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Three Essays on the Faithful Reporting of Financial Information in the Public Sector : Insights from Switzerland

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FACULTÉ DE DROIT, DES SCIENCES CRIMINELLES ET D'ADMINISTRATION PUBLIQUE
INSTITUT DE HAUTES ÉTUDES EN ADMINISTRATION PUBLIQUE (IDHEAP)

Three Essays on the Faithful Reporting of Financial Information in the Public Sector: Insights from Switzerland

THÈSE DE DOCTORAT

présentée à la
Faculté de droit, des sciences criminelles et d'administration publique
de l'Université de Lausanne
pour l'obtention du grade de

Docteure en administration publique

par

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Three Essays on the Faithful Reporting of Financial Information in the Public Sector : Insights from Switzerland

sans se prononcer sur les opinions exprimées dans cette thèse.

Composition du jury :

Directeur de thèse	Professeur Nils Soguel
Expert interne	Professeur Oliver Neumann
Expert externe	Professeur Christopher Grigoriou
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Lausanne, le 19.09.2024

Professeur Nils Soguel, Vice-doyen

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"Labor omnia vincit improbus."
Virgile

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List of the 26 Swiss Cantons

AG	Aargau	NW	Nidwalden
AI	Appenzell Innerrhoden	OW	Obwalden
AR	Appenzell Ausserrhoden	SG	St. Gallen
BE	Bern	SH	Schaffhausen
BL	Basel Landschaft	SO	Solothurn
BS	Basel Stadt	SZ	Schwyz
FR	Fribourg	TG	Thurgau
GE	Geneva	TI	Ticino
GL	Glarus	UR	Uri
GR	Graubünden	VD	Vaud
JU	Jura	VS	Valais
LU	Lucerne	ZG	Zug
NE	Neuchâtel	ZH	Zurich

List of acronyms

CFM	Conference of the Cantonal Finance Ministers
CIPFA	Chartered Institute of Public Finance and Accountancy
EPSAS	European Public Sector Accounting Standards
EU	European Union
IAS/IFRS	International Accounting Standards/International Financial Reporting Standards
IASB	International Accounting Standards Board
IFAC	International Federation of Accountants
IMF	International Monetary Fund
IPSAS	International Public Sector Accounting Standards
IPSASB	International Public Sector Accounting Board
MS	European Member States
OECD	Organization for Economic Cooperation and Development
SRS-CSPCP	Swiss Public Sector Financial Reporting Advisory Committee
UK	United Kingdom
USA	United States of America

List of other abbreviations

BADAC	Database on the Swiss cantons and cities
BDP	the Conservative Democratic Party
CAFS	Cantonal Annual Financial Statements
CHF	Swiss Francs
CSFM	Cantonal Scores of Financial Maturity
CSP	the Christian Social Party

CVP	the Christian Democratic People’s Party
EDU	the Democratic Federal Union
FDP	the Liberals
FMAP	Financial Management Act of Parliament
GAAP	Generally Accepted Accounting Principles
GDP	Gross Domestic Product
GPFR	General Purpose Financial Reports
GPS	the Green Party
HAM1	First Harmonized Accounting Model
HAM2	Second Harmonized Accounting Model
MCG	the Geneva’s Citizens’ Movement
MSFM	Municipal Scores of Financial Maturity
NPFM	New Public Financial Management
NPM	New Public Management
PVL	the Green Liberal Party
RPG	Recommended Practice Guidelines
SFFA	Swiss Federal Finance Administration
SFSO	Swiss Federal Statistical Office
SNL	Swiss National Library
SP	the Social Democratic Party
SPY	Swiss Political Year / Année Politique Suisse
SSEA	State Secretariat for Economic Affairs
SVP	the Swiss People’s Party

ADF	Augmented Dickey-Fuller
av.	average
B	balance
DV	dependent variable
E	expenses
H	hypothesis
IV	Instrumental Variable
OLS	Ordinary Least Squares
pc	per capita
R	revenues
RQ	research question
2SLS	Two-Stage Least Squares
3SLS	Three-Stage Least Squares

Part I — Synopsis

1 Introduction

Over the past four decades, public entities around the world have focused on enhancing accountability and transparency, while promoting more effective, efficient, and participatory forms of governance (Schillemans, 2016). One key element in the resulting stream of public sector reforms has been the modernization of the financial information systems used as the primary tools for internal control and external accountability discharging with regard to public money management (Guthrie et al., 1999; Chan, 2003). The resulting changeover has notably taken shape through a generalized transition from traditional cash-based to modern accrual accounting models, which are meant to improve the transparency, comparability, and accessibility of the information reported in public financial statements (Lapsley, 1999; Manes-Rossi et al., 2016).

The development of the International Public Sector Accounting Standards (IPSAS or IPSASs) in the late 1990s also stimulated this transition, by providing a common framework for the harmonized application of accrual accounting principles in the public sector (IPSASB, 2022). One of the main goals of IPSAS is to ensure that any public sector entity, including governments, presents a “true and fair view” of its financial position, financial performance, and cash flows in its financial statements (IPSASB, 2022, p. 112). Accordingly, these standards should facilitate more faithful reporting of public financial information, through a depiction of the economic transactions and related phenomena that is complete, neutral, and free from material error (IPSASB, 2014, p. 29). Ultimately, the IPSAS are intended to improve the usefulness of public financial information for accountability and decision-making purposes. Indeed, the primary function of governments and other public sector entities is to deliver goods and services that enhance or maintain the well-being of the public, rather than to generate profits and generate a return on equity for investors (IPSASB, 2014, pp. 4, 14). This implies that:

> A government or any other public sector entity is accountable to those that provide it with resources—i.e., primarily taxpayers—to deliver goods and services. Accordingly, it must satisfy accountability discharging obligations, by providing information about its management of the resources entrusted to it, while demonstrating that its actions and decisions are compliant with legislation, regulation, or other authority that governs it. [...] This information

provided for accountability purposes will then contribute to, and inform, [financial] decision-making (IPSASB, 2014, pp. 14–15).

However, despite an increase in the number of national and subnational governments that have moved to accrual accounting over recent decades, mostly using the IPSAS as a reference, in practice, the scope and outcomes of the reforms remain by and large heterogeneous (e.g., Pina & Torres, 2003; Christiaens et al., 2010; Christiaens et al., 2015). Indeed, the IPSAS are not immediately binding for public entities, which remain free to decide whether and when to incorporate the standards into their national accounting systems and to what extent they wish to do so (Müller-Marqués Berger, 2018, p. 18). Furthermore, accrual accounting principles may also inherently provide some flexibility to policymakers and managers, allowing them to exercise discretion in the recognition, measurement, or disclosure of accounting information, thus reducing its transparency and faithfulness within the bounds permitted by the law (Sun & Rath, 2010; Cohen et al., 2019a). Moreover, the nature of the information a government must or wishes to report by means of its financial statements depends on multiple factors that determine the context in which public action is conducted (Lüder & Jones, 2003). It is also heavily influenced by the different groups of users—or stakeholders—of public information, both within (i.e., the legislature and the executive) and outside the government (e.g., citizens—as service recipients, taxpayers, and voters, public officials, investors and lenders, oversight and regulatory bodies, lobbies, analysts, financial advisors, statisticians, auditors, rating agencies, and media figures), who may advocate in favor of different ways of reporting public financial information, depending on their needs and interests (IPSASB, 2022, p. 25). Therefore, the way in which accrual accounting is applied in the public sector may vary depending on the different objectives or outcomes being pursued (Christiaens et al., 2015).

While institutional settings, rules, and procedures, as well as the outcomes they generate in terms of financial policymaking, have been a major area of research, only recently has attention been specifically directed towards the developments in and evolution of accounting and financial reporting, along with their implications for financial accountability and decision-making (see, e.g., Schmidthuber et al., 2022). Nonetheless, the goal of this thesis is not to examine the workings of government accounting and financial reporting systems in all their theoretical and practical details. Instead, it aims to provide in-depth insights into how key challenges posed by the increased demand for financial accountability in the public sector are being addressed in practice and what the implications of this shift are for financial decision-making. Accordingly, this thesis has three main objectives: (i) to measure the degree of faithfulness of the financial information reported by governments; (ii) to identify factors that induce—or fail to induce—governments to faithfully report public financial information; (iii) to estimate the impact of the faithfulness of the financial information reported by governments on their deficits (i.e., their financial performance).

In order to accomplish these objectives, the cantonal level of government in Switzerland is taken as a case study. Switzerland is a federal state that comprises three levels of governance: the Confederation (central government), the 26 cantons (states or provinces), and the municipalities (local jurisdictions). The cantons and municipalities share the responsibility for delivering public services with the Confederation, while enjoying a certain degree of autonomy. Thus, all three levels of government have a legislature (parliament) and an executive (government). At the subnational levels, the members of both of these bodies are elected by direct suffrage. Furthermore, at the cantonal level, fiscal policy and financial management—including accounting and financial reporting—falls within the competence of each government. The executive branch at the cantonal level is responsible for setting the rules and modalities for preparing and presenting financial statements, while the legislative branch passes the corresponding financial legislation. On two successive occasions between 1977 and 2018, the 26 cantons jointly reformed their accounting systems. The first wave of reforms aimed to harmonize accounting policies by normalizing the use of accrual accounting, while the second wave was explicitly driven by the desire for further alignment with IPSAS. Both reforms consisted mainly of recommendations, leaving it up to each canton to decide whether and when to implement these recommendations through amendments in the legal provisions that set the standards used for accounting and financial reporting. As is the case with any law enacted by parliament in Switzerland's semi-direct democracy, citizens have the ability to influence the government's policymaking to some extent or even to directly oppose the proposed amendments—for example, through an optional referendum. Hence, the sovereignty of the Swiss cantons in financial management and reporting may have allowed them to design a legal framework that reflects the perspectives of both the government and the citizens. However, it may also have encouraged a certain divergence in policy, thus leading to different outcomes. Government at the cantonal level in Switzerland thus provides a particularly suitable and rich context of investigation.

This study makes a number of complementary contributions to the field. First, it develops an innovative and robust index-based methodology that makes it possible to accurately assess, on a quantitative level, the degree of faithfulness of financial information in light of the accrual-based accounting and reporting standards set by a government. Second, it identifies some of the key determinants of faithful financial reporting in a democratic context where the different—and potentially conflicting—views of both citizens (as demanders of public financial information) and governments (as suppliers of public financial information) need to be considered when setting or reforming the legal framework that defines the standards used for accounting and reporting purposes. Third, it provides new insights into how accrual-based accounting and reporting standards can positively affect a government's financial performance and thereby reduce its deficit. Various innovative theoretical and methodological approaches are used to achieve these goals, while novel data are generated and exploited at the level of the Swiss cantonal governments.

This thesis has a cumulative structure. The first part of the manuscript provides a general synopsis of the thesis as a whole, which serves as an introduction to the three essays that follow, establishing the context for the research by adopting a holistic approach. Accordingly, section 2 gives a broad explanation of how accountability mechanisms operate in the public sector and how they subsequently affect the provision of public information. It then clarifies the main stakes behind recent evolutions and developments in public sector financial information systems, from both a theoretical and an empirical point of view, with a special focus on government accounting and financial reporting. It also lays out the current state of the art in the literature in this area. On the basis of the research gaps identified, several research questions are formulated. Section 3 then provides an overview of the level of Swiss cantonal governments from an institutional point of view and with regard to public sector accounting and financial reporting. Section 4 summarizes the methodological approaches and the main results of the three essays that make up the core of this study. Finally, section 5 presents the overall conclusions and a discussion. The second part of the manuscript consists of three essays that successively address each of the three objectives of this research. Figure 1, on the next page, outlines the structure of the thesis.

Figure 1 – Structure of the thesis

Part I — Synopsis

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2 Background

2.1 Accountability in the public sector

2.1.1 Accountability relationships

One of the main features of any public entity[1] is the responsibility it has to safely manage the resources it raises, primarily from citizens, but also from other donors or lenders, in order to provide them with quality goods and services that meet their needs and sensibilities (Moncrieffe, 1998). Correspondingly, one would expect that the exploitation of public holdings by state authorities in the conduct of their duties would be subject to systematic and thorough supervision, so as to avoid deviant or opportunistic behaviors that could conflict with the public interest (Bovens et al., 2008).

The concept of accountability refers to the ways in which those who are delegated power or authority can be kept under scrutiny by the stakeholders on whose behalf they are acting (Monfardini, 2010; Bovens, 2005b). In the public sector context, accountability is defined as a process with three overlapping purposes: (i) controlling for abuse or misuse of public power, (ii) ensuring the sound and respectful use of public resources and adherence to the law, and (iii) fostering continuous progress in governance to better satisfy the public will (Aucoin & Heintzman, 2000, p. 45). From a more political or democratic perspective, the accountability process primarily enables the citizenry, as voters, to: (i) become informed about, (ii) control, and (iii) monitor the decisions and actions taken by government officeholders or representatives, their executive agencies, and civil servants (Moncrieffe, 1998; Dubnick & Yang, 2011).[2]

Principal-agent relations (Jensen & Meckling, 1976; Eisenhardt, 1989; Mayston, 1993; Strøm, 2000; Broadbent & Laughlin, 2003; Schillemans, 2008) and theoretical models of public choice (Buchanan & Tollison, 1972; Barro, 1973; Ferejohn, 1986) provide an appropriate framework

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[1] The term "public entity" mainly refers to national, regional, and local governments, as well as related governmental agencies. However, it does not apply to governmental business enterprises (IPSASB, 2022).

[2] Systems of political representation may differ across democracies, with varying degrees of power delegated by citizens to their government representatives. In semi-direct democratic regimes, citizens elect both the executive and legislative branches of government, while retaining control over and the ability to participate directly in legislative and public policy processes through democratic tools, such as referenda and popular initiatives. In parliamentary or presidential democracies, popular sovereignty is wholly delegated to the government, represented by politicians, and to the administration, represented by collective public officials (Auel, 2008). In parliamentary democracies, elected members of the legislature delegate most of their authority to an executive cabinet whose members are appointed and can be dismissed at any time. In contrast, in presidential systems, the executive is designated by an elected president or prime minister and acts independently of the legislature, following the principle of the separation of powers (Bovens, 2007).

for describing how accountability relationships hold, particularly in a representative political system.[3] From a modern-day perspective, public accountability implies that incumbent members of government, public managers, and civil servants[4] (i.e., agents or subordinates) must legitimize the authority they wield on the behalf of voters (i.e., principals or superiors), by explaining and demonstrating (ex-post) that they have acted in accordance with the power they were granted and have dutifully fulfilled their related obligations. They are subsequently subject to mechanisms of reward (e.g., (re-)election at the ballot box, salaries, promotions) or retribution (e.g., pressure, loss of office), depending on their performance in office.

In practice, however, the accountability process is a complex system, as illustrated in Figure 2. Indeed, three distinct layers of agencies, or chains of delegation, typically coexist. This implies that the government as a whole—i.e., both the executive and the legislature—is monitored by citizens, while the legislature watches over the executive,[5] and the executive over the administration (Chan, 2003). Across these different layers of agencies, accountability relationships are often intricate, variable, and open-ended, making them hard to control and leaving room for abuses of power, especially where information asymmetries exist (Bovens, 2005b; Mack & Ryan, 2006; Mulgan, 2008). Significant discrepancies can therefore persist between the interests advocated by politicians and public officials and the needs of the public. Although members of the government and other public officials should strive to meet the general will as best they can, some may have a vision of welfare that diverges from that of the public. Other self-interested government officeholders and public officials may unscrupulously seek to maximize their own utility (e.g., political agenda, over-supply of public services, career security, information disclosure) or appropriate rents while in office (e.g., ballooning budgets, high salaries) at the expense of the public interest (Pina et al., 2009). This may lead to principal-agent problems, such as moral hazard—that is, concealed information and actions by

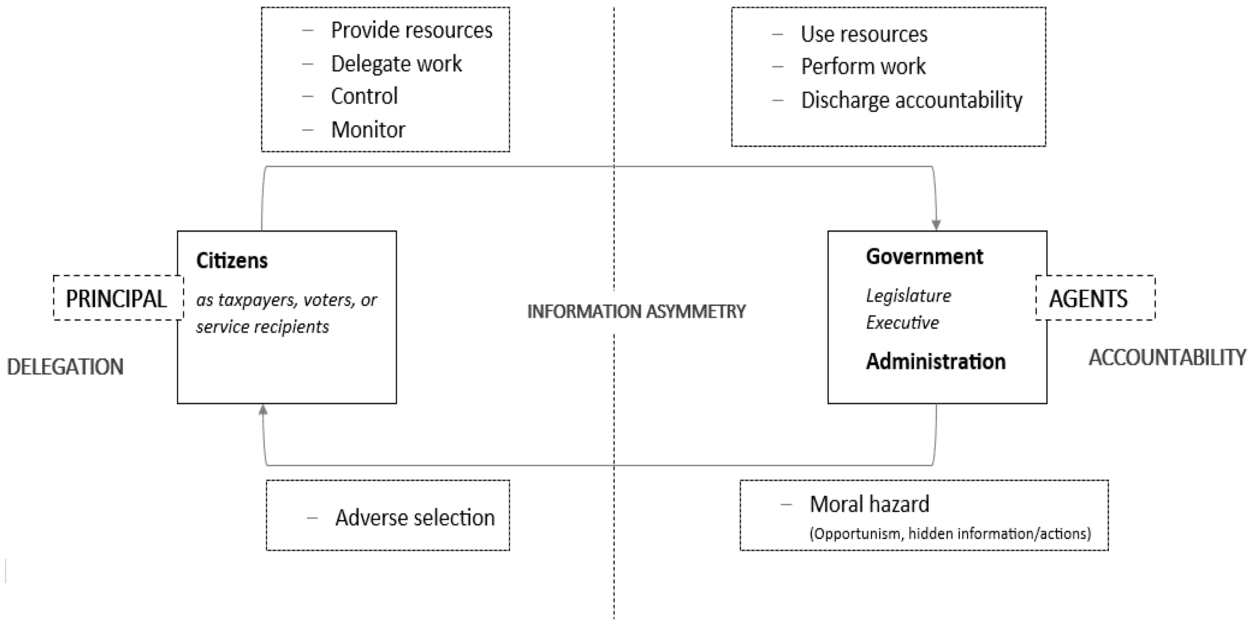
[3] The literature presents three generations of political agency models. Earlier public choice models mainly focused on moral hazard, which refers to the concealed efforts and actions of incumbents (Barro, 1973; Ferejohn, 1986). The basic assumption is that voters will only reward an incumbent if the incumbent meets their chosen standards, in order to impose discipline and reduce rent extraction. The second type of model addresses adverse selection by arguing that politicians can be either self-interested or benevolent. The goal is to select the right type of politician for office based on the observations that voters can make. The most recent and realistic generation of models combines moral hazard with electoral accountability and performance-based voting (Besley, 2006, pp. 2167–2275). In this type of model, elections serve two purposes: to select competent politicians and to provide incentives for significant effort and a reduction in rent-seeking (Buchs, 2020).

