union (EU), the introduction of the single currency had important implications for the fiscal policy of member countries and
required the implementation of mechanisms to monitor financial and monetary stability. The concept of fiscal sustainability used in the EU framework is reflected in the traditional concept of financial sustainability. The deficit and debt of public administrations are considered the main measures for this end, in line with other pronouncements and literature about financial sustainability (the Canadian Institute of Chartered Accountants [CICA] 1997; the International Public Sector Accounting Standards Board [IPSASB] 2013). Their control is one of the main objectives of the EU.

The European Commission uses government finance statistics (GFS) and national accounts to determine these ratios. The GFS show the economic activities of the government, and, in the EU, they are produced in accordance with the European System of National and Regional Accounts 2010 (ESA 2010). This means that the ESA is most important for assessing, comparing and controlling the financial sustainability of member countries (Lüder 2000). However, as this is a macro accounting system and single government entities do not have it in operation, a micro accounting system is required. Currently, the information from budgetary systems is the basis for the national accounts (Lüder 2000; Jorge et al. 2014). In particular, the process to obtain national accounts requires adjusting heterogeneous budgetary data from member states (MS) and, although the adjustments have been defined by Eurostat, the differences between the governmental accounting of the countries can affect the materiality of the adjustments (Jorge et al. 2014).

The analysis of the adjustments in the European countries shows a very significant accounting diversity in the governmental accounting systems and also the limitation in the comparability of national accounts (Bos 2007). The European Commission took stock of the situation and has proposed the introduction of harmonized European standards for the preparation of financial statements of public entities with accrual criteria. However, while the bases for national accounts are the budgetary systems (Daí et al. 2013; Jorge et al. 2014), some other actions are required in order to have more comparable data sources. It is important to reconcile the methodologies used in micro accounting and national governmental accounting reports that are not currently comparable. The integration of the three subsystems—budgetary reporting, financial accounting and national accounts—is suggested in order to attain the comparability and the reconciliation of the information from the three systems.

This chapter is organized as follows. Section 2 describes of the role of national accounts to measure financial sustainability in the EU. Section 3
introduces the debate about the comparability of budgetary reporting, financial accounting and national accounts systems. Section 4 analyzes the importance or materiality of the country adjustments and the possible impact of accounting maturity on these. Section 5 offers an analysis of the role of the European Public Sector Accounting Standards (EPSAS) in homogenizing the bases for national accounts measures. The last section summarizes and offers some conclusions and implications.

2 The Role of National Accounts for Comparing the Financial Sustainability of EU Countries

The study of financial sustainability grew after the 2008 financial crises, but it had been present in practice and research for many years (Brown 1993). Financial sustainability has been defined as the ability of governments to comply with current and future obligations through proper inflows from revenues, as well as to sustain a certain service level, coherent with the citizens’ needs (Honadle et al. 2004).

In the EU, the control of fiscal and financial sustainability at the macro level has become a paramount objective with the introduction of the single currency. The European Commission (2017) defines the sustainability of public finances, or fiscal sustainability, as the ability of a government to sustain its current spending, tax and other policies in the long run without threatening its solvency or without defaulting on some of its liabilities or promised expenditures. As a consequence, this concept could be included in the more general concept of financial sustainability (Groves et al. 2003).

As there is no single indicator that can directly show financial sustainability, it is necessary to delimit how to assess it and what elements and ratios must be taken into account. Among the many contributions and guides, the CICA (1997) proposal can be highlighted for using two indicators to measure sustainability: debt-to-GDP (gross domestic product) and deficit-to-GDP.

In the EU, the assessment of fiscal sustainability is carried out under the Stability and Growth Pact (SGP), which comprises a set of rules aiming to ensure that countries pursue sound public finances and coordinate their fiscal policies. The Maastricht criteria of convergence require the MS to comply with budgetary discipline by respecting two limits: (a) the ratio between the public deficit and the gross domestic product should not exceed 3%; and (b) the ratio between public debt and gross domestic product should not exceed 60%, as defined in the Protocol on the Excessive Debt Procedure (EDP) annexed to the Treaty on the Functioning of the
European Union (TFEU). This means that, as proposed by the CICA (1997), these indicators are the most important to measure financial sustainability at the macro level in the EU framework.

In Europe, the framework used to compare and control the convergence criteria has been the ESA, which was updated in 2010 (ESA 2010) and approved by Regulation (EU) No. 549/2013 of the European Parliament and of the Council on May 21, 2013. It was applied for the first time to the data that countries transmitted to Eurostat as from September 2014. In order to help countries implement ESA, Eurostat elaborated the Manual on Government Deficit and Debt, which has been also updated recently to incorporate ESA 2010. ESA 2010 is a conceptual framework, while the Manual on Government Deficit and Debt offers supplementary material in the form of Eurostat’s decisions, guidance notes, clarifications and bilateral advice to EU MS.

Based on the ESA, the GFS are an alternative presentation to the ESA sequence of accounts that gives a different but integrated picture of government accounts with the following measures of government economic activity: revenue, expenditure, deficit/surplus, financing, other economic flows and balance sheet levels. It consists of transactions recorded in the various ESA current accounts, capital account and financial account, rearranged for non-financial transactions into a single account presentation more appropriate to fiscal analysis.

The control of fiscal sustainability is focused mainly on two variables: (a) surplus (+)/deficit (−) of the general government sector, referred to as the net lending (+)/borrowing (−); and (b) the government debt, defined as the total consolidated gross debt at face value in the following categories of government liabilities (defined in ESA 2010): currency and deposits, debt securities and loans.

Nevertheless, although these measures are the base for fiscal policy control, the European Commission is aware that for an overall fiscal sustainability assessment, a multidimensional approach to the analysis of fiscal sustainability challenges is necessary. Recently, the European Commission (2016) proposed the use of three composite indicators:

(a) Short-term fiscal sustainability gap (S0 indicator): this indicator allows for the early detection of fiscal stress associated with fiscal risks within a one-year horizon. To estimate these risks, S0 uses a set of fiscal, financial and competitiveness indicators, selected and weighted according to their signaling power. S0 is therefore a com-
posite indicator whose methodology is fundamentally different from the S1 and S2 indicators, which quantify fiscal adjustment efforts. The critical threshold for the S0 indicator is 0.46. A value above the threshold signals potential short-term risk of fiscal stress.

(b) Medium-term fiscal sustainability gap (S1 indicator): this indicator measures the upfront fiscal adjustment required to bring the debt-to-GDP ratio to 60% by 2031. This adjustment effort corresponds to a cumulated improvement in the structural primary balance over the five years following the forecast horizon (i.e. from 2019 for the no-policy change scenario; and from the last available year for the stability and convergence program scenario); it must then be sustained, including financing for any additional expenditure until the target date, arising from an aging population. The critical thresholds for S1 are 0 and 2.5, between which S1 indicates medium risk. If S1 is below 0 or above 2.5, it indicates low or high risk, respectively.

(c) Long-term fiscal sustainability gap (S2 indicator): this indicator shows the upfront and permanent fiscal adjustment required to stabilize the debt-to-GDP ratio over an infinite horizon, including the costs of aging. The critical thresholds for S2 are 2 and 6, between which S2 indicates medium risk. If S2 is below 2 or above 6, it indicates low or high risk, respectively.

These indicators are obtained from the budgetary plans of the MS, national accounts data and GFS in the context of the SGP to assess the extent that there is a need for large policy adjustment now or in the future, and the kind of policy adjustment required (fiscal or structural or a combination of the two).

Table 3.1 contains the values of the three indicators for the MS corresponding to 2017 (except Greece, whose data was not published). It also shows their correlation with the net lending/borrowing over GDP and total debt over GDP of the countries. The correlation of the variables is significant for S0 and S1 but not for S2. In the case of net lending/borrowing, the correlation is negative with the two indicators, while for debt, the correlation is positive and very high (especially with S1). This proves the relevance of the indicators when considering the short-term fiscal sustainability gap and the medium-term sustainability gap. However, there is no correlation with the long-term sustainability gap.
Table 3.1  Sustainability indicators and differences between working balance and net lending/borrowing

<table>
<thead>
<tr>
<th>Country</th>
<th>S0</th>
<th>S1</th>
<th>S2</th>
<th>Classification transaction</th>
<th>Recognition (accrual)</th>
<th>Sector delimitation</th>
<th>Other adjustments</th>
<th>Global differences</th>
<th>Accounting maturity (PwC 2014)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>0.1</td>
<td>0.7</td>
<td>2.5</td>
<td>244</td>
<td>81</td>
<td>101</td>
<td>0</td>
<td>426</td>
<td>73</td>
</tr>
<tr>
<td>Belgium</td>
<td>0.3</td>
<td>3.8</td>
<td>2.7</td>
<td>239</td>
<td>172</td>
<td>11</td>
<td>152</td>
<td>573</td>
<td>67</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>0.3</td>
<td>−3.9</td>
<td>1.1</td>
<td>0</td>
<td>191</td>
<td>911</td>
<td>322</td>
<td>1.424</td>
<td>56</td>
</tr>
<tr>
<td>Croatia</td>
<td>0.2</td>
<td>1.9</td>
<td>−1.5</td>
<td>17</td>
<td>186</td>
<td>89</td>
<td>316</td>
<td>608</td>
<td>34</td>
</tr>
<tr>
<td>Cyprus</td>
<td>0.4</td>
<td>0.7</td>
<td>−1.9</td>
<td>560</td>
<td>234</td>
<td>65</td>
<td>1.062</td>
<td>1.921</td>
<td>14</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>0.2</td>
<td>−2.3</td>
<td>2.1</td>
<td>39</td>
<td>279</td>
<td>77</td>
<td>54</td>
<td>450</td>
<td>75</td>
</tr>
<tr>
<td>Denmark</td>
<td>0.3</td>
<td>−4.2</td>
<td>0</td>
<td>44</td>
<td>310</td>
<td>22</td>
<td>172</td>
<td>548</td>
<td>72</td>
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<tr>
<td>Estonia</td>
<td>0.2</td>
<td>−3.7</td>
<td>0.9</td>
<td>0</td>
<td>278</td>
<td>54</td>
<td>62</td>
<td>394</td>
<td>92</td>
</tr>
<tr>
<td>Finland</td>
<td>0.1</td>
<td>2.3</td>
<td>3</td>
<td>129</td>
<td>75</td>
<td>137</td>
<td>52</td>
<td>393</td>
<td>72</td>
</tr>
<tr>
<td>France</td>
<td>0.2</td>
<td>4.7</td>
<td>0.9</td>
<td>82</td>
<td>347</td>
<td>52</td>
<td>39</td>
<td>520</td>
<td>89</td>
</tr>
<tr>
<td>Germany</td>
<td>0.1</td>
<td>−0.4</td>
<td>2.1</td>
<td>88</td>
<td>133</td>
<td>1</td>
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<td><strong>mean</strong></td>
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<tr>
<td>with net lending/</td>
<td>−0.441&lt;sup&gt;a&lt;/sup&gt;</td>
<td>−0.760&lt;sup&gt;b&lt;/sup&gt;</td>
<td>−0.128</td>
<td></td>
<td></td>
<td></td>
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<td>borrowing</td>
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<td></td>
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<tr>
<td>with total</td>
<td>0.439&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.848&lt;sup&gt;b&lt;/sup&gt;</td>
<td>−0.244</td>
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<td>−0.295</td>
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<sup>a</sup>The correlation is significant at the 0.05 level (two tails)

<sup>b</sup>The correlation is significant at the 0.01 level (two tails)
At the same time, this shows that, as with the measures used for EDP purposes, sustainability indicators are also based on national accounts and GFS. This means that the comparison of financial sustainability is based on the transnational standardization of national accounts procedures used for determining deficit and debt, as well as the GDP. This information is prepared on the basis of budgetary reporting systems.

Some previous studies analyzed the differences between national accounts and budgetary reporting systems (Jorge et al. 2014; Dasí et al. 2016), showing that deeper study is required. The next section refers to this issue.

3 THE COMPARABILITY OF BUDGETARY REPORTING, FINANCIAL ACCOUNTING AND NATIONAL ACCOUNTS SYSTEMS

The differentiation between micro and macro accounting systems leads to a duality of systems in public administrations. Governmental accounting (micro) and macro accounting have different objectives and scope, and, therefore, different criteria are used in them (Vanoli 2010; Jesus and Jorge 2016).

At the same time, at the micro level, two subsystems can be differentiated:

- Financial reporting, based in most cases on accrual and elaborated according to national standards of the member countries. In some cases, such as Portugal or Spain, national standards have been adapted to the International Public Sector Accounting Standards (IPSAS).
- Budgetary reporting of a microeconomic nature, which in most cases is elaborated using the cash- or modified-cash basis.

The diversity of models among the EU member countries in each of the subsystems is one of the characteristics of public sector accounting (Brusca et al. 2015). With respect to the comparability of information between the two subsystems, in some countries there is a reconciliation of financial and budgetary data. Nevertheless, there are still some countries where budgetary and financial reporting are used for different aims and comparability is lacking.
The macro accounting system is based on the ESA 2010 and there is high homogeneity among the member countries in this system. The measures are built with the information obtained by applying the micro accounting criteria, which allows the presentation of the macroeconomic aggregates of the public administrations, such as deficit and debt, calculated in accordance with national accounts.

At this point, from a theoretical perspective, there would be two options for determining the macroeconomic variables, and, in particular, deficit and debt:

- To use the financial accounting as the data source, so that the adjustments from these systems would allow to obtain national accounts variables.
- To take budgetary reporting and make the necessary adjustments to determine national accounts variables.

Nevertheless, it must be taken into account that many countries do not have accrual-based consolidated reporting, but only consolidated cash-based budgetary reporting, so, in practice, only the second option would be possible. The next paragraphs focus the discussion on the comparability of the national accounts system and the two microeconomic subsystems.

### 3.1 Comparability Between Financial Accounting and National Accounts

In order to make financial accounting and national accounts systems comparable, the first step is to understand the difference between the two systems. As there is a diversity of criteria used in financial accounting in member countries, the adjustments will depend on the systems and their accounting maturity. National accounts and GFS use accrual criteria, which may facilitate the adjustments in countries that have accrual financial accounting.

Considering the IPSAS, which are gaining legitimacy in member countries (Christiaens et al. 2015), as an example of accrual financial accounting, there are some differences with national accounts. In this respect, in 2014, the IPSASB published a document entitled *Process for Considering GFS Reporting Guidelines During Development of IPSAS* (IPSASB 2014), which describes the process to reduce the differences between IPSAS and GFS reports by taking into account that:
unnecessary differences between GFS reports and IPSAS should be avoided; and
• the reduction in unnecessary differences is an important factor in the review and development of IPSAS.

The differences between IPSAS and GFS are basically of two types: conceptual differences and presentation and terminology differences (IPSASB 2012; IMF 2014). The main conceptual differences are the following:

(a) The criteria for recognition of assets, liabilities, income and expenses. Both GFS and IPSAS are based on the accrual principle and therefore record economic transactions in the period in which they occur. GFS treat uncertainty about outflows/expenses of future economic flows differently from IPSAS, by recognizing fewer liabilities. This difference can be seen, for example, in guarantees and related contingent liabilities, which are generally not recognized in GFS until they are required, while IPSAS recognize a liability when there is a present obligation that is likely to occur. The differences in the recognition of the obligations will lead to differences in the recording of the related income and expenses in the two systems, and thus, for example, the expenses in relation to the guarantees will tend to be registered earlier under the IPSAS than under GFS.

There are also differences between financial accounting and national accounts in the recognition of research and development (R&D) activities. ESA 2010 involved a significant change in R&D because it recognizes R&D expenditures as a fixed investment and the depreciation of these assets as consumption of fixed capital (Eurostat 2014a, b), while previously, in ESA 1995, R&D expenditures were considered intermediate consumption. This change shall result in an increase in the valuation of GDP when compared to the previous methodology.

Another important issue is the time of registration of taxes and income from social contributions (Jesus and Jorge 2016). Following the criteria of accrual principle, taxes must be recorded when the activities, operations or other events that generate the obligation to pay taxes are carried out, that is, when the taxable events occur, and not when the payments are due. In national accounts, the different
institutional agreements in fiscal matters (existence or not of estimates, such as tax records) can lead in practice to the use of different registration methods depending on the characteristics of the tax. Therefore, especially when reliable estimates are not available or the amounts of doubtful collections cannot be calculated reliably, the adjusted cash principle is considered an acceptable substitute for the accrued amounts in the national accounts. While the total amount of recorded income should be the same in both approaches, it is likely to be different from the distribution of recorded income over time.

(b) **Valuation criteria.** The GFS generally use current market prices as a basis for valuation of assets and liabilities. Although IPSAS also use this criterion for many assets and liabilities, in other cases, such as property, plant and equipment, they allow the use of historical cost. However, it should be noted that IPSAS often encourage or require the disclosure of fair value if there is a substantial difference between historical cost and fair value. Finally, the use of historical cost in the valuation of non-financial assets in IPSAS accounts also results in differences between the measure of the depreciation of these accounts and the measure of consumption of fixed capital in national accounts (which is a concept based on current prices). In general, during periods when asset prices increase, depreciation measures are lower than measures of consumption of fixed capital.

(c) **Treatment of changes in value.** In the GFS, the changes in value are recorded in a separate account for “other economic flows”, and therefore are not included in the registered income and expenses or in the capacity/financing need of the public administrations. From this perspective, it is considered that the changes in value are not under the control of the government and therefore is not relevant information for the analysis of fiscal policy.

However, IPSAS record some of the changes of value in the statement of income or financial performance, since they are perceived as relevant for the measurement of government activities. The main exceptions are exchange gains and losses related to subsidiaries abroad and the revaluation of property, plant and equipment. These changes in value are included in a separate financial statement, the statement of changes in equity, as well as in the balance sheet.
As for the presentation and terminology differences, although the information reported is similar (apart from the recognition and measurement differences), the GFS and IPSAS use different names (e.g. “Statement of Government Operations” versus “Statement of Financial Performance”), and the definition and/or value of key items (such as total assets, net worth, total revenue and surplus/deficit) may differ (Vanoli 2010). The classification structures of presenting information (financial statements) for the two reporting frameworks differ too.

3.2 The Comparability Between Budgetary Reporting and National Accounts

The second option, and currently in operation in the EU, is that member countries obtain national accounts and governmental financial statistics using budgetary reporting. In this case, adjustments are also necessary as each of the countries has defined the national criteria for budgeting reporting, so that the differences will depend on that. The differences are due mainly to the scope of the reporting entity and the principles applied for the purposes of recording transactions. In fact, in most EU countries, budgetary reporting is still cash based.

There are important differences, both in terms of the number and amount of adjustments made in different countries (Jesus and Jorge 2016; Dasí et al. 2013). The importance or materiality of the adjustments shows the heterogeneity of the systems used as a basis.

The information presented by the MS for EDP contains a table (titled Table 2) that reflects the differences between public budgetary reporting systems and national accounts for the net lending/borrowing and allows for the study of the differences between the two systems through appropriate adjustments.

The “working balance” obtained from budgetary reporting is adjusted for obtaining the “net lending/borrowing”, used for measuring the deficit in sustainability assessments. The adjustments can be classified into four categories, which are related to the conceptual differences between the two information systems (Eurostat 2002, 2014c; Dasí et al. 2013):

- C1. Classification of the transactions, including non-financial transactions that are not reported in the working balance
- C2. Recognition criteria, due to differences in the time of recording (transition to ESA 2010 accrual recording)
• C3. Sector delimitation, adding or subtracting the results of entities to align with the ESA 2010 sector definitions
• C4. Other adjustments

A detailed analysis of these adjustments can be found in Dasí et al. 2013, 2014 and in Jesus and Jorge (2015, 2016).

The next section analyzes the importance or materiality of the above adjustments for the MS.

4 FROM BUDGETARY REPORTING TO NATIONAL ACCOUNTS FINANCIAL SUSTAINABILITY MEASURES AND THE IMPACT OF ACCOUNTING MATURITY

European GFS are produced in accordance with the ESA rules, taking budgetary reporting as reference. At the national level, statistical authorities are responsible for ensuring that reported data comply with the legal provisions. At the European level, Eurostat is responsible for providing the statistical methodology on which EDP statistics are compiled and for assessing the quality of data reported by the MS for EDP purposes.

As already mentioned, data are obtained from budgetary reporting and the importance or materiality of the adjustments will be related to the differences between the budget standards of the country and national accounts criteria. These differences will depend on the criteria used in budgetary reporting: cash, accrual or mixed (Jesus and Jorge 2015). Since many MS are considering, or are in the process of adopting accrual financial accounting and IPSAS, it is important to study the implications on the mentioned adjustments, in view of the accounting maturity of the MS and the objective of harmonization of governmental accounting, as already evidenced by Jorge et al. (2016).

In order to compare the systems, the chapter describes the importance or materiality of the adjustments for the EU countries (Dasí et al. 2013, 2014; Jorge et al. 2016). Furthermore, the correlation between the adjustments and the accounting maturity of the countries is analyzed. In this respect, accounting maturity, as determined by PwC (2014), reflects the estimated degree of compliance of the government’s accounting rules with an IPSAS-based benchmark.

The information obtained corresponds to the EDP Notifications Tables of the 28 countries of the EU provided by Eurostat (2018). The data cor-
respond to 2014–2016, because the new system of national accounts, ESA 2010, came into force in September 2014. Furthermore, the study has focused on information from the central government subsector (sector S.1311). To avoid the potential impact of year-by-year changes, the chapter uses aggregate data for each country for the 2014–2016 fiscal years.

In central governments, only Spain and the United Kingdom declare the use of accrual as the accounting basis for the working balance calculation, while Belgium, Denmark, Germany, Luxembourg and Finland declare the use of mixed bases, and all the other countries use the cash basis.

In order to determine the aggregate values of the data that will measure the overall impact of the adjustments, some corrections were necessary to facilitate the consistency and comparability of the proposed aggregations. First, due to the great heterogeneity of the data, it has been considered necessary to standardize them, dividing them by the total general government revenue (non-financial resources). In addition, since the adjustments show discrepancies between the two different information systems, all the data have been processed in absolute values, considering the total value without considering the sign, so the aggregates correspond to accumulated total values.

Moreover, to facilitate the interpretation of the results, the value of the standardized data has been multiplied by 10,000. This data transformation has no impact on the empirical study and has been carried out to facilitate the reading and interpretation of the data.

The convergence between the two systems for the central government is analyzed using a global index and partial indexes for each class of adjustments.

The global convergence index \( CI \) for each country was proposed by Dasí et al. (2014). The variable \( A_i \) denotes the four specific adjustments listed in the EDP Notification Table, and the \( CI \) is obtained as follows:

\[
CI = \frac{\sum |A_i|}{\text{Revenue}}
\]

The \( CI \) informs on the divergence between the two reporting systems and measures the convergence/divergence between budgetary information and national accounts. When the indicator decreases, convergence increases, with zero being maximum convergence.
Partial convergence indexes ($CI_j$) for each category have been defined, denoted by ($j$) each of the four adjustment categories listed in the EDP Notification Table 2, and by $A_{ji}$ the adjustment $i$ in category ($j$):

$$ CI_j = \frac{\sum_{i \in (j)} |A_{ji}|}{\text{Revenue}} $$

$CI_j$ is designated as the index of convergence for adjustments in category “$j$”.

Table 3.1 shows the values of the indexes for the 28 EU member countries, as well as the accounting maturity (PwC 2014).

As can be seen in Table 3.1, the countries with the highest global differences are Portugal, Cyprus, Greece, Spain and Bulgaria, while the countries with the lowest differences are Austria, Estonia, Finland and Germany.

With respect to the importance or materiality of the partial differences, there are variances by countries. In the Netherlands, Luxembourg, Ireland, Austria, Italy, Portugal and Belgium, the main difference is due to the classification of the transactions. The differences in the criteria of recognition are the most important in Estonia, Sweden, France, the Czech Republic, Hungary, Denmark, Poland, Lithuania, Germany, Malta, Latvia, Slovakia and Romania. In Bulgaria and Greece, the biggest differences are in sector delimitation. The fourth category is the most relevant in Spain, Cyprus, Croatia and the United Kingdom. This shows heterogeneity in the adjustments among the countries which, in part, is explained by differences in accounting technologies (Jorge et al. 2014).

In order to test the association between the implementation of modern accounting systems and the relevance of the adjustments, the correlation between the four classes of adjustments and the accounting maturity (PwC 2014) has been analyzed.

The results of the correlation coefficients between the accounting maturity and the indexes of convergence are shown in Table 3.1, where it can be seen that the accounting maturity of the countries does not have a significant correlation with the global or the partial indexes. The coefficients are not statistically significant in any case. The only variable with a positive correlation, although not statistically significant, is the recognition criteria, which means that, on average, countries with financial accounting systems with higher maturity require more adjustments for
recognition criteria in national accounts. The other three classes of adjustment have negative correlations, showing that accounting maturity can reduce the adjustments in the classification of transactions and in the sector delimitation, although very unimportant and not significant. The lack of correlation shows that the importance or materiality of adjustments is independent of the accounting maturity of the system, which is understandable considering that budgetary reporting is the basis for obtaining national accounts and GFS. Similar results were found by Jorge et al. (2016), who pointed out that there is no evidence that the proximity to IPSAS contributes to the convergence between governmental accounting and national accounts.

5 The Need for a Harmonized and Aggregated Governmental Financial Reporting System: The EPSAS Project

The use of national accounts to compare financial sustainability aims to ensure that the reported balances are comparable among countries, as the ESA is an international framework for national accounts. However, the sources of the data are the budgetary systems, prepared using cash criteria in most of the MS, and thus the original data are not comparable among countries. This adds complexity to the data used by Eurostat and can have some implications on the quality and reliability of the data (Bos 2007), as has been shown in the sovereign debt crisis (Cohen and Karatzimas 2015). Consequently, it would be convenient to harmonize the different information systems of the public sector.

Eurostat is leading a process that aims to achieve convergence in the governmental financial accounting systems of the MS through a set of EPSAS that will take the IPSAS as their reference (European Commission 2013). However, as has been tested, the accounting maturity has no significant relationship with the importance or materiality of the adjustments, which means that adapting country systems to IPSAS/EPSAS will not influence the data used for determining financial sustainability ratios or the importance or materiality of the adjustments. As pointed out by Jorge et al. (2016), if the EPSAS focus exclusively on financial accounting, they will not improve the process for determining national accounts measures and their reliability, because national accounts aggregates are based on budgetary reporting systems. The information used for macroeconomic
accounting is always budgetary information and not financial accounting data. In most countries, there is a divergence between financial and budgetary information, complicating the task of harmonization. Therefore, the problem of convergence will only be partially solved. One option would be to change the data of reference and use data from EPSAS in all the MS to obtain the macroeconomic measures. Another option is to address the differences in budgetary systems as well.

In addition, Sforza and Cimini (2017) show that a set of high-quality accounting standards, like future EPSAS, are not going to be sufficient to overcome the present lack of harmonization, given the heterogeneity of the institutional context of EU MS.

The convergence and harmonization between the micro- and macro-based data is totally necessary. This has been supported by the European Commission, the IPSASB (2014) and other accounting standards boards, such as the Australian Accounting Standards Board. It has not yet been established how the convergence process will be carried out in the framework of the EU, but while both systems have different objectives (Jones and Caruana 2014), everything indicates that they must coexist. And in turn, each country will have to maintain the budgetary system provided in the regulations and legal developments. Therefore, the efforts should be directed toward the implementation of aggregated information systems that allow different reports to be obtained for different purposes and to cover a wide range of users and stakeholders of public accounting information.

In particular, the aggregated system should produce national accounts, budgetary reporting and financial reporting, considering that each of them has different aims but must be comparable. As Barton (2011) points out, the financial accounting criteria and budgetary systems can be integrated into a comprehensive financial information and management system that generates the reports needed by governments to perform the functions that citizens require. The integration of the systems will also allow the maintenance of national systems for the internal use of the national governments and the EPSAS as a source of data for comparison among countries (Manes Rossi et al. 2016), as well as the standardization of procedures to conciliate the information of the three systems.

In summary, in order to overcome the problems of comparability and heterogeneity of the information, one information system is required that allows the simultaneous production of different types of reports.
Furthermore, the EPSAS should take into account the differences between budgetary systems and national accounts.

6 Conclusions

The introduction of the euro as the single currency of the Economic and Monetary Union involved the adoption of measures to ensure the stability of public finances in the euro countries. Financial sustainability is measured using a multidimensional perspective, but debt and net lending/borrowing have become two fundamental variables according to the EDP. In fact, sustainability indicators proposed by the European Commission (S0, S1 and S2) are statistically correlated with debt and net lending/borrowing, which confirms the relevance of data obtained from national accounts to assess financial and fiscal sustainability.

Aggregate data of national accounts and GFS are based on the figures prepared and presented in the executed or accomplished budgets of the MS—in most cases according to the cash criterion—on which the necessary adjustments are made. These budgetary data are not directly comparable, since the budgetary criteria of the MS are not homogeneous. The importance or materiality of the adjustments shows that many corrections are required to obtain national accounts from budgetary reporting.

The differences between countries can create problems in the process of obtaining the measures and even in the quality of the data, which can question the comparability of fiscal and financial indicators obtained using this data. This has generated a debate about the convenience of accounting harmonization in the EU. At the moment, the European Commission is working on the development of EPSAS, which are expected to become a useful tool for comparing the financial information of the MS. The aim is for the EPSAS to be developed on the basis of the IPSAS.

The analysis in this chapter finds that the accounting maturity (degree of compliance of the government’s accounting rules with an IPSAS-based benchmark) does not influence the importance or materiality of the adjustments between budgetary information and national accounts; so IPSAS’ compliance does not facilitate the reconciliation between budgetary systems and national accounts and the improvement of GFS quality. Similar conclusions were obtained by Jorge et al. (2016).

As a consequence, at least a priori, it seems that the EPSAS would not solve the problems of comparability and quality of national accounts data. Some additional actions are required to this end. One option would be the
use of EPSAS as a starting point for the preparation of national accounts and public finance statistics. In this case, Whole of Government accounts would be prepared in accordance with EPSAS and considered as the reference for national accounts. Another possibility is to homogenize budgetary reporting, which is, at the moment, the basis for national accounts.

The integration of the three subsystems (national accounts, financial accounting and budgetary systems) into the same information system, with reconciliation of the differences between them, will also be helpful for this aim. With a harmonized accounting framework, the information used for obtaining fiscal and financial sustainability indicators would be comparable, and hence, even the financial indicators would be more comparable.