[4] Government actors and other public officials are subsequently referred to jointly as public actors or policymakers.

[5] The separation of legislative and executive powers serves the purpose of enhancing accountability as long as the two bodies check and balance each other for the public's benefit (Persson et al., 1997). In this way, the government can also exercise self-control.

incumbents (i.e., the agents) that create inefficiencies, corruption, or authoritarian drift—as well as adverse selection by voters (i.e., the principals) with regard to the type of politicians they elect (Adserà et al., 2003). For this reason, accountability mechanisms should be put in place to ensure that incumbents act in the best interests of the citizens—i.e., their principals in a representative political system.

Figure 2 – A (simplified) scheme for public accountability in a representative political system



Source: My illustration.

2.1.2 Transparency in the disclosure of public information

One of the main accountability mechanisms in democracy works through the disclosure of information (Auel, 2008). However, it may be difficult for voters to evaluate the necessity of making information public, because they cannot directly observe all governmental actions and decisions. This limited knowledge of the government's activities makes it challenging to assess to what extent information is required. Accordingly, voters try to evaluate incumbent politicians using readily available information, rather than relying on unobservable performance or individual competence (Besley, 2004). Indeed, voters update their beliefs and expectations about an incumbent based on previously observed policy outcomes. As a result, the policy choices and related public information can serve as useful signaling device for politicians to distinguish themselves from others (Buchs, 2020). However, as policymakers, incumbents have discretionary power over the content and the amount of information they wish to disclose—

e.g., through open archives, public government sessions, or document publication (Schillemans, 2008; Meijer, 2014). Where such accountability mechanisms are strong, incumbents should be incentivized to continue delivering good policy outcomes (Stevenson and Duch 2013, p. 307). In contrast, a lack of accountability to voters, especially due to asymmetric information, may increase the incentives for incumbents to behave opportunistically.

The transparency of available information therefore constitutes an essential prerequisite for ensuring effective public scrutiny and accountability processes (Meijer, 2003; Bovens, 2007). Broadly speaking, transparency can be defined in terms of shedding light on something to make it apparent or easily understandable (Ball, 2009, p. 295). When used in relation to the functioning of the public sector, the concept of transparency refers to the ability or the will to obtain proper information about what is going on within public organizations, such as governments (Piotrowski & Van Ryzin, 2007). The fundamental idea is that the ability to discern an activity is a precondition for assigning responsibility (Barth & Schipper, 2008, p. 175). From a demand-side perspective, transparency means having unfettered access to relevant, reliable, and timely information on the tasks, decisions, and performance of public organizations (Armstrong, 2005). From a supply-side perspective, transparency is determined by the extent of information that public organizations are willing to provide on their operations, procedures, and decision-making processes (Wong & Welch, 2004).

The transparency of public information can materialize in various ways, including through the passive disclosure of information (i.e., providing access to content that is specifically requested and that would otherwise be inaccessible), the proactive and voluntary disclosure of information, and forced access to information (e.g., leaking or whistleblowing) (Roberts, 2006; Fox, 2007; Meijer, 2014). Moreover, transparency can assume various degrees of intensity, depending on public actors' sensitivities to external demands for information or their willingness to benevolently update stakeholders regarding their activities and policy outcomes (da Cruz et al., 2016).[6] However, in all forms, transparency to some extent promotes the availability of information about public organizations and actors, strengthening and facilitating monitoring by internal or external stakeholders (Grimmelijkhuisen & Welch, 2012; Meijer, 2013).

[6] Public officials are not necessarily disposed to provide as much information as required or needed (Zimmerman, 1977; Pina et al., 2009). They could instead seek to take advantage of information asymmetries by concealing, distorting, or overloading the content provided to the public (Greiling & Spraul, 2010).

2.2 Evolutions, developments, and challenges with regard to public financial information

2.2.1 Main evolutions in the role of public financial information

In 11th-century England, accountability was a feudal concept defining how property holders should list what they possessed in their books to render *a count*—or account—to the king (Bovens, 2005a; Soll, 2014). Although the term has become increasingly detached from its etymological connection with accounting or with the recording of financial information in books—since nowadays it is used in a broader sense—these concepts remain strongly intertwined when it comes to the conduct of public activities (Guthrie et al., 1999; Bovens, 2007).

Originally, financial information in the public sector mainly consisted of a budget and related financial statements.[7] The latter documents were initially created to ensure accountability in the allocation and use of public monies by matching budgeted resources with those received or disbursed by public entities (Saliterer et al., 2017; Steccolini, 2018; Ouda, 2006). They were mainly intended for internal use by legislative bodies, ministers, public managers, or external professionals qualified in public accounting and financial management, such as resource providers, financial analysts, and economists (Guthrie et al., 1999; IFAC, 2000).

Starting from the late 1980s, accountability and transparency in financial matters increasingly became a central issue in the public sector at the global level (Roberts, 2006). This was the result of various events that marked the period, such as repeated political scandals, burgeoning corruption, public sector inefficiency, financial crises, and heightened constraints on sovereign debt management incurred by the enforcement of Maastricht criteria[8] in European countries. Public actors were consequently incentivized to communicate more extensively about financial management and decision-making, in order to regain public trust and legitimacy (Caperchione, 2006; Monfardini, 2010).

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[7] Budgeting is the process by which governments decide *ex-ante* how much to spend on what, in light of available revenue. Accounting and financial reporting in financial statements refer to the process used *ex-post* to determine adherence to the planned budget and assess whether the resources have been allocated and spent as intended (Saliterer et al., 2017; Mack & Ryan, 2006).

[8] The Maastricht criteria refer to a set of criteria set out in the Maastricht Treaty of 1992, which laid the foundations for the European Union's Economic and Monetary Union. These criteria were designed to ensure fiscal discipline among European Member States wishing to adopt the euro currency. They include requirements concerning government debt, budget deficits, inflation, exchange rate stability, and long-term interest rates. Fulfilling these criteria is necessary for a country to qualify for membership of the euro zone.

In addition, this period was characterized by a major paradigm shift in the conduct of public activities, as the emphasis shifted from accountability for processes and policymaking to accountability for services delivered in terms of outcomes and performance (Hood, 1991; Hood, 1995). As a result, the New Public Management (NPM) developed out of the managerial, market-oriented, and neoliberal approaches of the private sector, as a new framework of action for the public sector. The NPM aspired to strengthen the control and monitoring of public activities. It also aimed to furnish public entities with concrete instruments and processes that would enable them to improve the efficiency and effectiveness of service delivery and resource management, in a context of increased budgetary and financial constraints (Hood; 1995; Pérez-López et al., 2015).

This shift made it necessary to adapt financially oriented information in the public sector. It also made it even more necessary to broaden the spectrum of stakeholders able to deal with or challenge such financial content (Guthrie et al., 1999). Public financial information systems, namely budgeting, accounting, and reporting systems, therefore needed to be progressively redesigned in terms of their scope and purpose, so as to offer greater transparency, comparability, accessibility, and thus usefulness for government financial accountability discharging and decision-making (Chan, 2003; Torres, 2004). Specifically, the aim was to provide a more comprehensive and reliable picture of the financial condition of the State to better understand the costs incurred by its interventions, while at the same time improving public governance through more efficient and accountable financial management (Pina & Torres, 2003; Benito et al., 2007; Lapsley et al., 2009). Accordingly, a strand of public sector reforms, commonly referred to as "New Public Financial Management" (NPFM), has focused specifically on modernizing accounting-based financial management techniques. Guthrie et al. (1999) identify five distinct categories of developments in public financial information systems that can be characterized as NPFM reforms (pp. 210–211):

(i) *Changes in financial reporting systems* including the promotion of accrual-based general purpose financial statements[9] at all levels of government and a reliance on professionally established accounting standards;

(ii) *The development of commercially minded, market-oriented management systems and structures* to deal with the pricing and provision of public services, with a focus on

[9] The adoption of general purpose financial statements (or reports) for all types of users has gradually overtaken budgetary systems, generally cash-based, as a sign of transparency and modernization (Pina et al., 2009).

cash management, contracting out arrangements, and internal and external charging and pricing mechanisms;

(iii) *The development of a performance-based approach to measurement*, including techniques such as financial and non-financial performance indicators, output, and outcome performance measures and benchmarking;

(iv) *The decentralization/devolution or delegation of budgets* with an attempt to integrate both financial and management accounting systems, e.g., linking budgets with the reporting of results in financial and non-financial terms;

(v) *Changes in internal and external public sector audit*, particularly in relation to the monitoring of service delivery functions and the provision of reviews on the efficiency and effectiveness of public services, citizens' charters, and program evaluations.

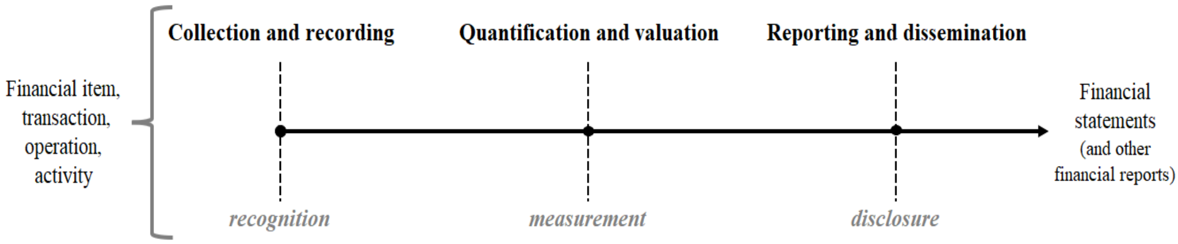
This study focuses on the first category, which relates to changes in accounting and reporting systems.

2.2.2 Public sector accounting and reporting systems: from cash to accrual accounting

Accounting can be defined as a tool encompassing a set of means and processes by which "measurements are made, achievements are documented, [and] negotiations take place" (Lapsley, 1999, pp. 201–202). It provides the technical language needed to successively collect and record (*recognition*), quantify and value (*measurement*), and then report and disseminate (*disclosure*) the financial items, transactions, and other operations or activities of an entity in the corresponding financial statements, as illustrated in Figure 3 (Pina & Torres, 2003; Benito et al., 2007; Bergmann, 2012).[10]

[10] Accounting *recognition* refers to the process of recording or incorporating an item into the financial statements (Warfield & Wild, 1992), while *measurement* refers to the process of associating a monetary amount with the corresponding item recognized in the financial statements (Barth, 2014). *Disclosure* denotes the process of reporting—i.e., making all relevant and reliable information about an entity's transactions, operations, and activities available to the public in a timely manner, either according to specific requirements or on a voluntary basis (Iatridis, 2011). These three main stages of financial information preparation are commonly referred to in the literature as "accounting and financial reporting" or simply as "accounting".

Figure 3 – Stages involved in preparing financial information



Source: My illustration.

Furthermore, it is a useful tool for motivating staff, improving decision-making, and reducing information asymmetries through a combination of disclosure practices (Steccolini, 2018, p. 259; Chan, 2006). However, accounting may also serve different other purposes, such as recording and tracking financial transactions, providing information on an entity's financial performance or assets and liabilities, or assessing an entity's environmental impact. These functions are rooted in a set of broad principles that may be understood or interpreted in different ways, or more stringent rules[11] (Anessi-Pessina & Borgonovi, 2000; Ouda, 2007). Consequently, the use of accounting to produce financial content can vary considerably on the level of the content (what), timing (when), and method (how) for recording information, as these are adapted to the social and economic realities faced by the entity in question (Littleton & Zimmerman, 1962; Guthrie, 1998).

Public financial information systems have traditionally employed two main bases: cash and accrual (IFAC, 2000). The cash basis was the main approach used for public budgeting and accounting until the late 1980s, but early forms of accrual accounting were already found in the 15th century in some Italian cities in Tuscany, in 17th-century Tsarist Russia, and later in 18th-century France and Britain (Platonova, 2009; Bergmann, 2012; Soll, 2014; Fuchs, 2017). However, in the 1980s, accrual accounting gradually imposed itself as a reference and cornerstone for the reform of public sector financial information systems (Guthrie et al., 1999; Pina et al., 2009; Müller-Marqués Berger, 2018).

[11] The principles-based approach provides more theoretical and broader accounting standards to distinguish, for example, between the possible accounting treatments for a transaction. It implies limited interpretation and implementation guidance to encourage flexibility and individual professional judgment. It contrasts with the rules-based approach, which provides very detailed guidance with bright-line tests or specific criteria, implying a more straightforward implementation of accounting standards (Agoglia et al., 2011).

Under cash basis accounting, revenues and expenditures are recognized when cash is received and paid, respectively (Khan & Mayes, 2009, p. 3). Therefore, financial information is provided in a simplified manner and focuses on the volume of cash inflows and outflows, that is, on the level of cash receipts and disbursements, as well as cash balances. By contrast, accrual accounting, which was inspired by business-commercial accounting practices, involves the "recognition of revenue and expenses in the accounting period in which they are earned or incurred, rather than when cash is paid or received" (Guthrie, 1998, p. 5). This means that there exist receivables (assets) and payables (liabilities) for which cash may be received or disbursed at a different time. Under the accrual basis, the transaction is thus no longer defined in terms of the timing of the receipt or disbursal of cash, but in terms of whether the occurrence of the event has an impact, or not, on the current reporting period (Khan & Mayes, 2009).[12]

Each accounting basis has its own benefits and limitations.[13] Cash basis accounting is easy to operate and widely accessible. Only basic skills and knowledge are required to grasp and understand the information from a cash-based system. As a result, the costs incurred for the implementation and use of this accounting basis are low. When cash flows are uniform over time, the information provided on a cash basis is also highly reliable and comparable (IFAC, 2000). This enables a rapid evaluation of compliance with cash budgets and the amount of available cash resources. However, as cash basis only focuses on cash flows over the current reporting period, while sidestepping other resource flows and information on assets and liabilities, it does not allow for a broad, long-term vision of fiscal policy and financial management stances (Khan & Mayes, 2009; IFAC, 2011).

In contrast, accrual accounting provides an accurate framework for assessing the sustainability of financial management and the magnitude of financial commitments made by an entity (Khan & Mayes, 2009). It offers a comprehensive classification of elements by distinguishing between cash versus non-cash transactions, while relegating information on cash flows and liquidity availability to a secondary position (Flynn et al., 2016; Hepworth, 2003; Bergmann, 2012). Furthermore, accrual accounting makes it possible to assess how an entity finances its activities,

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[12] Although related, cash-based and accrual-based figures are not interchangeable. Therefore, cash-based figures cannot be considered as proper proxies of accrual-based figures for decision-making and resource allocation (Cohen et al., 2019a).

[13] The following list of benefits and limitations of cash and accrual basis accounting is not exhaustive. Nonetheless, it does capture some of the arguments that are regularly put forward in the literature. It should, however, be noted that these comments relate specifically to accounting and financial reporting under cash or accrual basis, but not necessarily to budgeting.

as well as how it meets its financial commitments, by providing detailed and consolidated information on its financial position, stocks of assets and liabilities, and net assets/equity (Guthrie, 1998; Paulsson, 2006; Bergmann, 2012). It also enables a more accurate evaluation of the entity's financial performance in terms of service provision costs (i.e., full cost information), efficiency, and effectiveness, albeit with a public sector non-profit orientation (IFAC, 2011; Khan & Mayes, 2009; Guthrie, 1998). This then makes it easier to draw a link with public budgeting and cash management, while also improving the overall reliability and timeliness of reported information (IFAC, 2000; Torres, 2004). Accrual accounting thus offers a clear overview of the current state of public finances, future management perspectives, and potential macro-economic implications, which are useful elements for ensuring resilient financial decision-making (IFAC, 2011; Fuchs et al., 2017). However, it does tend to increase the volume of transactions recognized and the complexity of financial reporting (Hepworth, 2003; IFAC, 2011; Bergmann, 2012). Furthermore, implementing accrual accounting can be more costly than implementing cash-based models, since intensive training and skills development are required of preparers and users who are faced with complex material and practices (IFAC, 2000; Caperchione, 2006; Tickell, 2010). Finally, and most importantly, accrual accounting allows for discretion in the recognition, measurement, and disclosure of financial information, which may encourage policymakers to misallocate economic resources, and subsequently manipulate financial records or documents to achieve personal goals (Pilcher, 2011; Sun & Rath, 2010; Dechow & Skinner, 2000).[14] Such devices are commonly referred to as earnings management, income or performance smoothing, big bath accounting, creative accounting, window-dressing, or political finessing (Stolowy & Breton, 2004; Soguel, 2019). Table 1 summarizes the main advantages and limitations of cash and accrual accounting.

[14] Discretionary decision-making and accounting manipulation have long existed under both cash and accrual accounting. However, they have been found to be particularly pronounced under accrual-based accounting (Stolowy & Breton, 2004). In essence, discretion and accounting manipulation are mostly a matter of the timing and occurrence of transactions. Therefore, they are intrinsically linked to the very nature of accrual accounting (Dechow & Skinner, 2000).

Table 1 – Cash basis vs. accrual accounting: summary of main benefits and limitations of each accounting basis

	Benefits	Limitations
Cash basis	– Easily comprehensible, reliable, and comparable – Only requires basic accounting skills – Allows a rapid evaluation of compliance with cash budgets and availability of cash resources – Low implementation costs	– Sidesteps information on assets and liabilities – Not good at providing an overall long-term vision of fiscal policy and financial management stances
Accrual basis	– Enables the consideration of full costs and investments for a period through a clear classification of elements – Provides a clear picture of both financial position and performance of the entity – Improves asset and liabilities management – Provides forward-looking information and greater incentives for improved financial performance over time – Facilitates linkage with public financial budgeting and cash management – Improves the reliability and temporality of financial information	– Increases discretion in the recognition, measurement, and reporting of information – Increases information complexity – High implementation costs (e.g., system changes, staff training)

Lande & Rocher (2011) argue that, in practice, both pure cash and full accrual basis accounting are seldom used in the public sector. Instead, different hybrid forms of accounting, whether cash- or accrual-based, coexist. These forms are mainly distinguished by the nature and the timing of the recognition of transactions, as shown in Table 2.

Table 2 – Different bases of accounting used in the public sector

	Full cash basis accounting	**Modified cash basis accounting**	**Modified accrual basis accounting**	**Full accrual basis accounting**
Operation recognized	Expenditure and revenue only	Recognition of asset is limited to certain monetary assets and liabilities	Most tangible assets are recognized but only some intangible ones and certain provisions are	All assets and liabilities are recognized
Timing of recognition	Recognition based on the collection or the disbursement	Recognition based on the collection or the disbursement	Recognition in the period based on the operative event	Recognition in the period based on the operative event

Source: Lande & Rocher (2011).

For example, by 2021, the general shift from cash to accrual accounting was already largely underway in many OECD countries, although there were some holdouts that stuck with a cash-based accounting model, as shown in Table 3 (OECD & IFAC, 2017; IFAC & CIPFA, 2021). Nonetheless, full accrual accounting was still not yet entirely established as the norm. Moreover, the nature and extent of progress varied, notably depending on the accounting basis initially used, the centralization of accounting functions, the gaps between the requirements and the implementation of an accrual-based accounting model, and the cost-benefit ratio of making the necessary adjustments (IFAC, 2000; Brusca & Montesinos, 2013; Moretti, 2016; IFAC & CIPFA, 2021).

Table 3 – Basis of accounting in some OECD countries (at the central level)

Cash	**Cash to accrual**	**Accrual**				
Germany	Greece	Australia	Czech Rep.	Hungary	Mexico	Sweden
Ireland	Italy	Austria	Denmark	Iceland	N. Zealand	Switzerland
Luxembourg	Portugal	Belgium	Estonia	Israel	Poland	Turkey
Netherlands	Slovenia	Canada	Finland	Japan	Slovakia	UK
Norway		Chile	France	Korea	Spain	USA

Source: Adapted from OECD & IFAC (2017); IFAC & CIPFA (2021).

2.2.3 The challenge of harmonizing public sector accounting and reporting systems

A global perspective: The development of International Public Sector Accounting Standards (IPSAS)

In the absence of shared incentives, each country initially modernized its accounting and reporting system according to its own needs and capacities, which hindered the introduction of a process of standardization of practices in the recognition and measurement (substance) and reporting and dissemination (form and disclosure) of financial information at the international level (Chan et al., 1996; Brusca & Condor, 2002; Benito et al., 2007). In response, at the initiative of the International Federation of Accountants (IFAC), the International Public Sector Accounting Standards Board (IPSASB) was established as an independent body in 1997 to develop "International Public Sector Accounting Standards" (IPSAS or IPSASs), as generally accepted accrual-based accounting standards for public entities, and to facilitate their adoption and implementation.

The IPSAS are directly inspired by the international accounting and financial reporting standards for the private sector (IAS/IFRS) developed by the International Accounting Standards Board (IASB), but these standards are adapted to the specificities of the public sector (IFAC, 2000; Christiaens et al., 2010).[15] More precisely, the IPSAS are designed to specifically address issues in public sector financial reporting (a) that have not been comprehensively or appropriately dealt with in existing IFRSs or (b) for which there is no related IFRS (IPSASB, 2008).

Furthermore, the IPSAS follow a principles-based approach. This means that they are provided in the form of a set of standards or guidelines/recommendations that are issued progressively (i.e., a total of 43 standards at the end of 2022; for further details, see *Appendix I*) and deal with various aspects of accrual-based accounting and financial reporting.[16] Furthermore, they are limited to providing soft and flexible guidance concerning the best accrual-based accounting practices, which implies that they can be interpreted and adopted in various ways by

[15] IFRSs are developed by the IASB to provide a single set of high-quality, understandable, and enforceable generally accepted international accounting and financial reporting standards. These standards primarily serve the needs of the private sector and, to a lesser extent, those of the public sector. Accordingly, the IPSAS are based on the IFRS, but are intended to be adapted and expanded as necessary for application in the public sector (Aggestam-Pontoppidan, 2011, p. 30).

[16] IPSASs include a comprehensive standard aimed at improving the consistency and comparability of cash basis financial reporting (IPSASB, 2022, p. 1686). This standard serves as an interim step for public entities that plan to move to accrual accounting at some point in the future.

governments and national standard setters (Aggestam-Pontoppidan, 2011; Oulasvirta & Bailey, 2016; Polzer et al., 2022; IPSASB, 2022). The IPSAS are also supplemented by a document entitled "Recommended Practice Guidelines" (RPG), which public sector entities are encouraged to use when preparing GPFRs that are not financial statements. Furthermore, a "Conceptual Framework for General Purpose Financial Reporting by Public Sector Entities" (hereafter "Conceptual Framework"), issued in 2014, brings together all the guidelines and concepts applied by the IPSASB in developing IPSASs and RPGs in a consistent and coherent manner (IPSASB, 2014; Bergmann et al., 2019).

The purpose of the IPSAS is precisely to "enhance the quality and transparency of public sector financial reporting by providing better information for public sector financial management and decision-making" (IPSASB, 2022, p. 13). They are also intended to support the emergence of general purpose financial reports for the public sector (GPFR or GPFRs). Composed of financial statements and other financial reports,[17] GPFRs are intended primarily to satisfy the demands of users who lack the authority to demand financial reports tailored to meet their specific information needs for accountability and decision-making purposes (IPSASB, 2014, pp. 13–14). These primary users are typically identified as citizens, government representatives and administration officials, and other investors and lenders. Nevertheless, GPFRs may also provide useful information to other stakeholders, such as oversight and regulatory bodies, lobbyists, statisticians, auditors, financial advisors, analysts, rating agencies, auditors, and the media, in addition to potentially serving other purposes (IPSASB, 2014, p. 13).

Unless their adoption is explicitly rendered binding, IPSASs are intended to be introduced on a voluntary and flexible basis in the public sector (IPSASB, 2022). This implies that each public entity remains free to introduce, or not introduce, the IPSAS and correspondingly to decide to what extent the standards should be implemented. Consequently, heterogeneous levels of compliance can be achieved by public entities, such as governments, that claim to use IPSAS as a reference (Brusca & Condor, 2002; Benito et al., 2007; Brusca & Montesinos, 2013; Christiaens et al., 2010; Christiaens et al., 2015; Manes-Rossi et al., 2016).

[17] Under accrual accounting, financial statements are composed of a statement of financial position, a statement of financial performance or an income statement, a cash flow statement, a statement of changes in net assets, and notes; in contrast, under cash basis accounting, a cash flow statement is provided along with accounting policies and notes. The other financial reports usually comprise additional information related to financial objectives and service delivery (Müller-Marqués Berger, 2018; IPSASB, 2022; Lorson et al., 2023).

In practice, as part of their transition from cash to accrual accounting, or to enhance harmonization under accrual accounting, countries have chosen to rely on:

(i) IPSAS-based standards (with or without modifications/adaptations)

(ii) Homegrown generally accepted national accounting standards that are broadly consistent with the IPSAS (e.g., the Recueil des normes comptables de l'État [RNCE] in France, the Generally Accepted Accounting Principles [GAAP] in the US, the Government Accounting Standards [IASGB] in India, and the Generally Recognized Accounting Practice [GRAP] in South Africa)

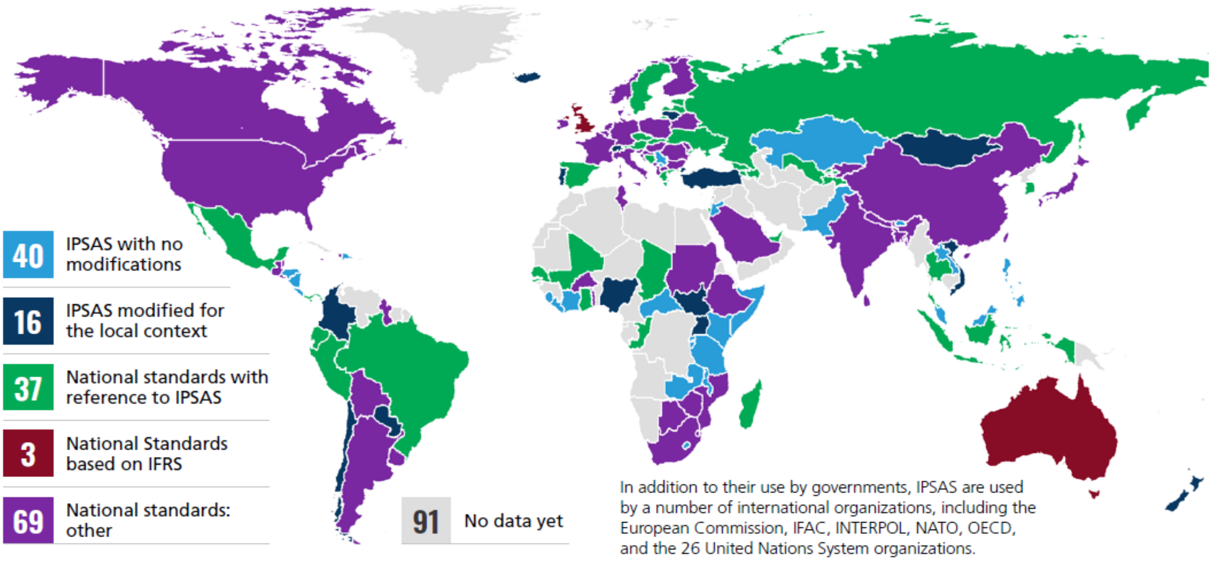
(iii) IFRS-inspired homegrown national accounting standards that are nonetheless adapted to the public sector, and thus to some extent consistent with the IPSAS (e.g., the Australian Accounting Standards [AAS] and the United Kingdom's Central Government Financial Reporting Manual/Code of Practice on Local Authority Accounting).[18]

As Figure 4 illustrates, of the 165 countries that reported on an accrual basis in 2020, a majority of 93 countries (56%) relied on the IPSAS, while 69 (42%) used national accrual accounting standards, and three (2%) opted for IFRS-inspired national accounting standards (IFAC & CIPFA, 2021). However, Figure 4 also highlights differences in the forms of IPSAS adoption around the world. While 40 countries (43%) transposed the IPSAS into their accounting systems without modification (i.e., direct adoption), 16 (17%) adapted the international standards to their own context (i.e., indirect adoption), while 37 (40%) developed homegrown national accounting standards inspired by the IPSAS (i.e., used them as a point of reference).[19]

[18] The Australian Accounting Standards are consistent with IFRS, but include a specific standard for public sector accounting. In the UK, standards are primarily based on the accounting and disclosure requirements of the Companies Act 2006 and the IFRS as adopted by the EU, with modifications where necessary. The IPSAS form the second tier of accounting guidance and are applied where the IFRS do not address an issue specific to the public sector. The Financial Reporting Standards issued by the Financial Reporting Council are also used for local government (IPSASB, 2022).

[19] As illustrated in Figure 4, Switzerland adheres to the IPSAS framework in accordance with a modified approach that is tailored to the specific circumstances of the subnational level (for further details, see section 3).

Figure 4 – Global adoption of various forms of accrual-based generally accepted accounting standards



Source: IFAC & CIPFA (2021), p. 3.

Several studies have also documented the adoption of IPSAS, either comparatively across countries or through single-country case studies focusing on the evolution of practices and the remaining gap with regard to full alignment with these standards (see *Appendix II*). Accordingly, various explanations have been given for the heterogeneity in the forms of IPSAS adoption observed around the world, including: the lack of formal initiatives (Oulasvirta, 2014; Baskerville & Grossi, 2019) and cohesion among national stakeholders (Gomes et al., 2015); the general and subjective nature of the standards, which makes them open to different interpretations (Aggestam-Pontoppidan & Andernack, 2016), resulting in different accounting solutions, especially when the standards are translated from English into other languages (Bellanca & Vandernoot, 2014; Brusca et al., 2013); the high level of technicality of the IPSAS (Cohen et al., 2021b); the fact that they do not always provide appropriate responses to the specific conditions in the public sector (e.g., recognition and measurement of social benefits, pension liabilities, tax revenues, heritage assets, and non-exchange revenues and expenses) (Bellanca, 2014; Bisogno et al., 2019); the reduction of national sovereignty in standard setting (Christiaens et al., 2015); and their time-consuming and costly implementation (Bellanca & Vandernoot, 2014; Schmidthuber et al., 2022; Caruana, 2021).

To be sure, while IPSAS adoption offers many advantages, it also presents disadvantages and shortcomings. Nevertheless, these standards are generally used as the main reference point for the application of accrual accounting in the public sector, not only practically (e.g., when setting national accrual-based accounting standards or developing related European Public Sector

Accounting Standards, as discussed in the next subsection), but also in the theoretical and empirical literature on the subject (cf. subsection 2.3). This justifies the focus on IPSAS in this study.

A European perspective: The development of European Public Sector Accounting Standards (EPSAS)

In the European context, the 2008 financial crisis highlighted the need for further harmonization of public sector accounting and financial reporting across Member States in order to improve the transparency of information and the quality of government financial statistics, while facilitating the comparison of deficit and debt indicators across countries (Lorson et al., 2023, p. 464).

Accordingly, in 2011, the Council of the European Union (EU) adopted a set of five regulations as well as Council Directive 2011/85/EU on requirements for budgetary frameworks, with a view to strengthening economic governance and stability (commonly referred to as the "Six-Pack") (European Parliament, 2011). The Directive requires Member States to establish accounting and reporting systems that cover all subsectors of general government and produce the information needed to compile accrual data for national accounts (Lorson et al., 2023, pp. 464–466).

To this end, a new set of European Public Sector Accounting Standards (EPSAS), also using IPSAS as a point of reference and thus based on accrual accounting, has been proposed as a solution. The development of EPSAS has been presented as a suitable alternative that should allow the EU to create its own conceptual framework adapted to its context, while safeguarding the sovereignty and identity of Member States for the issuance of homegrown accounting standards (Caruana et al., 2019). However, while the process of developing EPSAS has been ongoing over the last decade, no conceptual framework or standards have yet been issued.

2.2.4 Faithful representation of public financial information

Transparency has never been specifically defined in relation to accounting information and financial reporting. However, the concept has been indirectly introduced and discussed, notably with reference to the definition of qualitative characteristics of reported financial information in both the private and the public sectors (Barth & Schipper, 2008).

Originally, the general guidance on the fundamental qualitative characteristics of the reported financial information emanated from the private sector (see, e.g., Alexander & Archer, 2003). The

IASB, which develops and revises IFRS accounting standards for the private sector, initially specified that useful financial information should satisfy two fundamental characteristics: *relevance*, in that it makes a real difference to users' decisions (IASB, 2018, p. A25), and *faithful representation* of the substance of the economic phenomena that it purports to represent (IASB, 2018, p. A26). In contrast, *comparability*, *verifiability*, *timeliness*, and *understandability* should be considered supporting qualitative characteristics, because they are limited to enhancing the quality and usefulness of financial information (IASB, 2018, p. A25).

The development of IPSAS has further clarified the qualitative characteristics of financial information and adapted them to the public sector context. Accordingly, Chapter 3 of the IPSASB's Conceptual Framework (2014) is dedicated to the qualitative characteristics of financial reporting by public entities. *Faithful representation* is also designated, along with *relevance*, *understandability*, *timeliness*, *comparability*, and *verifiability*, as a main qualitative characteristic that the reported financial information should satisfy in order to be useful for accountability and decision-making purposes. However, the IPSASB departs from IASB's position in that it considers all qualitative characteristics to be complementary and to work together to contribute to the usefulness of the information. It nonetheless clarifies that "in practice, all qualitative characteristics may not be fully achieved" (IPSASB, 2014, p. 28, §3.4). Indeed, "the relative importance of the qualitative characteristics in each situation is a matter of professional judgment [since] the aim is to achieve an appropriate balance [or trade-off] among the characteristics in order to meet the objectives of financial reporting" (IPSASB, 2014, p. 34).[20]

Regarding *faithful representation*, the third chapter specifies that "to be useful in financial reporting, information should be reported in a way that "[faithfully depicts] the phenomena that it purports to represent" (IPSASB, 2014, p. 29). Thus, *faithful representation* occurs when an economic or other phenomenon captures the substance of the underlying transaction, other event, activity, or circumstance—which is not necessarily always the same as its legal form (IPSASB, 2014, p. 29).[21] More specifically, *faithful representation* requires that the reported financial information be: (i) *complete*, implying no omission of information that may cause the

[20] This study focuses specifically on faithful representation, both because it is a key condition for ensuring the fair presentation of financial statements (see IPSASB, 2022, p. 112, IPSAS 1—Presentation of Financial Statements) and because of the direct implications this characteristic may have for the transparency of financial information. However, the goal is not to overemphasize the importance of this qualitative characteristic relative to others.

[21] In principle, the substance of an economic or other phenomenon and its legal form should be the same. However, if they are different, providing information only about the legal form would not allow a faithful representation of the economic or other phenomenon.

representation of an economic or other phenomenon to be false or misleading, and thus not useful (p. 29, §3.12); (ii) *neutral*, meaning without bias to ensure that the selection and presentation of financial and non-financial information is not intended to attain a particular predetermined result, such "as influenc[ing] in a particular way users' information assessment of the discharge of accountability by the entity or a decision or judgment to be made, or to induce a particular behaviour" (p. 29, §3.13);[22] (iii) *error-free*, which does not imply complete accuracy in all respects, but rather the absence of material errors or omissions in the description of the phenomenon and in the process used to produce the reported information (p. 29, §3.15).

The IPSASB (2014) notes, however, that it in practice may be difficult to accurately know or confirm whether the reported financial information is actually complete, neutral, and free from material error (p. 29). Indeed, the extent to which faithful representation—like any other qualitative characteristic—can be achieved "may differ depending on the degree of uncertainty and subjective assessment or opinion involved in compiling [financial information]" (IPSASB, 2014, p. 28). Therefore, if it is to be faithful, the phenomenon depicted should reflect the best available information (IPSASB, 2014, p. 29).

2.3 State of the art of the literature

The move towards accrual accounting, often based on IPSAS, has been achieved by means of major processes of accounting reform undertaken by international governments. However, heterogeneous outcomes have been observed, not only in terms of content, but also in terms of the pace of change, as reform processes are often incremental and progressive (Cohen et al., 2021a). As a result, diversified national sets of standards have emerged over time, albeit converging towards the same principles (Brusca & Martínez, 2016). Various single-country (e.g., Christiaens, 1999; Carvalho et al., 2007; Anessi-Pessina et al., 2008) and comparative empirical studies (e.g., Lüder, 1992; Chan et al., 1996; Brusca & Condor, 2002; Lüder, 2002; Brusca & Martínez, 2016; Mnif Sellami & Gafsi, 2019; Gómez-Villegas et al., 2020) have attempted to assess and explain the different outcomes of government accounting reforms. Several structural elements (e.g., institutional, cultural, financial, political, sociodemographic, technical, and administrative) (see Lüder, 1992; Chan et al., 1996; Lüder, 2002), environmental pressures (e.g., Jones & Caruana, 2016), as well as producers and users' information needs and

[22] Neutrality does not, however, mean that it is without purpose or that it will not influence behavior, as information, by definition, should be able to influence users' judgments and decisions if it is to be considered relevant (IPSASB, 2014, p. 29, § 3.14).

expectations (van Helden & Reichard, 2019) have been identified as crucial, because they either foster accounting innovations (i.e., incentives) or hinder this modernization process (i.e., barriers) (e.g., Brusca et al., 2016). Therefore, an analysis of these elements on the basis of the existing literature is necessary in order to develop an understanding of the patterns and outcomes that characterize the evolution of government accounting systems, which is the goal of this study. The following part of this subsection provides an overview of existing studies that may be relevant to achieving the goals of this thesis, namely: (i) to measure the degree of faithfulness of the financial information reported by governments; (ii) to identify factors that induce—or fail to induce—governments to faithfully report public financial information; (iii) to estimate the impact of the faithfulness of the financial information reported by governments on their deficits (i.e., their financial performance). It does not attempt to provide a systematic review, but only presents a selection of works.