In summary, it can be concluded that, in spite of the high degree of standardization to prepare national accounts in Europe, the use of budgetary reporting as data source questions the relevance, reliability and transnational comparability of the indicators of financial sustainability. An improvement of this situation requires not only common standards for public administrations but also an aggregated system that can produce all types of reports and for all the users and stakeholders. This would increase the comparability of financial sustainability indicators.

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References


CHAPTER 4

The Role of Budgetary Rules in Multi-Level Governments

Enrico Guarini and Anna Francesca Pattaro

1 Introduction

After the global financial crisis, policymakers at the international and national levels have put new emphasis on the financial sustainability of public finances by strengthening budgetary rules for the control of government deficits and debt levels of individual public entities (Bergmann 2009; Posner and Blöndal 2012). Budgetary rules refer to the financial constraints placed on the government budget to control borrowing and expenditures and to limit public debt (e.g., Hallerberg et al. 2007). These constraints substantially limit the budget discretionary power of public officials to maintain control over the entire government’s financial performance.

Financial sustainability in governments is not only an issue related to the management of the individual public entity, but also a matter of multi-level governance, since the budgetary outcome—surplus or deficit—of the
general government (macro level) is influenced by the budgetary positions of all individual entities existing at the sub-national level (micro level) (e.g., Breton 1977; IMF 2009; Guarini and Pattaro 2017). According to the Organisation for Economic Co-operation and Development (OECD) (2015), there are approximately 138,000 sub-national governments in OECD countries (primarily at the local level) and they embody on average 16.6% of the GDP, 31.7% of the public tax revenues and approximately 40% of the public spending. In addition, decentralised governments are accountable for approximately 59% of public investment.

In the European Union (EU), member states have to comply with strong fiscal consolidation requirements under the Stability and Growth Pact (SGP), which encouraged them to implement domestic rules to make sub-national governments accountable for their budgetary position. The EU has also required member states to improve governmental accounting systems in order to provide better information on their national accounts (European Union 2011).

Accounting rules and procedures are critical for the effective functioning of budgetary rules, as they define what has to be measured and lay out a framework for assessing progress and achievement. However, budgetary rules have been mainly considered in the literature through the lens of public finance (Kopits and Symansky 1998), while the accounting perspective seems to have been quite neglected. This chapter aims to start filling this gap by shedding light on the role of budgetary rules in ensuring the financial sustainability of public entities in a multi-level government system.

The chapter is structured as follows. First, we offer an empirical picture of the use of budgetary rules in government by focusing on those affecting sub-national governments of EU countries. Then, we discuss the theoretical foundations of budgetary rules, and afterwards, we provide a preliminary analysis of accounting issues related to their use. In the final section, we draw some comments and implications for future research.

2 THE EMPIRICAL EVIDENCE: BUDGETARY RULES IN EU MEMBER STATES

Budgetary rules among EU countries are laid out within the accounting framework of the SGP. Approved in 1997 and reformed in 2005 and 2011–13, the SGP clarifies the budgetary criteria set up in the 1992 Maastricht Treaty that EU countries had to meet to adopt the euro.
Budgetary rules and procedures within the SGP are critical, as they dictate how each member state’s contribution towards the EU’s financial stability is measured and monitored. The original 1997 SGP included two main budgetary rules: the overall fiscal deficit should be below 3% of GDP and government debt should be below 60% of GDP, or sufficiently diminishing towards that level. In 2011, a reform of the SGP (Six Pack) introduced an annual pace of debt reduction (no less than 1/20th of the distance between the actual debt ratio and the 60% threshold). The 2012–13 reforms (Fiscal Compact and Two Pack) reinforced monitoring and enforcement procedures.

EU budgetary rules apply to the general government, with member countries being responsible to internally distribute the target among government tiers. This policy has made national governments accountable towards the EU and other member states, not only for deficits and debt incurred by sub-national governments, but also for the costs of non-compliance in terms of both sanctions and reputational cost. Thus, member states adopted different budgetary rules to comply with the SGP and to devolve, if necessary, part of the national fiscal responsibility to sub-national (i.e., regional and local) government tiers. These financial arrangements are particularly relevant, as they shape multi-level financial governance between national and sub-national governments.

In this contribution, we decided to focus our analysis on specific budgetary rules affecting the regional and local government levels in order to investigate their features in a multi-level governance context. By drawing from the European Commission dataset, we observed that budgetary rules can take many forms, usually non-exclusive of each other, depending on the type of accounting aggregate that they seek to constrain (Kumar et al. 2009). In line with extant literature, we observed that three types of budgetary rules are still in place since 2016: the balanced budget rule, the debt rule and the expenditure rule (Kopits and Symansky 1998).

The balanced budget rule sets a legal requirement of achieving a certain level of budget balance, which expresses the difference between

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1 Available at http://ec.europa.eu/info/business-economy-euro/indicators-statistics/economic-databases/fiscal-governance-eu-member-states/numerical-fiscal-rules-eu-member-countries_en. We did not consider the Czech Republic since, in the last update of the EU dataset of budgetary rules (2018), data about this country had not been reported. This may be due to the Czech Republic not ratifying the fiscal compact reform of the EU Treaty (2012), which has been in force since January 2016.
revenue and expenditure. The balanced budget rule involving decentralised governments is adopted in 17 out of 27 EU countries (Table 4.1). What part of the budget balance has to be balanced varies considerably across countries, partly depending on the level of government and the accounting basis (Dafflon 2002; Sutherland et al. 2005). At the local level, the balanced budget rule is used to mainly constrain the current budget balance, while a capital deficit is permitted to finance public investments. This is often called the ‘golden rule’ (Robinson 2009). Exceptions are Germany and Italy, where the balanced budget rule includes also the capital budget balance, so no deficit is allowed. In Germany, a capital deficit to fund investments is permitted only for regional governments (Länder), while for local governments (LGs), the balanced budget rule is more stringent, as it requires separate balancing of both the current and the capital budget. This is not the case in Italy, where the balanced budget rule considers the aggregate budget balance, without making a distinction between current and capital accounts. The budgetary rules may also require current revenues to balance current expenditures plus the annual debt repayment, as in the case of Italy and Portugal.

On the other hand, debt rules aim to directly control the borrowing of LGs through preventive debt authorisation, or setting explicit ceilings on the stock of debt—as a percentage of revenue/GDP, or on the rate of new debt creation (debt growth rate ceiling). This rule is still in place at the local level in seven out of 27 EU countries (Table 4.1). Estonia, Slovakia and Portugal have direct control of debt through a ceiling on the stock of debt,2 while Italy, Bulgaria, Poland, Romania and Slovakia have in place a constraint based on the debt service ratio (i.e., interests on outstanding debt and new instalment). The latter is an indirect constraint on debt, as new borrowing is allowed only if the overall cost of debt service rests below a preset percentage of current revenues.

With regard to expenditure rules, only Bulgaria and Italy still have expenditure rules in place at the local level. In effect, since 2014, Bulgaria has a target percentage of nominal expenditure for LGs; while in Italy, a

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2 Debt service is included in the balanced budget rule with regard to regional and local governments in Portugal (refer to Table 4.1).
Table 4.1  Budgetary rules in local and regional governments

<table>
<thead>
<tr>
<th>Budget aggregate</th>
<th>Target/Constraint</th>
<th>Country</th>
<th>Accounting formulation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Balanced budget rule</strong></td>
<td>Current balanced budget (BB) in nominal terms</td>
<td>LG: Belgium, Bulgaria, Cyprus, Finland, Slovakia, Romania, Sweden, Lithuania, Luxemburg, Poland RG: Germany Ireland (LG)</td>
<td>Current BB ≥ zero</td>
</tr>
<tr>
<td></td>
<td></td>
<td>France (LG)</td>
<td>Net total deficit (in EDP terms) of no more than a fixed nominal amount</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ex-post deficits cannot exceed 5% of current revenues (10% for small municipalities)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LG and RG: Italy, Portugal</td>
<td>Current BB (including debt service) ≥ zero</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>RG (Portugal): The current balance minus the amortisation of loans ≥5% of current net revenue collected</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Netherlands (LG)</td>
<td>Target for LG deficit (all LGs) allowed in percentages of GDP per year (Multiannual macro norm)</td>
</tr>
<tr>
<td><strong>Current and capital budget balance (no-deficit rule)</strong></td>
<td>BB (current and capital) in nominal terms</td>
<td>Germany (LG)</td>
<td>BB (current and capital budget separately) ≥ zero</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Italy (LG and RG)</td>
<td>BB (current and capital budget in aggregate) ≥ zero</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Shared mechanism of LG deficit permits at regional level</td>
</tr>
<tr>
<td><strong>Debt rule</strong></td>
<td>Debt ceiling</td>
<td>Estonia (LG)</td>
<td>Debt is net of earmarked state subsidies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Portugal (RG and LG)</td>
<td>Stock of debt ≤150% of average current revenues of previous three years</td>
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<td></td>
<td></td>
<td></td>
<td>Debt growth ≤20% of last year’s available surplus</td>
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<tr>
<td></td>
<td></td>
<td>Slovakia (LG)</td>
<td>Debt ≤60% of current revenues of the previous year</td>
</tr>
</tbody>
</table>

(continued)
nominal expenditure ceiling (for pharmaceutical expenses) has been set since 2001 (Table 4.1).

Finally, focusing on the accounting bases for the formulation of budgetary rules for regional and local governments, EU countries mainly use country-specific budgetary accounting as the basis for budgetary rules. In

\[ \text{Expenditure rule} \]

<table>
<thead>
<tr>
<th>Budget aggregate</th>
<th>Target/Constraint</th>
<th>Country</th>
<th>Accounting formulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Borrowing</td>
<td>Debt service ratio</td>
<td>Slovakia (LG)</td>
<td>Debt service ( \leq ) to 25% current revenues of the previous year</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Italy (LG)</td>
<td>Debt service ( \leq ) 10% of current revenues of the previous year</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bulgaria (LG)</td>
<td>Debt repayment ( \leq ) 15% of annual average current revenues</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Poland (LG)</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Romania (LG)</td>
<td>Annual debt service ( \leq ) 30% of own revenue</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Expenditure rule</th>
<th>Expenditure</th>
<th>Bulgaria (LG)</th>
<th>The average growth rate of expenditures for local activities under municipal budgets for the forecasted medium-term period ( \leq ) average growth rate of the expenditures of the last four years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Nominal expenditure growth ceiling</td>
<td>Italy (RG)</td>
<td>Expenditure ceilings for pharmaceutical products (% of the financing level for the NHS contributed by the State).</td>
</tr>
</tbody>
</table>

Source: Analysis from European Commission (2018)

\(^a\)With the label ‘nominal terms’, we refer to a general definition of the rules according to the EU Stability and Growth Pact and the Fiscal Compact

\(^b\)In 2012, Italy decided that the balanced budget rule should be applied also in the executed budget. This rule was set up for LGs in the Constitution as a consequence of the Fiscal Compact. The rule was relaxed later during the legislative implementation and was reverted to an ex ante budget rule.
effect, this choice is used in 14 EU countries, while in five countries, it is the European System of Accounts (ESA)—or various types of budgetary accounting systems ‘compatible’ with the ESA—which is the statistical system used for macroeconomic reporting to the EU at the national level.

This overview of the great variety of budgetary rules adopted in EU member states offers the occasion to present in the following paragraphs some theoretical insights on the role of budgetary rules and the related accounting frameworks in the achievement of financial sustainability in a context of multi-level financial governance.

### 3 Budgetary Rules and Financial Sustainability

The rationale for budgetary rules can be traced back to one of the special features of the public sector: the absence of market forces as powerful mechanisms for steering government decision-making towards financial sustainability. Hence, in the public sector, the accounting system itself becomes instrumental in supporting the request for, and the subsequent authorisations to spend public money financed by taxation. On the other hand, it is also instrumental in supporting the control of spending against the budget. Within this perspective, budgetary rules act as a governance mechanism in budget formulation and execution to limit the discretionary power of elected officials and to avoid financially unsustainable decisions for citizens.

The concept of governmental financial sustainability itself has different meanings based on the different theoretical perspectives under which the concept has been developed. Accounting and financial management theories have emphasised the importance of the financial health of individual organisations (Groves et al. 1981; Wang et al. 2007; Rivenbark et al. 2010; Hendrick 2011; Cohen et al. 2012, 2017; Rodríguez Bolívar 2017). The government, for-profit organisations and not-for-profit organisations all have to ensure long-term viability of their operations without reverting to an inveterate financial support from higher levels of government (Anessi-Pessina 2002). IPSASB (2013) has noted that the long-term financial sustainability of a public entity is defined by its ability to meet service delivery and financial commitments over time. This means that, to fulfil its mission,

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4 Belgium, Bulgaria, Germany, Denmark, Estonia, Finland, France, Lithuania, Luxemburg, Poland, Portugal, Romania, Sweden, Slovakia.

5 Ireland, Italy, Lithuania, The Netherlands, Cyprus.
a government should be able to achieve not only an acceptable operating balance (i.e., current revenues should be large enough to cover current expenses—a capability known as budgetary solvency), but also a satisfactory liquidity (i.e., the ability to meet current liabilities when due—an ability known as cash and long-term solvency) (Hendrick 2011). Within this perspective, short and long-term borrowing should be matched with investment needs, so that the operating budget balance is maintained as a surplus over time and adequately sustains the annual debt service. Conversely, running systematic operating deficits (i.e., to spend more money than taxes collected) might result in increasing future negative cash flows and, in the long run, increasing the inability of the government to pay its obligations, thus leading the government to default.

On the other hand, public finance and economic theories have emphasised the need to develop specific budgetary rules—often labelled ‘fiscal rules’—for the sustainability of fiscal policy. These theories posit that large fiscal deficits and debt levels growing out of control may lead, sooner or later, to a loss of confidence in the country’s fiscal policy, which will require costly adjustments for taxpayers to reduce the fiscal imbalance (Bohn and Inman 1996; Kopits and Symansky 1998; Hallerberg et al. 2007; Debrun et al. 2008).

In public finance, it is recognised that governments can revert to deficits and borrowing when taxes are insufficient to finance capital spending (Bonner 1972; Devas et al. 2008). According to this approach, the fiscal policy is financially sustainable (the so-called intergenerational equity) if the future tax base growth or user charges will offset the increased liability for debt service (Musgrave 1959). If this condition is met, the government is able to repay its debt, and there is no risk of insolvency. In other words, the current level of government debt measures the present value of future amounts of taxes that future taxpayers are required to provide in order to finance outstanding debt. This is consistent with the principle of maintaining an adequate operating budget balance to fund debt service, as posited by the accounting and financial management theories mentioned previously. However, the assessment of this principle in the short run is not an easy task, as it requires an estimation of future spending needs and the tax increases necessary to fund expenditures.

The motivation to enforce institutional budgetary constraints has been developed under the public choice theory (Buchanan et al. 1978). This theory posits that budgetary rules are needed to limit the opportunistic behaviour of politicians who have an incentive to run deficits by taking
advantage of the information asymmetry between the government and citizens (e.g., Nordhaus 1975; Von Hagen and Harden 1994). Without constraints, governments may have the incentive to generate excessive deficits in response to public service demands from current voters, leaving the burden of borrowing to future taxpayers. A theoretical explanation for this fiscal behaviour is the ‘common pool’ problem. Literature shows that, in a decentralised system, when LGs are highly dependent on central government transfers, they tend to incur a deficit because their additional expenditure is paid for by all taxpayers (Persson and Tabellini 2000).

This issue has policy implications at both the micro and macro levels. At the micro level, (i.e., the individual public entities), if the debt is unsustainable in the long run, a default may require a bailout by upper levels of the government or by supranational institutions. At the macro level, (i.e., the government system as a whole), high recurring government deficits can cause fiscal instability and lower growth rates in the economy.

In a multi-level government system, these two perspectives are strongly interlinked by the government accounting system, as the budgetary outcome of the general government results from the budgetary positions of all component entities. Whatever the number of government tiers, accounting supports the control of the aggregate deficit to ensure the fulfilment of the financial responsibility of lower-tier governments (Oates 1972). Indeed, budgetary rules became fashionable and attracted greater attention in OECD countries after 1980s, and particularly after the early 1990s, because of the increased level of autonomy granted to sub-national governments (e.g., Sutherland et al. 2005), and financial constraints were seen as a remedy for increasing expenditures and the indebtedness of advanced democracies (Roberts 2015, p. 402).

Given the popularity of budgetary rules since the 1990s, many studies have focused on their effectiveness in driving fiscal outcomes (e.g., Bohn and Inman 1996; Inman 1996; Von Hagen 2006; Von Hagen and Wolff 2006; Debrun et al. 2008). Nevertheless, public finance and political economic research have focused on the economic impact of the economic actors’ fiscal behaviours, without distinguishing if public expenditure, taxation and borrowing decisions are made by central or local governments. The underlying assumption is that rational economic choices and fiscal constraints must be imposed on the lower tiers of government—whatever the number of tiers—in order to control public taxation, spending and borrowing, and to guarantee the fiscal stability of the general
government (Oates 1972). Therefore, according to this theoretical viewpoint, the fiscal position of the general government in the economy (the macro level) is considered as the aggregate fiscal behaviours of individual (economic) public entities whose financial behaviour is assumed to be fully compliant with the constraints. The way in which these constraints impact the budgetary equilibrium of individual organisations at the micro level is ultimately ignored.

On the other hand, the public sector accounting literature has claimed that the financial responsibility of individual public entities is a condition for the financial sustainability of the entire government (Anessi-Pessina 2002; Bergmann 2009; Jones and Pendlebury 2010). In addition, this research stream also focuses on how public entities react to external shocks and adapt their financial behaviours according to their internal capabilities (Barbera et al. 2016, 2017). For example, budgetary rules that require rigid constraints for the management of individual public entities may be ineffective because of the strong temptation to circumvent them. According to this perspective, there is also a strong link between public policy and public financial management at the micro level and in the macro economy. Nevertheless, this link has been largely neglected because public finance and economic studies and the public sector accounting and financial management literature have mostly developed as separate areas of interest.

The public sector accounting perspective offers the opportunity to better investigate the effects of budgetary rules in terms of intergovernmental financial relations and governance. It can provide a perspective on how the financial behaviour of individual public entities—whether virtuous or not—spreads throughout both the overall government system and the macro economy.

4 ACCOUNTING ISSUES OF BUDGETARY RULES

Accounting is strongly implicated in supporting the mode of operation of budgetary rules, at least because these are often translated into numerical targets or ceilings. As we observed from the overview in EU countries in Sect. 2, budgetary rules can take many forms, usually non-exclusive of each other, depending on the type of accounting aggregate that they seek to constrain and the relative accounting formulation. In this perspective, it is important to explore some critical accounting issues associated with the different rules.
An important premise is that the accounting basis used for the control of government deficit and debt at the macroeconomic level refers to principles of international statistical standards, namely, the System of National Accounts (SNA) (e.g., ESA 2010 in EU countries), whereas at the micro level, the government accounting basis is set according to the accounting standards adopted by each country (International Financial Reporting Standards (IFRS), or International Public Sector Accounting Standards (IPSAS), or country-specific government accounting standards). There are conceptual differences between the two accounting systems—the national accounting and the government accounting—among which, most concern accounting principles.

In the national accounts, the overall balance explains the fiscal balance of the public sector, which is a measure of net borrowing (in the case of a negative balance) by the government from the private sector. From a micro-level accounting perspective, the overall balanced budget measures the expected variation of cash flows and its driving factors to check for funding decisions and financial sustainability. The overall balance and its components also serve as spending limits imposed on spending authorities (ministries or government departments) as appropriations in the annual budget law or directive (Robinson 2009, p. 5). A high degree of differentiation exists in the features of budgeting and accounting systems across countries (Brusca et al. 2015), with accounting bases varying between a pure-cash basis and a full-accrual basis, while the intermediate positions are often referred to as the ‘modified accrual’ basis or the ‘modified cash’ basis of accounting. Moreover, in many countries, budgets and budgetary accounting are still cash based. This is particularly relevant since reporting to the EU is based on budgetary reporting (Jorge et al. 2014). Countries using their own accounting basis to formulate budgetary rules still need a certain amount of accounting adjustments for consolidating the public entities’ data from government accounting into the ESA accounting system (Dasí et al. 2016, 2018). This process raises issues of the reliability of the deficit and debt data at the macro level (Jesus and Jorge 2015, 2016) and fosters the need to develop common government accounting standards in the EU.

Nevertheless, the accounting basis is not neutral when it comes to limiting the deficit. In using the cash basis, outstanding obligations are not reflected in the budget balance, so the financial performance might be overstated and lead to overspending in the next years. Yet, the cash basis is more in line with the way fiscal policies are formulated and with the way public budgets are used to limit monetary spending (Robinson 2009; Reichard and Van Helden 2016). Conversely, the full-accrual basis better
approximates liabilities that will have an impact on the government’s fiscal condition in future years; yet, it is not without the risk of evasive manoeuvres. For example, potential exposures due to off-balance-sheet obligations, such as debt guarantees or other contingent liabilities, may or may not be included in the measurement. Another accounting issue refers to the level of debt consolidation between government entities and state-owned enterprises. If off-balance-sheet debt and contingent liabilities are not counted, budgetary rules can be, in the end, ineffective in ensuring financial sustainability. Again, expenditure rules require the exact accounting identification of expenditure items to be constrained; otherwise, the rules can be circumvented (Costello et al. 2017). For example, an annual spending ceiling can be easily circumvented by postponing recording of the expenditure items to the following fiscal year or by reclassifying them into accounting aggregates excluded from the ceiling. Another somehow different behaviour is to move expenditures off the entity’s budget.

These arguments raise the issue of the appropriate budgetary aggregate to constrain under different bases and systems of accounting to ensure financial sustainability. For example, how should the balanced budget rule be formulated in full-accrual-based accounting systems? Which items should be counted in the balance? How would investments be treated? What differential behaviours, evasive manoeuvres and undesired effects would be produced, at the sub-national government level, by the different bases? It is difficult to answer these questions as the topic has received little attention in research (Robinson 2002).

With regard to the balanced budget rule, an issue to be considered is which items are included in the balanced budget requirement under different accounting bases. The theoretical debate on governmental accounting systems sometimes has developed as there was an option between cash and accruals bases. Since accrual-based accounting systems also include cash data, Reichard and Van Helden (2016, p. 57) have pointed out that the question should be framed in terms of selecting the more dominant perspective of budgetary decision-making, that is, ‘is it the accrual-based “operations plan” (in the logic of an operations or income statement), or is it a “payment plan” according to the logic of a cash flow statement?’ Whatever the accounting system in use, there will always be the argument that cash flow data is necessary to control borrowing. Indeed, there is clear evidence that an accrual budgeting system (e.g., in Australia) ‘must either include an explicit capital expenditure control total or it must employ indirect means of limiting annual capital expenditure so as to achieve the same
result’ (Robinson 2009, p. 5). In this perspective, if the balanced budget requirement considers only the current budget balance, it means that the deficit (and borrowing) is admitted only in the capital budget balance.

The balanced budget rule may also require current revenues to balance current expenditures plus the annual debt repayment, in order to allow the public entity to set aside, in cash, a certain amount of annual revenue to finance the repayment of borrowing that financed the acquisition of an asset. In such a case, while new borrowing is allowed only for covering the capital deficit, this rule provides an indirect assurance of financial sustainability for the debt level related to current revenues and expenditures. If the balanced budget rule is applied to the capital budget, as in Italy and Germany (Table 4.1), no deficit or debt is allowed, so investments should be financed through a structural current surplus. If this rule is applied at the LG level, a capital imbalance must be financed by a current surplus (i.e., mainly by tax revenues), unless investments are financed by capital transfers from the higher tier or by other non-recurring capital revenues (i.e., the sale of assets, capital fees, etc.). Mintz and Smart (2006, p. 3) have suggested that cash accounting, under balanced budget rules that include investment expenditures in the budget balance, is expected ‘to bias governments against capital spending, thereby running down public infrastructure’. This is because capital spending may drive deficit levels beyond the fiscal limits, and politicians concerned about electoral return would swap capital expenditures for current expenditures that provide immediate benefits to their voters.6

However, we do not have evidence that other bases of accounting would not produce the same bias. For example, this type of financial behaviour has been observed in Italy (Guarini and Pattaro 2016) at the LG level since 2008, as a consequence of budgetary rules set within the Domestic Stability Pact. In this case, the balanced budget rule placed a nominal ceiling on the overall budget balance, which was calculated on an ‘hybrid’ accounting basis, and modified accrual for the current budget balance and cash for the capital budget balance. The use of the cash basis offered an incentive to Italian municipalities for capital versus current

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6 Conversely, it should be acknowledged that the exclusion of investment expenditures from the budget balance could bias the government in favour of forms of capital spending whose long-term benefits are much smaller than the benefits from some forms of current spending (e.g., education). We thank an anonymous reviewer for raising this issue.
expenditure swaps while achieving the nominal ceiling on the aggregate budget balance. Another financial behaviour exhibited by municipalities was their carrying over of the current fiscal year’s payment of obligations into the next fiscal year, which was one of the main causes of small business bankruptcies in Italy (European Commission 2012, 2014). The cash basis for the recognition of capital expenditures was required by the central government, as it facilitated the requirements of the national statistical office for the consolidation of government accounting data into national accounting.

5 CONCLUSIONS AND IMPLICATIONS FOR FUTURE RESEARCH

This chapter contributes to the understanding of the relevance of budgetary rules for ensuring the financial sustainability of government entities. The need to control public debt and deficits in the context of multi-level government shapes a system of financial dependencies across levels of government. The budgetary performance in terms of the deficit and debt of individual governments drives the budgetary position of the general government and contributes to the overall impact on the macro economy. This problem is relevant in unitary, decentralised and federal countries, although fiscal relations and autonomy might be different between central authorities and their intermediate levels of government.

As we have shown in the analysis of budgetary rules adopted by EU member states, many national governments have adopted different financial constraints in order to control the public deficit and debt. Nevertheless, budgetary rules can affect different accounting aggregates (e.g., budget balance, debt, expenditure), and the types of constraints and inherent accounting features of the same type of budgetary rule can be extremely heterogeneous. Therefore, as in the case of EU countries, financial sustainability is often managed through the adoption of different accounting frameworks incorporated in budgetary rules constraining lower-tier governments. The overview of budgetary rules in EU member states has shown that they act as a pivotal mechanism in intergovernmental financial relations.

Nevertheless, coordination among different levels of government is not an easy task. The monitoring of the functioning and the results of budgetary rules requires the adoption of a common accounting system and accounting standards that support the formulation, execution and
reporting of the individual entities’ budgets. For instance, in the EU, the overall trend is towards accounting harmonisation based on ESA standards, to facilitate control of the deficit and debt at the central level. However, a certain amount of adjustments between government accounting and national accounts is still needed, as several countries still use the budgetary accounting basis—cash or accrual—for deficit and debt control.

Moreover, the type of financial responsibility and behaviour driven by these rules can be very different, and accounting plays an important role in ensuring the effective functioning of the rules. The use of cash or accrual accounting at the micro level may result in different pictures of government deficits and debt, especially with regard to the alternative accounting treatment of tax revenues, contingent liabilities, investments and pension obligations. This also has relevant effects on the budgetary rule for the control of the deficit and debt at the macro level that must be taken into consideration, especially with regard to the process of accounting harmonisation in Europe. The limited interest of government accounting scholars in budgetary rules has led to defining the budgetary rules mainly from a macroeconomic perspective, without much consideration of the interconnections with public sector accounting. The recurring debt crisis of some of the most indebted countries in Europe is a reminder of the relevant interconnections between government accounting at the ‘local’ level and the stability of public finances at the macro level.

This gap, we believe, should be further investigated. Accounting research is needed to investigate how budgetary rules are used by government decision-makers in a given context, in order to understand the financial sustainability of public finances at the macro level. Budgetary rules that are rigid or that require costly measures, such as high surpluses, are likely to be ineffective because of the strong temptation for government entities to circumvent them. In this perspective, the accounting frameworks allow us to better investigate the effect of budgetary rules at the intersection of intergovernmental financial relations and to offer feedback on how individual governments’ financial performance—whether virtuous or not—spreads throughout either the overall government system or the macro economy.

Thus, if accounting scholars want to provide relevant information for decision-makers at the macro level, we note that public sector accounting studies should put more attention on budgetary rules and inherent accounting mechanisms because of their relevance for preserving public sector financial sustainability in a multi-level government setting.
REFERENCES


THE ROLE OF BUDGETARY RULES IN MULTI-LEVEL GOVERNMENTS


CHAPTER 5

Accounting Framework (Re)Interpretation to Accommodate Tensions from Financial Sustainability Competing Concepts

André C. B. Aquino and Ricardo Lopes Cardoso

1 INTRODUCTION

Financial sustainability is an abstract concept, and a social construct of reality (Berger and Luckmann 1966). To this extent, financial sustainability is similar to corporate social responsibility (Schultz and Wehmeier 2010), risk management (Brivot et al. 2016), resilience (Duijnhoven and Neef 2014), and accounting (Hines 1988). These concepts express ideas and values that, when accepted and internalized by individuals, act as frames and shape behaviors and choices (Weick et al. 2005; Cornelissen 2012). Those concepts are proposed and disseminated by regulation, frameworks, and normative material.

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An example of dissemination of abstract concepts are financial and accounting frameworks (AFs), which have been developed with an aim to drive public sector managers and politicians to design and develop more sustainable policies, for example, fiscal responsibility laws (FRL). In 2013, the International Public Sector Accounting Standards Board (IPSASB) included in its framework the Recommended Practice Guideline for Reporting on the Long-Term Sustainability of an Entity's Finances. However, the adoption of an accounting framework does not necessarily imply that managers and politicians will change their decision-making process and prefer accrual accounting (e.g., Ter Bogt 2004; Nasi and Steccolini 2008; Giacomini et al. 2016). Hence, efforts to enhance values and principles associated with new frames, such as financial sustainability, might not be effective because public sector managers and politicians might make decisions anchored on their previously accepted cognitive frames (Jacobs 2008).

Financial sustainability brings tension to the public financial management (PFM) cycle, as it requires long-term economic and social performance when, at the same time, governments and their agencies fight to survive in the short term. Specifically, sustainability frameworks aim to enhance the long-term perspective. Yet, individuals and organizations are biased toward the present over the future (Slawinski and Bansal 2015). This duality configures an intertemporal paradox, as conflicting and persistent demands exist simultaneously (Schad et al. 2016).

This chapter analyzes how regulators interacted with the intertemporal tensions between the AF and budgetary systems during the federal government’s initiative to enhance financial sustainability of government pension schemes (GPS) in the Brazilian local governments. The AF developed for the Brazilian GPS since 2003 is a case of subsequent reforms by the interpretation (and reinterpretation) of the financial sustainability concept.