Administrative systems and the cultural approach to accounting

Although government accounting systems vary, they can be classified into three broad categories according to their administrative tradition: Continental, Anglo-Saxon, and Nordic (Roje et al., 2010; Pina & Torres, 2003). The Continental category comprises European countries (e.g., Italy, Portugal, Spain, Greece, Switzerland, Belgium, Austria, France, Germany) characterized by a strongly legalistic approach to public sector administration known as the "administrative law model" or the "rule by law approach." The establishment or reform of accounting and reporting standards is not implemented directly, but is incorporated into laws, administrative directives, and other regulations through bureaucratic processes (Pina & Torres, 2003; Torres, 2004; Brusca et al., 2013; Rauskala & Saliterer, 2015; Jorge et al., 2019). In this first category of countries, the primary objective of accounting reforms has been to improve legal control and accountability mechanisms by strengthening external information tools, such as financial statements, through enhanced faithfulness in financial reporting (i.e., legal accountability). In contrast, in Anglo-Saxon countries (e.g., Australia, Canada, New Zealand, the United Kingdom, and the United States), where common law legal systems prevail, the establishment of accounting standards and related regulations is mainly driven by private professional accounting bodies (Pina & Torres, 2003; Jorge et al., 2019). Rooted in a market-oriented approach, this model holds that financial reporting should provide external stakeholders with useful information about internal management. Therefore, accounting and financial reforms have been focused on accountability for cost control, efficiency, and effectiveness in public service delivery (i.e., managerial or economic accountability) (Pina &

Torres, 2003; Roje et al., 2010). The Nordic tradition (Denmark, Finland, Norway, Sweden, the Netherlands) is similar to the Anglo-Saxon model, but relies on a more hybrid approach. In the Nordic countries, the highly decentralized public administration is primarily focused on meeting the needs of citizens, while political processes are strongly tilted towards the disclosure of information (Pina et al., 2009). Therefore, both internal management accounting and external financial reporting tools have been oriented towards "results management" in order to improve the efficiency and effectiveness of government and its agencies, while ensuring political accountability (Lüder, 2002; Torres, 2004; Pina et al., 2009). Moreover, the accounting reforms implemented in the Nordic countries have mainly relied on processes of discussion and negotiation rather than legislative consultations (Pina & Torres, 2003; Torres, 2004; Bellanca & Vandernoot, 2014; Oulasvirta, 2014).

Institutional organization and environmental pressures

The institutional organization of the public sector can also provide certain insights that explain the dynamics surrounding the evolution of government accounting systems (Lüder, 1992; Vela & Fuertes, 2000; Brusca & Condor, 2002; Cohen et al., 2019b). For example, the structure of the state (e.g., unitary, federalist), the autonomy granted to the different levels of government (national, regional, local), especially with regard to fiscal and financial matters, or the degree of (de)centralization and externalization of public activities can all strongly influence a government's decision to move towards more informative financial reporting in a bid to better support internal monitoring and external accountability. However, this only applies if public sector accounting reforms are considered to be driven by efficiency-centered concerns and free rational choice, not if they result from institutional legitimacy-seeking (Modell, 2009). Indeed, the use of accrual or IPSAS-based accounting standards can also be viewed by governments as a formal way of gaining trust and external support through the adoption of "socially valued" or "institutionalized" norms, in response to pressures and expectations for increased public sector transparency and accountability, regardless of their appropriateness to the context in which activities are carried out (Meyer & Rowan, 1977; DiMaggio & Powell, 1983; Pina et al., 2009). For this reason, the international convergence of government accounting standards may also result from the fact that reforms are more of a symbolic process undertaken unevenly by governments—by mimicry or coercion or for normative reasons. Governments may intend to signal their ability to align with institutional requirements imposed by their operating environment, rather than genuinely seeking to improve the transparency and efficiency of their financial management (e.g., Lande, 2006; Jones & Caruana, 2016; Brusca et al., 2013; Mnif Sellami & Gafsi, 2019; Gomes et al., 2019; Gómez-Villegas et al., 2020).

Political context

Politicians seek to maximize the votes they receive and thus their chances of electoral success. They are therefore subject to constant competitive pressure, which can manifest itself either within or between political parties or government bodies. As Lüder (1992) argues, in this context, accounting systems can play a key role in the accountability process by contributing to a reduction in information asymmetries through the transparent and faithful reporting of information related to financial decision-making or performance. This facilitates the ex-post financial monitoring meant to ensure that political promises have been fulfilled through sound public financial management. However, the impact of the political context on the evolution of governmental financial reporting is uneven. Some scholars assert that political competition provides a greater incentive for discharging financial accountability through the adoption of generally accepted accounting standards (Evans & Patton, 1987) or the development of other effective channels that ensure the transparent dissemination of public information (e.g., Baber, 1983; Ferejohn, 1999; Alt et al., 2006; Sol, 2013; Caba-Pérez et al., 2014). In contrast, other scholars claim that a lack of political consensus can translate into the reduced accessibility of information for reasons of credibility of power positions and confidence (e.g., Grimmelijkhuisen & Welch, 2012). If we take into account the selection process of government representatives, through election or by appointment, the influence of political competition on financial reporting remains mixed (Ingram, 1984; Lüder, 1992). In a context of strong political competition, elected members of government who are directly accountable to the public may have a greater incentive to improve accounting and reporting systems in order to better communicate about their activities and decisions than appointed members who are directly accountable to a smaller circle of stakeholders, such as members of parliament, a prime minister, or a president. Conversely, incumbents may be more reluctant than appointees to communicate extensively about their activities in order to maximize their chances of remaining in office (e.g., Cohen et al., 2019a).

Financial context

After decades of rising public deficits and recent sovereign debt crises, improving financial sustainability has become a primary objective at all levels of government. However, the issues raised for public sector accounting and reporting are tackled differently in different countries.

The precise approach adopted mainly depends on the extent to which governments consider the prevailing financial context to be favorable, or at least justifiable, and to what extent they wish to strengthen accountability in financial management through the implementation of more rigorous accounting standards (e.g., Ingram, 1984; Rodríguez Bolívar et al., 2013). It also depends on how governments perceive the impact of financial reporting on key elements of financial sustainability, such as the estimation of debt, assets, and liabilities (Brusca & Martínez, 2016), as well as consolidation and financial guarantees (Bergmann, 2014; Gomes et al., 2019), or the level of risk estimated by stakeholders in financial markets (Heald & Hodges, 2015). This means that some governments are more inclined to set accounting standards that ensure that financial realities are faithfully and accurately depicted, while others try to maintain control over their accounting practices by continuing to use accounting devices such as fiscal illusions, one-off measures, creative accounting operations, and reclassifications (Koen & van den Noord, 2005; Guillamón et al., 2011; Irwin, 2012; Brusca & Martínez, 2016). This allows them to keep open the possibility of presenting a more favorable financial picture than is actually the case, albeit at the risk of providing incomplete or distorted information that would lead to erroneous decisions (Bergmann, 2014) and mistrust in public financial reporting (Fuchs et al., 2017).

Technical and administrative capacity

Larger governments[23] dispose of more resources and deliver more public goods and services to the population (Baber, 1983). As the number of citizens increases, so too does the number of people with an interest in monitoring government activities and performance (Lüder, 1992). Accordingly, larger jurisdictions often opt for more transparent forms of disclosure of information about their activities and results, especially in the financial sphere (e.g., Guillamón et al., 2011; Sol, 2013; Araujo & Tejedo-Romero, 2018; Rodríguez Bolívar et al., 2013). Yet when it comes specifically to the implementation of sophisticated accounting reforms that involve important technical and material adjustments, evidence concerning the role of governmental capacity is mixed. As larger governments manage larger amounts of public funds and are thus called on to give an extensive account of them, the use of accounting practices that favor the disclosure of financial information disclosure, such as accrual accounting, can constitute goodwill (e.g., Christiaens, 1999). However, the technical (e.g., qualifications and

[23] Government capacity, or size, is usually expressed in terms of the population, government bodies (e.g., number of representatives in a decision-making body), or administration (e.g., number of departments or employees).

training of accounting staff, IT, and other material purchases) or administrative adaptations (e.g., changes in procedures, design of new financial documents) required by advanced accounting reforms generally entail higher costs, which may slow down or even prevent larger governments from implementing them (Lüder, 1992). Therefore, such processes may sometimes be faster and more successful in smaller countries, or at lower levels of government—either regional or local (e.g., Evans & Patton, 1987; Carvalho et al., 2007). These findings are contradictory, mainly because the shift towards greater disclosure of financial information may also depend on other subfactors (e.g., technical or organizational complexity, openness or resistance to change and reform agendas, eagerness to learn and train among administrative officials and accounting staff, pace of adaptation or transition), which can reveal either positive or negative in a given context (Christiaens, 1999).

Citizens as primary users of public financial information

The intention behind the convergence of government accounting towards internationally harmonized standards is to tackle the challenge of meeting the needs of the many users of public financial information by developing more comprehensive and integrated forms of reporting, based on the specificities of the public sector, where the achievement of societal objectives is the core concern (van Helden & Reichard, 2019, p. 482). Therefore, citizens should be identified as the primary users of a government's financial information. In this capacity, they wear several different hats: They are taxpayers who provide public financial resources, service recipients who inform themselves about the costs of public interventions and financial conditions, and voters who control and monitor government programs and policies in order to reward—or sanction—government actors at the ballot box (van Helden & Reichard. 2019; Pina & Torres, 2003; Brusca & Montesinos, 2006; Cohen & Karatzimas, 2015). This means that addressing their information needs, especially in terms of understandability and transparency, is essential in the context of government accounting reform. However, citizens may have different levels of interest in governmental activities, and therefore different levels of information demand (Piotrowski & Van Ryzin, 2007). In addition, they may hold very different positions on a given policy issue, based on their own characteristics, ideology, or beliefs and values (see, e.g., Lipset & Rokann, 1967).

Citizens are considered to be one of the most important groups who use public financial information, that remains particularly under-researched (van Helden & Reichard, 2019). Nevertheless, the literature has notably highlighted that their socioeconomic status, expressed in terms of education level or income, can explain citizens' attitudes towards greater transparency in the provision of public sector financial information (Chan & Rubin, 1987; Lüder, 1992). For example, individuals with a high socioeconomic status tend to be high-income earners with higher tax demands. They are concerned with the quality of management of public monies, in terms of performance (i.e., costs and revenues), but also in terms of debt management. Moreover, individuals with a high socioeconomic status are prone to develop a critical and analytical attitude towards government activities and decisions, especially in relation to public financial management. In addition, cultural beliefs about the role of the state and citizens' trust in public interventionism influence the importance they attach to fighting corruption or seeking political legitimacy. Citizens' demands for greater financial accountability and transparency may therefore vary according to the perceived stringency of existing standards of good governance (Brusca et al., 2017; Cuadrado-Ballesteros et al., 2020). Furthermore, the degree of citizen participation in the political process (e.g., the existence of democratic mechanisms such as popular initiatives, referenda, direct election of government officials, etc.) may also drive the demand for more informative public financial reports to enhance their supportive role in public decision-making and governance (Lüder, 1992; Brusca & Montesinos, 2006; Cohen & Karatzimas, 2015; Cohen et al., 2017).

Synthesis

In summary, the literature on public sector accounting and reporting has grown considerably over the last four decades. It covers a growing volume of publications built upon several investigation areas and different research settings. As an example, on the next page, Table 4 provides a summary and classification of the peer-reviewed literature used in subsections 2.2 and 2.3 (for further details, see *Appendix II*).

The research focus of these various studies is the modernization of government accounting systems, either in a broad sense or, in most cases, through more specific issues such as the implementation of accrual accounting or IPSAS-based accounting reforms. Empirical studies outweigh descriptive ones, which are generally based upon theoretical, conceptual, or normative approaches (45 of 66). As Costa (2000) explains, accounting research was initially essentially critical and prescriptive. Its aim was to select, on a purely speculative basis, the principles and methods considered most relevant. Since the late 1960s, with the aim of evaluating these normative works, accounting research has gradually moved towards an empirical approach and strengthened its scientific basis. However, the theorization and conceptualization in public sector accounting research has remained a gray area that has, until recently, received little attention in the literature (Goddard, 2010; Fuchs, 2017; Bergmann et al., 2019).

Table 4 – Summary and classification of relevant literature on government accounting and reporting standards, accrual accounting, and IPSAS-based accounting reforms used in subsections 2.2 and 2.3

Research focus	
IPSAS	21
Accrual-based accounting reforms	19
Accrual-based accounting reforms, IPSAS	13
Governmental accounting, in general	13
	66
Research approach	
Empirical	45
Descriptive (i.e., theoretical/conceptual/critical/normative)	21
	66
Case selection	
Comparative approach (e.g., countries, jurisdictions, organizations)	27
General approach (e.g., experts', professionals', or academics' points of view)	20
Single-country approach	19
	66
Research methods	
Qualitative (e.g., surveys, historical or descriptive case studies, participatory observation)	42
Quantitative (e.g., index-based methods, multivariate descriptive statistics, regression models)	19
Mixed methods	5
	66
Level of government	
National/supranational	39
Local governments	11
Central governments	7
Central & local governments	5
Regional governments	4
	66

Furthermore, a large share of studies (27 out of 66) provide comparative-based evidence. Indeed, the latter makes it possible to draw shared lessons from—or contrast the experiences of—countries, jurisdictions, and organizations sharing similar or different features (e.g., administrative culture, geographical proximity). The methodologies used in comparative studies chiefly include qualitative surveys and quantitative statistical analysis, or mixed methods.

Alternatively, some other studies (20 of 66) focus on the perceptions or experiences of experts, professionals, or academics with recent changes in public sector accounting and reporting systems. One of the main objectives of this category of studies is to investigate how these key stakeholders perceive, explain, or apprehend the modernization of public accounting and reporting, either in the context of specific countries or in a holistic way.

As for single country studies, it is the least represented category in the sample (19 of 66 studies). Single-country studies focus mainly on European countries (e.g., Spain, Portugal, Italy, Belgium, Switzerland, Sweden, Finland, Malta, Greece) and Anglo-Saxon countries (e.g., Australia, New Zealand). Like comparative research, single-country studies rely on various research methods. These are mainly qualitative, but also include quantitative statistical analysis or mixed methods. Table 4 also indicates that studies conducted at the supranational or national levels (e.g., European level, central level of government) far outnumber those conducted at subnational institutional levels (e.g., regional, local levels of government).

2.4 Research questions

This thesis builds on a positivist approach, as it aims to describe, explain, and predict the accounting and reporting decisions of producers and users of financial information in order to shed light on the genesis of public financial statements (Casta, 2000; Watts & Zimmerman, 1978; Jeanjean & Ramirez, 2009). To this end, several gaps in the existing literature are identified and, on this basis, specific research questions are formulated to achieve the interrelated objectives of this research in three successive essays, namely: (i) to *measure* the degree of faithfulness of the financial information reported by governments; (ii) to *explain* the degree of faithfulness of the financial information reported by governments; (iii) to *estimate* the impact of the faithfulness of the financial information reported by governments on their deficits, i.e., their financial performance. This approach is complemented by a multi-stage, quantitatively oriented methodological design, involving successive stages of observation of practices (*Essay 1*), definition of testable hypotheses (*Essay 2*) or identification of key theoretical assumptions (*Essay 3*), and use of econometric and statistical modelling to empirically test and validate (or invalidate) them (*Essays 2 and 3*). The remainder of this subsection therefore shows how the goals of the three essays are articulated on the basis of the gaps identified in the literature and the related research questions raised.

<u>Goal 1</u>: **Measuring the degree of faithfulness of the financial information reported by governments** (*Essay 1*)

Many studies have assessed the accounting standards adopted by national or subnational governments as part of reforms that aim to move towards the more rigorous application of accrual accounting. Some scholars have sought to assess government accounting reforms or innovations but have done so by relying on national or local accounting criteria or benchmarks that are not necessarily relevant or common in other contexts (e.g., Christiaens, 1999; Carvalho et al., 2007). Other scholars have focused on the direct compliance between homegrown accounting models and IPSAS (e.g., Brusca & Condor, 2002; Benito et al., 2007; Christiaens et al., 2010; Christiaens et al., 2015). However, these predominantly qualitative studies remain purely descriptive and limit themselves to pointing out potential points of convergence or divergence in government practice. Only a few recent studies (e.g., Pina and Torres, 2003; Pina et al., 2009) have applied quantitative index-based methods to assess the harmonization of accrual-based public sector accounting in several countries, using IPSAS as a universal benchmark. However, as in most index-based studies, the different criteria used for the assessment, were assumed to be equally important and therefore unweighted. At the same time, ignoring the potential differences in importance between criteria could affect the accuracy of the measurement (Hassan & Marston, 2019). Furthermore, the literature to date has not specifically addressed how to quantitatively assess the convergence of IPSAS-based standards, particularly in terms of financial reporting faithfulness. This raises a first research question:

- *RQ1: Are the criteria used to assess accounting standards of unequal importance? That is to say, does the impact they have on the faithfulness of the reported financial information differ?*

The literature also suggests that accounting reform processes are often incremental and implemented sequentially, especially when governments benefit from some implementation margin or leeway (Brusca & Martínez, 2016; Cohen et al., 2021a). However, it remains unclear whether accounting standards tend to harmonize and evolve concomitantly (i.e., linearly) through the different reform stages or whether jurisdictions tend to follow different evolutionary paths. Thus, a second research question is formulated:

- *RQ2: In cases where jurisdictions have some degree of autonomy for deciding their accounting standards, can a significant diversity be observed among them?*

Against this backdrop, the first essay aims to develop a new, quantitative, index-based method for accurately measuring the extent to which governmental accrual accounting standards have been converging towards practices that offer greater financial faithfulness over time or over reforms, while using IPSAS as a benchmark. It also aims to examine whether accounting standards tend to harmonize and evolve concomitantly through the different stages of reform.

If this turns out to be the case, it will go on to determine how linear or different the pace of evolution observed among jurisdictions is.

Goal 2: **Explaining the degree of faithfulness of the financial information reported by governments** (*Essay 2*)

The information that a government wants to publish or must report through its financial statements is determined by the context in which public action takes place, as well as by the needs and preferences of the primary user groups, both within and outside the government (e.g., citizens, investors, lenders) (Brusca et al., 2015). Previous studies based on agency, institutional, or legitimacy theories have mainly focused on governments when explaining the outcomes of accounting and financial reporting reforms implemented at central or subcentral levels. However, in addition to the perspective of government, such outcomes also depend on a range of other primary stakeholders of public financial information (i.e., users/demanders, such as citizens, managers, investors and lenders, oversight and regulatory bodies, lobbies, analysts, auditors, the media) with different needs and interests (IPSASB, 2022), which unfortunately remain largely under-researched (van Helden & Reichard, 2019).

In many continental European countries, the functioning and accountability of the public sector are governed by an administrative law model of governance. Legislation provides the framework for financial management and the provision of related financial information. Thus, financial and accounting reforms are primarily implemented by means of legislative revisions or amendments (Jorge et al., 2019). As political processes, any legislative-based accounting reforms should therefore primarily consider the views of governments and, to some extent, citizens (as voters, taxpayers, and service recipients) in a democratic context. Indeed, citizens are involuntary providers of financial resources who do not make a decision about whether or not to pay taxes and who also do not benefit from a direct exchange relationship between the resources provided and the services received (Brusca and Montesinos, 2006, p. 205). Public financial reports thus represent a key accountability tool that allows citizens to scrutinize government decisions and assess whether the government has acted in accordance with its responsibilities and fulfilled its related obligations. Such information is particularly important for citizens when making electoral decisions. However, in practice, government representatives may not be willing to benevolently provide all the necessary or expected information, particularly regarding financial management (Pina et al., 2009). They may instead seek to exploit any information asymmetry resulting from a limited or oversimplified provision of financial content to serve their own political interests (e.g., rent-seeking, re-election). This means that both parties may have differing views on how and to what extent public financial information should be disclosed, which can lead to inconsistent policy outcomes. Therefore, the following research question is raised:

- *RQ3: What factors drive—or do not drive—the use of governmental accounting and reporting standards that increase the faithfulness of public financial information?*

The second essay aims to provide a novel and politically oriented empirical perspective on this matter, building on two distinct political theories that are seldom combined in public sector accounting and reporting research.[24] On the one hand, the political cleavage theory (Lipset & Rokann, 1967) is used to derive testable hypotheses about factors that stem from citizens, as primary demanders of public financial information. This theory posits that cleavages have historically existed along various sociocultural fault lines in Western societies. These cleavages create ideological, identity, or politicization-based partitions among citizens (or voters), leading them to position themselves into blocs that advocate for or against any specific political issues, such as reforms of public finances. On the other hand, public choice theory (Buchanan & Tollison, 1972; Barro, 1973; Ferejohn, 1986) is employed to establish several testable hypotheses regarding factors related to governments, which are the main suppliers of public financial information. This alternative theory provides valuable insights that help explain how government representatives negotiate the trade-off between setting accounting and reporting policies, whether to enhance the faithfulness of the depiction of financial reality in their financial statements, in accordance with demand, or to make it possible to adapt the reported financial information to their own interest.

[24] As Bergmann et al. (2019) explain, there is no significant consensus on the theoretical framework that should be applied in public accounting research. Researchers have therefore traditionally drawn upon various theories from other disciplines, such as political science (e.g., accountability, political legitimacy theories), economics (e.g., public choice, institutional economics, utility, agency, transaction costs, micro/macroeconomic theories), sociology (e.g., grounded, sociological, (neo)institutional/isomorphism, critical Habermas theories), organization studies (e.g., organizational decision-making, resource dependency, contingency theories), and the "NPM theory," which generically refers to a combination of several of these theories.

Goal 3: **Estimating the impact of the faithfulness of the financial information reported by governments on their deficits, i.e., their financial performance** (*Essay 3*)

Around fifty years ago, amid rising public deficits[25] and excessive debt in most countries, a large body of literature emerged that aimed to better understand government fiscal outcomes. It used the political economy of fiscal deficits, embedded in the school of public choice, as a theoretical framework.[26] According to this literature, the existence of conflicts of interest or heterogeneous preferences among politicians, voters, and different social groups and regions, as well as opportunistic behavior creating political competition, may underlie the emergence of deficits (Eslava, 2011). Accordingly, a major strand of this literature has sought to identify the determinants of governments' fiscal outcomes (revenues and expenditures, deficits and surpluses, cash flow, debt, etc.), with a particular focus on political factors. Then, in the early 2000s, several events with important fiscal implications at the European and global levels prompted researchers to refocus on the impact of institutional rules framing budgetary processes and *ex-post* financial reporting to determine which improvement measures are effective in strengthening fiscal discipline, and to what extent. In addition to highlighting the relevance of introducing more stringent fiscal rules (e.g., Grembi et al., 2016), the literature also emphasizes the importance of improving the transparency of budgetary institutions (e.g., Benito & Bastida, 2009). However, some studies argue against this, claiming that governments facing strict budgetary rules may resort to evasive tools, such as accounting and financial reporting gimmicks, to circumvent these constraints. This may lead to the targeted fiscal

[25] "Deficits" is the striking word often favored by scholars to refer to the more general concept of fiscal balance or financial performance. The latter term is more precise and is the one used in the IPSASs to refer to the difference between operating revenue and operating expenses (IPSASB, 2014, p. 55).

[26] Mawejje & Odhiambo (2020) explain that the political economy of fiscal deficits encompasses four main strands of theoretical literature (pp. 406–407). The first strand considers voters to be either myopic and naïve, valuing deficit-financed public spending in the present while underestimating the costs in terms of future tax burden (e.g., Nordhaus, 1975), or perfectly rational but ill-informed, and thus constrained to monitor incumbent politicians according to their past observable performance (e.g., Rogoff & Sibert, 1988). This makes politicians more prone to opportunistic financial decision-making. According to the second strand, politicians hold diverse partisan preferences regarding the composition of public spending (e.g., Alesina & Tabellini, 1990, Alt & Lassen, 2006). Therefore, when an incumbent politician's chances of re-election are at risk, he may run a deficit to finance increased spending. Alternatively, a low-spending incumbent facing the realistic probability of not being re-elected may run deficits mainly through tax cuts (Persson & Svensson, 1989). The third strand relates to the potential drawbacks that may arise from conflicts over the distribution of public budget resources and fragmented interests among self-interested groups, such as social groups, regions who bargain over a common pool of public budget resources (Weingast et al., 1981; Baron & Ferejohn, 1989; Velasco, 2000; Von Hagen & Harden, 1995; Krogstrup & Wyplosz, 2010). The last strand focuses on the quality of the institutions that shape and constrain budget and financial reporting processes (e.g., Alesina & Perotti, 1999).

outcomes being achieved, but at the expense of transparency and consistency in practices (Dafflon & Rossi, 1999; Milesi-Ferretti, 2004; Burret & Feld, 2018).

By providing a harmonized framework for the application of accrual accounting, the IPSAS seek precisely to promote the use of more transparent and consistent practices, thus enabling the financial reality of governments to be more faithfully represented in their financial statements, with a view to improving accountability and financial decision-making (IPSASB, 2014, p. 35). Nonetheless, accrual accounting may also have provided room for flexibility, notably in reporting assets and liabilities, recognizing and measuring revenue and expenses, and disclosing information (Sun & Rath, 2010). As a result, the use of earnings management, which involves governments purposefully manipulating recorded financial figures to mislead information users about their true financial outcomes (Healy and Wahlen, 1999), may have been favored to some extent, while still remaining within the limits of the law (Pilcher, 2011). For this reason, it can be reasonably argued that the application of accrual-based standards differs in light of the targeted objectives (Christiaens et al., 2015). The literature has extensively documented how IPSAS-based accrual accounting standards can be effectively used to improve government accountability. However, there is limited empirical evidence concerning their impact on financial decision-making, whether in terms of processes or outcomes, particularly at the subnational level (Fuchs et al., 2017; Christofzik, 2019; Dorn et al., 2021; Kim & Chung, 2023; Bessho & Hirota, 2023). Against this backdrop, the following research question was formulated:

- *RQ4: Do the accrual-based standards set by a government impact its fiscal balance?[27] That is, does greater faithfulness in a government's accounting and financial reporting standards contribute to improving its financial performance (i.e., reducing deficits)? If so, to what extent?*

From a purely empirical perspective, Krishnakumar et al. (2010) explain that the revenue and expense sides of the fiscal balance are interrelated. The level of one component is conditioned to some extent by the level of the other. Moreover, revenue and expenses are directly influenced by factors that may be either shared or specific to one of the two components (Krishnakumar et al., 2010, p. 70). Therefore, when explaining how any determinant may affect government fiscal

[27] The fiscal balance is commonly regarded as one of the most closely scrutinized elements in the financial statements. It provides crucial information on a government's ability to efficiently manage revenues, including taxes paid by citizens, in order to cover the costs of the services provided.

deficits, it is important to disentangle the impact on the fiscal balance between revenue and expenses. This will help us to better understand through which channel(s) such effect materializes in practice. This raises a further question:

- *RQ5: Is it through the revenue and/or expense channel(s) that this potential effect of faithfulness on a government's financial performance materializes?*

The third essay thus aims to provide additional insight into the well-established literature on the determinants of fiscal deficits, by specifically examining the impact of public accounting and reporting systems on fiscal policy.

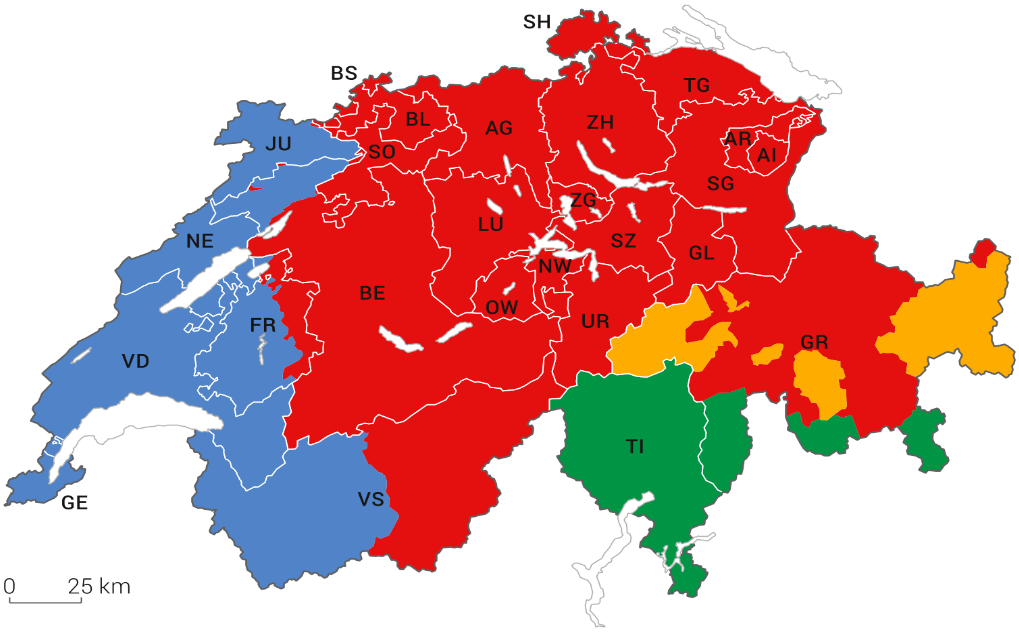
3 Empirical context: The Swiss cantons

3.1 Institutional framework

The three essays use the cantonal level of government in Switzerland as an empirical context. This third section thus provides an overview of the institutional settings for financial management, as well as accounting and reporting, in the Swiss cantons. It also shows precisely why this context provides a suitable framework for this study.

Located in the heart of Europe, Switzerland is a small country with an area of 41,285 km^2 and a total population of 8.8 million (SFSO, 2023). It is divided into four main language regions—namely, German (around 60% of the population), French (~ 20%), Italian (~ 8%), and, in a smaller proportion, Romansh (~ 1%). Furthermore, as a federal state, Switzerland has three institutional levels: the Confederation (central government), the 26 cantons (equivalent to states or provinces), and their municipalities (local governments). Figure 5 presents a map of Switzerland showing the 26 cantons and the four linguistic regions.

Figure 5 – The 26 Swiss cantons and the four linguistic regions



Notes: (i) Each color indicates a linguistic region, with German-speaking regions in red, French-speaking regions in blue, Italian-speaking regions in green, and Romansh-speaking regions in orange. *(ii)* Cantonal abbreviations: Aargau (AG), Appenzell Innerrhoden (AI), Appenzell Ausserrhoden (AR), Bern (BE), Basel Landschaft (BL), Basel Stadt (BS), Fribourg (FR), Geneva (GE), Glarus (GL), Graubünden (GR), Jura (JU), Lucerne (LU), Neuchâtel (NE), Nidwalden (NW), Obwalden (OW), St. Gallen (SG), Schaffhausen (SH), Solothurn (SO), Schwyz (SZ), Thurgau (TG), Ticino (TI), Uri (UR), Vaud (VD), Valais (VS), Zug (ZG), Zurich (ZH).
Source: SFSO, 2022.

The respective competencies of the three levels of government are laid down in the Federal Constitution of the Swiss Confederation. The principle of subsidiarity, which "must be observed in the allocation and performance of state tasks" (Federal Constitution, art 5a), dictates that "the Cantons are sovereign except to the extent that their sovereignty is limited by the Federal Constitution, and exercise all rights that are not delegated by the Confederation" (Federal Constitution, art 3). Therefore, "the Confederation only undertakes tasks that the Cantons are unable to perform, or which require uniform regulation by the Confederation" (Federal Constitution, art 43a, al. 1).

Each of the 26 Swiss cantons has its own government, which is composed of a legislature, known as the cantonal parliament,[28] and an executive.[29] Both bodies are elected through universal direct suffrage, using proportional representation (mainly in the cantonal parliament) or majoritarian representation (mainly in the cantonal executive). Although all members possess the same decision-making power, both the executive and the parliament typically represent multiple political parties and ideologies.[30] However, the parties represented in parliament do not always align with those in the executive, which can reduce the concordance between the two decision-making bodies.

Furthermore, each canton enacts its own laws, both public and private.[31] The process of elaborating laws is usually lengthy and laborious, involving various stakeholders from government actors to citizens.[32] Indeed, Switzerland's semi-direct democratic system gives citizens the opportunity to participate directly in shaping or amending any cantonal law or decree. Legislative issues can be raised through popular initiatives, and modifications or amendments to the law can be opposed through referenda. A mandatory legislative referendum takes place only in the event of a total or partial revision of the cantonal constitution or when specified by a given canton. Optional legislative referenda may be used to modify or amend cantonal laws and decrees. Therefore, these democratic tools clearly require government representatives to consider citizens' views when making decisions about policy.

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[28] At the cantonal level, the size of cantonal parliaments ranges from 60 seats in JU to 180 seats in ZH.

[29] Each member of the executive oversees a specific ministry or department (e.g., education, health, environment, security, justice, economy, or finance). The organization of departments may vary depending on the canton and/or the number of ministers (i.e., five or seven).

[30] The main political parties represented at the cantonal level include: the Liberals (FDP), the Social Democratic Party (SP), the Swiss People's Party (SVP), the Christian Social Party (CSP), the Green Liberal Party (PVL), the Center (*die Mitte*), the Christian Democratic People's Party (CVP), the Conservative Democratic Party (BDP), the Green Party (GPS), and the Democratic Federal Union (EDU). In addition, some cantons have their own political parties, such as the Ticino League (*Lega*) or Geneva's Citizens' Movement (MCG).

[31] Switzerland has a civil legal system that is subdivided into public and private law. Public law governs the constitution and functions of the state, including its government and its administration or agencies, as well as the relationship between the state and natural or legal persons, such as companies, organizations, and institutions. It also covers relationships between natural or legal persons that are of direct concern to the state. Private law regulates relationships between natural and/or legal individuals that are not directly related to the state.

[32] At the cantonal level, legislative processes usually consists of five main phases: (i) initiating new legislation or modifying/amending an existing law—either by the executive, a member or a group of members of the cantonal parliament, or citizens; (ii) the drafting of a bill by the executive and its administration, or by the competent parliamentary commission; (iii) a possible public consultation with external stakeholders concerned by the issue in question (e.g., civil society organizations, political parties); (iv) deliberation within the competent parliamentary commission (i.e., discussions, potential amendments, voting); (v) publication, a possible referendum, and the enactment of the law (Höfler et al., 2020).

The Swiss cantons possess significant autonomy in fiscal policy and financial management. They are responsible for over 40% of total public expenditures and revenues, relative to all three levels of government (Soguel, 2019). Additionally, they finance their activities primarily through taxes and transfers. However, the share of total revenue varies considerably across cantons and over time. Each canton has indeed the freedom to decide to impose taxes and other charges, as well as to fix the rate at which they are levied. While similar autonomy exists for expenditure policies, it is less significant than for taxation. The largest portions of the cantonal budgets are allocated to education (26.7% in 2021, up from 26.6% in 1990), social security (20.5% in 2021, up from 12.2% in 1990) and health (15.1% in 2021, down from 17.6% in 1990) (SFFA, 2023).

The executive, and more specifically the cantonal minister of finance,[33] oversees the entire budgetary process from forecasting tax revenues to executing the budget approved by the parliament. He is also responsible for setting the rules and modalities used to prepare and present the budget and financial statements. The legislative branch (i.e., the cantonal parliament) establishes the relevant legal framework in the cantonal constitution and a Financial Management Act of Parliament (FMAP).[34] Most cantonal FMAPs also outline budgetary requirements, aimed at limiting governments' propensity to run deficits or accumulate debt, with a balanced budget as the target. However, the stringency of these fiscal constraints varies considerably across cantons, in light of several factors, such as budget coverage/compensation rules, escape clauses, sanction mechanisms, or the existence of a constitutional guarantee ensuring the effective enforcement of the rule (see, e.g., Luechinger & Schaltegger, 2013). Additionally, most cantonal FMAPs provide for a financial referendum that enables the people to vote on parliament's spending decisions. A popular vote can be mandatory if a once-off or recurring expenditure exceeds a defined threshold, or optional if a specified number of signatures are collected from citizens within a certain time period, thus triggering a vote. Each canton defines its own thresholds for once-off expenditures, ranging from CHF 250,000 to 25 million, and for recurring expenditures, ranging from CHF 50,000 to 400,000. The required

[33] His sound expertise in financial matters thus grants him with an informational or strategic advantage over the other spending ministers, which he can use to pursue his own political agenda (von Hagen, 2010; Clémenceau & Soguel, 2017).

[34] The FMAP can be supplemented by an ordinance, a regulation, and/or an accounting manual specifying the modalities of the law's application. However, the use of these support materials varies across cantons.

number of signatures varies from 100 to 10,000, and the deadlines range from 30 to 90 days (Soguel, 2019).

3.2 Cantonal accounting and reporting systems

Switzerland underwent several attempts to harmonize accounting policies over the last century, both vertically, between the Confederation, the cantons, and the municipalities, and horizontally, between the cantons. In the past, different accounting and reporting policies coexisted at the cantonal level. For instance, in the mid-1960s, several cantons were already using accounting models inspired by the private sector that were similar to accrual accounting. These models employed an income statement and a statement of financial position. However, other cantons preferred traditional cash basis accounting.

The late 1970s saw the beginning of a phase of reform with the introduction of two generations of the Harmonized Accounting Model (HAM). The HAM was designed by the intercantonal Conference of Cantonal Finance Ministers (CFM),[35] a gathering organized to discuss and coordinate between the cantons with regard to fiscal matters of common interest by means of the formulation of non-binding guidelines or recommendations. The first Harmonized Accounting Model (HAM1) was released in 1977.[36] HAM1 was aimed at fostering harmonization by imposing modified accrual accounting and budgeting as the norm at both the cantonal and municipal levels. It laid out a harmonized chart of accounts, including an administrative statement (with current and capital receipts and expenditures), a statement of financial position, an embryonic cash flow statement, and some elementary guidelines on recognition and measurement (Soguel, 2019). However, it barely addressed the issue of information disclosure. This means that it allowed for hidden reserves and was minimally prescriptive concerning provisions or accrual/deferral of expenses and revenues, for example. Although HAM1 gave serious consideration to the implications of reporting on an accrual basis, in terms of fiscal policy, it did not necessarily push the cantons in the direction of faithful representation. Furthermore, HAM1 took the form of recommendations that each canton was free to adopt or not. If it did, it was free to decide when and to what extent. Therefore, implementation was a slow process that extended until 1999 and translated into various accounting outcomes and legal provisions (Soguel, 2019; Soguel, 2020).