Following the IPSAS framework, GPS’ financial reports would faithfully represent the pension plans’ financial position and performance, as liabilities are measured at the present value of actuarial provisions. Notwithstanding the expected forward-looking perspective, there are few empirical pieces of evidence of the effective use of such information by politicians (Jacobs 2008). Hence, skepticism remains on the usage of discounted cash flow techniques to balance the temporal duality (short-term or long-term), on fair value techniques that may enhance the short-termism (Laverty 1996), and on the appropriateness of the IPSAS model for GPS regulation (Biondi and Sierra 2016).

We analyze AF as a set of frames, materialized in accounting standards and handbooks, that shape how financial information is prepared, audited,
presented, interpreted, and used. This framing effect is context dependent, as institutional pressures and incentives from external shocks affect stakeholders’ sensemaking (Weick et al. 2005). In the Brazilian context, even operating under multi-period budgeting, and attempting to implement a performance-based budget, GPS managers and politicians operate under an input-based annual budget and must comply with fiscal ceilings (Aquino and Batley 2016). Consequently, the tensions between the two intertemporal paradox poles (short-term and long-term) emerge as the current budgetary balance prevails over the preservation of future benefit payments.

We observed events that took place in 2003, 2008, and 2010, in which the relevant stakeholders interacted to push or to defend the AF, independently of the economic and political crises that surfaced in Brazil in 2014. As a social construct, AF may need years to produce the intended informational effects. However, during its implementation, challenges can emerge from tensions when the new AF interacts with values, believes, and different motivations already established in and by the rooted PFM system. We capture one aspect of such tensions, from the intertemporal paradox, but other paradoxes associated with the AF may operate.

To collect empirical evidence, we conducted interviews with senior staff from the Social Security Secretariat (SSS) and the Treasury Secretariat at the federal level; a consultant in the National Congress dealing with GPS reform; managers and accountants from GPS; and specialists and consultants involved in the reform. We complement our evidence with relevant accounting and fiscal regulations and standards, and financial reports from GPS and governments.

There is no consensus about an ideal accounting model for GPS. Biondi (2016) and Biondi and Sierra (2016) criticize the IPSASB’s model and suggest alternative views. Additionally, there are many propositions on how to reform pension schemes (see Mesa-Lago 2006; Banyár 2017; Thom 2017). We do not support any particular model or reform strategy, neither the short-term nor the long-term normative positions—it is out of the scope of this chapter. Notwithstanding, the intertemporal paradox is always present. The objective of this chapter is to stress how AFs are interpreted and reinterpreted to accommodate tensions related to such intertemporal paradox.

This chapter contributes to the discussion on the relevance of AF to financial sustainability, stressing the interconnections of the AF within the PFM cycle affecting the actors’ responses to accommodate intertemporal
paradoxes during the AF implementation. We suggest that the AF project will depend on the promoter’s ability to approach the paradox when it collides with incentives, legal constraints, and the fundamentals or interpretation of the rooted PFM system. The chapter also offers literature on paradox theory and a case where regulators and managers approached the paradox, segregating the effects of the competing pressures.

2 Theoretical Background: Frames, Sensemaking, and Paradox

‘Framework’ here means a set of rules, procedures, and requirements enacted by an actor invested with authority to regulate some activity. AFs are a set of accounting rules, a formal institution that contains and carries potential cognitive frames (Maitlis and Christianson 2014), which will be collectively or individually interpreted (Weick 1995) by involved actors. One type of frame is mental models, or cognitive structures, schematic representations, and sufficiently dense relations of ‘if-then’ propositions leading to causal knowledge (Jacobs 2008).

Jacobs (2008) explored the impact of politically elite actors’ mental models on how they constructed a simplified representation and judged GPS issues in Germany. Referring to Lodge and McGraw (1991), Jacobs (2008) stressed the conceptual frameworks employed by political actors, who often interpret public budgeting as ‘divvying up the pie’. Such simplification of causal dynamics on budgeting leads people to ignore budgetary decisions of future periods.

When confusing events occur, such as reforms on accounting rules or a fiscal crisis, individuals in organizations will be unsure about how to act and will try to understand ‘what’s going on’ and search for an appropriate course of action (Maitlis and Christianson 2014, p. 71). Then, auditors at Audit Courts, accountants, and politicians will develop if-then propositions in the process of sensemaking to plausibly explain and accommodate an unknown situation.

Under a retrospective sensemaking process, individuals explain the past or ongoing event, driving attention back to what occurred, and, as the event comprises memories, ‘anything that affects remembering will affect the sense that is made of those memories’ (Weick 1995, pp. 25–26). Alternatively, the individuals’ attention could be oriented to forward sensemaking, anticipating potential occurrences in the future (Gephart et al.
The outcome of this process is a temporary but accepted understanding of how to deal with the situation. How to ‘increase financial sustainability’ involves strategies to achieve an objective based on an abstract and socially constructed concept embedded in an intertemporal paradox, a short-term versus long-term orientation contradiction (O’Reilly and Tushman 2013; Slawinski and Bansal 2015). A paradox is a ‘persistent contradiction between interdependent elements’ (Schad et al. 2016, p. 6) and configures a duality of poles. The duality in the intertemporal paradox can be expressed by Laverty’s (1996, p. 826) definition for short-termism: “decisions and outcomes that pursue a course of action that is best for the short-term but suboptimal over the long run”. Each pole is accessed by a set of frames, more aligned with values peculiar to that pole.

In day-to-day life, a specific set of frames will apply and be used by individuals or teams. There are several combinations, some of which are more prone than others to emerge. In the Brazilian governmental context, the short-term pole focuses on immediate consequences of the ‘pie-cutting’ alternatives and the relevant stakeholders are current political coalitions, which are focused on balancing the modified-cash budget. Frames dealing with past tense or the short-term future do not encourage long-term forward sensemaking since individuals’ attention is on the past or near future (Ocasio 2011). Conversely, there is a long-term time frame and the uncertainty of unknown future events open space for forward sensemaking. When attention focuses on a broader long-term time window in the future, forward sensemaking is triggered, which could fit cognitive frames of financial sustainability. A good combination of such frames is elaborate actuarial calculus, reflecting on beneficiaries’ profiles, to project governments’ contributions for the coming years and decades. Notice the critique by Laverty (1996) about the risk in enhancing the short-termism when we replace the entire managers’ forward sensemaking by the usage of a taken-for-granted discounted cash flow metric.

The paradox theory suggests that when an actor is exposed to contradictory ideas, some individual and collective responses will emerge to approach the paradox. For instance, politicians will collectively engage and accept or accommodate the conflict complying with one of the two competing poles. They are mostly involved in the process of sensemaking when they notice the paradox. Then they may realize the dilemma in which no choice can resolve the tension, and may, influenced by cognitive
frames, choose one pole, accepting the tension until finding a solution to accommodate the conflicts from the competing demands (Smith and Lewis 2011; Schad et al. 2016).

Other collective approaches to the paradox are spatial separation, temporal separation, and synthesis. Spatial and temporal separation strategies involve managing the competing demands of different organizational units or in different time periods. The synthesis approach involves a solution to take both paradoxical elements into account at the same time and to accommodate the dual forces (Schad et al. 2016). Finally, the leaders will access a subsequent degree of understanding and replace the focus on competing interests from each pole. Consequently, they will influence the field with their discourse through a novel reframing of the paradox, applying rhetorical practices to accommodate the tension with stakeholders in the organizational field (Bednarek et al. 2017).

Therefore, an AF does not shape financial reports per se, but the interpretations that relevant actors develop about the AF and the purpose they attribute to financial reports (Hines 1988). Below, we outline two sources of frames (GPS architecture and fiscal equilibrium rules) that interact with the frames from the AF, molding the interpretations and the choices of fund managers and politicians.

_Funded_ versus _unfunded GPS architecture_ defines the rules for operating contributions and how resources are employed to fulfill benefits. The architecture carries values and ideas about performance measurement (i.e., characterization of deficit or surplus), actions to be taken, the space for nonstructural (parametric) reforms, and how short-term decisions impact government budgets.

Unfunded (pay-as-you-go) plans are paid using the current revenue. Thus, unfunded schemes are tightened to the government budgetary dynamics, as payment of pensions to retirees consumes contributions from current workers. Hence, performance is based on a comparison of contributions received and benefits paid. Potential severe intergenerational conflicts arising therefrom rarely come to managers’ minds. The approach naturally demands short-term cash flow management and is aligned with current budgetary logic. The prospective management depends on the usage of supplementary reports and analysis, which some countries apply (e.g., France, but not Brazil), and some academics suggest (Biondi 2016). Notwithstanding the availability of supplementary information, as the estimations and remedies in a budgetary guideline bill, the figures might
be mentioned just ceremonially, not audited or considered for the scrutiny of the legislative.

Funded GPS are paid from an accumulated fund built over the years from contributions made by, or on behalf of, members. The underlying idea is that the current generation contributes to ensure the level of benefit planned for it in the future. The plan assets are invested at a reasonable level of risk to provide returns and are available for sale at the appropriate time for paying out pensions. In this case, performance is based on the profitability, risk, and liquidity assessment of plan assets, and the actuarial balance of the present value of future cash outflows needed to settle pensions. Consequently, compared to an unfunded plan, the management of a funded plan would be more receptive to prospective management.

_Fiscal equilibrium_ refers to the enforcement from ceilings imposed by FRL, and the associated punishment, which create political incentives and institutionalize values and concepts. In principle, FRL reinforces long-term sensemaking if there is a requirement that the sponsor government recognizes actuarial losses, for instance, in its annual budgetary guidelines law, describing any adjustments to contributions or benefits needed to rebalance the GPS.

But gaps may remain, as in Brazil, where the actuarial liabilities are not considered for the governmental indebtedness fiscal ceiling, lacking enforcement to balance the actuarial loss. Consequently, the frames from the Brazilian FRL mostly enforce short-term fiscal ceilings. Effectively, the governor and mayor under such incentives are concerned to balance current revenues with expenditures (short-term time frame), leading the GPS actuarial equilibrium (long-term time frame) to second-order importance (Lima and Aquino 2018).

**GPS accounting policies:** According to IPSAS, for instance, for post-employment defined-benefit plans, an entity shall measure plan assets at fair value and plan liabilities at the present value of actuarial provisions (IPSAS 25.10, par. 61). Such measurement criteria would trigger forward sensemaking on the management of GPS, as the International Accounting Standards (IAS) 19 ‘Employee Benefits’ does for private sector pension schemes. For the parallel IPSAS 25, some politicians, practitioners, and scholars criticize such mechanism as it adopts financial investment logic, ignoring that the public sector operates under a different logic from the private sector (e.g., lack of profit motive, matching revenues and expenses is unfeasible or undesirable) (Biondi 2016).
Under such an accounting frame, the balance sheet from the governmental employer (the sponsor) represents a defined-benefit liability. If the plan assets minus liabilities is positive, the entity shall measure the asset at the lower of that amount and the present value of any economic benefits available as refunds from, or reductions in future contributions to, the plan (IPSAS 25.69). These positive reserves may be consumed in the future if the plan faces a shortfall. In case of a negative net value, GPS might adopt remedies such as collecting additional contributions from employees, cutting pension benefits, or collecting additional transfers from the sponsor. In the latter case, the sponsor recognizes a liability at the amount of actuarial loss.

3 Brazilian Governmental Pension (Unfunded and Funded) Schemes

Brazil has multiple retirement schemes. Private pension schemes are elective and complementary and do not interfere with GPS (article 202, Brazilian Federal Constitution, 1988). The AF for all GPS maintained by the central, regional, or local governments is established by the central government (mainly by the Treasury Secretariat and the SSS). Our focus is on GPS sponsored by local and state governments on behalf of their employees (public servants). There are about 2100 GPS in Brazil. In general, the GPS is a municipal (state) agency, managed by a ‘pension manager’ who is appointed by the mayor (governor) and supervised by a formal council. All GPS are defined-benefit plans.

Since a GPS is part of and sponsored by a government, its operation is intrinsically connected with the PFM system. In a nutshell, Brazilian PFM operates on a modified cash-based budget, including a multiyear plan, budgetary guideline, and annual budgetary law, all of which are proposed by the government and amended by the legislative. The Audit Courts’ focus is on formal compliance, mainly regarding the fiscal ceilings. As a typical dual system, an accrual accounting financial reporting system converged toward IPSAS is being implemented to prepare financial reports (both every entity’s Whole of Government Accounts [WGA] and the Brazilian Whole of Public Sector Accounts [WPSA]). However, the GPS financial statements are not audited by the Audit Courts.
Additionally, governments report supplementary information about the financial and actuarial performance and, eventually, the remedies to rebalance the GPS financial debts and actuarial losses. Such information does not necessarily influence behavior; for instance, it is not taken into consideration by the legislative or Audit Courts to approve annual governor accounts. Consequently, the governor tends to prepare it only ceremonially (Lino and Aquino 2018).

During the last decade, the Brazilian GPS have been criticized due to their financial unsustainability.¹ Attempts were made to reform the Brazilian GPS regulation, shifting it from an unfunded plan to a funded one. However, at all levels of government, the public sector budget has been called on to help GPS to pay benefits, and pension payouts have been subject to delays.

The reforms in the last two decades were constrained by the PFM dynamics. The changes started with two nonstructural (parametric) reforms, in 1998 and 2003, but the reforms achieved real enforcement from 2008. In the 1998 reform, the term ‘financial and actuarial equilibrium’ was mentioned for the first time (art. 40, Constitutional Amendment 20/1998). The same reform established the possibility to adopt funded plans and accumulate resources (art. 249). However, such concepts started to be enforced only in 2008.

The fiscal impact of GPS on budgeting was generally neglected up to 2000 when the FRL required the disclosure of supplementary information about GPS actuarial provisions in the budgetary guidelines bill. It also mandated that the sponsoring government recognizes the GPS actuarial losses as a liability in its WGA. Immediately, a Senate resolution (40/2001), followed by a National Treasury’s fiscal handbook, anticipated the consequences and excluded the actuarial losses from the indebtedness ceiling.

Regarding the accounting policies, traditionally the AF applied by GPS and the AF applied by its sponsor governmental entity were aligned with budgetary rules under the modified-cash basis. Both AF evolved independently from each other but carried the same concept of annual budgetary equilibrium, which still influences the current interpretation of financial sustainability. Until 2003, the budgetary accounting system dominated the mindset on GPS management, since recognition of benefit expenditures

and contribution revenues was tightened to the government’s budget. There was no practical distinction between the governmental entity and the GPS itself. It was gradually implemented from 1988 to 2003.

In 2003, the SSS reformed the AF for GPS requiring the adoption of the accrual basis of accounting and the consequent recognition of actuarial provisions as liabilities, while the sponsor’s financial performance continued to be measured on the annual budgetary balance. This innovation came five years ahead of the mandatory convergence toward accrual accounting IPSAS. Fiscal and accounting rules were slowly implemented until 2008, as ministries and Audit Courts interpreted and operationalized high-level fiscal rules in operational laws, decrees, instructions, and manuals.

Finally, in 2008, the SSS enacted an instruction defining financial and actuarial performance and requiring immediate implementation as a condition for obtaining a compliance certificate. This certificate is crucial to mayors and governors under the FRL as it preserves access to federal grants and permission to borrow money.

Simultaneously, in 2008, the National Treasury Secretariat launched the convergence process toward IPSAS. Since Brazilian governments may exclusively offer GPS to their employees, and the benefits paid are independent of workers’ contribution, IPSAS 25 applies. But, only in 2013 did the Treasury Secretariat assimilate the SSS-developed framework as the baseline for post-employment employees’ benefits in its IPSAS-oriented handbook. Similar to IPSAS 25, the Brazilian Treasury’s public sector accounting handbook (MCASP) requires that sponsors recognize a liability and an expense to accrue for their obligation to fund any GPS actuarial loss. However, unlike IPSAS 25, the Treasury’s handbook is silent about governments recognizing any asset when their GPS present an actuarial gain.

The underlying idea of the instruction was that the GPS and its sponsor have to adopt one or more of three remedies once an actuarial disequilibrium is identified: (i) adjust contributions from beneficiaries or reduce their benefits; (ii) increase transfers from the government; and/or (iii) segregate beneficiaries into two plans, one remains—unfunded—for vested beneficiaries and beneficiaries that were near to vesting, and another one—funded—for new entrants in the system. This segregation created two financial dynamics. The unfunded plan follows the old dynamic—benefits are paid with cash collection from contributions. The funded plan uses cash collection from contributions to accumulate reserves and then
pay future benefits. More than 1000 GPS adopted the first or second solution, and about 230 GPS segregated beneficiaries (but did not anticipate the collateral effects, as explained below).

Subsequently, the actuarial and financial reports for any GPS started to be publicized to the SSS. Additionally, states and municipalities steadily included their actuarial performance (which was often in deficit) in their financial statements, and then in overall government accounts. Notably, in 2010 and 2013, the Supreme Audit Institution started raising concerns and qualified opinions about the sustainability of the GPS maintained by the central government. Later, regional Audit Courts did the same concerning states’ and municipalities’ GPS.

Finally, from 2014 to 2017, governments faced profound economic and political crises, which stimulated short-term strategies. Mayors and governors started to fail or delay contribution transfers to GPS, and received legislative approval to access accumulated funds to pay current benefits (Lima and Aquino 2018).

Since the short-term and long-term time frames are built upon different values, tensions emerge and demand actors to recognize and deal with this paradox (Hahn et al. 2014). In principle, financial sustainability comprises a set of long-term-oriented frames, focused on probable future cash flows, rather than current performance. Hence, it conflicts with the short-term-oriented budgetary logic, which focuses on the past and ongoing performance from the budgetary cycle.

Similar to other future-oriented social constructions (e.g., resilience and risk management) (Duijnhoven and Neef 2014; Brivot et al. 2016), financial sustainability can be considered a non-institutionalized, long-term-oriented logic that embraces many concepts and managerial features, including specific accounting metrics. Aligned with the framing effect, what is sustainable today depends on the current interpretations policymakers and other stakeholders develop about a specific policy (Duijnhoven and Neef 2014). Finally, such a concept and its force to attract stakeholders’ attention are context dependent. For instance, the search for sustainability, as a desired societal value and effective logic of action may collide with fiscal pressures in austere times (Bracci et al. 2015). Consequently, ‘what does being sustainable mean’ will drive GPS key decision-makers to one pole of the paradox.

In the Brazilian GPS field, the budgetary dominant frame leads the actors to the short-term time pole. Such a frame is melded by cash-based financial measures being used for unfunded plans, and the usage of
previous-quarter fiscal ceilings to comply with the FRL. Therefore, despite AF definitions, stakeholders can realize the long-term idea implicit in the sustainability concept, but ignore it and act on a short-term frame, or they may think that ‘being sustainable’ means to ‘balance the current budget’.

In general, the SSS is concerned with actuarial sustainability and intends to push the field to the long-term pole through soft-regulation (weak enforcement on financial or actuarial performance, using indexes to rank GPS) and certification if the GPS complies with general rules and reports its figures in a timely manner. Such figures comprise a dozen reports, including financial and actuarial performance. However, these performances can only be enforced by Audit Courts, which, like mayors and governors, are embedded in modified-cash budgetary dynamics (Aquino and Batley 2016).

Consequently, budgetary values, the budget-execution routine, and the political-party bargain for resources strongly influence politicians’ and bureaucracy’s logic of action. As a senior staff from the Treasury Secretariat declared, being sustainable often means only ‘balancing the budget’:

> Politicians, managers, and some public finance specialists from the National Congress, understand equilibrium as a balanced budget, meaning estimated revenues equal authorized expenditures. We know that just current revenues and expenses do not guarantee fiscal equilibrium, or even financial sustainability [...] but the politicians’ mindset is so tight to budget execution that it takes many meetings with politicians and technicians to explain such time differences. (Senior staff, Treasury Secretariat)

Notice that the interviewed opinion is about common senior executives, who do not have a clear understanding of how the intertemporal impacts of their decisions are reflected in accounting information. They have a view about sustainability, which is similar to budgetary balance (collected revenues equal committed expenditures).

On the other hand, at the GPS daily-operation level, accountants, pension managers, and actuarial consultants may be prompt to consider actuarial sustainability under the perspective of long-term sensemaking. However, this should not be taken for granted since it also depends on the pressures they need to deal with while performing their activities.
4 The Stakeholders’ Responses to the Tensions from the Intertemporal Paradox

We observed two events during the AF implementation in which tensions appeared from one pole of the intertemporal paradox, and we analyzed how relevant stakeholders approached the paradox. These two events occurred during a period of economic growth, 2008–2010, but the economic depression that surfaced in 2014 added external pressure to the short-term pole. Table 5.1 summarizes these events.

4.1 First Approach: Beneficiaries’ Segregation

In 2008, the Instruction 403 by the SSS pushed the effective implementation of the AF, aiming to enhance the basis for financial sustainability. The promoters enforced state and local governments to convert the GPS to funded schemes and to solve financial and actuarial disequilibrium, but enhanced the tension from the long-term pole of the paradox.

<table>
<thead>
<tr>
<th>Origins of the tension</th>
<th>Instruction 403/2008 by SSS (tension from the long-term pole)</th>
<th>Governors and Mayors (tension from the short-term pole)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stakeholder leading the approach</td>
<td>SSS</td>
<td>GPS National Council</td>
</tr>
<tr>
<td>Approach motivation</td>
<td>Implement the AF</td>
<td>Defend the AF</td>
</tr>
<tr>
<td>Approach type (taxonomy of Schad et al. 2016)</td>
<td>Spatial separation and synthesis</td>
<td>Synthesis</td>
</tr>
<tr>
<td>Approach timing</td>
<td>Ex-ante accommodation</td>
<td>Ex-post accommodation</td>
</tr>
<tr>
<td>Approach output</td>
<td>AF introduced</td>
<td>AF protected</td>
</tr>
<tr>
<td>Dominant concept of ‘financial sustainability’</td>
<td>To balance actuarial liabilities (long-term)</td>
<td>To balance the budget (short-term)</td>
</tr>
<tr>
<td>Effects on transparency and accountability</td>
<td>Increased</td>
<td>Reduced in the WGAs and WPSA</td>
</tr>
<tr>
<td>Crises impact (pressure added on the short-term pole)</td>
<td>Financial sustainability reduced, but informational level preserved</td>
<td>None</td>
</tr>
</tbody>
</table>

Table 5.1 Approaches to the paradox during the AF implementation
Three remedies were expected regarding actuarial balance: to adjust contributions from beneficiaries or reduce their benefits, or increase transfers from the government to compose the plan assets. Alternatively, the SSS suggested a third solution: to segregate the enormous volumes of ancient beneficiaries to an unfunded plan and at the same time start a new funded portfolio aggregating the not-vested civil servants.

The third solution in the SSS strategy is a typical spatial separation approach to the paradox, as unfunded plans remain operating under a short-term frame, but the funded plans start to operate under a long-term time frame. Furthermore, it offset the risks from the funded plan and isolated the unsustainability measures from the two sets of beneficiaries.

To implement the segregation, a GPS had to recognize the full net present value of future payment and actuarial liabilities. As the Instruction allowed governments to pay off the debt in less than 30 years, the SSS strategy amalgamated a solution (Schad et al. 2016) nulling the pressure on the current budget, finding a way to integrate the incentives from the two poles. Mayors and governors needed to subscribe a local law, covering the debt value and its payoff terms. Considering the SSS perspective to push the AF adoption, the actuarial liability emerged from an abstract concept to be converted into a concrete debt, demanding cash outflows.

The sponsors’ incentive to segregate beneficiaries was an immediate reduction in monthly contributions to the fund by 11%, thereby mitigating current expenditures and creating slack in the personal expense fiscal ceilings. Notwithstanding, the governments had to transfer additional resources to nurture the fund for the funded plan and pay for any shortfall of the unfunded plan. Such impact on the budget was named the ‘transition cost’. Different from reforms on private sector pension schemes, Brazilian GPS remained defined-benefit schemes, both unfunded and funded plans.

Despite politicians’ difficulty to detach the cognitive frame from the short-term-oriented concept of sustainability, they were not opposed to adopting a long-term-oriented AF since the budgetary effects were mitigated. Finally, pension managers and actuaries practiced the long-term frame, estimating actuarial provisions and recognizing related liabilities. However, pension managers also dealt with eventual interruption of monthly contributions from the sponsor, having their attention magnetized back to the short-term pole. Hence, the capitalization of funded plan
assets was reduced and some presented actuarial deficits. In spite of this, pension benefits were still paid.

However, at the end of 2014, the crises stretched the budgetary pressure. The 2015 WPSA publicized by the Treasury Secretariat disclosed that nine states and more than 600 municipalities presented negative net assets. It is not a surprise that the short-term time frame has strongly prevailed because, during the crisis, politicians tend to adopt the same toolkit they used in regular periods because of the same mental model (Weick et al. 2005; Jacobs 2008). Aquino and Cardoso (2017) present other examples of short-term responses to crises in Brazil.

Examples of short-term reactions to the paradox include political interference on the GPS bank account itself and GPS accounting information. Some outsourced actuaries are encouraged to adopt unrealistic actuarial assumptions. The SSS 2016 Annual Report commented about 700 notifications issued by its auditors on misleading data and errors and about 180 notifications of inconsistent actuarial assumptions or incomplete actuarial disclosures. However, the responses were even more dramatic; some municipalities reverted the segregation between funded and unfunded GPS and consumed the accumulated fund.

### 4.2 The Second Approach: Off-Balance Sheet ‘Maneuvering’ of Liabilities

In 2010, as the governments started to recognize actuarial liabilities for their GPS, the average total debt increased significantly. As the actuarial liabilities do not affect the indebtedness fiscal ceiling according to the Senate regulation, there was no fiscal enforcement on the recognition of actuarial losses. Consequently, Audit Courts had no motives to act. Notwithstanding, there was a shared believe that a government presenting negative net assets would face continuous losses and difficulties in accessing credit operations.

In November 2010, the GPS National Council (CONAPREV), in response to governors’ pressure, issued a technical statement establishing an additional journal entry that any funded GPS should recognize to annul any recognized actuarial loss. The incumbent concept of sustainability in place was short-term oriented; governors and mayors were searching for resources, and GPS liabilities were constraining them from advancing their agendas.
The collegiate space allowed them privately to amalgamate the tensions (Schad and coauthors’ synthesis approach), absorbing the state governors’ pressure and at the same time preserving the AF project. Such technical statement acknowledges (i) the cause—negative repercussion of actuarial losses, (ii) the argument to preserve the AF, or why actuarial losses should be recognized as a liability, and (iii) the need for a synthesis escaping from the poles—full disclosure and the mitigation of the possible impacts of the problem, as follows (emphasis added):

"A concern expressed was a negative repercussion of actuarial losses in the balance sheets, as well as in the statement of the net consolidated debt of the federated entity, that there could be, among other constraints, difficulties in securing loans and financing with national and international financial agents, due to the magnitude of the losses [...] However, considering that the actions of public agents are subject to legal and normative guidelines, and considering, as has already been shown, that public sector accounting is also subject to accounting principles applied, there is no other alternative but the full disclosure of actuarial losses on GPSs reports. But what has been sought, without harming the legislation, is the mitigation of the possible impacts of the problem through the adoption of the accounting technique as dealt with in this Technical Statement. (CONAPREV 2010, p. 8)

The technical solution left the pension liabilities off-balance sheet at the GPS level. Consequently, the governmental entity that sponsors an unbalanced GPS would also not recognize any actuarial loss in its WGA, and the Brazil WPSA would not recognize any actuarial loss either. Such an off-balance sheet ‘maneuver’ reduced public transparency and accountability. However, the raw information was preserved in the supplementary fiscal reports and in the general ledger of each GPS as they still must recognize the actuarial provision.

The Council sacrificed the secular to protect the sacred (Laughlin 2007), where the former was accounting for actuarial losses by the governmental entity and the latter both the prudential perspective of accounting information from the GPS and the ongoing process toward accrual accounting standards, accepting elimination of the effect of actuarial losses in the publicized WGA and WPSA.

The Council did not neglect the paradox. On the contrary, the technical statement highlighted it. The tension between short-term budgetary demands to other public policies, and GPS demands to increase contributions and achieve financial sustainability in the long term, is still in place.
However, to protect the future of the AF (forward-looking perspective), the Council solution temporarily postponed the short-term negative effects on governments’ budget. Finally, the crises from 2014 had no impact on such off-balance sheet ‘maneuver’ of liabilities.

5 Discussions and Conclusion

The present discussion goes beyond the normative content stated by an AF project and the comparisons between alternative AFs (e.g., IPSAS and European Public Sector Accounting Standards (EPSAS)) on their capacity to increase the quality of information associated with the forward-looking perspective embedded in a financial sustainability debate. As the AF for public sector organizations is interconnected with the PFM cycle, there is a tight connection between financial reporting and budgetary dynamics. Therefore, we outline the intertemporal tensions naturally precipitated when the AF (requiring the recognition of actuarial losses) is plugged in the budgetary dynamics (demanding remedies in the current period to rebalance the actuarial debt). Such intertemporal paradox in the Brazilian GPS field is typified by the dominant cognitive short-term budgetary frame, opposing the long-term forward-looking perspective at the latent paradox pole.

As we stated from the start, ‘financial sustainability’ is a social construct, and its significance depends on how ideas and values are accepted and internalized by individuals. Furthermore, the efforts of AFs to define and explain ‘what financial sustainability is’ and ‘how one should measure accounts to monitor such construct’ do not necessarily reach all actors associated with the GPS management.

The AF for Brazilian GPS has evolved since 2003, but only in 2008 did its ‘financial sustainability concept’ emerge as the actuarial performance started to be enforced. Our analysis compared events that occurred in the period 2008–2010, in which relevant stakeholders interacted to push or to protect the AF. Both approaches to the intertemporal paradox were a synthesis of the extreme poles, but one (beneficiaries’ segregation) was anticipated by the regulator to accommodate the short-term impacts when it pushed the AF adoption, and the other (off-balance sheet ‘maneuvering’ of liabilities) was a response to accommodate governments’ pressure, protecting the future of the AF project. In the second case, the ‘financial sustainability’ concept went to the short-term pole; that is, ‘balancing the budget’.
As cognitive frames mold the stakeholders’ sensemaking and interpretation of the ‘financial sustainability concept’, the latter might vary depending on the salient paradox pole. The case presents two financial sustainability concepts in place. One dominates the party-political arena and requires to ‘balance the annual budget’, and fits the short-term pole. The other requires to ‘cope with actuarial losses’ and fits the long-term pole as it provides forward-looking attention to the future impacts of current GPS policies. Aside from politicians’ cognitive frame fitting the short term, the regulator and pension managers would operate looking for the long-term pole, but at the end of the day, as the remedies to increase financial sustainability are out of their competence, the forward-looking effort is limited to estimate the actuarial provision, report the figures to the SSS and to the budgetary guidelines bill.