[35] French: Conférence cantonale des directrices et directeurs cantonaux des finances (CDF); German: Konferenz der kantonalen Finanzdirektorinnen und -direktoren (FDK).

[36] A final version of HAM1 containing clarifications and improvements was subsequently released in 1981.

Beginning in the mid-2000s, both the central and subcentral levels of the Swiss government were subject to a number of pressures that made it increasingly important to have a better understanding of the costs of providing public goods and services. During this same period, IPSAS became available. International capital markets were also asking for financial statements to be prepared in a more standardized way. In 2008, the second-generation Harmonized Accounting Model (HAM2) was delivered by the CFM.[37] HAM2 is more clearly oriented towards IPSAS, as it includes all of the presentation guidelines and most of the recognition requirements.[38] HAM2 functions in tandem with a revised chart of accounts organized around a set of financial statements. These include statements of financial performance, capital expenditure,[39] financial position, and cash flow. Notes are also provided containing additional financial and non-financial explanations. HAM2 also provides a set of twenty standards that are established as recommendations. The latter generally follow IPSAS's principle of faithful representation, while leaving some room for maneuver on certain points where more flexible alternatives are also offered to the cantons (e.g., valuation methods or disclosure requirements). For example, some recommendations aim at limiting the possibility of accumulating hidden reserves and impose the more systematic accrual/deferral of expenses and revenues, but they still allow for the use of some accounting-smoothing devices (e.g., additional depreciation charges, rainy-day funds, pre-financing) when preparing financial statements (Soguel, 2019; Soguel, 2020). As a result, the revised chart of accounts was uniformly implemented by the cantons. However, while some cantons took advantage of this second reform to further improve the faithfulness of the depiction of their financial condition in their financial statements, others took advantage of the different alternatives offered by HAM2, occasionally at the expense of a complete and regular presentation of their financial information.

The implementation of the two successive Harmonized Accounting Models was a complex process that had to take into account the views of different stakeholders who were linked by intricate accountability relationships. Figure 6 thus provides a simplified schematic diagram

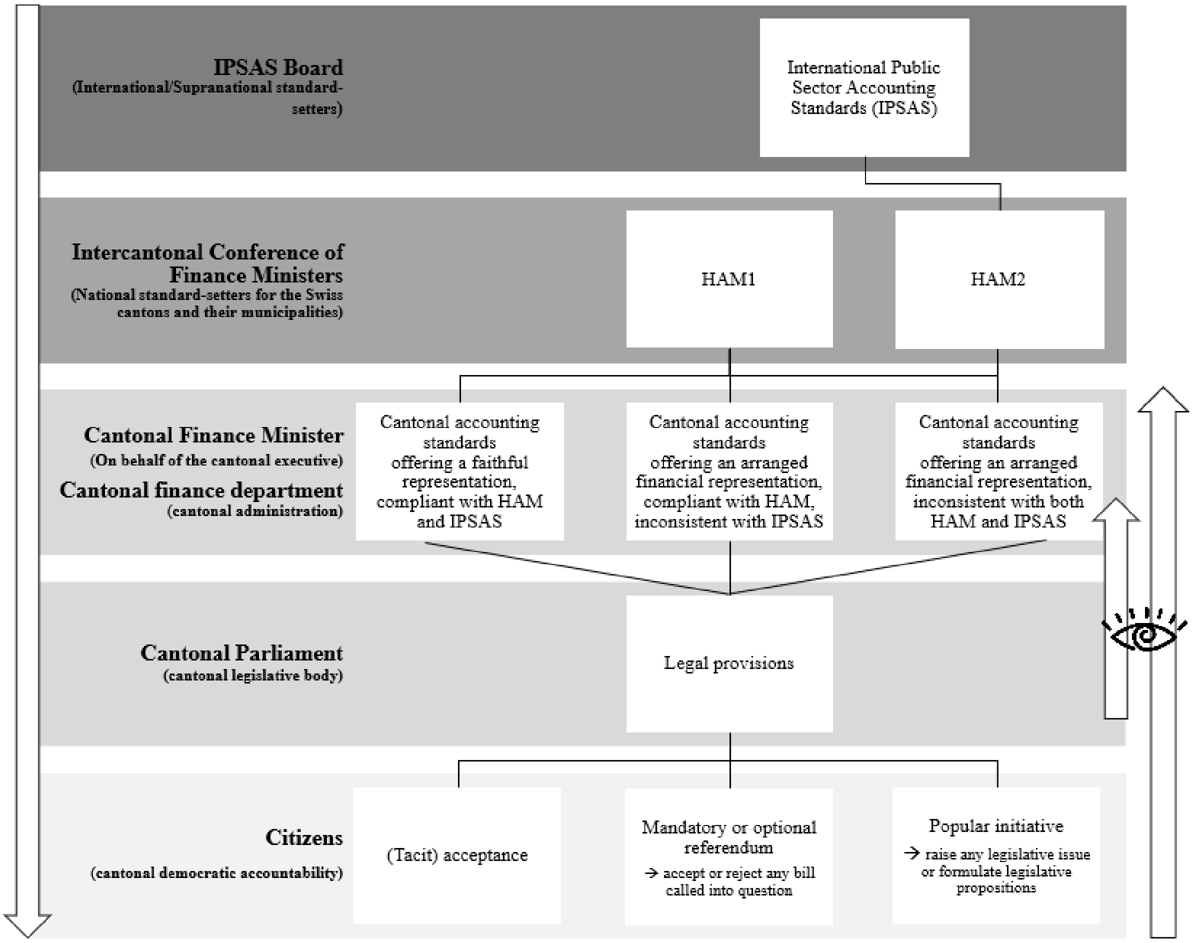
[37] When HAM2 was released in 2008, the cantons were given a recommendation to implement it within a maximum period of ten years. In 2018, the model became the standard in all Swiss cantons.

[38] Alongside HAM2, some cantons (i.e., ZH, GE, BS, LU) took the step of directly referring to the IPSAS in their FMAP, thus adopting them even more comprehensively.

[39] The statement of capital expenditure is a particular feature of the HAM that is not explicitly prescribed by IPSAS but is nevertheless compatible with them. In contrast to the statement of financial performance, which provides information about the government's operating (i.e., current) expenses and the extent to which revenue covers them, the statement of capital expenditure records any expenditure that creates an asset used by the government over several years to provide legally required public services, along with the corresponding revenue (Soguel, 2019).

illustrating the framework for the implementation of HAM1 and HAM2 accounting models in the Swiss cantonal financial legislation.

Figure 6 – Framework for the implementation of HAM1 and HAM2 reforms in the Swiss cantonal financial legislation



Source: My illustration.

Each reform followed a similar series of steps. First, the CFM developed an overarching Harmonized Accounting Model, which was presented to the cantons as a list of recommendations—directly inspired by the IPSAS requirements in the case of HAM2. Each cantonal executive, represented by the finance minister and assisted by the department of finance, was then responsible for translating these recommendations into proper accounting and reporting standards that would best meet the practical needs and strategic interests of the canton, including political, economic, and institutional factors, as well as external demands for enhanced accountability and information transparency. Given the non-binding nature of the HAMs, the accounting and reporting standards set by the cantonal executive actually resulted from one of three distinct strategies, which had potentially conflicting goals: (a) producing a faithful representation of the canton's financial condition and fully complying with HAM guidelines; (b) presenting an arranged and politically prudent representation of the canton's financial condition, albeit one that is compliant with HAM; or (c) relying on a policy approach that partially or completely deviates from what HAM would recommend.[40] Subsequently, the cantonal executive proposed a draft amendment to the FMAP that would include the new requirements for the preparation and presentation of public financial information. The cantonal parliament—and more specifically the members of the finance commission, who represent all the political groups in parliament—then examined the legal validity and feasibility of the draft, and undertook further modifications, where necessary, before enacting the proposed amendments.[41] Citizens then had the opportunity to engage by means of democratic processes, either by calling an optional referendum to oppose the new bill or by holding the government accountable at the ballot box.[42]

The existence of a multi-party system means that the political composition of Swiss cantonal governments can better reflect voter preferences. However, it can also lead to political competition within and between legislative and executive bodies, particularly when it comes to the management and accountability of public finances. The need for access to government information and the provision of means to discharge accountability have increased due to the resulting political uncertainty (e.g., Berliner & Ehrlich, 2015). As all government representatives (i.e., members of legislature and executive, including the finance minister) are elected through universal direct suffrage, their chances of remaining in office are directly related to how electorates hold them accountable for their actions and decisions, and how they correspondingly reward them at the ballot box (e.g., Buchs & Soguel, 2022). The accounting policies set individually by the cantons under each of the two HAM reforms thus directly reflected the priorities of government representatives who faced a trade-off between: (i) being

[40] Option c remains purely theoretical, as all the cantons implemented HAM1 and HAM2 accounting models at some point. Therefore, the cantons all deliberately chose to comply, to some extent, with the recommendations outlined under each reform.

[41] The legislative body should act as a representative of citizen interests within government. It should also ensure that the draft will not have any major shortcomings or lead to any significant democratic or political opposition.

[42] In the canton of Appenzell Ausserrhoden (AR), a referendum was officially held in 2012 opposing the modifications to adapt the cantonal Financial Act to HAM2 recommendations. Opponents notably argued that the new accounting standards were too cumbersome and unnecessary. However, the referendum ultimately failed, allowing for the second reform to be implemented in 2014.

(*Source:* https://anneepolitique.swiss/APS/de/APS_2012/APS2012_II_2_11_print.html) accountable and transparent towards their electorates, with the help of faithful accounting and financial reporting practices; and (ii) acting as self-interested politicians seeking to strategically manage the financial reality depicted for political and/or electoral reasons.

Although accounting and reporting policies have been increasingly undergoing a process of harmonization over time, Switzerland's institutional organization has allowed for a certain heterogeneity to persist at the cantonal level. This provides an interesting context for research on how the Swiss cantons took advantage of the two successive HAM reforms to address the challenges posed by the growing demand for financial transparency and accountability, as well as the implications for financial decision-making.

3.3 Data sources

Due to Switzerland's federal structure, statistics are primarily collected at the cantonal level. However, to ensure national and international comparability and benchmarking, the federal government has centralized, harmonized, and made available considerable quantities of cantonal data on an annual basis since 1980, and in some cases even earlier. Table 5 displays the primary data types and sources used in this thesis. Data that was not available had to be collected directly in the field through questionnaires or interviews with experts (as explained in Essay 1), or through direct contact with the cantons (such as finance departments) or the Confederation.

Table 5 – Main primary data types and sources for the Swiss cantons

Type of data	Data sources
Organizational, administrative	– Database on the Swiss cantons and cities (BADAC) – Cantonal annual financial statements (CAFS) – Cantonal Constitution, Financial Management Act of Parliament (FMAP)
Macroeconomic	– BAK Economics – Swiss Federal Statistical Office (SFSO) – State Secretariat for Economic Affairs (SSEA)
Financial	– Cantonal annual financial statements (CAFS) – Cantonal Constitution, Financial Management Act of Parliament (FMAP) – Swiss Federal Finance Administration (SFFA) – Swiss National Library (SNL) – Swiss Public Sector Financial Reporting Advisory Committee (SRS-CSPCP)
Political	– Swiss Federal Statistical Office (SFSO) – Swiss Political Year (SPY) / Année politique suisse
Institutional, Sociocultural	– Cantonal Constitution, Financial Management Act of Parliament (FMAP) – Swiss Federal Statistical Office (SFSO)

4 Summary of the three essays: Methodological outlines and main results

Various research strategies were mobilized to address the different goals set out for this study. This fourth section therefore outlines the methodological choices and the main results obtained in each of the three essays.

Essay 1 – **On the road towards IPSAS with a maturity model: A Swiss case study** (Soguel & Luta, 2021)

The goal of the first essay was to develop a new method for measuring whether and to what extent governmental accounting standards have converged towards IPSASs' true and fair approach (i.e., faithful representation) over time. It also presented a key conceptual innovation by considering compliance with these international standards as an evolving process that often requires not merely a single reform, but several successive reforms. The essay was correspondingly based on the following research questions:

- *RQ1: Are the criteria used to assess accounting standards of unequal importance? That is to say, does the impact they have on the faithfulness of the reported financial information differ?*
- *RQ2: In cases where jurisdictions have some degree of autonomy for deciding their accounting standards, can a significant diversity be observed among them?*

A simplified maturity model was first developed to formally define the various stages of the process moving towards full compliance with IPSAS (i.e., "maturity stages") and dimensions with which to measure overall compliance ("maturity level" or "score of financial maturity") under each stage. This maturity model was then applied to the empirical context of the 26 Swiss cantons, which have gone through two major accounting reforms in succession over the past forty years. As the cantons enjoy a high degree of autonomy, they each implemented HAM1 and then HAM2 reforms at different times. Hence, these two reforms delineate two stages of maturity. Furthermore, within each stage, the cantons exhibited different degrees of alignment with IPSAS, i.e., different maturity levels, raising the two following research questions:

To arrive at a concrete and tangible measurement of these maturity levels, 15 assessment criteria were identified, corresponding to the accounting standards when alternatives were explicitly offered to the cantons that wished to depart from the IPSAS under HAM2. Given that these criteria may contribute in varying degrees to improving financial faithfulness—i.e., ensuring a true and fair presentation of a government's financial situation—they were individually weighted with the help of a multicriteria decision analysis technique called MACBETH (Bana e Costa et al., 2016). For this purpose, 18 members of the Swiss Public Sector Financial Reporting Advisory Committee[43] (SRS-CSPCP) were interviewed individually and asked to classify the different criteria and to state the differences in importance between them. Then, the weights they assigned to each criterion were computed using the MACBETH algorithm. More specifically, the latter allowed the qualitative judgments made by the surveyed experts regarding the relative importance of the different criteria to be translated into quantitative value or weights.

Subsequently, the weighted criteria were used to code each canton's FMAP-established accounting standards, using IPSAS as a point of reference. The data regarding HAM1 implementation in cantonal legislation were collected via a questionnaire sent in French or German directly to the 26 Cantonal Finance Department Senior Budget Officers in late 2018 (see *Appendix III* for the French version), whereas information about the standards defined by the cantons under HAM2 was directly collected on the SRS-CSPCP website. Ultimately, by aggregating the 15 coded dimensions, a maturity level (or score of financial maturity) was computed for each canton. A score close to 100% indicates a high level of compliance with IPSAS, thus high standards of faithfulness in financial reporting. Conversely, a score close to 0% reflects accounting and reporting practices that diverge significantly from IPSAS, implying lower financial faithfulness. This process was carried out separately for both HAM1 and HAM2 reforms, thus attributing to each canton a maturity level connected to each stage of the process.

In response to the first research question, the empirical results—based on expert judgments provided by all the members of the SRS-CSPCP—showed that the unequal importance of the criteria should certainly be considered when appraising the ability of accounting and reporting standards to faithfully represent economic and other phenomenon. However, in practice, the criteria prioritized by the different cantons are not necessarily those considered most important by the experts surveyed. Furthermore, in response to the second question, the results indicated that there exist significant divergences in the accounting standards implemented when jurisdictions, such as the Swiss cantons, have some degree of autonomy in this area. Therefore, the maturity level attained by each canton within each stage varies. Although the two successive stages of maturity implied by the successive sets of recommendations have led to the increasing overall compliance of the accounting standards of Swiss cantons with IPSAS, each entity

[43] The purpose of the SRS-CSPCP is to promote a transparent, standardized, and comparable method of preparing and presenting financial statements for Swiss public sector entities.

transitioned in quite a different way through the two stages of maturity. Most of the cantons drastically improved their accounting practices over the two successive reforms. Other cantons, which had already reached an acceptable level of maturity following the first set of recommendations, brought their practices closer to IPSAS with the second reform, but to a lesser degree. A handful of other cantons deliberately stuck to more conservative accounting policies at the expense of financial faithfulness.

Despite persistent heterogeneity in cantonal maturity levels, the overall upward trend observed after two reforms suggests that the accounting and reporting standards used have, on the whole, made possible the more faithful reporting of financial information over time. The Swiss cantons thus represent a successful example of what happens when governments are advised to reform their homegrown accounting systems according to standards and requirements set at a higher level, while being given some kind of implementation margin. Flexibility, together with the existence of different stages of maturity, may lengthen the road, but this is probably the price that has to be paid for successful convergence on a common set of standards. To be sure, the criteria used to assess maturity levels are specific to the Swiss framework for accounting and reporting, which may limit the replicability of the study in other contexts. Nevertheless, such limitation could be easily overcome by assessing maturity levels according to criteria directly derived from the IPSAS.

Essay 2 – **What factors drive faithful financial reporting by subnational governments? Insights from Switzerland** (Luta, 2023)

The goal of the second essay was to identify potential factors that influence government to adopt accounting and reporting standards aimed at improving financial faithfulness in a democratic context. The corresponding research question was:

- *RQ3: What factors drive—or do not drive—the use of governmental accounting and reporting standards that increase the faithfulness of public financial information?*

Accordingly, it was argued that public sector accounting reforms are inherently political processes that should consider the views of both citizens (as demanders of public financial information) and governments (as suppliers of public financial information). First, a theoretical framework was developed to identify the main factors at stake, as public accounting reforms are implemented to improve the faithfulness of reported financial information in a democratic context.

For the citizen-centric demand side of public financial information, the essay built on political cleavage theory (Lipset & Rokkan, 1967), which provides a structured framework for analyzing how citizens' demands shape political outcomes. Various societal cleavages (e.g., class, education, culture, religion, and status) affect political processes by creating ideological and identity-based divisions among voters that influence support for political parties or options that align with the group's beliefs, thus shaping democratic demands for transparency and the accessibility of public information. Accordingly, the main hypothesis for the demand side was:

- *H1: There is a relationship between citizen background and ideological or political position and the degree to which governments faithfully report their financial information.*

As regards the government-centric supply side of public financial information, the essay relied on the public choice theory, which argues that politicians understand welfare differently from the public or may prioritize their own interests, leading to financial inefficiencies (Buchanan & Tollison, 1972). Therefore, government officials are not always inclined to transparently provide all the necessary or expected financial information (Pina et al., 2009). Instead, they may find it easier to provide limited or simplistic financial content, potentially exploiting information asymmetries. Understanding the political, financial, and institutional environment is thus critical for grasping how governments deal with the trade-off between accounting policies designed to enhance the faithfulness of financial reporting or to adapt the financial reality to their interests (Guarini, 2016). Accordingly, three additional hypotheses were developed as follows:

- *H2: There is a (negative) relationship between political competition and the degree to which governments faithfully report their financial information.*
- *H3: There is a relationship between the prevailing financial context and the degree to which governments faithfully report their financial information.*
- *H4: The diffusion of practices among governments has an incidence on the degree to which they faithfully report their financial information.*

To test the hypotheses, the 26 Swiss cantons were used as an empirical context, because they benefit from a certain autonomy in setting the accounting and reporting standards enshrined in their FMAP. Moreover, thanks to the country's semi-direct democratic system, citizens can also express their opinion on any cantonal law enacted by parliament, including the FMAP, by resorting to traditional democratic tools, such as referenda or popular initiatives. Although these tools are not systematically used, they represent a strong democratic threat that encourages government representatives to take into account, at least to some extent, citizens' views in policymaking. At the cantonal level in Switzerland, the standards and modalities used for accounting and reporting purposes therefore reflects a compromise between the respective information needs and interests of citizens and their representatives. Given the heterogeneity of policy outcomes under HAM1 and HAM2 successive accounting reforms implemented by the cantons between 1978 and 2018, the latter provided an insightful setting for testing the hypothesis formulated.

Econometric analysis was used to disentangle the sign and the significance of the effect of each explanatory variable on the explained variable (i.e., cantonal scores of financial maturity, CSFM), particularly those derived from the hypotheses and other control variables. Because some of the explanatory regressors display little or no variation over time, including fixed effects models would capture most of their effect on the explained variable.[44] Moreover, the variation in financial maturity scores was, on the whole, more prominent between cantons than across time. Hence, the model was estimated by a pooled ordinary least squares (pooled OLS) regression method which aimed to emphasize cross-sectional differences rather than temporal aspects. Another aspect that was addressed is the fact that, on average, two years elapsed between the design of the new cantonal accounting standards and the corresponding rules (year t-2) and their first application (year t). As a result, the level of the explanatory variables and some of the control variables considered is the one that prevailed when the modalities of each reform implementation were decided in each canton—i.e., two years before the actual introduction of the respective accounting model (e.g., the 1987 and 2015 levels for the canton of Bern, which introduced HAM1 and HAM2 in 1989 and 2017, respectively). Various robustness checks and additional estimations were subsequently performed to ensure the reliability of the results.

On the demand-side for financial information, results from the regression show that citizen educational level does not play a major role in explaining CSFM, and thus in the use of

[44] Admittedly, panel data models including individual and time effects (e.g., fixed or random effects, first-differencing models) are particularly suitable for performing econometric analysis on identical units observed at different time points. They may also better handle unobserved heterogeneity and any omitted variables bias—i.e., any endogeneity issue. Furthermore, they provide valuable information about relationships between variables over time. However, in this specific case, the peculiar structure of the dataset limited the possibility of directly applying such models.

accounting and reporting standards aimed at improving financial faithfulness at the Swiss cantonal level. In contrast, the results suggest that the cultural background of the citizens figures prominently in explaining CSFM, implying that Latin cantons opted for standards achieving significantly lower degrees of financial faithfulness in financial reporting than the German-speaking ones. Furthermore, the significantly positive effect of partisan ideology on CSFM indicates that the more citizens' partisan ideology leans to the right, as reflected in the political composition of the cantonal legislature, the higher the degree of faithfulness in cantonal financial reporting. On the supply side, there is no significant relationship between political competition and CSFM. However, the size of the fiscal balance is found to significantly reduce CSFM,[45] while the positive effect of debt is weak. Additionally, the significantly positive relationship between municipal and cantonal scores of financial maturity indicates that Switzerland's cantonal governments have also aimed to harmonize accounting policies across institutional levels. Government size and the pace of transition have a positive impact on CSFM. However, the influence of the reform stage and voter turnout remains marginal.

A bill may backfire if it does not adequately reflect citizen needs and preferences or if it chiefly satisfies the government's self-interested political goals. In contrast, it will be welcomed not only if financial accountability and transparency are desired by all parties, but also if it is designed using democratic participatory (or collaborative) logic. Accordingly, achieving a well-balanced compromise on the standards to be used is fundamental to ensuring a match with the interests in and ability of citizens to use public financial information properly, while effectively supporting their representatives' accountability in financial decision-making, and thus their political reputation. Allowing the flexible implementation of accounting reforms at subnational levels may draw out the process of harmonization, but it is probably the price that has to be paid for successful convergence towards a common set of standards, while taking into account the needs and interests of the different stakeholders. The sovereignty of Swiss subnational governments in financial and accounting matters is strong, allowing them to adapt the relevant policymaking to their own circumstances. Simultaneously, the use of accrual accounting is expanding at the cantonal level, further enhancing the faithfulness of reported financial information (see Essay 1).

[45] The fiscal balance corresponds here to the difference between both operating and capital receipts and expenditures.

Essay 3 – **The effect of faithful accrual-based financial reporting on government deficits: New insights from Switzerland** (Luta, 2024)

Building on the theoretical grounds of the political economy of public deficits and on existing empirical literature in this area, the goal of the third essay was to determine whether and to what extent a higher degree of faithfulness in government financial reporting affects subsequent financial performance—i.e., the deficit or surplus of the fiscal balance. More precisely, it raised the following research questions:

- <u>*RQ4*</u>*: Do the accrual-based standards set by a government impact its fiscal balance? That is, does greater faithfulness in a government's accounting and financial reporting standards contribute to improving its financial performance (i.e., reducing deficits)? If so, to what extent?*
- <u>*RQ5*</u>*: Is it through the revenue and/or expense channel(s) that this potential effect of faithfulness on a government's financial performance materializes?*

To tackle these questions, 26 Swiss cantons were once again considered to provide a particularly suitable empirical context, because as a result of the country's federal structure, matters of financial management and reporting are the responsibility of each government, thus allowing for variability in both respects, across cantons and over time. A panel dataset of the 26 Swiss cantons was developed for the period 1980–2020[46] to estimate two different econometric models, with the shared objective of explaining how the degree of financial faithfulness provided by cantonal accounting and reporting standards (i.e., cantonal scores of financial maturity as the main explanatory variable) affects the fiscal balance (i.e., the dependent variable, either in deficit or surplus). Here, the fiscal balance (B) was defined as the difference between the revenue (R) and expenses (E) reported in the cantonal statement of financial performance. More specifically, R and E respectively included gross inflows (e.g., tax revenue, patents and concessions, royalties) and outflows (e.g., wages and salaries, purchases of goods and services) of economic benefits or potential for operating activities, as well as financial revenue and expense (e.g., interest income or expense). However, both components could also include other so-called "extraordinary" operations that are either unexpected but significant or that do not involve a cash transaction (i.e., purely creative accounting operations

[46] Although data for 2021 were available, they were deliberately excluded due to the potential influence of COVID-19, especially on financial and economic variables.

with no apparent economic or material justification), but that have a significant impact on the final reported government balance. Although these practices are allowed to some extent by the FMAP, their use is incompatible with a true and fair representation of the cantons' financial reality. Accordingly, extraordinary operations were removed respectively from R and E, and thus from B, so as to estimate the impact on the cantons' ordinary—or true and fair financial performance.

A single equation model was accordingly performed to determine the direct effect on the fiscal balance, using a Two-Stage Least Squares (2SLS) IV-class estimator with robust standard errors. A simultaneous equations model was then estimated to further disentangle the effect of financial faithfulness on revenue from its effect on expenses, using the Three-Stage Least Squares (3SLS) IV-class estimator. Several additional robustness checks were also performed, but they did not substantially affect the main conclusions.

On the whole, the empirical results show that financial performance—i.e., the fiscal balance taken as a whole—is not directly affected by the degree of faithfulness allowed by the accrual-based standards used to report financial information in the cantonal accounts. However, when the fiscal balance is disentangled, the results revealed a significant negative effect of financial faithfulness on revenue and even more so on expenses, implying a combined effect that indirectly improves the fiscal balance (i.e., reduces the deficit).

Although the IPSAS claim to be "likely to strengthen public financial management" (IPSASB, 2014, p. 15), the achievement of this objective is poorly evidenced in practice. The evidence presented here thus provides a quantitative-based empirical confirmation that IPSAS are not neutral in this respect. It also shows that Switzerland serves as a useful case study for how the implementation of supranational (e.g., IPSAS, EPSAS) or national accounting and reporting standards can concretely contribute to further improving the quality of public financial management—in this instance, from the specific perspective of governments' financial performance.

5 Conclusion

More than forty years after the beginning of the major wave of accounting reforms undertaken in the public sector, the conclusion is undeniable: the adoption of accrual accounting is evident and unstoppable (Manes-Rossi et al., 2016; Lapsley et al., 2009; Pina et al., 2009). Moreover, the development of IPSAS has, to a large extent, paved the way for the general use of accrual accounting in the public sector, in order to improve accountability and decision-making in financial matters. Nonetheless, IPSASs have mainly set boundaries on the discretion implied by accrual accounting by providing a common set of standards, thus favoring a certain harmonization but no standardization of practices (Nobes, 2012; Manes-Rossi et al., 2016). Therefore, depending on the prevailing context, different outcomes were, by definition, to be expected as national and subnational governments took the step of moving to accrual accounting or further improving their accrual accounting and reporting standards, often using IPSAS as a point of reference.

Although researchers have striven to provide evidence about this, these efforts have mainly taken the form of a qualitative approach to describing the processes and outcomes of accrual-based or IPSAS-based accounting reforms and comparing them across different countries or levels of government. However, there is a lack of research that rigorously and thoroughly assesses and explains the outcomes of these reforms and that explores their potential implications for improving accountability, as well as financial decision-making. Accordingly, this thesis began by clarifying the key issues at stake in the discharge of accountability in the public sector, with a particular emphasis on the importance of transparency in the provision of public information. Then, it explained the role of public financial information over time and recent issues related to its modernization, in particular with regard to the general shift to accrual accounting, as well as the opportunities and challenges arising from this to improve not only the transparency of financial information, but also consistency and comparability through more faithful financial reporting. Following a review of the relevant literature and the identification of significant research gaps, three main objectives—expressed in the form of research questions—were formulated, each of which was addressed in a separate essay. Taken together, these essays make up the second part of the thesis. In each of these three stages of research, novel data were collected and analyzed for the 26 Swiss cantons over the period 1976–2020. The cantons provide a particularly suitable empirical laboratory, as each entity benefits from a certain degree of autonomy in the financial field. Moreover, during the period under consideration, the cantons jointly implemented two major successive accounting reforms, namely the first and second versions of the HAM. However, both reforms took the form of a set of recommendations that each entity was free to implement at their discretion.

The first essay developed an index-based methodology for assessing quantitatively the degree of faithfulness allowed by the accounting and reporting standards set by governments in a given reform context, using IPSAS as a benchmark. The results reveal that the two successive HAM reforms (i.e., maturity stages) have, on the whole, resulted in increasing overall compliance on the part of the 26 Swiss cantons' standards with the IPSAS definition of faithful financial reporting. Nevertheless, the degree of financial faithfulness (i.e., maturity level, or cantonal scores of financial maturity—CSFM) achieved by each canton varied within each stage of reform. A majority of the sharp mover cantons drastically improved their accounting practices over the course of the successive reforms, moving from standards allowing a low degree of financial faithfulness under HAM1 to more rigorous standards under HAM2. Other moderate cantons, which had already reached an acceptable level of maturity within the context of the first reform, aligned their practices more closely with IPSAS during the second reform, albeit minimally. Finally, the handful of remaining cantons deliberately maintained more conservative accounting policies at the expense of financial faithfulness under both reforms. The results also show that accounting and reporting standards do not contribute equally to improving the faithfulness of financial reporting. However, the standards considered most important by the expert members of the Swiss Public Sector Financial Reporting Advisory Committee who were surveyed are not necessarily those applied most rigorously by the cantons—i.e., in accordance with IPSAS.

The second essay then used econometric regression analysis to identify factors that explain a government's adoption of accounting and reporting standards that allow for either a high or a relatively low degree of faithfulness in the reporting of financial information. The results highlight that the reform of the legislation that defines the accounting and reporting standards for each Swiss canton should be seen as a political process, influenced to some extent by the cantonal governments, as the main suppliers of public financial information, and by the democratic views of citizens, as primary demanders of public financial information, wearing various important hats in their quality as taxpayers, recipients of public services, and voters. Accordingly, on the demand side (i.e., the citizens), the results show that their cultural background and partisan ideology are significantly related to the degree of faithfulness in cantonal government's financial reporting, but not their level of education. On the supply side (i.e., the government), the results suggest that the financial condition of the cantonal government and compliance at the municipal level are significantly related to the degree of faithfulness in financial reporting, but political competition is not. Government size and the pace of transition were also found to have a significant positive relationship with the faithfulness of reported financial information, while the influence of the stage of reform and voter turnout is marginal.

The third essay also used econometric regression analysis to determine how the degree of faithfulness allowed by the standards used by a government for financial reporting affects its financial performance. The results of a single-equation regression model indicate that cantonal fiscal performance (i.e., deficit or fiscal balance) is not directly affected by the degree of faithfulness required by the accrual-based standards used to report financial information in the financial statements. However, when the effect on the fiscal balance is disentangled on the basis of expenses and revenue, using a simultaneous equations model, the results become more striking. They reveal a significant negative effect of financial faithfulness on revenue and even more so on expenses, implying a combined effect that indirectly improves the canton's fiscal balance (i.e., reduces the deficit).

The case study of the Swiss cantons provides some key lessons that may prove useful to accounting standard setters, policymakers, practitioners, and the general public, not only in Switzerland, but also elsewhere. First, Switzerland's federalist institutional framework has allowed the cantonal governments to benefit from a degree of autonomy in setting and revising their accounting and reporting standards on the occasions of the publication of the first and second versions of the HAM. The flexible and incremental approach chosen for the reform of the cantonal governments' accounting and reporting systems has inevitably led to persistent heterogeneity in the application of the recommended accrual-based standards, but also to varying degrees of compliance with IPSAS, which is yet explicitly used as the reference in HAM2. Nevertheless, the sophistication and rigor in the use of accrual accounting has undoubtedly increased at the cantonal level, further strengthening faithfulness in financial reporting. In addition, cantonal sovereignty has been preserved, as each entity was able to decide when and to what extent it wished to implement the recommendations of HAM1 and then HAM2. The case study of Switzerland thus suggests that the form and pace of accounting reforms can significantly influence both the willingness and capacity of governments to harmonize their practices, in virtue of their own circumstances, especially at the subnational level.

Second, the example of the Swiss cantons has highlighted the importance of giving further consideration to the democratic needs or demands for transparency of public financial information when implementing accounting reforms, especially when the related rules and modalities are enshrined in the law—as is the case in most continental European countries, for example. It has thus been shown that implementing flexible accounting reforms can help to achieve a balanced political compromise that better reflects the views and expectations of both citizens and government representatives as to how and to what extent—and thus how faithfully—public financial information should be reported, given that their respective needs and expectations in this regard may differ for various ideological, identity, or political reasons. This is indeed essential to ensuring the proper and effective functioning of public accountability mechanisms—i.e., government's accountability discharging for their management of public monies and subsequent control and monitoring by citizens—which directly contributes to the quality of democracy, but also to trust in public governance.

Third, the study of the Swiss cantons confirms that accounting and reporting standards that enable financial information to be more faithful can be effective in improving their ability to use public information as a key tool not only for accountability, but also for financial management. Put differently, it demonstrates that compliance with IPSAS requirements is not only important for acquiring accountability for legitimacy or symbolic purposes, but it can also concretely contribute to improved financial results. The latter argument was previously considered highly speculative. Although the magnitude of the impact of faithful financial reporting on financial performance is still quite modest among cantonal governments, it can already contribute to better informing fiscal policy decisions, particularly with a view to further strengthening financial sustainability.

Ultimately, the information a government provides through its financial statements remains strongly subordinated to the context in which public action is carried out. Nevertheless, the Swiss cantonal governments offer valuable insights into how key policy challenges and hurdles to accounting reforms can be overcome at the subnational level. Indeed, Switzerland constitutes a successful example of how non-binding supranational or national accounting standards can be incorporated into the homegrown accounting and reporting systems of lower tiers, by giving jurisdictions some leeway in implementation, in terms of both scope and timing, but also by proceeding in a small number of steps. The cantonal level in Switzerland thus stands as a potentially important source of inspiration for the successful development of EPSAS. Allowing EU Member States flexibility in implementation, while preserving national sovereignty, would increase the chances of EPSAS being well received, not only by national policymakers but also by the general public. In addition, while incrementalism may lengthen reform processes, it may certainly help ensure their convergence towards a common set of standards that will effectively contribute to improving the transparency of information and the quality of government finance statistics, while facilitating the comparison of deficit and debt indicators across European Member States, as initially stated.

Nevertheless, this study also evinces some critical issues and limitations. Although they do not prevent the achievement of the main objectives set out in the three essays, they must be taken into account, in order to put the results obtained into perspective, while also highlighting some areas for consideration that could constitute interesting avenues for future research. In particular, while the methodology proposed in the first essay for measuring the degree of faithfulness in government financial reporting can be easily adapted to other contexts, the results obtained in the second and third essays may not be systematically transferable or directly replicable in other countries. Moreover, the limitations of the empirical setting used to study the Swiss cantonal context—as is particularly the case in the second essay, where the number of observations remains limited—make me very cautious about systematically drawing strong and straightforward causal inferences.

In addition, while governments around the world have undoubtedly sought to harmonize accrual-based accounting and reporting practices, as well as to strengthen faithfulness in financial reporting to some extent, achieving these objectives may, in practice, turn out to be more challenging for some countries than for others, as was the case with the various Swiss cantons. Autonomy in financial matters is inherent in the decentralized approach of Swiss federalism. It has therefore been easier to ensure flexibility in the modernization of accounting and information policies at the cantonal level. While this may be an interesting approach for the subnational levels of other countries with a similar institutional structure, such as Germany, it may be less applicable to other countries with a more centralized institutional system, such as France or southern European countries (e.g., Italy, Portugal, Spain, and Greece).

Similarly, improving the democratic participation of citizens in public financial activities and decision-making—e.g., through participatory budgeting or e-democracy—is a common objective in most European countries. However, Switzerland’s strongly democratic political system provides an additional incentive to pay further attention to this objective and to develop cantonal accounting and reporting policies that better take into account democratic views, in order to enable even more rigorous accountability mechanisms to be applied. Swiss voters should be in a position to gather a large amount of public financial information that will enable them to participate more actively in decision-making either directly, through financial-oriented popular initiatives or referenda, or indirectly, through elections. That said, as highlighted in the second essay, in many other countries decision-making power remains rather concentrated in the hands of the political elite (Brusca et al., 2013). This often results in financial reporting with low-quality information that is difficult for non-accounting experts to understand. As a consequence, citizens are less able to exercise direct scrutiny and control over government financial management. However, it is worth considering other alternatives, such as the developing movement for the preparation and publication of "popular financial reports," specifically tailored to the average citizen. These reports are designed for people who lack or have limited accounting knowledge and/or expertise, and have notably been issued in the US and Canada (Cohen et al., 2015). However, as the quality and scope of this type of information tool have not yet been studied in depth, despite its potential to strengthen the democratic role of citizens in financial decision-making, further research is necessary.