For the presented case, instead of future-oriented remedies to identified GPS problems, the embedded budgetary logic proliferates responses as cutback management; delay or failure to transfer contributions to the GPS; and an inadequate depletion of accumulated reserves and plan assets. An AF reform project is not sufficient to frame and keep all stakeholders operating with values aligned with the long-term pole. It demands flexibility, robustness, and redundancy to support the pressures from the short-term pole. Consequently, a practical implication is the necessity of accounting and fiscal authorities to be aware of and to promptly approach imminent frictions among financial reporting, budgetary dynamics, and fiscal thresholds to accommodate the tensions among different stakeholders in different contexts.

References


CHAPTER 6

Making Financial Sustainability Measurement More Relevant: An Analysis of Consolidated Financial Statements

Cristian Carini and Claudio Teodori

1 INTRODUCTION

In global economies that struggle with increasingly scarce resources (Bracci et al. 2015; Heald and Hodges 2015), debates about financial sustainability include both local governments and owned entities (Avsar et al. 2013; Kowalski et al. 2013; Grossi and Stecchini 2015). The modern financial crisis also has encouraged increased efforts to measure financial sustainability in the public sector, such as through consolidated financial statements (Cabaleiro et al. 2012; Brusca et al. 2015; Turley et al. 2015). Yet, empirical evidence that confirms that control over financial sustainability can result from consolidated financial statements remains lacking. Instead, extant academic research (Groves et al. 1981; Ryan et al. 2000; Wang et al. 2007; Zafra Gómez et al. 2009a, b), institutional reports

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(CICA 2009; IPSASB 2012), and practitioners’ investigations (PwC 2006) rely on data gathered from separate financial statements, specific to a single, local government.

In accounting research that focuses on consolidated financial statements, International Public Sector Accounting Standards (IPSAS), or European Union (EU) public sector accounting harmonization (Brusca and Montesinos 2010; Lombrano and Zanin 2013; Grossi and Steccolini 2015), studies detail how the public sector is represented (Bisogno et al. 2015; Manes Rossi et al. 2015). They primarily refer to the relationship between a reporting entity’s configuration and the purpose of the report. Insufficient investigation pertains to the use of consolidated results, and the limited overviews available tend to be qualitative or based on surveys (Carini et al. 2019).

This chapter seeks a deeper understanding of local government groups’ financial sustainability by analysing consolidated financial statements. Its aim is to evaluate how measures of local government financial stability change when the analysis centres on consolidated, rather than separate, financial statements. In particular, this research effort attempts to determine how three specific descriptive elements—sustainability, flexibility, and vulnerability—get represented in consolidated financial statements, according to a central, guiding research question:

What impact does the introduction of consolidated financial statements have for measures of financial sustainability?

The empirical analysis involves an Italian context, with a particular focus on local government municipalities. Although the results thus are country specific and influenced by Italy’s socioeconomic conditions and accounting systems, the conclusions can be generalized and applied to the wider international debate on harmonization processes, as initiated by the European Commission (Grossi and Soverchia 2011; EC 2013; Jones and Caruana 2015).

To establish these findings and implications, this chapter begins with a review of literature related to the financial sustainability of local governments. It then introduces the reporting entity and consolidation criteria, including an acknowledgment of the specificities of the Italian institutional context and its relevance for the current analysis. After detailing the methodology, this chapter applies a benchmark analysis to municipalities’ financial situations to draw pertinent conclusions.
2 Theoretical Background: Financial Sustainability

Literature pertaining to financial sustainability and assessment lacks consensus; the definitions used, models of analysis, and interpretations of the results, all vary depending on the study objectives (Groves et al. 1981; Ryan et al. 2000). However, two main views on appropriate methods for analysis emerge. The first suggests investigating financial sustainability according to a positive perspective, reflecting a “going concern”, or the ability of the local government to meet its financial obligations and provide public services, regardless of other indicators, such as fiscal health or financial conditions (Cabaleiro et al. 2012). The second view instead involves analysing financial sustainability with a negative lens, focusing on a local government’s deteriorated financial sustainability during times of financial distress, crisis, or risk (Trussel and Patrick 2018). The current study adopts the first perspective, that is to analyse local government financial outcomes according to a positive interpretation of its financial sustainability, namely, the government’s ability to meet its financial obligations (Wang et al. 2007) and provide public services (Groves et al. 2003).

For assessments according to this positive perspective, accounting and financial statement results are fundamental because they constitute the primary factors that determine whether the local government is financially sustainable (Carmeli 2002). In other words, analysing financial reports offers an important tool for evaluating local governments’ performance and financial conditions, as well as for assessing their financial sustainability (Turley et al. 2015).

Prior literature emphasizes the relevance of using traditional financial ratios to assess financial sustainability. Groves (1980) proposed four categories of financial variables to evaluate the financial performance and health of US cities: short-term liquidity; budgetary solvency; long-run solvency; and service development. These dimensions can be expanded to include liquidity, own-source revenue reliance, revenue flexibility, and indebtedness (Groves et al. 1981, 2003). In studies that implement Groves’ framework, Carmeli (2002) tested the use of liquidity, fiscal-year balance, solvency, and service and municipal development dimensions to identify the financial performance of local governments in Israel. Turley et al. (2015) checked financial performance using five broad dimensions (liquidity, autonomy, operating performance, collection efficiency, and solvency) and 14 indicators identified from local government financial
reports issued by municipalities in Ireland. The Financial Trend Monitoring System (FTMS), released by the International City/County Management Association (ICMA), also used Groves’ framework to propose an internal monitoring system for US local governments (Cabaleiro et al. 2012). By integrating the framework with Governmental Accounting Standard Board mandates (GASB 34, 1999), Wang et al. (2007) also derived 11 indicator models of the financial conditions of US states.

Another key framework comes from the Canadian Institute of Chartered Accountants (CICA 2009), which sought to provide a common methodology for assessing the financial conditions of local governments, defined as their ability to meet existing financial obligations, including both public service commitments to residents and financial commitments to creditors and employees. This framework organizes financial conditions into three dimensions: sustainability, flexibility, and vulnerability. Sustainability refers to whether the organization can maintain its current programmes, while complying with current credit requirements, without increasing the level of its indebtedness. Flexibility is the degree to which the organization can increase its financial resources to respond to rising commitments, whether by increasing its revenues or its debt. Finally, vulnerability is the extent to which the organization depends on resources beyond its own control or influence. For each dimension, the Canadian Institute of Chartered Accountants (CICA) proposes several indicators that can be adjusted to reflect the peculiarities of each country. Cabaleiro et al. (2012) maintained the three main dimensions, but also proposed 20 new indicators to match the specific contents provided in Spanish financial reports. Similarly, Zafra Gómez et al. (2009a, b) combined the Groves and CICA frameworks, while also using indicators tailored to the local Spanish context. Their four-dimension model, with 15 indicators, provides analyses of short-run, long-run, budgetary, and service-level solvency.

Overall then, financial sustainability measures and assessments appear to require multi-dimensional, multi-indicator approaches (Wang et al. 2007). Many of the previously proposed dimensions are generalizable, whereas the indicators tend to be specific to the country or context studied.

Furthermore, prior literature contains a variety of methodological approaches to using financial statement ratios to analyse financial sustainability (Cabaleiro et al. 2012), though most studies rely on statistical analyses to measure the overall financial condition of a local government (Brown 1993, 1996; Mercer and Gilbert 1996; Kleine et al. 2003; Kloha
et al. 2005; Wang et al. 2007). Brown (1993) and Kloha et al. (2005) reviewed several indices and employed statistical techniques to assign cut-off values and build a single index through an additive process. Zafra Gómez et al. (2009a) adopted financial ratios in their cluster and benchmark analyses to measure the financial condition of a local authority, seeking measures that closely matched the characteristics of the socioeconomic environment. Wang et al. (2007) used standardized values of several indicators to obtain an aggregate index, calculated according to the arithmetic mean. Building on Brown’s (1993) work, Turley et al. (2015) proposed a benchmarking methodology to establish a composite score that allows for comparisons of financial performance across local governments.

The current study relies on dimensions and indicators that have been confirmed in prior financial sustainability studies (Cabaleiro et al. 2012; Turley et al. 2015), adapted to reflect the Italian local government context (Wang et al. 2007). This approach thus avoids the limitations associated with using a single measure to express financial sustainability (Hendrick 2004; Bird et al. 2005). Furthermore, to extend extant current research, this chapter introduces two novel elements. First, the accounting data collected for the analyses came from consolidated financial statements. Second, with a benchmark analysis, this chapter provides a comparison of the rankings of the local government, achieved using separate versus consolidated financial results.

3 THE REPORTING ENTITY

Assessing consolidated financial statements requires a clear identification of the reporting entity, which defines the “boundary” of the financial statements; for a group, it also requires the identification of the economic perimeter of the consolidated entity (Sannino 2016). The key question is the inclusion criteria for defining the reporting entity, as well as exclusion criteria from the consolidation area (Benito et al. 2007; Grossi and Reichard 2008; Grossi and Steccolini 2015; Christiaens et al. 2009, 2010; Walker 2009, 2011; Teodori 2012; Lombrano and Zanin 2013; Bisogno et al. 2015; Bergmann et al. 2016; Carini et al. 2016).

The selection criteria to identify the consolidation area entail a qualitative reflection on the type of group that the consolidated financial statements will represent, which in turn depends on the type of information pursued. These choices then define the quantitative values included in consolidated financial statements.
Public sector accepted accounting standards define a “reporting entity” going over the ownership criterion (IFAC 1996), because they are generally based on control or financial accountability approaches (Bisogno et al. 2015; Grossi and Steccolini 2015; Bergmann et al. 2016). The control approach is prominent in the IPSAS (IPSAS 35), which draws on International Financial Reporting Standards (IFRS). Unlike the IFRS 10, the IPSAS control approach has been adjusted to address public sector issues (Bisogno et al. 2015; Carini et al. 2016), such that IPSAS 35 prioritizes relationships of power and benefit, rather than power and return. Because its definition of the configuration of the reporting entity derives from a foundation in private sector studies, it cannot reflect the diverse composition of the public sector and the factors that require consideration in that context (Carini et al. 2017).

On the other hand, the GASB bases the configuration of the reporting entity on financial accountability (Anessi Pessina 2007; Grossi and Reichard 2008). With regard to the reporting entity, GASB 14 explains that an entity is financially accountable if (1) the government “is able to impose its will” on that entity, (2) there is a potential for that entity to provide specific financial benefits to the government, (3) there is a potential for that entity to impose specific financial burdens on the government, and (4) it is fiscally (economically) dependent on the government, regardless of whether it maintains a separately elected governing board.

Building on these generally accepted definitions of the reporting entity, this chapter integrates Italian regulations to contextualize the analysis and specify the criteria for the Italian setting. Italian accounting standard no. 4/4 incorporates an ownership approach and some criteria related to financial accountability. Its applied concept of control spans control by law, control in substance, and “contractual” control, even when theoretically no equity participation exists, either direct or indirect. Italian accounting standards do not provide a specific definition of local government groups, yet they are generally assumed to include a controlling local government and relevant entities, all of which should feature in consolidated reports:

- Controlled institutions (enti strumentali), such as foundations, that legally differ from companies. The “control” refers to legal or substantive forms of control.
- Non-controlled institutions (enti strumentali partecipati), which support equity participation by other partners, without any condition.
of full or joint control. This category mainly refers to entities that provide outsourced public services, such as cultural, educational, environmental, or social services.

- Controlled companies (*società controllate*), defined by Italian commercial law as any entities with share capital. “Control” is by law and in substance, whether direct or indirect.

- Non-controlled companies (*società partecipate*) that rely on total public participation. Neither direct outsourcing of local public services nor shareholding of individual entities is relevant for these companies.

Thus, ownership, control, and financial accountability approaches feature in the Italian accounting standard; they also adopt a broad definition of the reporting entity (Carini et al. 2018). However, unlike the IPSAS and GASB standards, Italy embraces a legalistic and formal rationale, grounded on civil law. The Italian standard does not address the exercise of power and benefit prerogatives or the financial responsibility of the controlling local authority. Furthermore, the Italian accounting standard is unique in its inclusion of non-controlled institutions and companies, such that it enables an ownership approach even in the absence of control or financial accountability conditions. This legislative choice conflicts with the General Purpose Consolidated Financial Statements, but it appears to represent an attempt to acknowledge the use of outsourcing in reality.

The other key consideration to address pertains to causes for exclusion from a consolidation area. During the period studied for this empirical analysis, Italian law established three causes for exclusion. First, it refers to irrelevance (materiality) and precise quantitative parameters for (1) total assets, (2) equity, and (3) total operating revenues. If all parameters for an entity are below established thresholds (e.g., 5% for regions, 10% for provinces or municipalities, relative to corresponding values from the controlling local government), that entity must be excluded from the consolidation area. This criterion is discretionary, so it strongly influences the usefulness of the information provided in the consolidated report. The thresholds refer to each specific entity; therefore, the usefulness of the consolidated report is significantly reduced. That is, the report can no longer serve as a tool to assess the controlling local government’s management activity, especially if entities provide local public services or pursue social or political objectives. Second, exclusion is required if it is impossible to obtain the information necessary for consolidation in a reasonable timeframe and
without requiring disproportionate costs. Third, all listed controlled companies are excluded from the first period after their application. This exclusion may appear theoretically debatable, especially if the company distributes large dividends to the local government. However, in operational terms, it decisively simplifies the consolidation, despite creating a distorted view of group boundaries.

In general, the requirements for excluding entities from the consolidation area indicate that it is not sufficient to consider only classic concepts of control by law or quantitative determinations of irrelevance when creating consolidated financial reports for local governments. The analysis must expand to include concrete operative evaluations of government relationships with other entities, which then allows the report to reflect measures of both financial accountability and control of public finance.

4 ITALIAN CONTEXT

When the empirical analyses underlying this research were conducted, Italy’s administrative government comprised three levels: regions (20 [5 of which had special statutes]), provinces (110), and municipalities (8092). Under Italian law, for the 5826 municipalities with fewer than 5000 inhabitants, consolidated reports are optional before 2019. The obligation thus potentially involves nearly 2200 local governments. The Italian corporatization phenomenon, by which services commonly offered by local governments get outsourced, reflects both external influences and national characteristics (Grossi and Reichard 2008).

The most important external condition is the diffusion of the New Public Management paradigm (Hood 1995; Hoque and Moll 2001), which is based on economic rationalism, reflecting trust in the market and private business methods. As a result, many EU countries have diversified their institutional landscapes to offer public services through various channels. Local government departments, in turn, may compete with other providers to offer public services, such as autonomous entities, consortiums of local governments, or public-private partnerships (PPP). In other cases, they contract out service provision or leverage services offered by private non-profit organizations.

In terms of its national characteristics, Italy also constitutes an important setting for this study. First, its municipal entities are widespread (Teodori and Falini 2009; Scarpa et al. 2010). According to institutional reports (Cottarelli 2014; Corte dei Conti 2016; MEF 2016), the
approximately 8000 Italian municipalities maintain holdings in 7726 entities, 4543 of which are companies with share capital. These entities employ approximately 500,000 people and operate in trade, manufacturing, and financial sectors, besides providing public services.

Second, a recent legal provision will make consolidated financial statements mandatory, as part of Italy’s wider public sector reform initiative to contribute “to the pursuit of the objectives of public finance”. The mandate to issue consolidated financial statements reflects the central government’s desire to measure and control local government finances. Legislators hope that the consolidated financial statements will fill informational and evaluation gaps that have emerged in the separate local government financial statements. The statements, through their use of accounting terms, will ideally demonstrate the impacts of outsourcing public services. Thus, consolidated financial statements in Italy represent an important tool for measuring and controlling local governments’ financial sustainability, in terms of both the municipalities’ resources and the entities operating under them.

Third, Italy’s national accounting standard (no. 4/4) incorporates an ownership approach (IFAC 1996) and some elements of a financial accountability approach, with a basis in control criteria.

5 Methodology

The analysis relies on data from large local governments, with more than 100,000 inhabitants. Previous studies (Carini et al. 2016) establish that these municipalities have a greater degree of information available related to the variables relevant to this research. Among the 45 Italian local governments that meet this size criterion, 18 have published consolidated financial statements. Therefore, this study relies on indicators taken from the local governments’ separate financial statements and their consolidated financial statements, according to the accrual accounting principle under Legislative Decree 118/2011. Table A.2 contains these financial data for 2016.

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1 The sample includes three regional capital and 14 provincial capital governments. In geographical terms, 4 local governments are located in the northwest, 11 in the northeast, and 3 in central Italy.

2 Tables A.2, A.3, and A.4 are available in the Appendix to this chapter.
In line with the widely used CICA framework (Cabaleiro et al. 2012), this analysis defines sustainability as the degree to which each government can maintain its existing financial obligations without increasing debt or tax burdens. Flexibility is the degree to which the government can change its debt or tax burden to meet its existing financial obligations. Vulnerability reflects the degree to which the government depends on sources of funding outside its control or influence. The lack of available information about liquidity made it impossible to test Groves’ (1980) framework.

The three dimensions encompass 16 ratios, adapted to the country’s accounting system and the information available. In some cases, it was necessary to develop ratios similar to those proposed by CICA, by referring to previous research (Zafra Gómez et al. 2009a, b; Cabaleiro et al. 2012; Turley et al. 2015). Because 2016 was the first year that many of these municipalities published their consolidated financial statements, extensive databases were not yet available, so all the data were hand collected. Table A.3 lists the resulting ratios, including information about their components.

To determine if assessments of financial sustainability differ between separate versus consolidated financial statements, this research relies on a benchmark analysis. Although benchmarks have been used extensively to depict local government financial sustainability (e.g., Turley et al. 2015), to the best of the authors’ knowledge, this chapter represents the first attempt to compare the financial sustainability of the local government systematically by using different reports. The methodology, adapted from Brown (1993) and Turley et al. (2015), entails splitting the sample into quintiles for each ratio, from the worst 20% to the best 20%. Each quintile then takes a score, from −2 (worst) to +2 (best), and the third quintile takes a 0 score. The equally weighted ratios, added together, produce a composite score, ranging from −32 to +32. For the separate financial statements, the minimum score is −20; for the consolidated statements, it is −15. The sample reveals actual maximum scores of 19 and 17 for the separate and consolidated financial statements, respectively. Finally, using the composite score, it was possible to categorize the local governments into five clusters: best performing, better than most, average, worse than most, and worst performing. Table A.4 reveals the number of municipalities assigned to each cluster, according to the separate versus consolidated financial statements. To highlight the differences in measures of financial sustainability between these two types of statements, Fig. 6.1 graphically illustrates the difference in composite scores for each of the 18 local governments analysed.
Descriptive Statistics

The results reveal a clear difference between the separate and consolidated financial statement outcomes. That is, introducing consolidated financial statements produces a different financial sustainability assessment, diverging notably from the outcomes of the separate financial statements. The difference arises in all three dimensions: sustainability, flexibility, and vulnerability.

First, sustainability mainly describes the impact of the level of debt on the provision of public service. The shift from separate to consolidated financial statements evokes an emergence of a greater stock of debt, in both absolute terms and relative to inhabitants; yet, the sustainability ratios improve, even if they still demand attention. Specifically, the ratio of debts to own-source operating revenues decreases from 3.2 to 2.7; the ratio of financial debts decreases from 1.5 to 1.3. The values diminish but remain notable after including grants and non-refundable subsidies in the analysis. The ratio of debt to current revenues changes from 2.5 to 2.2, whereas the ratio of financial debts to current revenues remains nearly unchanged from 1.1 to 1.0. The rest of the ratios signal that local governments are more capitalized than municipal entities, such that, following the shift from a separate to a consolidated financial statement, the financial debt ratio worsens from 0.3 to 0.4, and the debt ratio increases from 0.7 to 0.8. Overall, the consolidated financial statements express financial risk more clearly, because they consider all the debt managed by the local government.

Second, flexibility depicts the flows produced or absorbed by the government’s current operations, and this assessment benefits from the transi-
tion from single financial statements to consolidated ones. Notably, the Earnings Before Interests Depreciation and Amortisation (EBITDA) ratio increases by 4.1 points, from 17.2% to 21.3%, and the operating ratio increases from 4.0% to 6.5%. Consolidated financial statements, therefore, offer support for the argument that municipal entities produce positive operating results and accordingly can better absorb the burden of financial debt. Although municipal entities increase the stock of debt and the average cost of financial debts (from 2.9% to 3.0%), the ratio between debt interest and EBITDA improves significantly, from 18.4% to 14.4%, when transitioning from separate to consolidated financial statements.

Third, municipal entities reduce vulnerability indicators; and the group, in aggregate terms, favours independence from sources of funding outside the control or influence of local governments. The presence of controlled and non-controlled entities reduces the dependency of the local government on grants and non-refundable subsidies, such that the ratio of own-source revenues and grants increases from 3.2 to 4.5. Municipal entities also have operating surpluses on the aggregate level. For the group, the ratio between government-owned sources of operating revenues and current costs increases from 86.1% to 89.4%. This result implies two conclusions: municipal entities produce operating surpluses, in aggregate terms (the benchmark analysis distinguishes local governments that improve from those that worsen), but they are not necessarily able to deliver public services more efficiently than local governments could do by internalizing functions or experimenting with different management formulas (e.g., PPP). That is, even if municipal entities reduce dependence on financing that remains outside the control of local governments, they cannot entirely resolve vulnerability problems. Neither the local government nor the group has sufficient current revenues to cover all current operating costs. Similar concerns emerge for financial revenues. The group significantly improves financial conditions. In addition to the previous ratio, the financial revenues compared to current costs improved to 93.0% (cf. 90.1% in separate financial statements). However, covering structural costs and the costs of financial debts requires relying on grants and non-refundable subsidies, creating a dependence situation. The financial revenues are very high at the group level, supporting the notion that activities carried out by municipal entities, similar to local governments, should be designed essentially to provide public services.

In conclusion, the inclusion of dependent municipal entities in consolidated reports leads to different considerations about financial sustainability
than those emerging from analyses of separate financial statements. Municipal entities increase the stock of debt and the cost of financial debt. They feature an overall operating surplus that improves sustainability, flexibility, and vulnerability. However, the revenues generated are not sufficient to support full coverage of current costs, the provision of public services, and new investments. Dependence on the state persists. With the increasing size of the local public sector, the government is forced to find more financial resources.

Furthermore, these results cannot be generalized to the global universe of local governments. This analysis is limited to the largest municipalities in Italy, which engage in municipal activities and are structured according to managerial and financial determinants. Extending the analysis to smaller municipalities might produce mixed results. As the following benchmark analysis shows, only a few local governments improve their financial conditions through their uses of controlled and non-controlled entities; in many cases, outsourcing services worsen their results.

7 Benchmark Analysis

The descriptive analysis reveals significant differences in the assessments of financial sustainability across consolidated and separate financial statements. The benchmark analysis offers evidence, though, that the use of a particular test is not necessarily correlated with better or worse financial sustainability results. On an individual, local government level, financial sustainability assessments do not improve simply due to the use of consolidated financial statements; the differences are positive for some municipalities, but negative for others.

In addition, some local governments could be assigned to different clusters, depending on the reports used. Specifically, the benchmark analysis reveals that the separate financial statement assessment identified four local governments with composite scores around the average; the consolidated financial statements identified only three local governments in this cluster. The cluster with the worst scores includes five municipalities when defined by the consolidated financial statements, but only four according to the separate financial statements. The cluster with the best scores features two local governments according to the consolidated financial statements and three with the separate financial statements. With the consolidated financial statements, the worse than most cluster includes one local government, rather than two local governments when assessed by
separate financial statements. Finally, the better than most cluster increases to include seven local governments according to the consolidated financial statements, from five in the cluster defined by separate financial statements.

None of the local governments achieved the exact same ranking across the two financial statements. Six local governments (33% of the sample) even changed clusters; so the use of a different financial statement changes the assessment of their financial sustainability. In particular, three local governments move into a better cluster when evaluated using consolidated financial statements, whereas three other local governments move down in the ranking to a worse cluster according to the consolidated financial statements.

8 Conclusions and Policy Implications

The results confirm differences in the results achieved when assessing financial sustainability with separate or consolidated financial statements. The discrepancy applies to all the local governments analysed and emerges both in observations of the descriptive statistics and from the benchmark analysis. An aggregate view implies that financial sustainability improves, but the consolidated financial statements accentuate, the criticality of debt management, which cannot be captured fully in analyses of separate financial statements. The benchmark analysis further reveals that the difference in valuations must be examined on a case-by-case basis, because consolidated financial statements can have considerable impacts on the resulting assessments of each local government.

This analysis represents one of the first attempts to use consolidated financial statements to evaluate financial sustainability. The purpose of this study is not to analyse the determinants of change using different financial statements. However, the results concur with some prior evidence that suggests that separate local government financial statements cannot fully account for municipal entities, thus reiterating the need for consolidated financial statements.

Two key policy implications also emerge from this study. First, policy makers must consult data derived from consolidated financial statements to understand the financial sustainability of local governments. This point presupposes that the group boundaries (i.e., reporting entity) have been carefully identified. Second, it is critical to identify and use the most relevant financial data when analysing financial sustainability. The accounting
harmonization process promoted by the European Commission leaves space for specific projects related to consolidated financial statements. The public sector exhibits distinctive characteristics relative to the private sector, and the current study highlights the need to adapt the IPSAS to public sector settings.

The results of this study reflect the type of local government analysed, namely, large institutions and entities structured from managerial and financial points of view. It would be interesting to extend this analysis to include smaller municipalities and identify any gaps in their results between separate and consolidated financial statements. In addition, the introduction of consolidated financial statements in many European jurisdictions (Manes Rossi et al. 2015) will create new avenues for research into the possibilities associated with the use of consolidated financial statements. Further research should investigate differences in financial sustainability assessments across consolidated and separate financial statements in other countries as well.

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CHAPTER 7

The Role of Public Sector Accounting on Financial Sustainability and Governmental Effectiveness

*Marco Bisogno and Beatriz Cuadrado-Ballesteros*

1 Introduction

This study aims to investigate the effects of accrual accounting adoption and the implementation of the International Public Sector Accounting Standards (IPSAS) on government’s effectiveness, as one of the key pillars of public entities’ financial sustainability.

Despite some doubts expressed by scholars concerning both accrual accounting adoption (Guthrie 1998; Caperchione 2006; Wynne 2008; Barton 2009) and IPSAS implementation (Christiaens 2004; Bellanca 2014; Oulasvirta 2014; Christiaens et al. 2015), a large part of literature
has supported the use of accrual basis and/or international standards on public sector accounting for different reasons, mainly related to the quality of financial information, accountability and comparability (Manes Rossi et al. 2016).

Following Bergmann (2012), the nature of the approach to the production of accounting information affects decision-making; concretely, the accrual basis is a prerequisite for relevant key performance indicators. We expect, therefore, that the accounting basis and accounting standards that governments use to produce financial information may affect governmental effectiveness, that is, the extent that public policies satisfy the needs of citizens in terms of adequate public services (García-Sánchez et al. 2013).

Osborne (2010) calls for further research on governmental effectiveness, which can be considered as one of the key dimensions of a public organization’s financial sustainability—as the ability to cover its financial obligations while providing adequate services to citizens (GASB 1987). This chapter aims to investigate the relationship between governmental effectiveness, as one of the pillars of financial sustainability, and the quality of information supporting the decision-making process, as provided by the accounting system in use. This last aspect is investigated by taking into account the trend towards the adoption of accrual accounting and the implementation of IPSAS.

From a methodological perspective, the model implemented in this study investigates a sample of 33 OECD countries in the period 2010–2014. Empirical findings suggest that the adoption of accrual accounting methodologies seems useful to improve governmental effectiveness, having a positive effect on services provided to citizens and thus on financial sustainability. Accrual accounting adoption allows governments to be more than accountable; it pushes the governance on achieving improvements in the capacity of the government to effectively formulate and implement public policies.

The chapter is structured as follows. The next section elaborates on effectiveness as a key dimension of financial sustainability. The third section examines the literature on public sector accounting, highlighting the research questions of this study. The fourth section describes the methodology, while the fifth section illustrates and discusses the results. The concluding section provides suggestions for future research.
2  **Financial Sustainability and Governmental Effectiveness**

The recent global financial crisis has largely affected the financial condition of many public sector entities, emphasizing the importance of constantly monitoring it to avoid financial distress. Supervising financial condition would mean providing public managers with relevant information to support their decision-making processes concerning public service delivery (García-Sánchez et al. 2014), improving efficiency and effectiveness in resource allocation. Along this line of thought, the International Public Sector Accounting Standards Board (IPSASB 2012) has emphasized the impact of governmental decisions on future long-term financial sustainability.

Over the last years, different definitions of financial condition have been proposed. In this study, we assume as a reference one of the most accepted definitions of good financial health, which is based on the ability of a public sector entity to cover its financial obligations while providing adequate services to citizens (GASB 1987; CICA 1997). This definition emphasizes how important guaranteeing the quality of public services is, while monitoring financial condition, which in turn means focusing on effectiveness.

Effectiveness refers to when a public sector entity actually achieves its mission (Rainey and Steinbauer 1999), namely, whether it does well what it is supposed to do, that is, providing adequate services to citizens (García-Sánchez et al. 2013). According to Osborne et al. (2013, 2014), in the wake of the New Public Management paradigm, scholars have principally investigated the efficiency of public sector entities rather than their effectiveness. In line with the New Public Governance paradigm, scholars now call for further research to put governmental effectiveness at the heart of the current academic debate (Osborne 2010).

To measure and represent effectiveness, this study assumes as a starting point the approach proposed by Kaufmann et al. (2010), who defined governance through three dimensions: (a) the process by which the government is selected, monitored and replaced; (b) the capacity of the government to effectively formulate and implement public policies and (c) the respect of citizens and the state towards the institutions that govern eco-
nomic and social interactions among them. Accordingly, Kaufmann et al. (2010) proposed Worldwide Governance Indicators (WGIs) representing the three dimensions.\footnote{The indicators used to represent the first dimension, which refers to the process by which governments are selected, monitored and replaced, are (i) \textit{Voice and accountability}, based on freedom of expression and association, and on the existence of a free media; (ii) \textit{Political stability and absence of violence}, which expresses the likelihood of political instability and violence (including terrorism). The indicators used to represent the third dimension, which refers to the respect of citizens for the institutions that govern economic and social interactions among them, are: (i) \textit{Rule of law}, based on the perceptions of confidence in the rules of society (e.g. the quality of contract enforcement, property rights and the police and the courts); (ii) \textit{Control of corruption}, based on several issues, such as public trust in politicians, diversion of public funds, irregular payments and anti-corruption policy and prosecution of office abuse (Kaufmann et al. 2010).} As this chapter investigates governmental effectiveness, we focus on the second dimension, which is “the capacity of the government to effectively formulate and implement public policies” (Kaufmann et al. 2010, p. 222), which is represented by the following indicators:

- \textit{Governmental effectiveness} (\textit{GE}), which measures the perception of the quality of public services and policy formulation and implementation, as well as the credibility of the government’s commitment to such policies. For example, governmental effectiveness refers to the quality of bureaucracy; satisfaction with public transportation, roads or education system; coverage of basic health services; electricity grid; drinking water and sanitation; waste disposal and so on.

- \textit{Regulatory quality} (\textit{RQ}), which refers to the perceptions of the government’s ability to formulate and implement policies and regulations that permit and promote private sector development. For example, price controls, discriminatory tariffs and taxes, unfair competitive practices, the burden of government regulations, intensity of local competition, ease of starting new businesses, anti-trust policy, investment and financial freedom and so on.

Under this definition, governmental effectiveness has been shown to be essential in promoting sustainable public finances (Bergman et al. 2016). Efficient governments tend to promote fiscal solvency (Muscatelli et al. 2012), while excessive deficits may be a consequence of inefficient bureaucracies. Von Hagen and Harden (1995) noted that institutional quality can be found to limit the importance of fiscal illusion, which in turn affects financial sustainability.
3 Accrual Accounting Adoption and IPSAS Implementation

Financial reporting of public sector entities provides information on financial position, performance, cash flows, use of public resources and service delivery achievements (IPSASB 2014). All these features refer to governmental effectiveness as defined above, that is, as the quality and satisfaction with public services, as well as policy formulation and implementation. Thus, the quality of financial reporting may affect governmental effectiveness, as one of the basic features of a public organization’s financial sustainability.

Public sector entities have traditionally adopted a cash-based accounting model, which recognizes transactions only when the associated cash is received/paid, regardless of their economic occurrence. However, in the wake of New Public Financial Management reforms (OECD 2017), several countries have adopted (or are going to adopt) an accrual accounting system, which recognizes transactions when the economic events occur, regardless of the charges/payments; consequently, financial statements would represent all economic events, while providing better information on financial condition and cost of public services (Pina and Torres 2003).

Scholars have expressed several doubts regarding the adoption of accrual accounting, arguing that budgetary or cash accounting is more coherent with the specificities of public sector entities (Montesinos et al. 1995; Guthrie 1998; Monsen and Näsi 1998, 2000; Blöndal 2002; Monsen 2002; Christiaens and Rommel 2008; Wynne 2008). Furthermore, from a practical perspective, the adoption of accrual-based accounting could cause some implementation problems, especially in terms of time and training public managers, transformation of the traditional public sector culture, leading to more managerial control (Guthrie 1998; Stanton and Stanton 1998; Newberry 2002; Carlin and Guthrie 2003; Hodges and Mellett 2003; Barton 2009; Biondi and Lapsley 2014).

Conversely, several other studies have underlined many advantages of accrual accounting adoption, such as assessment of costs of services and political programmes; attention on efficiency and productivity; better accountability on the use of resources; greater attention to asset management; better identification of liabilities; thorough assessment of outsourcing strategies; more complete assessment of financial sustainability; faster availability of information; compatibility with other information, such as budgeting or cash management (Mellor 1996; Funnel and Cooper 1998; IFAC 2000, 2011; Anessi-Pessina and Steccolini 2007; Bergmann 2012).
Other studies have investigated the coexistence of cash- and accrual-based systems, suggesting that it could be useful for a complete accounting system; conversely, there is a risk of interpreting this coexistence in a subordinate relationship, considering accrual basis as a complement to cash basis (Dabbicco 2015).

It is also worth observing that the adoption of accrual accounting in the public sector has often been linked with the New Public Management principles (Biondi 2014; Biondi and Soverchia 2014; Newberry 2014) as well as with IPSAS implementation. Indeed, several countries have deemed the international standards as a benchmark while adopting the accrual accounting system. However, although the implementation of IPSAS has led governments to move to accrual-based accounting, there are still some cases where governments use cash basis IPSAS. Recently, the IPSASB has issued a report on cash basis IPSAS, effective from 2019, addressing the main barriers to the adoption of this standard (IPSASB 2017). Therefore, IPSAS and accrual basis are sometimes use as synonyms, but they are different issues, taking into account that a public sector entity could adopt an accrual accounting system based on national accounting standards, without implementing accrual-based IPSAS.

IPSAS have been considered as a crucial step in modernizing financial information systems (Fuertes 2008) and as one of the most significant developments in governmental accounting (Chan 2003), especially to improve the comparability of financial information (Wang 2002). The positive impact of IPSAS on the quality of financial and budgetary information has been extensively supported (IFAC 2003; Lapsley et al. 2009; Bellanca 2014). IPSAS implementation is considered a useful support of strategic management decision-making processes (Sutcliffe 2003), because they should lead to more reliable, comprehensive, timely, understandable and comparable information (Kopits and Craig 1998; Wang 2002; Bastida and Benito 2007). Furthermore, IPSAS have been viewed as a tool to improve efficiency, transparency and accountability (Lapsley et al. 2009), at the same time reducing opportunities for corruption.

Despite these positive effects of IPSAS implementation, there are also critics on their adoption. Brusca and Martínez (2016) summarized some barriers to adopt IPSAS. Firstly, IPSAS are seen as an extension of the International Financial Reporting Standards (IFRS) and do not specifically take into account public sector accounting requirements and budgetary particularities (Oulasvirta 2014). Secondly, governments may wish to control accounting standards in order to affect the value of debt and deficit, creating fiscal illusions (Irwin 2012). Thirdly, some concerns about governance have been expressed (EC 2013). Brusca et al. (2015)
have underlined the main challenges that should be considered when adopting a common set of accounting standards, namely, a limited knowledge of accrual accounting, adoption of new IT systems, political support, legislation/clarity of rules, implementation costs and technical support.

To recapitulate, although both accrual accounting adoption and IPSAS implementation could give rise to some theoretical problems and practical difficulties, they would put public managers and citizens in a position to better assess the performance of the government and its financial condition (Bergmann 2012). Financial information plays a central role in fiscal decision-making, so it is expected that governmental effectiveness is also affected by the quality of such information.

Previous literature has extensively investigated the advantages and disadvantages of accrual accounting and IPSAS implementation, especially in terms of transparency and accountability. However, to the best of our knowledge, less attention has been paid to the analysis of the role of both accrual accounting adoption and IPSAS implementation on the effectiveness of government public policies. Accordingly, this study aims to investigate if these relationships do exist, posing the following research questions:

RQ1: Does accrual accounting adoption improve governmental effectiveness?
RQ2: Does IPSAS implementation improve governmental effectiveness?

4 Methodology Approach

4.1 Sample and Variables

To empirically test the proposed hypothesis, we have selected a sample of 33 OECD countries: Australia, Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, the UK and the USA. This is a suitable sample because IPSAS are strongly recommended by various international organizations, including the OECD, which have themselves adopted accrual-based accounting. The period of analysis is 2010–2014, since the relevance of accrual accounting and IPSAS has especially increased during these years.

The two central measures of the analysis are proxy variables for the effectiveness of a government’s policies and indicators of both accrual
accounting adoption and IPSAS implementation. As illustrated in previous sections, the former is expressed through the WGIs developed by Kaufmann et al. (2010). More specifically, we adopt indicators concerning the capacity of the government to effectively formulate and implement public policies, namely, governmental effectiveness and regulatory quality.

These indicators have been obtained by collecting information from 31 different data sources, aiming to capture governance perceptions by survey respondents, non-governmental organizations, commercial business information providers and public sector organizations across the world (Kaufmann et al. 2010). Each indicator takes a value from $-2.5$ (worse governance quality) to $2.5$ (better governance quality), after a process of aggregation to rescale the individual source data ($0–1$) into a weighted average of the individual indicators for each source by using the unobserved components model.

Kaufmann et al. (2010) observed that the different dimensions of governance expressed by the WGIs are not independent of one another. Therefore, following Al-Marhubi (2004), we have aggregated the two indicators through simple averaging to form a single index, namely, Effectiveness. As each individual indicator takes values between $-2.5$ and $2.5$, Effectiveness will take values between $-5$ and $5$, from the worst to the best policy effectiveness.

The second central measure concerns both IPSAS implementation and accrual accounting adoption. Accordingly, we include two variables in the model, namely, IPSAS and Accruals. The former refers to the implementation of international standards for public sector accounting independently of the basis and takes values for representing the different levels of IPSAS application, following Bellanca and Vandernoot (2014): (1) if no actions have been undertaken to adopt IPSAS until now; (2) if IPSAS adoption is under discussion; (3) if the legislative process has been undertaken and IPSAS are partially applied and (4) if IPSAS are fully adopted or national standards are broadly consistent with IPSAS. This information was obtained from the International Federation of Accountants (IFAC) website, manually checking the situation country by country.

The second variable, Accruals, refers to the adoption of accrual accounting methodologies. This variable has been operationalized by classifying countries according to cash versus accrual accounting systems, following Christiaens et al.’s (2015) scoring criteria. The Accruals variable was created by hand, checking the situation country by country on the IFAC website and the project published by the OECD and the IFAC in 2017 entitled Accrual Practices and Reform Experiences in OECD Countries.
Accordingly, the Accruals variable takes three values: (1) if public sector accounting standards require cash-based accounting for the preparation of financial statements; (2) if the country is in transition to accrual accounting or standards require modified systems (modified accrual or modified cash) and (3) if public sector accounting standards are on an accrual basis.

With these indicators, we aim to empirically test the effect of IPSAS implementation and accrual accounting adoption on governmental effectiveness. The results will also be controlled through the inclusion in the model of various socioeconomic and political variables whose effect on governmental effectiveness has been evidenced previously in the literature (e.g. Al-Marhubi 2004; Bertelli 2006; Lee and Whitford 2009; García-Sánchez et al. 2013). The socioeconomic and political variables are:

- **GDPpc**: Gross domestic product in US dollars/capita, obtained from the OECD database.
- **Education**: Adult education level represented by the upper secondary literacy rate, as a percentage of 25–64-year-olds. Data obtained from the World Bank.
- **Density**: Population density—that is, people per square kilometre of land area. Data obtained from the World Bank.
- **Ideology**: Political ideology of the first party, which is represented by three values: right (1), centre (2) and left (3), and 0 is assigned for other ideologies that cannot be described in that way. This information has been obtained from the Database of Political Institutions, namely, DPI 2015 (Thorsten et al. 2001).
- **System**: Electoral system, represented by three values: parliamentary (2), assembly-elected President (1) and presidential (0). This information has also been obtained from the DPI 2015 (Thorsten et al. 2001).

### 4.2 Model and Technique

To empirically test the hypothesis, we propose the following model:

\[
Y_{it} = \beta_0 + \beta_1 X_{it} + \beta_2 GDPpc_{it} + \beta_3 Education_{it} + \beta_4 Density_{it} \\
+ \beta_5 Ideology_{it} + \beta_6 System_{it} + \eta_i + \mu_t
\]

where sub-indexes \(i\) and \(t\) refer to the country and year, respectively. \(Y\) refers to the three governmental effectiveness indicators: \(GE, RQ\) and the
global index Effectiveness. $X$ represents the two independent variables, that is, IPSAS implementation and accrual-based accounting adoption, namely, IPSAS and Accruals, respectively. Control variables are GDPpc, Education, Density, Ideology and System, as defined in the previous section.

The error term has been broken down into two elements: $\eta_i$ refers to unobservable heterogeneity and $\mu_{it}$ is the classic disturbance term. The former refers to the particular characteristics of each country included in the sample, which differ among countries but are invariant over time. These characteristics are difficult to measure because they are unobservable to the researchers, but failing to take them into account could bias the results.

Initially, the fixed- or random-effects estimator could be used to estimate our models, but the errors must be conditionally homoscedastic and not serially correlated. Therefore, we first test whether or not our model presents heteroscedasticity and serial correlation problems using the Breusch–Pagan test and the Wooldridge test, respectively. The $p$-values obtained for each test are lower than 0.001, which means that we must reject the null hypothesis of homoscedastic errors and there are no serially correlated errors at the 99.9% confidence level.

An endogeneity problem also appears in our models. It may be defined as the existence of a correlation between the explanatory variables and the error term due to the existence of causality among the dependent and the independent variables (Wooldridge 2010). Instrumental variables may solve reverse causality, but the conventional IV estimator (though consistent) is inefficient in the presence of heteroscedasticity (Baum et al. 2003).

The dynamic panel estimator proposed by Arellano and Bond (1991), which is based on the generalized method of moments (GMM), overcomes such a limitation. More concretely, here we use the two-step system estimator of Arellano and Bover (1995). The system estimator augments the initial difference GMM estimator (Arellano and Bond 1991), making the additional assumption that the first differences in instrument variables are uncorrelated with the fixed effects, which improves the efficiency.

The GMM estimators use the lagged values of the right-hand side variables included in the model as instruments. The instruments are lagged values of endogenous and predetermined variables. They are uncorrelated with the error term when deriving the estimator, as Arellano and Bond (1991) demonstrated. The number of instruments should not be very large in relation to the number of observations because the results could be biased, although the higher the number of instruments, the higher the
level of efficiency. The most adequate instruments are the closest lags, since the furthest cannot contain information on the current value of the variables. The closest lags in the system GMM estimator are $t-1$ and $t$ for endogenous and predetermined variables (Pindado and Requejo 2015).

5 Results of the Analysis

5.1 Descriptive Results

Table A.5\(^2\) shows the descriptive statistics of each variable (dependent, independent and control variables). We can see that $GE$ and $RQ$ have a mean value higher than 0. As each variable takes values between $-2.5$ and $2.5$, this indicates a generally good position regarding both $GE$ and $RQ$. Checking the minimum and the maximum values in our sample, we found the highest value of $GE$ (2.2411) for Finland, while the minimum value (0.1624) is shown by Mexico. Regarding $RQ$, the maximum (1.9708) is shown by New Zealand, and Mexico has again the worst situation (0.2527). These results are also shown in Fig. 7.1 that compares the two indicators, taking into account the mean values by country. Their evolution is shown in Fig. 7.2, where we can see a similar trend in both cases from 2011. However, between 2010 and 2011, $GE$ is reduced while $RQ$ improves the mean value in the OECD countries.

Table A.5 also shows the mean value for the rest of variables. As can be observed, the mean value of the IPSAS variables is 2.27 in a range between 1 and 4 (from no adoption to full adoption). This suggests that, in general, our sample countries are involved in IPSAS implementation, but full adoption is not common. Moreover, there are only six countries (Australia, Canada, New Zealand, Switzerland, the UK and the USA) in the sample that take the value 4. Although full adoption of IPSAS has not been carried out in these countries, they are using standards broadly consistent with IPSAS. Surprisingly, the mean value of the Accruals variable is also 2.27, although it is measured differently (taking values between 1 and 3). At the bottom of the table, we can see the distribution of IPSAS and Accruals values: although only 18.18\% of observations take the value 4 for the IPSAS variable—that is, their public sector accounting standards are broadly consistent with IPSAS—almost 45\% are on an accrual basis, and

\(^2\)Tables A.5 to A.9 are available in the Appendix to this chapter.
Fig. 7.1 Distribution of governmental effectiveness indicators by country

Fig. 7.2 Evolution of governmental effectiveness indicators
just 18.18% require cash-based accounting. These results indicate that a large proportion of OECD countries have already implemented accrual-based accounting systems; nevertheless, full IPSAS implementation is still under discussion, and 38.79% have undertaken no actions to adopt IPSAS to date.

As far as the descriptive statistics of control variables are concerned, the most relevant results can be summarized as follows: 43.52% of the population between 25 and 64 years old have completed upper secondary studies on average, although there are large differences—from 16.47% in Portugal to 75.18% in the Czech Republic, in 2010. Population density shows large differences: the lowest value is 2.87 in Australia, and the highest is 500.59 in the Netherlands. Finally, mean values of Ideology and System suggest that most of the observations tend to show right-wing ideology and presidential systems.

Table A.6 presents the bivariate correlations. We can see high correlations between the three dependent variables, namely, $GE$, $RQ$ and Effectiveness, since the three indicators refer to the same concept: governmental effectiveness. Similarly, IPSAS and Accruals are also highly correlated. Nevertheless, that does not introduce multicollinearity problems because they are entered into the model individually. The remaining correlations are not so high, avoiding multicollinearity problems.

### 5.2 Empirical Results

Table A.7 shows the empirical results for the effect of IPSAS and Accruals on $GE$. It can be observed that both independent variables impact positively on the dependent variable, but only Accruals is statistically relevant (at 90% confidence level). These findings suggest that adopting the same standards (like IPSAS) is not enough to improve $GE$; the use of accrual-based accounting has more power to lead governments to effectively formulate and implement public policies.

Regarding control variables, $GE$ is better in countries with higher GDP and lower population density, and surprisingly also in countries with worse education level. On the one hand, high-developed countries tend to show adequate staff and maintain quality government infrastructures and practices (Lee and Whitford 2009), leading to better effectiveness of public policies. According to García-Sánchez et al. (2013), population density affects the complexity of public management, since the dispersion of inhabitants hinders public service delivery, which in turn affects the effec-
tiveness of public policies. On the other hand, the result for education level is not the expected one: \( GE \) should be questioned by a well-educated population, but we found a negative relationship between the two indicators. The variable called \textit{System} is also statistically relevant and it shows positive coefficients in both equations, suggesting that governments with parliamentary electoral systems tend to be more effective in policy formulation and implementation.

The effect of \textit{IPSAS} and \textit{Accruals} on the other WGIs used in this study, namely \( RQ \), is shown in Table A.8. The empirical results are similar to those obtained previously for \( GE \): the effect of \textit{IPSAS} and \textit{Accruals} is positive, but only the impact of \textit{Accruals} is statistically relevant (at 99% confidence level). Therefore, these findings indicate that the adoption of accrual accounting methodologies play a fundamental role in regulation quality, which is an essential characteristic of governmental effectiveness. Regarding control variables, \textit{GDP} has again positive coefficients and \textit{Density} negative ones, but the variable \textit{System} has lost its statistical relevance; however, the variable \textit{Ideology} seems to affect negatively \( RQ \), suggesting that regulation quality is better in countries governed by right-wing ideology.

Finally, Table A.9 shows the results for the global index, called \textit{Effectiveness}. They are very similar to those obtained previously for \( GE \) and \( RQ \) individually. Both \textit{IPSAS} and \textit{Accruals} impact positively on the dependent variable, but only the \textit{Accruals} variable is statistically relevant (at 99.9% confidence level). The results for control variables are also similar to previous findings, that is, governments of high-developed countries with low population density and parliamentary systems tend to be more effective in public policy formulation and implementation.

\section{5.3 Discussion and Implications}

The empirical results suggest that accrual accounting methodologies could be a good way to improve the effectiveness of governments in public policy formulation and implementation (Lee and Whitford 2009; Whiteley 2009) in OECD countries. However, IPSAS implementation is not enough. More specifically, our findings note that countries that have adopted the accrual basis for public sector accounting tend to show higher levels of governmental effectiveness. These results could be explained by considering that, notwithstanding the standards issued by the IPSASB, governments prefer to regulate their accounting systems, as well as financial and budgetary information, consistently with their own traditions (Oulasvirta and Bailey 2016).
Despite criticisms on the accrual basis for public sector accounting (Christiaens 2004; Christiaens and Rommel 2008; Wynne 2008; Barton 2009), our findings support its relevance in providing a better measure of the effects of public policies and the effectiveness of public administrations (Torres 2004). As the IFAC (2003, 2011) suggests on the basis of technical reasons, the accrual basis enhances the evaluation of government performance in terms of service costs, efficiency and accomplishments, so public managers should be able to foresee the consequences of public policy implementation, namely effectiveness. Decision-making should be easier for public managers, thanks to the availability of good quality information. Accurate decisions on public policy help make more effective governments, which fulfil citizens’ demands with the available resources.

Improving effectiveness means enhancing financial sustainability of public sector entities. Indeed, as stated previously, one of the main accepted definitions of financial sustainability is based on the ability of a public sector entity to cover its financial obligations, while providing adequate public services to citizens (GASB 1987; Bisogno et al. 2017). This study has contributed to the academic debate on this delicate issue, answering to the call for further research on effectiveness (Osborne 2010; Osborne et al. 2013, 2014), which refers to whether public policies satisfy citizens’ needs in terms of adequate public services (Lee and Whitford 2009; Whiteley 2009; García-Sánchez et al. 2013; Charron et al. 2014).

However, the findings from the study should be interpreted cautiously. Firstly, a proper accounting system may help the organization to have more reliable and better quality information to calculate financial performance indicators, but we are not taking into account non-financial indicators that also affect governmental effectiveness. Indeed, the financial reporting system regulated by the IPSAS concerns General Purpose Financial Statements, which do not handle the so-called special purpose financial statements, that is, financial information that meets specific information needs of citizens (Budding et al. 2014). As Ter Bogt (2001) indicated, better quality performance information may be used more extensively, but this does not necessarily mean that the decision quality increases. Furthermore, IPSAS implementation or accrual-basis adoption may be simply done for legitimacy-seeking purposes since the citizens’ expectations may vary across time, requiring public sector entities to be responsive to current and future changes (Deegan and Unerman 2011). This means that Accruals/IPSAS may be adopted/implemented to meet the expectations of external stakeholders or they may be regarded as an
externally imposed burden, an end in itself, with no or minimum con- tribution for improving the users’ decision usefulness.

6 Conclusions

Public sector accounting harmonization is on the agenda of most OECD countries’ profiles seeking to improve transparency of the public sector, to facilitate the comparability of financial information and also the quality of such information. This study has investigated whether IPSAS implementa- tion and accrual accounting adoption affect governmental effectiveness. For a sample of 33 OECD countries in the period 2010–2014, empirical findings suggest that accrual accounting methodologies improve govern- mental effectiveness, while IPSAS implementation is not enough for effective governments.

Accordingly, our findings are relevant for public managers. Improving the effectiveness of resource allocation may contribute to good financial sustainability because public managers have relevant information to support decision-making on public service delivery (García-Sánchez et al. 2014) while covering financial obligations.

This study is not free of limitations, especially in terms of the use of proxies. First, WGI s have been criticized by questioning their validity or reliability (Langbein and Knack 2010; Thomas 2010). Second, IPSAS implementa- tion or accrual-basis accounting reforms are dynamic processes—so increasing the time period of analysis would improve the reliability of empirical findings. However, it is very difficult to find information for previous years.

In future analyses, it would be interesting to study the specific case of IPSAS and to take into account that some countries may be forced to implement IPSAS by international authorities, such as the World Bank or the International Monetary Fund. Furthermore, enlarging the number of countries would allow control of the results according to different areas (Anglo-Saxon, Latin American, Asian, etc.), due to the traditional orienta- tions in accounting systems.

References


CHAPTER 8


Zachary Mohr

1 INTRODUCTION

Financial sustainability invokes the need for intergenerational equity in the delivery and financing of public services (Van Aarle and Konings 2013). This means that public administration systems that are sustainable must be able to meet the needs of the future public, while also meeting the needs of the present. The traditional response to address financial sustainability is through financial reporting of present or future policies and actions that may influence the ability to finance future services (Hay and Antonio 1990). Another perspective is that cost accounting systems and practices may be important tools for increasing operational and financial sustainability (Mohr 2015). As an important but understudied framework for understanding sustainability, this chapter draws attention to the
seldom-appreciated role of cost accounting for informing organizational sustainability strategies.

Cost accounting is the fundamental activity for management accounting (Rivenbark 2005) to increase operational accountability and sustainability. For example, cost accounting can be used by itself to manage indirect production/service delivery costs and other overheads (Geiger 2000; Mohr 2015) or it can be tied with performance measurement to allow for greater organizational control and learning (Mohr and Rivenbark 2017). It can be used to increase the visibility of costs for rates and charges, which may lead to increased revenues for public organizations (Pope and Mohr 2017). Whether it is by reducing costs or by justifying increased revenues from rates and charges, cost accounting can help organizations to build financial slack and sustainability.

It is also argued that the broader practices of budgeting and costing can be used in conjunction to improve operational accountability and increase organizational sustainability (Kurunmäki 2004). While cost accounting has important potential, many public managers in the United States are unfamiliar with basic cost accounting methods and terminology. Without a basic understanding of cost accounting, the organizational sustainability strategies that they could employ may be hampered by a basic inability to ask for the cost information that they need from their budget and accounting staffs.

Additionally, major changes in the structure of public organizations and in information and communication technologies are altering how modern organizations are structured (Hakansson et al. 2010), which may have profound consequences for the financial practices of public organizations. Increasingly, wicked problems such as climate change require the coordination of multiple organizations or the use of networked organizations (Weber and Khademian 2008). However, Kraus and Lindholm (2010) show that collaborating organizations that worked well together before a financial crisis needed to put accounting controls in place to allow the organizations to remain sustainable during and after the crisis. Mohr (2016a) calls for more accounting research in these newly networked organizations, and particularly more research on cost and management accounting that can provide greater visibility to the costs of individual services that blur organizational boundaries. Recently, Kioko and Marlowe (2017) also show how cost strategies may be important for analyzing collaborative arrangements.

When looked at in isolation, it appears that cost accounting and budgeting systems in government are not currently up to the task of
addressing these changes in organizational form and structure. However, the potential to increase organizational slack, adapt to changing organizational structures, and the ability to further increase incentives in public organizations means that cost accounting is an important tool for increasing both operational and financial sustainability. An important problem in the literature is that cost accounting systems are often analyzed separately from broader cost accounting practices. Further, it is not clear from the academic literature how cost accounting systems and cost practices interrelate with each other and with other managerial systems like performance, financial accounting, and strategy to increase financial sustainability.

This chapter first reviews why cost accounting is important for the sustainability of public organizations and then proposes a systems-practices framework to show how costing systems and practices evolve to increase financial sustainability. It integrates the framework into relationships with financial accounting, performance, and strategy to show how management and costing systems can evolve with the organization to increase financial sustainability. The framework shows that management accounting is an important tool for increasing both organizational sustainability in traditional public bureaucracies and newer forms of public service delivery.

2 Organizational and Management Responses to Fiscal Stress

Within the public financial management literature, two frameworks tend to dominate the discussion of financial sustainability: the accounting framework and the cutback budgeting framework. The accounting framework tends to view sustainability prospectively from the lens of a long-term projection—if we can only have enough revenues over the long term to cover our costs and not get excessively in debt, then public organizations should be sustainable (Hay and Antonio 1990). The second perspective is the cutback budgeting perspective (Levine 1978), which is a retrospective response that suggests that shocks are going to happen and that we need to learn to manage those shocks. In this perspective, the incremental budgeting process is broken and organizations need to figure out how to make cuts to maintain sustainable service delivery and minimize financial impact. Both frameworks are valuable and needed in public organizations. Public organizations must be prospectively assessing their financial landscape and retrospectively making cutbacks if financial shocks do
occur. Both of these frameworks, though, assume a high amount of information that may not always be present in public organizations. This information is usually thought to be the domain of management accounting and particularly cost accounting.

Cost accounting can be used for prospective decisions by providing cost information on individual services or programs. Instead of forecasting the resource requirement for the entire government, cost accounting can be used to break down the costs for programs, projects, and individual services\(^1\) to see if the benefits justify the cost. It can also be used retrospectively by providing service level costs that can then be used to assess the value of cutbacks to individual services rather than across the board cuts. Cost accounting can be implemented throughout the organization to facilitate cost management on an ongoing basis (Geiger 2000). Additionally, cost accounting is critical in assessing the value of contracting and networked service delivery options as well. Both cost management and changing service delivery options offer additional alternatives for increasing organizational sustainability for an organization; however, cost accounting is needed to understand the value of these decisions ex ante by providing the necessary information to maintain or minimize service provision.

### 2.1 Cost Management and Cost Accounting

Cost accounting can be used by managers to increase sustainability in several ways: to minimize the cost of services, increase revenue, and increase organizational learning through performance comparison. In a sense, these are traditional management responses and these sorts of cost management are a core part of financial management that have been discussed elsewhere (Mohr 2017a). These activities are presented here to draw attention to the inherent value of cost accounting for sustainability in public financial management.

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\(^1\)Generally, cost accounting can be used for whatever cost object is appropriate in the context. However, it is one of the purposes of this chapter to note that general public managers, at least in the United States, are not familiar with even these basic managerial accounting terms like cost objects. Also, financial managers and accountants may not, except in rare circumstances, be involved in the discussions about the appropriate cost object. This leads to a situation where the appropriate level of cost is not discussed as thoroughly as it could or should be. This is another reason why examining the systems and practices of cost accounting is important. With the newfound emphasis on sustainability, this is a good time to bring these issues up for discussion.
The most basic type of cost management is similar to basic budgetary analysis. Things like variance analysis and repurposing resources are excellent types of cost management that improve financial management and sustainability. Cost accounting is useful for variance analysis because it allows variance analyses to be done on overhead resources as well. Geiger (2000) discusses how costing was used at a US military base to conduct variance analysis to repurpose storage space that was costly to maintain because it was built quickly during World War II. Because these costs did not appear in the budget of the laboratory that controlled the space, it appeared as if it were free to the unit. Once the costing methodology was changed, it became obvious that the laboratory had too much space. Some of the old storage space was torn down for savings and some of it was repurposed for additional activities needed on the base.

Geiger (2010, 2017) also discusses the importance of costing for procurement and sourcing decisions. He argues that while benefit-cost analysis is critical for large purchases, basic cost management principles help push down sustainable financial decision-making into the organization. For example, providing basic cost data over the Five Year Defense Plan and figuring in the additional sustainment cost, for even basic items like clothing, can drastically change financial decision-making (Geiger 2017). Once it becomes obvious that small incremental costs can lead to millions of dollars in additional costs, organizational leaders make better procurement decisions. He also notes that cost accounting can be used in a broader policy sense as well to further social sustainability issues like supporting a country’s allies (Geiger 2010). If government organizations use simple heuristics, like always going with the lowest cost option, the government and the public as a whole may miss the opportunity to increase value as the military tried by shipping through different geopolitical ports. In short, Geiger’s work shows that cost accounting is critical for large public organizations to operate effectively and be both financially and socially sustainable.

Other work has shown how costing is useful for increasing revenues through grants and user charges. Mohr (2015) discusses how it was often thought that cost accounting in local government was primarily used to charge the federal government for the cost of facilities and administration costs (Eger and McDonald 2017), but his analysis showed that local government cost accounting systems were associated with greater enterprise or business-type activities. This comports with findings in the federal government that costing is more developed in agencies with greater use of fees to fund their activities (Geiger and Ittner 1996). Whether cost
accounting is used for additional grant funding or for better fees, cost accounting can be useful for increasing resources in many types of public organizations.

Finally, the work of Rivenbark (2005, 2017) shows that cost accounting is important for performance related activities, particularly benchmarking. Rivenbark and colleagues have discussed how combining performance data with cost data increases trust in the performance data and facilitates organizational learning (Rivenbark and Carter 2000; Ammons and Rivenbark 2008). In short, combining performance and cost accounting data creates a management control system (Otley 1999) that can further organizational performance and sustainability in public organizations.

2.2 New Service Delivery and the Need for Cost Accounting in Contracting Out and Collaboration

Over the last decades, much has been written about government seizing the moment to find new ways to deliver its services (Savas 1977; Osborne and Gaebler 1992). Whether through contracting out services to the private sector or its newer incarnates, collaboration and networked service delivery, these new forms of government service delivery critically need cost accounting to determine if they actually create value. Otherwise, governments may find that these newer forms of service delivery also have “hidden” or “transaction” costs, and in time, the government may contract the services back into the government (Hefetz and Warner 2012). For example, some cities have found that contracting out refuse collection was initially a cost savings but the contracting partner underinvested in its trucks. This led the trucks to be unable to pass inspection and the contractor was not able to meet its contractual obligations. In the short term, the cities found that they had to pay expensive short-term pickup contracts and then had to bring the service back in-house to manage the process to deliver sustainable refuse collection.

A basic review of why cost accounting is critical for decisions about whether to contract out a service to the private sector is a good introduction to why cost accounting is needed for all types of new service delivery options, including collaboration and networked service delivery. The basic reason for cost accounting is that some aspects of service delivery in a public organization are not included in the budget for the department that provides the service. Take, for example, one of the most basic public
services that has been widely discussed as ripe for contracting out: refuse collection. Refuse collection should be a prime candidate for contracting out and cost savings, particularly if wages in the private sector are lower than in the public sector (Stein 1990) and there are fewer bureaucratic inefficiencies (Savas 1977). However, from the private service provider’s perspective, particularly if they are competing for the contract against an internal service provider (i.e. a Solid Waste Department), as in a competitive tendering process, they are particularly leery about the cost that will be used to determine if they are competitive with the internal service provider. So, in the refuse collection example, a private refuse company may have to do its own billing, provide information technology services, human resource services, accounting services, and general administrative support. If these costs are taken into consideration, it is likely that the internal service provider appears more cost effective than the private provider. Additionally, the internal service provider may need to include capital depreciation costs, worker pension costs and other costs that may be included in a different budget or fund that is separate from the internal service provider’s operating budget. In short, cost accounting becomes critical for the decision about whether to contract or privatize government services. If the proposed contractor does not show that it is going to reinvest in its capital stock, then it is likely that it is not going to be able to continue to provide a sustained service. Also, the government may not be able to manage externalities like pollution by switching to liquefied natural gas (LNG) for its fleet. The cost accounting becomes critical in this case because the decision to switch to LNG will be strongly based upon the cost of delivering LNG to the fleet with the additional cost of specialized pumping stations. Cost accounting and good costs are critical to understand and further promote sustainability.

Much like the contracting and privatization waves that came before it, collaborative service delivery arrangements risk making similar incorrect service provision choices if the new analysis does not include indirect costs. Usually, governments collaborate with nonprofits or other governments to provide a service if the government feels that a private business’ profit motive may obscure the public purpose of the service or increase transaction costs. However, if the government does not include the human resources, information technology, accounting, administration, and billing costs, then it is going to make the same mistake that it may have made in the privatization example mentioned previously, and not collaborate with another government or nonprofit to provide the service when it
potentially should. Alternatively, if the collaboration has high governance costs and high transaction costs, then the government may not realize the full cost that it would incur with a collaborative service delivery arrangement (Mohr and Mitchell 2014).

Interestingly, the research suggests that other governments and non-profits should have lower transaction costs (Williamson 1975; Brown and Potoski 2003), but the basic cost accounting analysis suggests that collaborations and networked service delivery arrangements should have many of the same indirect costs as the contract service decision with a private company. In both analyses, cost accounting becomes critical, which is unfortunate because cost accounting is likely to be underdeveloped in the public sector (Rivenbark 2005). These efforts to collaborate and coordinate have been largely driven in the United States by financial sustainability reasons (O’Leary and Gerard 2013), but if this process is not being driven by good data, then it is likely to be junk in and junk out (Boyne 1998), which, most likely, will not support government sustainability objectives. Without good cost accounting for contracting and collaboration service delivery evaluations, one wonders what governments are hoping for. Are they just hoping for savings? Or are they just relying on some short-term savings that will likely not occur when transaction costs kick in? At the end of the day, cost accounting is likely to be important for evaluating ex ante and on an ongoing basis many of the sustainability strategies that government managers employ, such as contracting and collaboration.

3 Cost Systems and Cost Practices

To this point, we have conflated the sustainability strategies and cost accounting that have been implemented at the top of the organizational hierarchy with the sustainability strategies and cost accounting that may emerge more organically within the departments of an organization. Simplistically, it may be expected that everyone in the organization will work as a unified team to increase sustainability because it is assumed that they are working in the same public interest or want to keep their jobs. In reality, there is an important difference between the perspectives of the budget or accounting departments and the operational departments (Mohr 2016b; Mohr et al. 2018). They may all want to keep their jobs, but they may have very different perspectives about how onerous a cost accounting system can or should be. In short, they can agree upon
the ends, but they might not agree on the means when it comes to cost accounting for services.

When it comes to cost accounting, it is important to distinguish between cost systems and cost practices in public organizations. On the one hand, academics spend significant energy and intellectual resources thinking about how to determine a cost; but on the other hand, they often spend far too little time thinking about why a certain cost estimate or cost system is developed. It is probably also true that practitioners spend more time thinking about why they are developing a cost and too little time thinking about how they will address sticky issues, such as the avoidance of shared overhead and cost. By looking at why costs are developed in conjunction with how the costs are developed, this chapter develops a process framework of cost accounting development and change. This theoretical framework guides us to see how different cost accounting may be going on within the same organization and how such different cost accounting approaches can influence one another. The benefit of proposing a framework of cost accounting development and change is that it allows testable predictions about how the systems and practices interact with the environment of the organization and with each other.

### 3.1 The Cost System

The most basic type of cost accounting that gets discussed extensively with students but much less in the academic literature is the cost accounting system that is used. This is the differentiation between basic cost accounting systems, like direct versus step-down cost allocation, and activity-based costing (ABC). It is also about the types of cost drivers or cost allocation techniques, and even the cost objective itself. In sum, the cost accounting system is about the technical process of how the cost estimate is developed and much less about why the costs are being estimated.

While these topics are not studied extensively by academics, professors of government budgeting and accounting spend significant time teaching students about these topics with the help of two basic but supposedly distinguishable systems. On the one hand, we have the basic direct and step-down systems, and on the other we have ABC systems that are much more specific and drive the cost down to the service or activity level for the purpose of activity-based management (Finkler et al. 2016; Mohr 2017b). Mohr (2017b) suggests that, in practice, these two systems exist on a
continuum and that government cost accounting systems tend to use elements of both basic and ABC systems.

Indeed, Finkler et al. (2016, p. 154) note that the choice of cost accounting system and ‘whether a cost is direct or indirect often depends on the unit of analysis and the cost objective’. So, the cost accounting system that gets used is determined by what the organization wants to achieve. If it is extensive cost management, it will tend to trace costs down to activity and service levels and have a system that more closely resembles ABC. If the organization wants to stay with pretty broad categories of cost for basic cost allocation purposes, it will have a more basic system with broad cost categories, basic cost drivers, and little attention to cost avoidability. For example, some costs might get allocated to public safety services, like police and fire, but these costs are usually only distributed to the very highest level (the department) and much less likely to be distributed down to individual services, like patrol and investigations, because public safety is unlikely to be cut just because it appears to cost more by the inclusion of indirect costs. Because they are unlikely to be cut and because the costs do not get allocated down to specific activities, there really is little point to the further development of cost drivers and cost avoidability considerations from the perspective of the public safety department. From the top budgeting perspective, however, these costs may be important for evaluating budget requests or tying the costs to performance outcomes.

The important point for this discussion is that there are many elements of cost system design that can be changed that influence the perception of cost, and those elements must be guided by the organizational strategy or purpose for the cost system. However, the uses or purpose of the cost system is not often discussed in basic models of cost system development, and the differences in perception about how extensively it should be developed are significantly different throughout public organizations (Mohr 2016b). An example of how cost systems are discussed as developing uniformly throughout an organization, Kaplan and Atkinson (1998) develop a basic model that says that the cost system that is used should minimize the cost of data collection and the cost of errors for the organization. Put another way, the cost system should minimize organizational costs and maximize organizational benefits for private sector organizations. It does not reflect that there may be multiple reasons for cost accounting, as there are in government organizations (Mohr 2017a), or that cost practices may vary enough to influence the type of cost system that is developed.
3.2 Cost Practices

Cost practices may be harder to observe than cost systems, which has prompted calls for more attention to the practices surrounding cost accounting (Mohr 2017a). This has been notably absent in the local government cost accounting literature in the United States, where the main focus for cost accounting has been on the system of cost accounting (i.e. ABC or a more traditional cost accounting system). It seems that the literature on US federal government is much more cognizant that the practices surrounding cost accounting can be significantly different (Geiger and Ittner 1996; Martin 2005, 2007). This difference may be due to the fact that Federal Accounting Standard 4 has provided some structure to federal government cost accounting that can then be modified through the practices of individual agencies (Mohr and Rivenbark 2017). The international literature seems to be more aware of the importance of cost practices relative to the cost accounting system (Jackson and Lapsley 2003; Kurunmäki 2004).

While cost practices may be hard to observe, they are ultimately just as important for the estimate of costs and sustainability. Costing practices may be associated with basic cost finding, which accounts for indirect costs but not in a formalized system like a cost allocation plan or cost allocation system. Additionally, cost practices may be related to other managerial accounting devices like ‘budgeting, Return on Investment, Discounted Cash Flow, Breakeven Analysis,… the Balanced Scorecard and much more’ (Kurunmäki and Miller 2006). As Kurunmäki (2004) shows in Finland, the practices and competencies of cost accounting can be learned and practiced by groups outside of the accounting profession, including line managers such as Chief Physicians. Her point is that costing can be very useful for public organizations even though the line managers need not get involved extensively with the cost accounting system for allocating organizational overhead. Using just a couple of basic costing devices, line managers were able to do allocations of their department’s indirect costs and were thus able to make better pricing decisions for their services and increased the sustainability of the service. These costing practices also led to better departmental strategy and further refinement of the costing/pricing system.

The issue of where the costing is conducted in the hierarchy of the organization is important. Geiger (2000) discusses how public organizations get the most out of their cost management when it is pushed down
into the lower levels of the organization. Of course, the cost practices vary depending upon the level of government that is doing the cost analysis. The finance department may be primarily concerned with allocating organizational indirect costs to cost centers or line departments. Departmental managers may be more concerned with understanding the cost of individual services. In fact, cost finding and most cost estimation practices are probably associated with lower levels of government where the data is most useful for operations (Mohr et al. 2018). Also, by pushing costing and cost management down into the organization, there is greater awareness of the costs by line managers and the managers have greater commitment to those estimates (Geiger 2000; Kurunmäki 2004).

Cost practices and competencies vary widely according to the purpose and the organizational environment. Cost practices may analyze a wide variety of cost behaviors and service volumes, such as services that have high fixed direct costs and small variable direct costs to services that have low fixed indirect costs but high variable indirect costs. These different types of services may have differing organizational strategies associated with them to increase organizational performance (Kioko and Marlowe 2017). Issues of variable and fixed cost tend to get overlooked when focusing on the cost system that is primarily focused on allocating indirect costs; and issues of direct and indirect cost tend to get ignored when focusing on fixed and variable costs. Theoretically, this makes sense from two different perspectives. Behavioral theory (Simon 1957; Cyert and March 1963) would suggest that people may not be able to process all of the issues at the same time; and role theory (Parsons 1991) suggests that those trained in accounting may be more aware of the issue of indirect costs compared with those whose primary background is economics, who would be more sensitive to fixed and variable costs. Indeed, economists, accountants, and managers have long argued about these issues (Mongin 1992). What is pertinent is not that one issue is more important than the others, but that they are all relevant to financial management strategies and to increasing financial sustainability.

As the organizational environment changes and organizations engage in more costing practices, they may find that they need to adjust their cost systems (Kurunmäki 2004). Geiger (2001) calls this evolutionary cost accounting and Mohr (2017b) states that the natural result is a hybrid system of cost accounting. Both perspectives imply that cost accounting systems will change over time as the costing practices and financial management strategies change. The level of the cost object may need to be
refined if the public organization moves more toward a pricing versus a queuing strategy (Kurunmäki 2004); or it may not need to be as specific if more general sources of revenue, like block grants or general taxes, become more available. The cost of the costing system must not exceed its benefits (Kaplan and Atkinson 1998; Mohr 2013), and this means that the costing system and the costing practices are constantly evolving.

4 A Systems-Practice Framework

A process model of cost system development is proposed (Fig. 8.1) that shows that, after the organization develops a basic cost system, it moves into the realm of cost practices or how the cost information is used.

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2 In a queuing strategy, resources are allocated on a first come first served basis and so costs need only be passed down to the department on the basis of departmental need. However, the pricing strategy may change individual behavior that may be influenced by prices. Therefore, the cost needs to be passed down to the individual service.
Ultimately, the cost practices then generate changes in the cost system as the organization has to redefine its cost objects, further split out indirect costs, create new allocation bases, and make any changes to its allocation method. These changes to cost systems create new cost information that can then be used by the organization to understand cost behaviors, develop financial management strategies, and further help refine the costing system for greater organizational sustainability. The model also shows that organizational strategy, environment, and other accounting information systems further influence the development of the costing system.

Particularly from the perspective of sustainability, the environment probably plays the biggest role in cost system development. Resource scarcity should drive organizations to make greater investments in both their cost systems and cost practices. The work of both Geiger (2000, 2010) and Kurunmäki (2004) suggests that scarcity influenced organizational responses to develop better cost systems and cost practices, respectively. What has not been discussed before is the interconnection between the two and the need to both differentiate and to study both aspects of cost accounting in public organizations.

5 DISCUSSION OF THE MODEL

In proposing this model, the distinction between cost system and cost practices is made but the demarcation between the two is not perfectly distinct (hashed line). For example, a small organization may have very minimal development of its cost system at first by simply allocating basic expenses, like the cost of building space, to fairly broad cost objects, like its major programs. This initial cost estimate may be intimately connected to first understanding the costs of the organization and trying to devise a strategy to improve resource use. In the second iteration, it may more clearly develop its cost system, but the distinction between cost system and cost practice may be dependent upon the development and professionalization of the organization.

Jackson and Lapsley (2003) note that the use of accounting system information by non-financial managers is difficult. However, it is likely to be absolutely critical when talking with general managers and organizational leaders. They are not likely to have the financial knowledge to ask about different cost objects, such as individual services, or thinking about the cost object of an entire program. However, when making cost-benefit comparisons, being able to drill down to lower levels of cost or expand out to think about the broader social impact is important. As Geiger (2000)
notes in the case of the military, the use of cost accounting was critical for noting the full cost of the service and managing the cost of resources, like buildings, that may be controlled by an agency but for which the accounting takes place in a different fund. When Fort Huachuca began showing departmental and agency managers the full cost of their operations, including the building costs, the managers were willing to let go of the extra building space that they were hoarding. This provided greater financial flexibility that could be used to further the organization’s goals and made Fort Huachuca more sustainable.

The purpose of creating this model is twofold. First, it is developed to describe differing semantics of cost accounting. When cost practices are the focus, cost practices usually discuss how or why the costing is used in the organization at the department or service level. When cost systems are discussed, the method and basis of allocating indirect costs is the focus, and is usually conducted at a higher level in the organization, such as the finance department. Both foci are valid and important to understand the role of how cost information is developed in large public organizations and can be used to increase sustainability of the organization. Both foci may also be important in how cost informs important organizational strategic behaviors, but this has not been examined until recently (Schoute and Budding 2017a). The model by Schoute and Budding also does not address cost system evolution and development over time (Geiger 2000). The proposed model suggests that the cost system may develop in response to organizational needs and strategies, such as greater financial sustainability. It also shows that cost accounting may become less developed when there is less focus on cost from a strategic sustainability sense.

From the management standpoint, the model suggests that management strategies to increase sustainability are likely aligned with the costing practice stages of development. In this stage, the organizational strategy and environmental changes can have an immediate effect on the cost practices. It will take a significantly longer time to change the larger cost system and the related financial management systems, such as the accounting and performance monitoring systems. This may be another reason why ABC failed to live up to its hype, that is, the cost systems were not around long enough to change cost practices and organizational strategies. Thinking about cost practices and cost systems also indicates that the cost accounting system may be mediated in its relationship to organizational sustainability strategies by the ways that cost accounting is used in the practice stages. In other words, managers need to use the data or it is simply wasted. Geiger (2000, 2017) draws attention to the important role
that cost experts play in interpreting and using cost accounting for cost savings in the federal government. Without both good systems and good practice, the ability to set correct prices, manage costs, and achieve sustainability are likely to be impaired.

Over time it is anticipated that the need for greater cost accounting development should foster greater interest in cost accounting systems. Unfortunately, there is limited discussion of this relationship in the literature of public cost accounting and public financial management, and the little bit of research on the subject is mixed with whether fiscal stress promotes cost accounting (Mohr 2015; Schoute and Budding 2017b). The model draws attention to both the cost system and the cost practices.

The second purpose for creating the model is to generate research questions and hypotheses about how cost accounting systems, practices, and organizational sustainability strategies, like contracting and collaboration, may be interrelated. Some preliminary research questions suggested by the model include the following: Are sustainability strategies facilitated by better cost systems in public organizations? Do departmental and service managers use different types of sustainability strategies based upon the type of cost systems and cost practices in their organizations? When do sustainability strategies lead to cost system or cost practice changes? How often do cost systems change? How do cost accounting systems and practices relate to the general accounting system and changes to the general accounting system? Do cost systems and cost practices influence extra-organizational arrangements, like collaborations and partnerships? Do new organizational arrangements, such as collaborations and partnerships, influence cost systems and cost practices? The discussion in this chapter has brushed upon these questions about cost systems and cost practices that are suggested by this model, but they merit further in-depth research.

6 Conclusion

The public financial management literature usually discusses cost accounting systems and cost accounting practices as distinct and not particularly connected activities to sustainability. In this chapter, it is argued that cost systems and practices are inextricably linked and critical for management in addressing organizational sustainability strategies.

The proposed model is limited in that it only examines organizational sustainability and organizational costs. It may be argued that cost externalities need to be given greater consideration and that cost accounting
may be a concept that needs to account for other environmental costs, like pollution or social costs. Also, using cost for sustainability strategies implies a long-term perspective (Hay and Antonio 1990), but cost accounting is typically thought to be limited to a retrospective analysis of costs in the previous year. However, from the long-term sustainability standpoint, there may be important considerations about future costs that may also need to be brought into the analysis. These are important considerations for cost accounting, and it is hoped that cost systems and cost practices will continue to evolve to meet these important sustainability challenges.

From an operational public management standpoint, the manager’s focus is often on making the organization more sustainable and efficient. When cost accounting is not correct and/or is not a part of decision-making in the organization, the cost of services and the corresponding prices are not likely to be set properly, which impairs revenue generation and managerial cost sustainability strategies. This chapter has highlighted the challenges that many public managers face when thinking about cost accounting systems and practices, and the opportunities that cost accounting provides for informing future sustainability strategies.

**REFERENCES**


CHAPTER 9

Financial Sustainability of Higher Education Institutions: A Challenge for the Accounting System

Guido Modugno and Ferdinando Di Carlo

1  The New Skin of Higher Education and the Role of the Accounting System

Higher education has been experiencing radical changes in many countries since the 1990s, when New Public Management-inspired reforms required the introduction of managerial practices in universities. Neo-liberal policies have deeply influenced higher education institutions (HEIs) like a global phenomenon pervading Western Europe (Agasisti and Catalano 2006; Ter Bogt and Scapens 2012), East Asia (Yamamoto 2004; Poole and Chen 2009), Russia (Timoshenko 2008), Australia (Christopher and Leung 2015)

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and many other countries. Like other sectors of public administration, higher education (HE) came under pressure to become more efficient and effective, while maintaining or increasing the volume and quality of services supplied. Governments have pursued these objectives by introducing new funding mechanisms based on measurable goals; often, these policies came along with resource cutbacks.

Funding rules follow different models, such as formula funding, performance agreements and project funding. Often, a mix of the three instruments is used (Eurydice 2008; Estermann et al. 2013). According to formula funding, resource allocations depend on specific drivers, such as number of students or staff, number of diplomas issued and financial indicators. This funding methodology is the most common in Europe; often, it encompasses performance-based allocations that boost competition among HEIs and enhance the importance of performance measurement and management. Project funding is commonly, though not exclusively, used for research activities; it also intensifies competition between HEIs. In this case, however, funding decisions are based on expected performance rather than past results. With performance agreements, the government signs contracts with single institutions or with restricted groups, thus favouring the development of a more diversified HE context.

Although national policies for the reform of HE systems differ in several aspects, some common features emerge—universities and colleges are transforming from bureaucratic organisations with limited decisional and financial autonomy into hybrid organisations dealing with competition and growing requests for accountability. The traditional professional logic of academics now coexists with the managerial rationality induced by recent reforms, although tensions between the two logics persist (Christopher and Leung 2015; Narayan et al. 2017). Formal managerial control systems have progressively substituted conventional trust-based control mechanisms that were mostly grounded in unwritten rules. Traditionally, the public sector focuses on inputs and process-driven information, and implicit standards and qualitative performance indicators predominate (Ter Bogt 2008; Ter Bogt and Scapens 2012). However, since the end of the 1970s, changes have been taking place in performance management systems in the HE sector, as well as in individual universities—explicit indicators of outcome, output and quality have been introduced for strategic planning and the evaluation of organisational and individual performance (De Boer et al. 2007; Ter Bogt and Scapens 2012).
This move towards more rational managerialism in HEIs could not ignore the role of accounting systems. The pressure for improvements in efficiency and effectiveness has produced great expectations towards the shift from cash (or cameralistic) accounting to accrual-based accounting. In the public sector, HEIs are among the best candidates for this shift because of their intrinsic nature as ‘service providers’, which evokes similarities with business. Compared to business organisations, universities can be described as productive systems that combine different types of input to generate education and knowledge (Küpper 2013). In this perspective, students are no longer considered inputs to be transformed into graduates, but rather customers who receive services that are fully or partially subsidised by the government (Agasisti and Catalano 2006).

The shift to accrual accounting was driven mainly by its alleged capacity to support the financial sustainability of HEIs by disclosing the ‘true costs’ of the outputs (Blöndal 2003). The possibility of calculating financial performance and using managerial accounting techniques to compare costs with results would have permitted HEIs to improve efficiency; whereas cash-based accounting simply ignores this aspect (Bowerman and Humphrey 2001; Neale and Pallot 2001; IFAC 2005; Walker 2011). Furthermore, the European University Association (EUA) indicates the possibility of identifying and better understanding the costs of activities and projects as one of the three pillars of HEIs’ financial sustainability (Estermann et al. 2013). According to Paulsson (2006), the need for accounting information to support the performance management system was the primary argument for introducing accrual accounting in Sweden. Moreover, accrual accounting was expected to increase institutions’ transparency (Evans 1995; Christiaens and Rommel 2008), thus augmenting institutions’ accountability. Many governments introduced reforms in this direction, regardless of warnings about discordance between accrual accounting and public administration (Guthrie 1998; Broadbent and Guthrie 2008; Lapsley et al. 2009; Hyndman and Connolly 2011).

The reforms of the accounting systems in HE have aimed at enhancing the financial sustainability of institutions by stimulating the emergence of a new managerial culture oriented towards value creation through enhanced accountability, efficiency and transparency (Christiaens and Wielemaker 2003; Yamamoto 2004; Küpper 2013). In Europe, however, the shift to accrual accounting, combined with managerial accounting techniques, has had little success—different obstacles have emerged in the
introduction of new accounting techniques, and the effects of the reforms in terms of efficiency improvements and transparency have not met expectations (Christiaens and Wielemaker 2003; Venieris and Cohen 2004; Hyndman and Connolly 2011). The mismatch between expected results and the effects of HE accounting systems reform invites deeper investigation into the possible causes. This chapter aims to examine the obstacles that hinder the ability of accrual accounting to fulfil its purposes of safeguarding financial sustainability and boosting efficiency.

Most of the analyses on the issues discussed in the following sections emerged from the authors’ direct ascertainment of accounting mechanisms and procedures and from semi-structured interviews conducted in 2014 with executives of the central administrative departments of 19 Italian HEIs. The authors’ involvement in the process of changing the accounting systems of their ‘home universities’ permitted a direct observation of specific practices. Interviews were conducted to collect data for a research project on the introduction of accrual accounting in this sector, in an attempt to detect differences in the accounting treatment of specific aspects of universities’ operations that result in lower financial statement comparability. The research project also sought to identify any other factors that would prevent the new accounting system from supporting universities’ financial sustainability and efficiency.

The comparability of financial statements, which is one of the goals explicitly set out by the legislators in the reform, is not the goal here. This chapter focuses on how the accrual accounting system can support public entities’ financial sustainability and possible obstacles to this end. The approach is essentially reflective. Some evidence obtained from the interviews aroused reflections on the opacity of HEIs’ financial performance and on possible consequent misunderstandings and threats to correct assessments of financial sustainability. The points raised in the following sections may go beyond the borders of the Italian experience, since public universities around the world share some common features, including multi-annual activities (e.g. research projects); revenues, which at least partially correspond to non-exchange transactions (e.g. government budget allocations); departments and research teams striving to maintain the highest possible autonomy in defining objectives and determining resource use; high incidence of fixed expenses and highly diversified processes and technologies. Referring to the Italian case can be useful because the reform in Italy has just begun to produce results; obstacles and resistance to its full success emerged quite clearly in the first phase of implementation.
Nevertheless, the extension of the following analysis to the context of other HE systems requires caution and may stimulate international comparisons.

The chapter develops as follows. Section 2 examines how accrual accounting may support the financial sustainability of HEIs. The two subsequent sections highlight possible obstacles that the financial and managerial accounting systems may encounter in carrying out this function. The last section draws conclusions.

2 THE ROLE OF ACCRUAL ACCOUNTING IN FOSTERING HEIs’ FINANCIAL SUSTAINABILITY

The International Public Sector Accounting Standards (IPSAS) do not provide an official definition of financial sustainability, although the concept is mentioned in the conceptual framework along with the additional information that public entities should provide in General Purpose Financial Reports (IPSASB 2014, par. 8.14). In the conceptual framework, sustainability is often mentioned with reference to an entity’s ability to fund the delivery of services over the long term (IPSASB 2014, par. 2.11; 2.16; 2.27). Likewise, public institutions’ fiscal sustainability depends on ‘the ability of government to meet its service delivery and financial commitments both now and in the future’ (IPSASB RPG.1 2013). Such an approach involves linking current service delivery obligations to the maintenance of current taxation levels and focusing on projected debt paths.

The short-term balance between the resources used in providing services and the resources available (i.e. collected in the period or retained in the past) represents a precondition for the achievement of broader long-term sustainability. Many public institutions, however, have limited (if any) discretion over their revenues and cannot autonomously define tax rates or fees for the services delivered. This is particularly evident for HEIs. In many countries, budget appropriations from the government are the most important revenue for universities. According to the EUA, in 2008, national and regional public funding accounted, on average, for 72.8% of universities’ total revenues in the EU. Students’ contributions were the second most important source at only 9.1%. In such circumstances, the ability to balance a university’s mission with financial responsibility depends significantly on external subjects’ political decisions. The increasing importance of funding rules that are contributing to
a quasi-market, however, assign universities more responsibility for their financial performance, considering that the latter depends to some extent on the quality and quantity of the services delivered.

According to the OECD (2004, p. 35), a university ‘is being managed on a financially sustainable basis if it is recovering its full economic costs and is investing in its infrastructure (physical, human, and intellectual) at a rate adequate to maintain the future productive capacity needed to deliver its strategic plan, and to serve its students and other customers’. This perspective suggests that the accounting system plays an important role in supporting universities’ financial sustainability. This function encompasses at least three different directions (Küpper 2013):

- Financial accounting provides important information on the nature and value of cash flow, the value of assets and liabilities, and the changes in the net values of assets and debts. Accrual-based systems, in particular, have the evident advantage of measuring all these dimensions, while cash-based systems consider only the first.
- Cost accounting provides a breakdown of the costs incurred by the head of a university, as well as by individual faculties, departments and professors.
- Activity accounting provides information on the various activities involved in education, research and services, based on different non-financial performance measures over the short and long terms.

Accrual accounting allows the assessment of an institution’s ability to cover its expenses with revenues, and this condition has to be verified in the long term. However, extrapolating financial sustainability into the future does not reduce the importance of measuring and interpreting annual financial performance. While positive margins indicate a retention of capital for future financial periods, negative margins show an excessive use of resources that affects reserves retained in the past. Universities’ institutional bodies must programme these fluctuations of net assets and should evaluate, ex-post, the conditions that led to the annual result. Interpreting the final annual result, however, is not as easy as it may seem; a negative margin, for instance, may be justified or even programmed to the extent that it is counterbalanced by measurable improvements in the services delivered. Thus, the relationship between short-term financial performance and long-term financial sustainability has to be disclosed carefully.
It is also evident that the role of managerial accounting is central to the issue of financial sustainability; however, the introduction of a system that detects the cost of services, despite its obvious usefulness, is likely to be opposed in organisations that have traditionally been managed in the name of autonomy in research and teaching and the primacy of knowledge over economic issues.

The shift to accrual accounting is considered a success to the extent that financial accounting enhances HEIs’ financial sustainability and that managerial accounting provides university managers with information for decision-making and efficiency improvements. Pitfalls and opportunities on this route are discussed in the following sections. The focus is on financial and cost accounting, although other accounting issues, such as performance measurement and intellectual capital, have great relevance to long-term financial sustainability (Küpper 2013).

### 3 Accrual Accounting, Accrual Budgeting and the Assessment of HEIs’ Operating Sustainability: Avoiding Misunderstandings and Enhancing Transparency

Accrual accounting allows the assessment of the overall efficiency of an entity by comparing revenues with expenses. Net income is the most widespread and straightforward indicator of economic efficiency in an organisation. This is probably the reason most frequently cited to assert the supremacy of accrual accounting over cash and cameralistic accounting. In this respect, accrual accounting has the essential role of monitoring operating sustainability, or an institution’s ability to recover costs, and generate income to cover the cost of normal operations (OECD 2004). However, the lack of a direct causal relationship between expenses and some revenues in public institutions prevents the assimilation of results of a given period with net income (Christiaens and Rommel 2008). Thus, using the margin of a period as a measure of operating sustainability is questionable. Several elements suggest caution in this respect.

The first element is inherent to the public nature of public universities due to the importance of budget allocations from the central government as revenue. The IPSASB classifies transfers from the government as ‘non-exchange transactions’ according to par. 29 of IPSAS 23, which dictates that universities record budget allocations from the government or other
public institutions as revenues in the periods in which they are assigned, regardless of when the resources are used. Often, by virtue of the financial autonomy allowed to HEIs, they can define the destinations of the resources obtained. Public funding to universities may be characterised by conditions or restrictions imposed by a transferor, but this is not the most frequent situation. In the EU, there is a perceptible trend, especially in Western Europe, towards the allocation of public funding through block grants rather than line-item budgets (Estermann and Pruvot 2011). Block grants cover several categories of expenditure, such as teaching, operational costs and research activities. In such a framework, universities are free to divide their funding internally according to their needs, although some restrictions may still apply.

By contrast, in a line-item budget, the government pre-allocates university funding to cost items and/or activities. Institutions are thus unable to distribute their funds, or may only do so within strict limitations. According to Estermann and Pruvot (2011), line-item budgets are used in only three European countries (Cyprus, Greece and Turkey), while all other HE systems provide universities with their basic public funding in the form of block grants, which can be autonomously divided between internal cost items and activities. Most of the funds are used to cover period expenses. However, the Italian experience shows that universities also allocate resources transferred by the central government to fund long-term projects, such as research programmes with multi-annual extensions. In such cases, the matching between revenues and expenses is not respected; the whole revenue is recorded when it is realised, while expenses are recorded in future years at the time they are incurred. This accounting treatment of public funding delegitimises the financial result of the period as a measure of economic efficiency and as an indicator of financial sustainability. Positive margins may also emerge in the financial periods characterised by partial coverage of period expenses, considering that part of the revenues gives financial support to multi-annual projects that still have to be accomplished.

The mismatch between revenues and expenses can break the equivalence between the result of a period and an institution’s financial sustainability. The effect of the mismatch may be even more disrupting: the beneficiaries of the research funds may postpone some research activities due to their inability to respect the research plan, leading to the deferral of the expenses correlated with those activities and further augmenting the discrepancy in the results of the period. In this case, the final result, or part
of it, is attributable to ineffectiveness. A possible solution to this ambiguity may be the introduction of a supplemental financial statement or additional disclosure in the notes to the financial statements, to split the different determinants of the result of a period. The structure of the statement may be derived from the analysis of the possible causes of variances from the budget. In accordance with the public nature of universities, budgets authorise expenses within the value of forecasted revenues. Therefore, universities can record positive financial results only if one or more of the following conditions occurs:

- actual revenues exceed budgeted revenues and are not balanced by an equivalent increase of expenses;
- actual expenses are lower than budgeted, due to efficiency;
- revenues from non-exchange transactions realised in the period cover expenses pertaining to long-term projects; and
- departments have postponed expenses already authorised in the budget.

If the quality and quantity of services delivered reflects expectations, the first two situations indicate a virtuous performance that contributes to the long-term financial sustainability of an HEI. In the third case, the bottom line in the statement of financial performance might be positive while hiding a loss resulting from the excessive use of resources in a given year. This happens when the difference between revenues and expenses in a financial period exceeds the value of the expenses already authorised with reference to long-term projects. In other words, financial sustainability is preserved only when the income retained in reserves exceeds (or is equal to) the total value of the projects already authorised in the budget. It is therefore necessary to consider that the result of the period could lead to an ambiguous interpretation when revenues from non-exchange transactions fund long-term activities. This pitfall may be avoided by providing additional information in the notes to the financial statements.

Another issue to consider is depreciation. As indicated by the OECD (2004), financially sustainable universities have to recover the full cost, and this would include depreciation that is ignored by cash and cameralistic accounting. Thus, promoters of accrual accounting suggest that this system allows stricter control of financial sustainability because it considers the cost of depreciation as well. For the Italian universities, this was not an issue before the shift from cameralistic accounting to accrual accounting.
Investments and extraordinary maintenance of properties were occasionally funded by the government, so the budget did not consider depreciation at all. With the introduction of accrual budgeting, HEIs must balance revenues and expenses, depreciation included. Since the value of universities’ properties is often huge, this is challenging for future sustainability. The recording of depreciation may result in a final loss, which is exacerbated by the possible cost duplication due to the incurrence of both maintenance expenses and depreciation (McCrae and Aiken 2000). This result would imply that universities’ operations are not financially sustainable unless new capital is contributed from the central government.

These circumstances induced many Italian universities to adopt a heterodox accounting practice with the aim of neutralising the negative effect of depreciation—to balance the budget, depreciation is covered by reducing initial equity (i.e. the value of equity at the moment of the shift to accrual accounting). In the reporting phase, equity is reduced with the corresponding value of depreciation while a revenue is recorded; thus, any net losses caused by depreciation remain hidden. This is another accounting practice that adversely affects the significance of the budget and of the financial statements in assessing institutions’ financial sustainability; the accounting system abdicates its role of providing stakeholders with material information. In this case, the distortion is due to a specific accounting choice developed by public entities on their own initiative and it is not a matter of technical or conceptual difficulties in implementation. Letting the loss emerge would enhance financial statements’ transparency by highlighting the need to use equity to cope with the negative financial performance. In other words, showing the loss would evidence the non-sustainability of operations in the long term.

A third aspect that gives rise to ambiguity in the assessment of financial sustainability concerns research grants. Grants pertain to specific research projects and aim to cover expenses that occur due to the activities performed by research departments. However, HEIs’ central administration often requires departments to use these funds to cover general expenses that do not pertain to the departments themselves but rather to the institution as a whole. Far from being related to the research project, these costs are not under the responsibility of the research group. All general expenses are already authorised in an university’s budget regardless of the resources collected through the research grant, and are covered by other revenues. Indeed, HEIs balance their budgets regardless of uncertain revenues, such as prospective research grants. Consequently, in the context of
authorising budgets, when a research team receives a grant, the funds destined for the coverage of general expenses result in a positive margin. This margin contributes to the net financial result of the whole university.

Research groups tend to consider this policy as an unjustified withdrawal of resources and a restriction on their freedom to develop new research activities. The margin generated by the project could indeed be used by the central administrative department to balance losses generated by other research departments, or it may simply be intended for other purposes. Research groups would want to retain all margins they have generated through their research projects. Interviews conducted in the Italian universities uncovered a practice used to get around this problem—in some institutions, unwritten rules related to intra-organisational power relationships allow research groups to retain these resources for future activities. In practical terms, part of the grant is recorded as deferred income and does not influence the result of the period; thus, the resources remain available to the research team and cannot be used for alternative purposes. This practice reveals the clear influence of previous cash-based procedures that end up in a distortion of the economic results of universities and assessment of their operating sustainability. This behaviour reflects resistance to change—academics’ perception that the emerging managerial culture contrasts with their autonomy, stimulates reactions in favour of the re-establishment of traditional procedures and rules.

4 Efficiency, Cost Accounting and the Financial Sustainability of HEIs

According to the EUA, ‘to improve their financial sustainability, universities need to develop the right tools to identify the full costs of all their activities and projects’. To this end, cost accounting is expected to provide several benefits to universities and national governments—‘a more systematic approach to activity analysis and costing; a more efficient internal resource allocation; improved strategic decision-making based on better understanding of investment decisions; benchmarking possibilities within the sector and an enhanced ability to negotiate and price activities, which leads to higher cost recovery of project costs and thus contributes to financial sustainability’ (Estermann and Claeys-Kulik 2013). In Italy, HE reform (law 240/2010) introduced an obligation for universities to adopt cost accounting, stating that ‘cost accounting systems [promote] management control’. Although not directly stated, this statement is geared
towards universities’ financial sustainability. The law does not provide any implementation rules for the design of a cost accounting system; the final objectives of cost allocation (e.g. processes, subunits, activities, clients), cost configuration (e.g. full or direct costing) and allocation methodology (e.g. step-down method, activity-based costing, time-driven activity-based costing) are discretionary.

Making prescriptive recommendations to HEIs for the adoption of a cost accounting system requires that the specific attributes of its environment and its organisations are identified (Bromwich and Lapsley 1997). Both environmental and organisational factors are reputed to influence the design of managerial control systems and their ability to support organisational growth (Chenhall 2003). External factors (e.g. funding model, environmental uncertainty, intensity of competition) as well as organisational factors (e.g. technology, organisational structure) should be considered when examining the role that cost accounting systems may have in supporting the growth and success of public institutions.

Realistically, the aforementioned contingent factors are relevant in HEIs. In HE, environmental factors such as the mix of incomes, the value and distribution mechanism of grants from the central government and the consequent intensity of competition, have been important drivers of change over the last 30 years (Küpper 2013). Managerial control systems (MCSs) could hardly remain immune from these influences; evidence of a strict relationship between the funding system and MCSs has been observed in Italian HEIs (Francesconi and Guarini 2017). Geiger and Ittner (1996) tested the influence of funding sources on the adoption and use of MCSs, finding that units that are legally compelled to be self-supporting also tend to implement elaborate costing systems that utilise more data sources and overhead categories, are more integrated, and employ full costing to a greater extent than units that are not subject to this rule. This would suggest that costing methodologies are not a priority in institutions in which transfers from the government account for about 65% of total revenues.

Increasing competition and uncertainty are other relevant contingent factors. In most countries, competition has intensified due to performance-based funding. Moreover, funding cutbacks that characterise the HE system in some countries generate uncertainty (Pruvot et al. 2017). In Italy, there is even more uncertainty because the government periodically changes the rules for allocation of performance-based funds and uses the new rules retrospectively. Consequently, choices made by universities in a
given year influence their ability to attract budget allocations from the government in the future; however, HEI managers do not know in advance what rules the government will use for the distribution of funds and what effects these may have on universities’ income. Uncertainty and competition require more open, externally focused, non-financial styles of MCSs aimed at collecting relevant information from a changing environment (Chenhall 2003). Thus, university managers should choose what key performance indicators to monitor depending on the specific strategy of the institution. Universities positioning themselves in the international arena of HE should take into account the indicators used in HEI rankings as points of reference for identifying their strategic goals. On the other hand, universities in strictly national contexts must ground their strategies in the parameters indicated by the government for budget allocations. In Italy, factors such as researchers’ productivity, rules of enrolment for researchers and the ability to attract students from abroad are central.

The results of teaching activities are also relevant; thus, MCSs should support managers’ decisions with analyses of the evolution of demand for education. Relevant data describes the requests of graduates from the labour market and the reasons for student dropouts. The first aspect determines graduates’ occupation rates and should therefore influence decisions on what degrees the university should offer. Understanding the reasons for dropouts, on the other hand, is fundamental for the improvement of teaching and auxiliary services for students.

What really matters here is that costs and efficiency are not likely to be the key competitive factors for HEIs. In Italy, when the reform introduced managerial accounting in HEIs, efficiency was not the main issue according to the competitive rules. The ministry stimulated competition exclusively through output or outcome performance measures (Aversano et al. 2017; Francesconi and Guarini 2017). Costs were simply not relevant. In this perspective, the decision to oblige universities to develop cost accounting systems is questionable. From an institutional point of view, this could be stigmatised as an inconsistency within coercive pressures exercised by the government on HEIs, resulting in a merely formal conformation of HEIs with expectations to gain legitimacy and thereby secure access to vital resources and long-term survival (Brignall and Modell 2000). The contingency approach would suggest similar deductions, albeit from a different perspective: MCSs that do not fit with environmental and organisational conditions cannot succeed in supporting the development of an organisation (Merchant and Van der Stede 2007).
Internal features of universities such as organisational structure and the technology of processes also suggest a marginal role for the cost accounting system. Organisationally, universities are highly decentralised institutions: organisational units (i.e. departments) and even academics have traditionally benefited from great autonomy, as the value of autonomy in research and teaching has often prevailed over accountability. Often, organisational units have competing interests in financial and human resources. In Italy, the introduction of the accrual-based entity-wide budget is clearly an attempt by legislators to increase budgetary participation within HEIs and use the budget as a coordinating mechanism. However, authorising expenses remains the principal role of the budget. This authorisation function, typical of public institutions’ budgets (Reichard and Van Helden 2016), may produce contradictory effects by stimulating ineffective and inefficient use of resources. The incurrence of lower expenses than authorised may be interpreted as an initial overestimation of the resources needed by a responsibility centre, thus suggesting budget cutbacks in the following years. To avoid this effect, organisational units tend to use all the resources authorised in the budget, regardless of the achievement of any real benefit. This practice hinders efficiency and stimulates resource waste; thus, the fundamental purpose of the budget clashes with the aim of cost accounting.

Technology, or ‘the way tasks transform inputs into outputs’ (Chenhall 2003), is another internal contingent factor that is supposed to influence MCSs. Universities deliver three main products—teaching, research and technology transfer and innovation (TTI)—which are characterised by different technologies. Research and TTI are characterised by highly specialised, non-standardised processes with many exceptions, and output and outcomes are hardly predictable or programmable. Moreover, the processes often involve other subjects (such as, other HEIs or corporations), extending beyond an organisation’s boundaries. Teaching implies a standardised process; however, as often happens in public administration, service providers can only partially determine the outcome of the process (i.e. learning outcomes), since the final performance also depends on the students. Traditional mechanistic MCSs based on financial controls do not suit these circumstances; tasks high in difficulty and variability are associated with low reliance on accounting performance measures (Hirst 1983).

All considerations made above lead to the conclusion that the HEIs need cost accounting systems that are tailor made for their specific con-
text, taking into account both financial and non-financial issues, and not something that is imposed by law, as in the Italian HE reform. Indeed, in Italy, an inherent inconsistency can be observed between the obligation to adopt expensive cost control systems and the contingent factors of HE, as well as between the role assigned to the budget and the quest for efficiency. This inconsistency has been remedied, at least partially, with the recent introduction of the ‘standard cost per student’ as a basis for the allocation of a large part of the transfers from the government in Italy. This measure represents the price that the government is willing to pay for the services delivered to one regular student. In particular, the standard cost considers four different costs that characterise any Italian university’s teaching process: academic staff, fixed-term contract teaching staff, administrative staff and structural overhead.

With the introduction of the standard cost per student, Italian public universities can measure the economic margins of different teaching programmes. The evaluation of the profitability of teaching activities may lead to choices (such as, the closure of resource-absorbing courses) that would be disruptive for the current model of universities in Italy; this would indicate a predominance of the financial perspective on the values that traditionally inspire academia. However, being aware that some courses produce negative margins does not necessarily imply a consequent decision to cease their provision; rather, the availability of this information obliges legitimising the continuation of resource-absorbing courses, based on non-financial outcomes that have to be monitored through appropriate non-financial performance indicators. Thus, cost accounting may play an important role, stimulating university managers to identify non-monetary goals and measure non-monetary performances that might legitimise the absorption of resources. However, universities are unlikely to adopt expensive and complex cost accounting systems if no external stimuli are introduced, such as the standard cost per student.

5 Conclusions

The HE sector has undergone rapid and significant changes in many countries. The accounting system of universities has been part of this process of change that aimed to introduce a new culture oriented towards efficiency and, ultimately, financial sustainability. However, the implementation of the reform threatens to remain ceremonial, not allowing the new accounting tools to reach their potential for change.
A primary obstacle for accrual accounting to effectively contribute to the achievement of HEIs’ financial sustainability is the ambiguity that may characterise the accounting information. The accounting treatment of non-exchange transactions in organisations, like HEIs, characterised by long-term projects, results in a mismatch between revenues and expenses. The postponement of expenses correlated with research activities is not reconciled with the proportional deferral of revenues from non-exchange transactions, thus reducing the transparency of financial information. Therefore, the value of financial margins produced by universities may be misleading. This problem depends on specific accounting standards used in the public sector and could, therefore, be solved by providing further details on the nature and origin of the results of the period. Although this issue was discussed with reference only to HE, the analysis may be extended to other sectors of public administration in which institutions highly depend on governments’ budget allocations. Transparency of accounting information would benefit from further disclosure providing details on the circumstances that produced the results of a given period. Moreover, ad hoc accounting standards should be adopted to discourage practices that hinder transparency of accounting information, as observed in the Italian case for the coverage of depreciation.

Another obstacle to accrual accounting accomplishing its role of supporting financial sustainability is related to organisational issues. The introduction of new accounting tools has encountered resistance from academics. In their eyes, accrual accounting conveys a managerial culture that betrays traditional academic values. This mistrust in accrual accounting may result in the conservation of practices that regulated the financial management of research projects under the traditional cash accounting system; the main consequence of this is ambiguity in the results of a period, which is the main indicator of an institution’s operating sustainability. This evidence suggests the need for further research on how the organisational context influences the accounting system in order to maintain unchanged power relationships that were defined in the past.

The risk of a purely formal and rhetorical use of the new accounting tools has been amplified by possible inconsistencies inherent in the HE funding system, which induces universities to compete on outputs and outcomes and disregards costs and efficiency. This was particularly evident in the Italian case, where the discrepancy between the obligation to adopt cost accounting and the particular context of universities has been partially remedied, at least with reference to teaching activities, with the introduc-
tion of the standard cost per student. This mechanism of allocation of public funds certainly stimulates the comparison between costs and revenues in teaching activities. The Italian case suggests that when a change in the accounting systems depends on regulatory pressures, the success or failure of the reforms depends on external stimuli and pressures. Thus, the possibility that accrual and cost accounting effectively contribute to the achievement of HEIs’ financial sustainability cannot be only attributed to the technical features of these systems; it rather depends even more on the coherence between the accounting system and organisational and contextual factors. While the measurement of universities’ ability to be financially sustainable is a central issue in accrual-based accounting systems, the particularities of these institutions make this measurement much more ambiguous and unreliable, necessitating ad hoc adjustments.

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CHAPTER 10

Integrated Popular Reporting as a Tool for Citizen Involvement in Financial Sustainability Decisions

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1 INTRODUCTION

In recent years, the worldwide financial crisis has placed increased pressure on governments to cultivate financial sustainability and, by way of achieving this objective, to increase citizens’ access to government information (Bertot et al. 2010; Pina et al. 2010). The dissemination of information...
regarding the financial impact of government decisions forces public sector entities to make choices in a transparent and responsible manner.

Governmental financial reporting plays a relevant role in assessing financial sustainability; however, reporting practices have evolved to meet the information needs of users that require not only economic-financial information, but also social, environmental, and sustainability information (Jones et al. 1985; Hay and Antonio 1990; Tooley et al. 2010). Numerous tools could be utilised to involve citizens in achieving financial sustainability, including popular reporting (PR), integrated reporting (IR), sustainability reporting, and intellectual capital reporting. Among these, PR is receiving growing attention in the public sector.

PR is a tool for informing citizens about the financial condition of a federal, state, or local government in a convenient and accessible manner, thus meeting demands for accountability and transparency (Stanley et al. 2008). The provision of such information can facilitate communication between governments and citizens, which fulfils the democratic goal of citizen involvement in government decisions. It is presumed that citizens should not only be informed, but also be involved in long-term decisions regarding financial sustainability.

IR is an evolution of mainstream reporting, and represents an opportunity for improving transparency, governance, and decision making for public sector organisations (Eccles and Krzus 2012). IR provides linkages between an organisation’s strategy, governance, and financial performance and the social, environmental, and economic context within which it operates. By strengthening these connections, IR enables citizens and other stakeholders to understand how an organisation is really performing, and thus has the potential to help public sector organisations to involve citizens in sustainability financial decisions.

Assuming that citizens require information beyond that which is included in traditional financial reporting, public sector entities interested in enhancing public governance could consider implementing integrated popular reporting (IPR). This new type of report melds the main characteristics of IR and PR, thereby providing holistic, useful, and meaningful sets of financial and non-financial information in an easy-to-understand and attractive manner (Cohen and Karatzimas 2015). Governments could use IPR to ensure transparency and neutrality, as well as stakeholder participation, in the decision-making process (Barbera et al. 2016b). It is presumed that IPR promotes two-way communication and meaningful
dialogue between citizens and governments, thus giving citizens the power to express their points of view. Moreover, the use of information and communication technologies, particularly the internet, could facilitate the incorporation of new interactive participative tools into financial reporting.

The design of an integrated popular report should take into consideration the Recommended Practice Guidelines (RPG 1) for ‘Reporting on the Long-Term Sustainability of an Entity’s Finances’ issued by the International Public Sector Accounting Standards Board (IPSASB), and the ‘International Integrated Reporting Framework’ (IR Framework) developed by the International Integrated Reporting Council (IIRC). In line with RPG 1, an IPR could provide information on the impact of current policies and decisions on future financial inflows and outflows (IFAC 2013). On the other hand, the IR Framework aims to bring greater cohesion and efficiency to the reporting process by including information about strategy, resource allocation, and performance (IIRC 2013).

This chapter presents a prototype integrated popular report developed to promote citizen participation in financial sustainability. Through a theoretical-deductive methodology, it aims to identify the main features that an integrated popular report should contain to best respond to the information needs of public sector user groups, focusing on citizens in particular. The following section describes the theoretical framework used to evaluate fiscal sustainability and citizen participation. Section 3 highlights the main characteristics and scope of integrated popular reports. Section 4 analyses the implementation of integrated popular reports in the public sector and explores how IPR could enhance citizen participation. The chapter concludes with a summary of the information presented and offers implications for further research.

2 Fiscal Sustainability and Citizen Participation

The primary objectives of government financial reporting are accountability and helping users make decisions (Brusca and Montesinos 2006). Of the different user groups considered relevant for governmental financial reporting (e.g., politicians, investors and creditors, oversight and governing bodies), citizens represent the most significant group (Daniels and Daniels 1991). Citizens cannot choose whether or not to pay taxes, and there is no exchange relationship between the resources provided by citizens and the services they receive (Brusca and Montesinos 2006). Thus,
citizens are involuntary providers of financial resources. Furthermore, according to *agency theory* (Mayston 1993), citizens (*principals*) delegate political power to politicians (*agents*); therefore, politicians must act on behalf of citizens and, using various transparency tools, inform them about the management of public resources (Strom 2006). This will help to foster consensus among stakeholders and establish legitimacy for politicians as decision-makers.

As a consequence of the global financial crisis, it has become even more imperative for citizens to be aware of the financial performance of their local governments (Cohen et al. 2017). Financial transparency is based on the provision of financial information to citizens (Caba Pérez et al. 2005; Piotrowski and Van Ryzin 2007). Transparency, in turn, supports accountability (Papenfuß and Schaefer 2010). It also supports citizen participation in financial sustainability (Bertot et al. 2010) as democratic participation is dependent on the information disclosed to citizens (Griffin et al. 2012).

### 2.1 Financial Sustainability

Government transparency as a prerequisite for accountability has been widely discussed in both scholarly and professional literature (Ruijer 2017). Public entities need financial sustainability to exist in the long term and to achieve their basic institutional aims, namely, efficiency and effectiveness in providing public services and cultivating social welfare. In previous research, analysis of the financial sustainability of public sector entities has been approached in various ways, taking into consideration both financial and non-financial factors (Bisogno et al. 2017; Padovani et al. 2018). While numerous studies have focused their attention on financial disclosure and accountability (Pina et al. 2010; Manes Rossi et al. 2016), relatively few have considered the question of financial sustainability reporting (Dumay et al. 2010).

The concept of *financial sustainability* itself, however, has proved notoriously challenging to define, despite voluminous literature on the topic (Dollery and Crase 2006; Drew and Dollery 2014; Bolívar et al. 2017). It is thus difficult to find a definition that is generally accepted or agreed upon. Moreover, as Honadle et al. (2004) observed, there is not even a consensus regarding the terminology surrounding financial sustainability. In literature and practice, terms such as ‘fiscal health’ and ‘financial condition’ or ‘fiscal strain’ and ‘fiscal stress’ are used interchangeably.
In this chapter, financial sustainability is defined as the ‘council’s ability to manage expected financial requirements and financial risks and shocks over the long term without the use of disruptive revenue or expenditure measures’ (PwC 2006, p. 95). This definition involves two elements: first, councils should maintain healthy finances, taking into account current expenditures and revenue policies, as well as foreseeable future developments; second, councils must ensure that infrastructure expenditure matches asset planning.

In RPG 1, the IPSASB defined long-term fiscal sustainability as the ‘ability of an entity to meet service delivery and financial commitments both now and in the future’ (IFAC 2013, p. 5). The RPG identified three intertwined dimensions of long-term financial sustainability: service, revenue, and debt. The service dimension includes the volume and quality of services for recipients and beneficiaries. The revenue dimension includes taxation levels and other revenue sources. The debt dimension deals with debt levels within a certain period and extends to the ability to meet financial commitments (IFAC 2013). For each dimension, the capacity of the entity to manage the dimension, as well as the entity’s level of dependency on external factors that it cannot control (i.e., vulnerability), must be taken into consideration. The RPG 1 places special emphasis on the importance of long-term financial sustainability and providing citizens with information on government financial decisions that address the social and environmental impact of these decisions.

One of the key features of financial sustainability is ‘intergenerational equity’, which is needed to assess the effect of different levels of intergenerational transfers on the efficiency of resource allocation (Norgaard 1992). In a long-term perspective, the income statement is strongly linked to the concept of intergenerational equity as it enables users to assess, on the one hand, an entity’s ability to continue providing at least the same volume of goods and services in the present, and, on the other hand, the level of resources that will be needed if the entity is to fulfil its public service obligations in the future (IFAC 2014). Therefore, several international organisations (GASB 1990; EU 2012; IFAC 2014) as well as scholars and researchers (Navarro-Galera et al. 2016; Subires and Rodríguez Bolívar 2017) have recognised that the income statement should play a fundamental role in the assessment of financial sustainability in public administration as it provides information on resources needed to fulfil public service delivery (Subires and Rodríguez Bolívar 2017).
The income statement can also be extended to include the three financial sustainability dimensions indicated in the RPG 1.

However, it should be noted that the scarce use of accrual accounting by public sector entities complicates the assessment of a governmental entity’s financial health. Despite the efforts of the IPSASB, many governmental entities still prepare their income and financial statements on a cash or modified-cash/modified-accrual basis. Without the use of accrual accounting, financial health can only be partially measured. Furthermore, some important economic factors, such as information about infrastructure assets, may be obscured (Lapsley et al. 2009).

Several approaches and indicators to measure or predict governmental entities’ financial health or financial sustainability have been suggested in the literature (EU 2012; Rodríguez Bolívar et al. 2013; Cuadrado-Ballesteros et al. 2014; Subires and Rodríguez Bolívar 2017). Padovani et al. (2018) suggested that five financial statements and ten financial ratios can be implemented to assess a city’s financial health (see Table 10.1). This template can be used to discriminate between financially healthy and financially unhealthy government entities; in fact, these indicators could assist citizens to compare two or more cities and to somehow assess the quality of life of the cities in which they live or would like to live.

### 2.2 Citizen Participation in Financial Sustainability

In recent years, policymakers have shifted from perceiving citizens as semi-passive users in governmental decisions to acknowledging them as active users in governmental decisions (Wakeford and Singh 2008; Barbera et al. 2016a). Citizens are interested in their local government’s decisions and how financial resources received through taxes are used. Therefore, governments should not only be accountable for the use of taxes and the provision of quality goods and services, but also for the provision of tools that will encourage citizen participation in collective financial decisions (Warren 2002). Indeed, a number of studies have argued that local governments should provide more opportunities for citizen participation and more tools to promote it (Kweit and Kweit 2004; Griffin et al. 2012).

The participation of citizens in financial sustainability decisions implies a process by which citizens may voluntarily and regularly contribute to decision making over at least part of a public budget via an annual series of scheduled meetings with government authorities (Goldfrank 2007). Such participation can be facilitated by four key elements: (1) direct citizen...
participation in government decision-making processes and oversight; (2) administrative and fiscal transparency aimed at preventing corruption; (3) tangible improvements to urban infrastructure and services; and (4) cultivating a new political culture in which ‘city residents’ are perceived of as ‘citizens’ (Goldfrank 2007).

Of the numerous tools that can be employed to foster citizen participation in financial sustainability decisions, participatory budgeting represents one of the most popular. It is generally defined as the direct participation of individual citizens in setting budget priorities for municipal investment plans, which constitutes a real transfer of power (Wakeford and Singh 2008, p. 62). Two additional models of participatory budgeting are the proximity participation model and the consultation on public finances model, typically used in France and Germany, respectively (Sintomer et al. 2008). However, these models include consultative processes, meaning that participants do not vote, and, after the participatory process, local

<table>
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<tr>
<th>Table 10.1 Financial health template to assess a city’s financial health</th>
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<tr>
<td><strong>Financial statements</strong></td>
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<tr>
<td>Operating performance</td>
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<td>Capital operations</td>
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<td>Financial flow</td>
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<td>Cash flow</td>
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Source: Padovani et al. (2018, pp. 3–8)
governments can freely (and arbitrarily) choose to integrate or not the citizens’ proposals into public policies.

Specific practices can be implemented to generate direct citizen participation. For example, citizens’ juries have emerged as a means to allow non-experts to make informed recommendations on important issues concerning the current and future well-being of their fellow citizens. Other participation tools include general town-hall meetings and specific public hearings or referenda on particular budget items.

It should also be noted that citizen participation can be facilitated by the development of new information technology tools, particularly web-based internet applications. In fact, information and communication technologies play an important role in both improving the interaction between citizens and administrators and increasing citizen participation in political decision making (Cohen et al. 2017). Among the numerous tools used for the improvement of democratic participation (Pina et al. 2010), the principle of open government, or a direct relationship between citizens and administrators based on trust, has assumed particular importance. Many open government initiatives are rooted in the concept of e-democracy, or electronic democracy, which offers citizens access to political processes and/or policy decisions via various electronic tools (e.g., online meetings or forums, opinion surveys, citizen blogs) with the aim of fostering citizen participation in decision making (Blair 2000; Heeks and Bailur 2007).

3 Responding to Users’ Information Needs: Integrated and Popular Reporting

During the last 20 years, social, political, and economic changes have impacted the concept of accountability in the public sector. Today, the annual report is by and large the primary medium for the discharge of accountability by an organisation to its users (Steccolini 2004). It is imperative that public organisations improve their reporting processes and disclose more complete information about their financial activities and performance.

A considerable body of literature has emerged regarding financial reporting and public sector users’ information needs. Some authors have identified potential public organisation users from a normative perspective (Anthony 1978; Jones et al. 1985; Hay 1994; Borgonovi and Anessi-Pessina 2000); others, using an empirical approach, have sought to identify current users and their real information needs, highlighting differences
between *potential* and *actual* users (Coy et al. 1997; Steccolini 2004; Ryan and Mack 2007).

Analysis of information needs of actual users of public organisations shows that, while information pertaining to financial position is important, stakeholders have a strong interest in performance information not traditionally disclosed in financial statements (Jones et al. 1985; Hay and Antonio 1990; Tooley et al. 2010). Users are interested in non-financial performance and future-oriented information. Citizens in particular, as major resource providers, have the following primary information needs: the way resources are used; the management of governmental programmes (Caba Pérez et al. 2005); the cost of services provided (Daniels and Daniels 1991); future taxation aspects (Brusca and Montesinos 2006); and the financial condition of the local government (Brusca 1997).

To satisfy these information needs of citizens and reduce the gap between potential and actual users of financial reporting, traditional financial reports should be supplemented by additional social, environmental, and sustainability information, which can be presented separately or in a joint report. Moreover, to allow citizens to be active users in government financial decisions (Wakeford and Singh 2008), these new reports should include electronic citizen participation forms (Katsikas et al. 2016; Nistor et al. 2017). To this end, the following sections will analyse two forms of reporting that are receiving growing attention at the international level: the *integrated report* and the *popular report*.

### 3.1 Integrated Reporting

The voluntary production and presentation of an integrated report may be an opportunity for improving transparency, governance, and decision making for public organisations (Adams and Simnett 2011; Incollingo 2014; Katsikas et al. 2016), extending the information contained in traditional financial statements to provide a complete picture of wealth creation for all stakeholders. IR is a process based on integrated thinking that translates into an integrated periodic report in which value creation over time, as well as information regarding specific aspects of an organisation’s value creation, is presented (IIRC 2013, p. 33). The integrated report is ‘a summary notice describing how the strategy, governance, performance and prospects of an organization, in the context of its external environment, allow the creation of value in the short, medium and long term’ (IIRC 2013, p. 8).
The decision to prepare an integrated report involves adopting an analytical vision instead of a systematic one (White 2010). Conceptually, the organisation continues to be considered an aggregation of different types of capital (e.g., financial, productive, intellectual, human, social, relational), but these must now be expressed in a coordinated manner (Pirozzi and Ferulano 2016). An integrated report should be developed following the IR Framework issued by the IIRC, which identifies a series of questions to be answered during the preparation of the report (IIRC 2013, p. 7).

The adoption of IR promises numerous benefits to government entities, including the provision of greater clarity on relationships and commitments; bolstering decision-making and accountability processes (Eccles and Krzus 2012); and responding to users’ information needs, specifically in terms of non-financial performance and future-oriented information. The primary weakness of IR, however, is that integrated reports are often not presented in a concise, comprehensive, and interactive manner. As a result, they may be hard for citizens to understand and, by extension, will not facilitate citizen participation in government financial decisions. Therefore, to better meet citizens’ information needs and promote citizen participation, the integrated report could be combined with the ‘popular report’.

### 3.2 Popular Reporting

A popular report is a simplified report that primarily provides financial information of a government entity in a comprehensive and simple manner so as to be easily understood by users who lack expertise in accounting and financial matters (Stanley et al. 2008). As evidenced by Yusuf and Jordan (2012, p. 48) ‘effective popular reports are short, visually appealing and timely, providing financial information relevant to citizen interests and concerns, including broad community issues, and are widely distributed and made accessible to citizens’.

Popular reports give information about a government’s sources of revenue and major taxes; expenditures and the cost of government services; the cost and impact of capital projects; the amount, cost, and affordability of debt; and government outcomes and performance. To capture citizens’ interest, PR should be *community oriented*, addressing both current and
long-term non-financial issues, as well as providing city contact information and instructions to obtain progress reports or more detailed information (Yusuf and Jordan 2012). Moreover, macro-level information, such as economic forecasts and future challenges, may also be included.

An effective popular report should have the following characteristics (Biancone et al. 2016; Cohen et al. 2017): information that is timely, easy to understand, credible, and objective; a link to official financial statements for users who are interested in additional financial information; and, finally, the option for users to provide feedback in order to encourage citizen participation. To ensure that information is easy to understand, the report should be written in a concise and clear style, without the use of technical jargon. Information about revenue and expenditures should be presented in charts, diagrams, and graphics.

To promote citizen participation, proper dissemination of the popular report through various channels is crucial. Public libraries and other government repositories, for example, have traditionally been considered effective channels for the dissemination of information (Yusuf and Jordan 2015). Popular reports should be made available to citizens in electronic format, whether via e-mail bulletins sent to citizens, updates published on the reporting entity’s website or a social media network (e.g., Facebook, Twitter), or some other means (Cohen and Karatzimas 2015; Cohen et al. 2017).

Integrated reports and popular reports represent a response to two common citizen needs (information and participation) that influence wealth creation in and the financial sustainability of a municipality. By combining the two financial statements, the integrated popular report may represent an even more effective method for cultivating informed participation in financial sustainability decisions. A hypothetical structure and recommended content for this new tool will be outlined in the following section.

4 The Development of Integrated Popular Reporting as a Tool for Enhancing Citizen Participation

Integrated popular reports are not currently implemented by government entities; thus, this section provides a theoretical analysis of a prototype integrated popular report for a government entity. To address citizens’
needs, two elements will be taken into consideration: first, the characteristics and content that an integrated popular report should have to adequately inform citizens in preparation for participation in financial decision making; second, the tools and requisites that an integrated popular report should include to cultivate an effective and dynamic participatory process, allowing citizens to be active citizens and to be involved in the financial decisions of their local government.

To respond to new information needs, the integrated popular report should combine the primary characteristics of the integrated report and the popular report (see Table 10.2).

4.1 Characteristics and Content of an Effective Integrated Popular Report

An effective integrated popular report should respond to the new information needs of citizens evidenced by the literature: in addition to information on past financial performance, citizens require future-oriented information and increased transparency regarding their municipality’s financial condition. To address these needs, an effective integrated popular report should present information about a city’s past, present, and future financial and non-financial performance (e.g., financial sustainability, livability of the city) in a concise and understandable way.

Therefore, the first section of an integrated popular report (General Information) should include a table of contents and a message to citizens from the city manager. The objective of the report should also be indicated; for example, it could be asserted that the report ‘provides a brief analysis of where city revenue comes from, how revenue is spent, and the city’s financial condition in the previous year. The report also encourages citizens to get involved in financial decisions about the city’s programs, operations, and services’. Finally, explanations of terms and acronyms should be included to ensure that the document can be understood by all readers, including those unfamiliar with accounting and financial terminology (Yusuf and Jordan 2012; Cohen et al. 2017).

The second section of an integrated popular report should refer to the Presentation of the City including information on the story, heritage assets, and population of the city, along with pictures of the municipality. In accordance with the principles of practice of IR, the third and fourth sections of the integrated popular report (Governance and Strategic Focus, respectively) should provide information on the city government in
Table 10.2  Prototype integrated popular report

<table>
<thead>
<tr>
<th>General information</th>
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<tbody>
<tr>
<td>Table of contents</td>
<td>Message to citizens from the city manager</td>
</tr>
<tr>
<td>Objective of the integrated popular report</td>
<td>Definition of key terms</td>
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<table>
<thead>
<tr>
<th>Presentation of the city</th>
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<tbody>
<tr>
<td>History of the city</td>
<td>Heritage assets</td>
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<tr>
<td>Population</td>
<td>Photo of the city</td>
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<tr>
<th>Governance: City government</th>
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<tbody>
<tr>
<td>Structure of the city government</td>
<td>City departments</td>
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<tr>
<td>List of municipal council members, including contact information and photos</td>
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<thead>
<tr>
<th>Strategic focus</th>
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<tbody>
<tr>
<td>Strategic objectives</td>
<td>Vision</td>
</tr>
<tr>
<td>Mission</td>
<td>Projects in progress</td>
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<tr>
<th>Liveability of the city</th>
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<tbody>
<tr>
<td>Quality of life</td>
<td>Public safety</td>
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<td>Water utility</td>
<td>Recycling</td>
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<tr>
<td>Infrastructure</td>
<td>Community development</td>
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<tr>
<td>Recreation and parks</td>
<td>Employment and unemployment rates</td>
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<tr>
<td>Air quality</td>
<td>Fiscal pressure/tax rates</td>
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<tr>
<th>Economic-financial performance</th>
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<tbody>
<tr>
<td>Balance sheet scheme</td>
<td>Income statement scheme</td>
</tr>
<tr>
<td>Indication of main revenue sources, including their total amount and graphic representations</td>
<td>Indication of main expenditures, including their total amount and graphic representations</td>
</tr>
<tr>
<td>Budget scheme</td>
<td>Changes to the budget</td>
</tr>
<tr>
<td>Comparison of budget results</td>
<td>Risk management policies</td>
</tr>
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<td>Financial policies</td>
<td>Property taxes</td>
</tr>
<tr>
<td>Investment policies</td>
<td>Type and amount of funds</td>
</tr>
<tr>
<td>Reasons for increasing or decreasing funds</td>
<td>Net position</td>
</tr>
<tr>
<td>Referral to a specific link to download full financial documents</td>
<td>Link, to municipality’s institutional website to download full financial documents</td>
</tr>
<tr>
<td>Fund balance</td>
<td>Information about projects proposed by citizens</td>
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<tr>
<th>Financial sustainability</th>
<th>Financial ratios:</th>
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<tbody>
<tr>
<td>Financial statement:</td>
<td>Financial autonomy</td>
<td>Overall financial flow balance</td>
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<tr>
<td>Operating performance</td>
<td></td>
<td>Operating balance</td>
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<tr>
<td>Financial flow</td>
<td>Borrowing capacity</td>
<td>Debt repayment capacity</td>
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<tr>
<td>Capital operations</td>
<td>Debt repayment period</td>
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(continued)
question and its strategic objectives, vision, and mission, as well as projects currently in progress. The fifth section should refer to the Liveability of the City, providing information on the infrastructure and services offered by the city, the fiscal pressures that it faces, and employment and unemployment rates.

After all, in accordance with the principles and practices of both PR and IR, the integrated popular report should provide a considerable amount of economic-financial performance information. Moreover, in line with what is highlighted in the literature about PR (Yusuf and Jordan 2015) the IPR should include visual aids (e.g., tables, charts) for city’s revenues and expenditures and referrals and/or links to institutional websites from which complete financial documents can be downloaded or more detailed financial information can be obtained. Moreover, IPR should provide information regarding the city’s financial health, which can be assessed according to Padovani et al.’s (2018) financial health template (see Table 10.1).

### 4.2 Citizen Participation in Integrated Popular Reporting

An effective integrated popular report should not only satisfy the information needs of citizens but also include E-democracy tools that allow them to participate in the financial sustainability decisions of their municipality. To ensure that the participatory process for financial sustainability decisions is both dynamic and effective, some prerequisites have to be met (Sintomer et al. 2008): (1) financial decisions should be discussed with

![Table 10.2 (continued)](https://example.com/table10.2)

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<tr>
<th>Cash flow</th>
<th>Debt pay-down capacity</th>
<th>Cash facility burden</th>
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<tbody>
<tr>
<td>Debts</td>
<td>Amount of commercial debt</td>
<td>Cost of debts</td>
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<tr>
<th>Citizen participation tools</th>
<th>Participatory budget</th>
<th>Consultation on public finances</th>
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<tr>
<th>Areas in which citizens can propose projects</th>
<th>Poll about which project should be financed</th>
<th>Opinion survey</th>
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<tr>
<th>Citizen blogs</th>
<th>Soliciting citizen comments about projects in progress</th>
<th>Specific forum</th>
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<tr>
<td>Referendum on specific financial sustainability items</td>
<td>Social media (e.g., Facebook, Twitter)</td>
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citizens; (2) a representative(s) from the municipality and/or a (decentralised) district governed by an elected body should be involved; (3) some form of public deliberation within the framework of specific meetings/forums must be included; (4) the process must be repeated; and (5) accountability regarding the output of the process is essential.

When implementing IPR, government entities should also take advantage of the opportunities to enhance citizen participation offered by new information and communication technologies. These have the potential to modify the ways in which citizens communicate with public entities. Participatory budgeting, for example, can incorporate online opinion surveys and digital forums or referenda, allowing citizens to directly participate in debate, and make decisions about budget or investment priorities for municipal investment plans (Wakeford and Singh 2008, p. 62).

The integrated popular report in particular, as suggested by Cohen et al. (2017), should be developed using a website format. The website format allows for the inclusion of interactive citizen participation tools, as recommended by the literature (Sintomer et al. 2008; Wakeford and Singh 2008). Citizen blogs and social media networks can be used to discuss and decide which projects should be financed as well as to propose new projects. However, it should be noted that the level and authenticity of citizen engagement are dependent on the degree to which the citizens in question accept new digital and social networking technologies (Janssen and Helbig 2016).

5 Conclusion

Recently, in order to enhance their accountability and transparency, public administration institutions have demonstrated an interest in several changes aimed at promoting a new culture where greater emphasis is placed on achieving citizen involvement (Ruijer 2017). Government entities should consider implementing new reporting tools, such as the integrated popular report, in combination with information communication technologies (i.e., e-democracy tools) to create additional spaces for democratic participation, thereby meeting the increased information needs of citizens and facilitating their participation in financial sustainability decisions.

The integrated popular report that is proposed in this chapter should not be presented as a text or file, which citizens may simply download, read, and discard. The proposed report should be a virtual democratic
space. It can serve as a means by which interested citizens can learn about and actively participate in the financial health of the city in which they live by discussing and debating financial sustainability decisions (e.g., tax increases, specific finance projects, new proposed projects), or by directly influencing these decisions through voting. This process can thus act as a citizenship school for participants by increasing their knowledge of accounting and financial terminology, as well as the financial state and performance of their municipality (Wakeford and Singh 2008).

This chapter used a theoretical-deductive analysis to define the characteristics and content of an effective integrated popular report, the primary purpose of which is to facilitate citizen involvement in financial sustainability decisions. A prototype integrated popular report is presented, melding the main characteristics of the integrated report and the popular report to provide a holistic, useful, and meaningful set of financial and non-financial information in an easy-to-understand, concise, and attractive manner (Cohen and Karatzimas 2015).

However, the research presents some limitations as it only represents a preliminary theoretical analysis. The empirical implications of the results, therefore, cannot be discussed. Furthermore, e-democracy tools may produce widely varied results in and among different regions, cultures, and contexts. Indeed, the success of e-democracy and e-government initiatives is heavily dependent on the extent that government officials and citizens accept such initiatives or information and communication technologies in general (Jaeger and Matteson 2009; Bertot et al. 2010). Several studies have demonstrated that individuals with higher levels of education, for example, are typically more open to online interactions with government entities and representatives (Ebbers et al. 2008). Future research on the integrated popular report may shed light on the quantitative aspects of IPR, as well as suggest best practices for its design and implementation.

As a preliminary analysis, however, this chapter adds fresh knowledge in an under-researched field, offering governmental managers a new tool that, thanks to the possibilities offered by contemporary information and communication technologies, is expected to enhance the level of interaction between citizens and government entities; meet the increased information needs of modern citizens; and improve government accountability and transparency. Local governments should, therefore, consider implementing IPR because providing transparent and accessible financial information to citizens is a starting point for real involvement in the democratic process.
REFERENCES


## APPENDICES

### Appendix to Chapter 1

**Table A.1** Submitted Comment Letters to IPSASB Consultation papers and Exposure Draft on FSR, retrieved on line on [www.ifac.org](http://www.ifac.org) (comment letters referred to in the chapter are shaded)

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Date(s)</th>
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<tbody>
<tr>
<td>1. Abu Dhabi Accountability Authority (United Arab Emirates)</td>
<td>February 28, 2012</td>
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<tr>
<td>2. ACCA—UK (United Kingdom)</td>
<td>May 25, 2010</td>
</tr>
<tr>
<td>3. Accounting Standards Board—South Africa (South Africa)</td>
<td>May 25, 2010; February 27, 2012</td>
</tr>
<tr>
<td>4. Accounting Standards Board (United Kingdom)</td>
<td>February 25, 2010; March 2, 2012</td>
</tr>
<tr>
<td>5. Association of Chartered Certified Accountants (United Kingdom)</td>
<td>February 20, 2012</td>
</tr>
<tr>
<td>9. Australian Accounting Standards Board (Australia)</td>
<td>May 7, 2010; September 21, 2010; April 5, 2012</td>
</tr>
<tr>
<td>10. CIPFA—UK (United Kingdom)</td>
<td>May 25, 2010; March 28, 2012</td>
</tr>
<tr>
<td>11. Conseil de normalisation des comptes publics (France)</td>
<td>June 14, 2010; March 28, 2012</td>
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<tr>
<td>12. Controleur des Finances du Quebec (Canada)</td>
<td>May 25, 2010</td>
</tr>
<tr>
<td>13. Cour des comptes (France)</td>
<td>May 25, 2010; March 28, 2012</td>
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<tr>
<td>14. CPA Australia (Australia)</td>
<td>March 29, 2012</td>
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<td>Respondents</td>
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<td>16. Direction Generale des Finances Publiques (France)</td>
<td>June 14, 2010</td>
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<tr>
<td>17. Ernst &amp; Young</td>
<td>May 25, 2010; March 28, 2012</td>
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<td>18. FEE</td>
<td>May 25, 2010</td>
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<td>19. European Central Bank</td>
<td>May 25, 2010</td>
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<tr>
<td>20. GASB—USA (United States)</td>
<td>May 25, 2010; April 11, 201</td>
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<td>23. HM Treasury (United Kingdom)</td>
<td>March 29, 2012</td>
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<tr>
<td>24. HoTARAC (Australia)</td>
<td>May 25, 2010; February 28, 2012</td>
</tr>
<tr>
<td>25. IBR-IRE (Belgium)</td>
<td>March 28, 2012</td>
</tr>
<tr>
<td>26. Dr. Jesse Hughes (United States)</td>
<td>May 25, 2010</td>
</tr>
<tr>
<td>27. Institut der Wirtschaftspruefer in Deutschland e.V. (Germany)</td>
<td>February 29, 2012</td>
</tr>
<tr>
<td>29. Institute of Chartered Accountants of Pakistan (Pakistan)</td>
<td>May 25, 2010</td>
</tr>
<tr>
<td>30. Institute of Chartered Accountants of Scotland (ICAS) (United Kingdom)</td>
<td>February 29, 2012</td>
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<tr>
<td>32. Joint Accounting Bodies—Australia (Australia)</td>
<td>May 25, 2010</td>
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<tr>
<td>34. Ministry of Finance, Quebec (Canada)</td>
<td>March 28, 2012</td>
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<tr>
<td>35. Budget Directorate, Ministry of Budget, France (France)</td>
<td>March 29, 2012</td>
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<tr>
<td>36. Director-General of Public Finances, Ministry of Budget, France (France)</td>
<td>March 29, 2012</td>
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<tr>
<td>37. New South Wales Treasury (Australia)</td>
<td>April 19, 2010</td>
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<tr>
<td>38. New Zealand Accounting Standards Board (New Zealand)</td>
<td>February 27, 2012</td>
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<td>39. New Zealand Institute of Chartered Accountants (New Zealand)</td>
<td>May 25, 2010</td>
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<tr>
<td>41. Office of the Auditor General of Canada (Canada)</td>
<td>May 25, 2010</td>
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<tr>
<td>42. Province of British Columbia—Canada (Canada)</td>
<td>May 25, 2010; March 29, 2012</td>
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<tr>
<td>43. Province of Ontario (Canada)</td>
<td>February 29, 2012</td>
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<tr>
<td>44. Public Sector Accounting Board—Canada (Canada)</td>
<td>May 26, 2010; April 12, 2012</td>
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<tr>
<td>45. République Française (France)</td>
<td>July 8, 2010</td>
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<tr>
<td>46. Social Security Board (France)</td>
<td>June 14, 2010</td>
</tr>
<tr>
<td>47. Swiss Public Sector Financial Reporting Advisory Committee (Switzerland)</td>
<td>March 18, 2010; February 23, 2012</td>
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<tr>
<td>48. The Institute of Chartered Accountants of Scotland (United Kingdom)</td>
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Respondents | Date(s)
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49. The Japanese Institute of Certified Public Accountants (Japan) | April 30, 2010; February 29, 2012
50. Treasury Board of Canada Secretariat (Canada) | May 25, 2010
52. World Bank (United States) | February 28, 2012
53. Denise Silva Ferreira Juvenal (Brazil) | March 4, 2012
54. KPMG (United Kingdom) | March 28, 2012

### APPENDIX TO CHAPTER 6

**Table A.2** Financial accounting data

<table>
<thead>
<tr>
<th></th>
<th>Consolidated financial statement</th>
<th>Separate financial statement</th>
</tr>
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<tbody>
<tr>
<td>Revenues</td>
<td>10,920.5</td>
<td>7592.3</td>
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<tr>
<td>EBITDA</td>
<td>1976.3</td>
<td>1146.4</td>
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<tr>
<td>Operating surplus/(deficit)</td>
<td>297.0</td>
<td>33.3</td>
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<tr>
<td>Total assets</td>
<td>45,472.6</td>
<td>39,229.1</td>
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<tr>
<td>Financial debts</td>
<td>9602.9</td>
<td>7374.6</td>
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<tr>
<td>Debts</td>
<td>20,327.7</td>
<td>16,411.0</td>
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Aggregate values in euro/mil
Table A.3  Set of ratios

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<tr>
<td></td>
<td>Mean</td>
<td>Median</td>
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<tr>
<td><strong>Sustainability indicators</strong></td>
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<td></td>
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<tr>
<td>Debts/own-source current revenues</td>
<td>2.7</td>
<td>1.7</td>
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<tr>
<td>Debts/current revenues</td>
<td>2.2</td>
<td>1.3</td>
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<tr>
<td>Financial debts/own-source current revenues</td>
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<td>0.9</td>
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<tr>
<td>Financial debts/current revenues</td>
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<tr>
<td>Debts/inhabitants</td>
<td>4198</td>
<td>2358</td>
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<tr>
<td>Financial debts/inhabitants</td>
<td>1983</td>
<td>917</td>
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<tr>
<td>Financial debt ratio</td>
<td>0.4</td>
<td>0.2</td>
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<td>Debt ratio</td>
<td>0.8</td>
<td>0.5</td>
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<tr>
<td><strong>Flexibility indicator</strong></td>
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<td></td>
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<tr>
<td>EBITDA ratio</td>
<td>21.3%</td>
<td>21.0%</td>
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<tr>
<td>Operating surplus/(deficit) ratio</td>
<td>6.5%</td>
<td>6.1%</td>
</tr>
<tr>
<td>Debt Interests/EBITDA</td>
<td>14.4%</td>
<td>11.1%</td>
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<tr>
<td>Debt Interests/inhabitants</td>
<td>59%</td>
<td>28%</td>
</tr>
<tr>
<td>Average cost of financial debts</td>
<td>3.0%</td>
<td>2.9%</td>
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<tr>
<td><strong>Vulnerability indicators</strong></td>
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<tr>
<td>Ratio between own-source current revenues and grants</td>
<td>4.5</td>
<td>3.8</td>
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<tr>
<td>Ratio between own-source current revenues and current costs</td>
<td>89.4%</td>
<td>90.3%</td>
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<tr>
<td>Ratio between own-source current revenues + financial revenues and current costs</td>
<td>93.0%</td>
<td>94.5%</td>
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### Table A.4 Benchmark analysis

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<th>Separate financial statement</th>
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<td>Among the worst</td>
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<td>4</td>
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<tr>
<td>−12 to −4</td>
<td>Worse than most</td>
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<td>2</td>
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<tr>
<td>−3 to +3</td>
<td>About average</td>
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<td>4</td>
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<tr>
<td>+4 to +12</td>
<td>Better than most</td>
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<td>5</td>
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<tr>
<td>+13 or more</td>
<td>Among the best</td>
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### Table A.5 Descriptive statistics

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<td>0.5224</td>
<td>0.1624</td>
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<td>1.9708</td>
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<th>Cum.</th>
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<td>38.79</td>
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<td>3</td>
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<td>4</td>
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<td>18.18</td>
<td>100</td>
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<table>
<thead>
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<th>Freq.</th>
<th>Percent</th>
<th>Cum.</th>
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<td>18.18</td>
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Table A.6  Bivariate correlations

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<th>IPSAS</th>
<th>Accruals</th>
<th>GDPpc</th>
<th>Education</th>
<th>Density</th>
<th>Ideology</th>
<th>System</th>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Effectiveness</td>
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<td>0.9643***</td>
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<td>0.0503</td>
<td>0.0147</td>
<td>0.6262***</td>
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<tr>
<td>GDPpc</td>
<td>0.6515***</td>
<td>0.5957***</td>
<td>0.6456***</td>
<td>−0.0123</td>
<td>−0.2532**</td>
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<td>0.2115**</td>
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<td>−0.0101</td>
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<td>0.0016</td>
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<td>−0.2073**</td>
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<td>−0.0297</td>
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<td>0.0996</td>
<td>−0.0683</td>
<td>0.0163</td>
<td>0.2161**</td>
<td>0.074</td>
<td>−0.1491†</td>
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<td>System</td>
<td>0.3036***</td>
<td>0.1775*</td>
<td>0.2527**</td>
<td>−0.0237</td>
<td>−0.2319**</td>
<td>0.2977***</td>
<td>−0.0164</td>
<td>0.2478**</td>
<td>−0.1309</td>
<td>1</td>
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Notes:
†, *, **, and *** represent statistical relevance at 10, 5, 1, and 0.1 percent level, respectively
Table A.7  Effect of public sector accounting on GE index

<table>
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<tr>
<td>IPSAS</td>
<td>0.0225</td>
<td>0.0247</td>
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<td>0.0383</td>
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<td>0.0004</td>
<td>0.0021***</td>
<td>0.0004</td>
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<tr>
<td>GDPpc</td>
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<td>0.0021</td>
<td>−0.0061*</td>
<td>0.0022</td>
</tr>
<tr>
<td>Education</td>
<td>−0.0010*</td>
<td>0.0004</td>
<td>−0.0009**</td>
<td>0.0003</td>
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<tr>
<td>Density</td>
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<td>0.0136</td>
<td>0.0172</td>
<td>0.0158</td>
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<tr>
<td>Ideology</td>
<td>0.2123*</td>
<td>0.0791</td>
<td>0.1753*</td>
<td>0.0744</td>
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<td>0.3828</td>
<td>0.2377</td>
<td>0.2534</td>
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</table>

Arellano-Bond test for AR(2) in first differences
Pr > z = 0.658
Pr > z = 0.210

Hansen test of overid. Restrictions
Prob > chi2 = 0.651
Prob > chi2 = 0.915

Notes:
†, *, **, and *** represent statistical relevance at 10, 5, 1, and 0.1 percent level, respectively
All regressions include year fixed effects
Arellano-Bond test for AR(2) in first differences is a serial correlation test of order 2 using residuals in first differences, asymptotically distributed as $N(0,1)$ under the null hypothesis of no serial correlation
Hansen is a test of over-identifying restrictions, asymptotically distributed as $\chi^2$ under the null hypothesis of non-correlation between the instruments and the error term

Table A.8  Effect of public sector accounting on RQ index

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<tbody>
<tr>
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<td>0.0117</td>
<td>0.0315</td>
<td>0.0759**</td>
<td>0.0270</td>
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<td>Accruals</td>
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<td>0.0003</td>
<td>0.0026***</td>
<td>0.0003</td>
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<tr>
<td>GDPpc</td>
<td>0.0010</td>
<td>0.0026</td>
<td>0.0010</td>
<td>0.0027</td>
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<td>Education</td>
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<td>0.0003</td>
<td>−0.0004†</td>
<td>0.0002</td>
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<td>Density</td>
<td>−0.0456*</td>
<td>0.0209</td>
<td>−0.0562**</td>
<td>0.0189</td>
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<td>Ideology</td>
<td>−0.0546</td>
<td>0.0617</td>
<td>−0.0448</td>
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<td>System</td>
<td>0.6453***</td>
<td>0.1511</td>
<td>0.2388</td>
<td>0.1538</td>
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Arellano-Bond test for AR(2) in first differences
Pr > z = 0.676
Pr > z = 0.741

Hansen test of overid. Restrictions
Prob > chi2 = 0.994
Prob > chi2 = 0.979

Notes:
†, *, **, and *** represent statistical relevance at 10, 5, 1, and 0.1 percent level, respectively
All regressions include year fixed effects
Arellano-Bond test for AR(2) in first differences is a serial correlation test of order 2 using residuals in first differences, asymptotically distributed as $N(0,1)$ under the null hypothesis of no serial correlation
Hansen is a test of over-identifying restrictions, asymptotically distributed as $\chi^2$ under the null hypothesis of non-correlation between the instruments and the error term
### Table A.9  Effect of public sector accounting on effectiveness index

<table>
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<td>0.1720***</td>
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<td>0.0007</td>
<td>0.0004***</td>
<td>0.0001</td>
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<tr>
<td>GDPpc</td>
<td>−0.0042</td>
<td>0.0050</td>
<td>0.0041</td>
<td>0.0055</td>
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<td>Education</td>
<td>−0.0009†</td>
<td>0.0005</td>
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<td>0.0005</td>
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<td>Density</td>
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<td>0.1252</td>
<td>0.3940**</td>
<td>0.1075</td>
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<td>0.9689*</td>
<td>0.3825</td>
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*Arellano-Bond test for AR(2) in first differences*
\[ Pr > z = 0.215 \]
\[ Pr > z = 0.877 \]

*Hansen test of overid. Restrictions*
\[ Prob > \chi^2 = 0.984 \]
\[ Prob > \chi^2 = 0.968 \]

**Notes:**
†, *, **, and *** represent statistical relevance at 10, 5, 1, and 0.1 percent level, respectively
All regressions include year fixed effects
Arellano-Bond test for AR(2) in first differences is a serial correlation test of order 2 using residuals in first differences, asymptotically distributed as \( N(0,1) \) under the null hypothesis of no serial correlation
Hansen is a test of over-identifying restrictions, asymptotically distributed as \( \chi^2 \) under the null hypothesis of non-correlation between the instruments and the error term
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<td>Actuarial provisions, 84, 89, 91, 92,</td>
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¹Note: Page numbers followed by “n” refer to notes
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