Another critical aspect of this study lies in the measurement of the degree of faithfulness in financial reporting using maturity levels—i.e., scores of financial maturity, as developed in the first essay. This variable accurately reflects both the stability of accounting and reporting rules or institutions over time, as well as the variability of policies that characterize the cantonal level. However, it may also raise a critical point for the analysis proposed in the second and third essays. As Alesina and Perotti (1999, pp. 14–15) noted, how different budgetary (or accounting) institutions are defined can be determined by other socio-political-historical variables that may also influence fiscal outcomes. In addition, these institutions may be changed in the medium or long run due to unsatisfactory fiscal outcomes, notwithstanding the fact that the institutions are themselves supposed to influence fiscal outcomes. Therefore, a problem of endogeneity may arise from the simultaneous influence of the two variables on each other. This issue may be particularly salient when explaining how budgetary and accounting institutions are set up or evolve, or, conversely, when investigating how they affect other components, such as fiscal outcomes, as was the case in the second and third essays, respectively. However, while institutions can be influenced by fiscal outcomes, they are often difficult to change, which is why they are typically stable. They may therefore be considered as predetermined, at least in the short to medium term. Furthermore, institutions tend to remain in place unless they become very unsatisfactory or are perceived to be inadequate or inefficient, since changing them is often complex and costly. Consequently, in the short to medium term, these institutions can be considered as factors explaining fiscal outcomes (Alesina & Perotti, 1996, p. 404), as was the case in the third essay, where instruments were nevertheless used as a precaution, except for CSFM. In the latter case, the endogeneity problem is yet further mitigated by the fact that the second essay estimates the effect of the past—i.e., year t-2—(total) fiscal balance on CSFM in year t of the reform implementation, whereas the third essay alternatively seeks to estimate the effect of CSFM on the subsequent fiscal balance—i.e., the financial performance in year t and in the following years. However that may be, the empirical literature has not given enough consideration to this particular issue (e.g., Heinemann et al., 2018). Accordingly, it is often left to the researcher's discretion to choose an appropriate empirical solution. For instance, difference-in-differences or event studies have been applied in quasi-experimental subnational settings where cash and accrual accounting coexist side by side (see, e.g., Christofzik, 2019; Dorn et al., 2021; Bessho & Hirota, 2023). However, this is not relevant in the Swiss context, where accrual accounting has been the general rule at the cantonal level over the two HAM reforms, but has only been applied to varying extents. Therefore, a crucial area for future research is the issue of endogeneity in budgetary and accounting institutions. This will not only enhance scholars' ability to explain these institutions, but also to investigate further their impact on other components, such as fiscal outcomes.

6 References

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Appendix I – List of IPSASs effective on January 31, 2022

IPSAS 1	Presentation of Financial Statements
IPSAS 2	Cash Flow Statements
IPSAS 3	Accounting Policies, Changes in Accounting Estimates and Errors
IPSAS 4	The Effects of Changes in Foreign Exchange Rates
IPSAS 5	Borrowing Costs
IPSAS 6	Consolidated and Separate Financial Statements [(i)]
IPSAS 7	Investments in Associates [(ii)]
IPSAS 8	Interests in Joint Ventures [(iii)]
IPSAS 9	Revenue from Exchange Transactions
IPSAS 10	Financial Reporting in Hyperinflationary Economies
IPSAS 11	Construction Contracts
IPSAS 12	Inventories
IPSAS 13	Leases
IPSAS 14	Events after the Reporting Date
IPSAS 15	Financial Instruments: Disclosure and Presentation [(iv)]
IPSAS 16	Investment Property
IPSAS 17	Property, Plant, and Equipment
IPSAS 18	Segment Reporting
IPSAS 19	Provisions, Contingent Liabilities, and Contingent Assets
IPSAS 20	Related Party Disclosures
IPSAS 21	Impairment of Non-Cash-Generating Assets
IPSAS 22	Disclosure of Financial Information about the General Government Sector
IPSAS 23	Revenue from Non-Exchange Transactions (Taxes and Transfers)
IPSAS 24	Presentation of Budget Information in Financial Statements
IPSAS 25	Employee Benefits [(v)]
IPSAS 26	Impairment of Cash-Generating Assets
IPSAS 27	Agriculture
IPSAS 28	Financial Instruments: Presentation
IPSAS 29	Financial Instruments: Recognition and Measurement
IPSAS 30	Financial Instruments: Disclosures
IPSAS 31	Intangible Assets
IPSAS 32	Service Concession Arrangements: Grantor
IPSAS 33	First-Time Adoption of Accrual Basis IPSASs
IPSAS 34	Separate Financial Statements
IPSAS 35	Consolidated Financial Statements
IPSAS 36	Investments in Associates and Joint Ventures
IPSAS 37	Joint Arrangements
IPSAS 38	Disclosure of Interests in Other Entities
IPSAS 39	Employee Benefits
IPSAS 40	Public Sector Combinations
IPSAS 41	Financial Instruments
IPSAS 42	Social Benefits
Cash basis IPSAS	Reporting under the Cash Basis of Accounting

(i) IPSAS 6 has been replaced by IPSAS 34 and IPSAS 35. *(ii)* IPSAS 7 has been replaced by IPSAS 36. (*iii)* IPSAS 8 has been replaced by IPSAS 37. (*iv)* IPSAS 15 has been replaced by IPSAS 28, IPSAS 29, and IPSAS 30. *(v)* IPSAS 25 has been replaced by IPSAS 39. The superseded standards are no longer applicable. *(vi)* In 2022 and 2023, the IPSASB issued a package of seven new standards: IPSAS 43—Leases, IPSAS 44—Non-current Assets Held for Sale and Discontinued Operations, IPSAS 45—Property, Plant, and Equipment, IPSAS 46—Measurement, IPSAS 47—Revenue, IPSAS 48—Transfer Expenses, IPSAS 49—Retirement Benefit Plans, together with the corresponding updates to the Conceptual Framework. The former will be effective either from January 1, 2025 (IPSAS 43 to 46) or January 1, 2026 (IPSAS 47 to 49); the latter will be effective on publication.

Source: IPSASB, 2022, pp. 1834–1861.

Appendix II – List of main literature references used in subsections 2.2 and 2.3

#	Author(s)	Year	Focus	Method(s)	Approach	Single country (SC) Comparative (CA) General (Gen) Analysis	Central (Cen), Regional (Reg), Local (Loc), General (Gen) Level of Government	Description/Main findings
1	Aggestam-Pontoppidan	2011	IPSAS	Qualitative, Descriptive analysis	Descriptive	Gen	Gen	⇨ *Definition of government business enterprise, as provided in IPSAS, and discussion on the implications of applying IPSAS or IFRS for a public sector entity.*
2	Anessi-Pessina & Borgonovi	2000	Accrual-based accounting reforms	Qualitative, Conceptual analysis	Descriptive / Conceptual	Gen	Gen	⇨ *Analysis of the relationship between the goals assigned to local government accounting systems, their technical features, and main methodological issues.* - Local governments are developing into professional organizations that must be held accountable by numerous and diverse stakeholders and evolve accordingly. - The introduction of accrual accounting is undoubtedly a key factor in this evolution. - In addition to the absolute accuracy of the figures, it is essential to prioritize the quality, validity, and relevance for the entity's internal and external stakeholders of the information provided. In other words, interpretative models should be given greater importance than pure accounting technicalities.
3	Anessi-Pessina et al.	2008	Accrual-based accounting reforms	Mixed-methods, Interviews, Statistical analysis (Regression)	Empirical	SC (Italy)	Loc	⇨ *Identification of factors explaining the adoption of accrual accounting by Italian local governments.* - Rational factors, such as complexity, activities, surpluses, and access to capital markets, do not adequately explain why a given local government adopts accrual accounting. In contrast, institutional and cultural factors, such as the perception of the Chief Financial Officer (CFO) and the North–South divide, are more influential.
4	Baber	1983	Governmental accounting, in general	Quantitative, Statistical analysis (Regression)	Empirical	SC (USA)	Reg	⇨ *Analysis of the relationship between the supply of auditing in the public sector and the political competition expected in future elections in US state governments.* - Political competition increases the incentives of public officials to audit the allocation of public resources, confirming that auditing is motivated by contracting between officials and their supporting interests.
5	Baskerville & Grossi	2019	IPSAS	Qualitative, Historical-critical analysis	Empirical	SC (New-Zealand)	Gen	⇨ *Definition and observation of glocalization processes in the context of IPSAS adoption.* - In New Zealand, the adoption of the IPSAS standards was a process of glocalization (i.e., global pressures) rather than a localization (i.e., local pressures) of the standards. - Local stakeholder reactions suggest that such adaptations are increasingly well received.
6	Bellanca	2014	IPSAS	Qualitative, Research note, Normative analysis	Descriptive / Normative	Gen (EU member countries)	Gen	⇨ *Research note/critical reflections on the adoption of IPSAS by EU member countries.* - There is no consensus among EU Member States (MS) regarding the usefulness of the IPSAS. - While accrual accounting may adequately meet the transparency and performance needs of the public sector, it is unclear whether international accounting harmonization is necessary. - A possible solution could be the creation of a European accounting framework in cooperation with MS.

7	Bellanca & Vandernoot	2014	IPSAS	Qualitative, Questionnaire (Survey), Descriptive analysis	Empirical	CA (EU member countries)	Cen & Loc	⇨ *Analysis of the level of implementation of IPSAS in European MS.* - There are significant differences between MS with regard to the implementation of IPSAS and the type of accounting used. - Although IPSAS are not legally adopted in the majority of European MS, there is a tendency to use modern accounting systems based on accrual accounting that are aligned with or directly inspired by IPSAS.
8	Benito et al.	2007	IPSAS	Quantitative mixed-methods, Questionnaire (Survey), Statistical analysis (Index, regression)	Empirical	Intercontinental CA	Cen & Loc	⇨ *Analysis of the level of adoption of accrual accounting by central and local governments, and the resulting level of accounting harmonization between the different countries studied.* - The current accounting systems of the governments studied, both local and central, are not fully aligned with IPSAS. - Some (especially Anglo-Saxon) countries are more closely aligned with IPSAS, while others (e.g., in the EU) are at very different levels of adaptation. - The main differences lie in the measurement focus, the treatment of assets, and the disclosure of information.
9	Bergmann	2012	Accrual-based accounting reforms, IPSAS	Qualitative, Descriptive analysis	Descriptive / Critical	SC (Switzerland)	Gen	⇨ *Analysis of how the accounting basis used (accrual versus cash basis) influences decision-making in the Swiss context.* - The main applications of accrual information in decision-making include the prioritization of self-financing of investments to control borrowing and the fiscal policy targets of debt reduction and capital maintenance. All three require accrual basis information. - Accrual basis information is a critical component of fiscal decision-making in Switzerland.
10	Bergmann	2014	Governmental accounting, in general	Qualitative, Document analysis	Empirical	CA (UK, Germany, Switzerland)	Gen	⇨ *Analysis of the accounting and reporting of government interventions during the most recent global financial crisis.* - Governments do not report all their interventions in accordance with accounting standards, particularly regarding consolidation and the presentation of financial guarantees. - Incomplete information may lead to erroneous decisions that can threaten financial sustainability.
11	Bergmann et al.	2019	IPSAS	Qualitative, Conceptual, Theoretical analysis	Descriptive / Theoretical / Conceptual	Gen	Gen	⇨ *Development of a better-fitting theoretical basis for public sector accrual accounting research, using IPSASB's conceptual framework as a point of reference.*
12	Bisogno et al.	2019	IPSAS	Qualitative, Document analysis	Descriptive / Critical	Gen	Gen	⇨ *Critical analysis of IPSAB's Consultation Paper on Accounting for Revenue and Non-Exchange Expenses published in 2017.*
13	Brusca & Condor	2002	Accrual-based accounting reforms	Qualitative, Document analysis	Empirical	Intercontinental CA (Anglo-Saxon and Continental European areas)	Loc	⇨ *Comparative analysis of public accounting systems in countries in Anglo-Saxon and continental European countries, focusing on the degree of diversity in their accounting practices.* - The main differences between Anglo-Saxon and continental European accounting systems can be attributed to different regional traditions. - In continental Europe, the emphasis is on budgetary and legal control, with information directed to the legislative and executive powers. Conversely, in Anglo-Saxon countries, accountability to the electorate and the public takes precedence over legal accountability. - The causes of accounting diversity can be attributed to several factors, including the legal system, the structure of public sector organizations, the objectives of financial reporting, the primary users of financial reports, the providers of financial resources, the influence of public accounting regulatory bodies, professional interest and training, and the political and administrative environment in which each system operates.

14	Brusca & Martínez	2016	IPSAS	Quantitative mixed-methods, Questionnaire (Likert scale), Statistical analysis (SEM)	Empirical	Intercontinental CA (EU member countries & Latin American)	Cen	⇨ *Comparative analysis of the stimuli and barriers to IPSAS adoption in European and American countries.* - Adopting countries perceive the stimuli for IPSASs adoption as more relevant than non-adopters, who prioritize other factors over the harmonization of public sector accounting. - Despite the lack of cross-country comparisons, as in the EU, American countries prioritize the harmonization of public sector accounting (e.g., Paraguay is the only American country that has not yet moved from cash to accrual accounting). - Both adopters and non-adopters recognize the benefits of IPSASs for international comparability and improving the quality of financial reporting. Countries in the study affirm that IPSAS adoption has increased transparency and accountability. - The impact of IPSAS adoption on perceived benefits is confirmed.
15	Brusca & Montesinos	2006	Governmental accounting, in general	Quantitative statistical analysis	Empirical	SC (Spain)	Loc	⇨ *Analysis of the public use of budgetary and financial reporting produced by Spanish local authorities.* - Election results are influenced by financial information. - Spanish citizens would benefit from improved financial reporting.
16	Brusca & Montesinos	2013	Governmental accounting, in general	Quantitative mixed-methods, Questionnaire (Survey), Descriptive frequency analysis	Empirical	SC (Spain)	Loc	⇨ *Analysis of the role of performance management tools in public management and accountability, and the relative usefulness of performance reporting compared to accrual-based financial reporting in Spanish local governments.* - Most Spanish local governments that have introduced performance indicators do not use them for decision-making or accountability purposes. - After two decades of reforms in financial and management systems, financial directors still consider budget reporting to be the most useful, mainly because expenditure control is still largely based on the budget.
17	Brusca et al.	2013	IPSAS	Qualitative, Literature review, Document analysis	Empirical	SC (Spain)	Gen	⇨ *Analysis of the implications of IPSAS adoption in Spain.* - The Spanish government was influenced by various factors to harmonize its accounting standards with international norms, such as political incentives to enhance public sector accountability and to align with business accounting practices. The IPSAS were seen as the preferred route. - There was a rapid progression from rationalization to adoption, facilitated by a governance system that concentrated decision-making about accounting standards within a small (political) elite. - The promotion of IPSAS by the IPSASB, the accounting profession, and the adoption by supranational bodies such as the EU and UN strengthened the legitimacy of IPSAS. Additionally, the endorsement of commercial standards, such as IFRS by the EU, also contributed to the credibility of IPSAS. - The adoption of IPSAS was seen as a logical innovation, with early adopters encouraging Spain to do the same. - The need to remain relevant and to be at the forefront of accounting reform led Spanish standard setters to embrace initiatives such as IPSAS.

18	Brusca et al.	2016	IPSAS	Qualitative, Document analysis, Interviews	Empirical	CA (Colombia & Peru)	Cen	⇨ *Comparative analysis of the implementation of IPSAS, as well as the stimuli for and effects of their implementation, in the Latin American context of Colombia and Peru.* - IPSAS implementation in Colombia and Peru is driven by a process of isomorphism. - The modernization of accounting systems to enhance transparency and financial reporting quality is the primary motivation, as IPSAS adoption is seen as a path to legitimacy through international prestige. - Recommendations from multilateral bodies, such as the World Bank and the IMF, have influenced IPSAS adoption in Latin America. - IPSAS are being implemented, and stakeholders say they will improve financial reporting and the comparability of information. However, the practical implications of IPSAS implementation in Latin America are still unclear. - Some challenges are accrual accounting issues and the need for training and technology, which are slowing down the process and making it more legal than practical.
19	Brusca et al.	2017	Accrual-based accounting reforms	Quantitative mixed-methods, Questionnaire (Survey), Descriptive PCA analysis	Empirical	CA (Italy & Spain)	Loc	⇨ *Comparative analysis of the adoption and usefulness of performance measurement tools in Italian and Spanish (medium-sized and large) local governments.* - Despite similar political-administrative systems, there are notable differences between the two countries in the adoption of performance measurement tools. - The presence of professional managers who are experienced with, and genuinely interested in, performance measurement tools was found to positively affect the adoption of these tools. However, this interest may also depend heavily on pressure from citizens. - Performance measurement tools are perceived as enhancing accountability.
20	Caruana	2021	IPSAS	Qualitative, Document analysis	Descriptive / Critical	Gen	Gen	⇨ *Critical analysis of IPSAB's Consultation Paper on the Measurement of Assets and Liabilities in Public Sector Financial Reporting published in 2019.*
21	Carvalho et al.	2007	Accrual-based accounting reforms	Quantitative, Statistical analysis (Index, Regression)	Empirical	SC (Portugal)	Loc	⇨ *Analysis of the level of compliance with the new accrual-based standards required by law and documentation of the diversity in compliance across Portuguese municipalities.* - The differences across municipalities can be attributed to several fundamental factors, including size, financial conditions, urban characteristics, and diffusion across neighboring municipalities. - An unexpected effect of size is also observed, as larger municipalities tend to be less compliant with accounting standards. Organizational complexity, conservative practices, and an aversion to change may explain this result.
22	Chan	2003	Accrual-based accounting reforms, IPSAS	Qualitative, Normative analysis	Descriptive / Normative	Gen	Gen	⇨ *Analysis of government accounting theory, purposes, and standards.* - A gradual and symmetrical approach to accruals and a combination of government-wide and fund reporting is recommended. - Some broad accounting principles to promote political and economic accountability are suggested.
23	Chan	2006	Accrual-based accounting reforms, IPSAS	Qualitative, Normative analysis	Descriptive / Normative	Gen (Developing countries)	Gen	⇨ *Discussion of the benefits of IPSAS and government accounting reform in developing countries.* - Government accounting reforms have significant social value in contributing to development goals such as poverty reduction. - This rationale has prompted international and multilateral lenders and donors to support the adoption of IPSAS in developing countries. - Prioritizing financial integrity and moving to accrual accounting can enhance the effectiveness of IPSAS in government accounting reforms in these contexts.
24	Chan et al.	1996	Governmental accounting, in general	Qualitative, Literature review, Normative analysis	Descriptive / Normative	Intercontinental CA	Cen & Loc	⇨ *Descriptive analysis of the state of the comparative international governmental accounting research (CIGAR) in terms of contributions and critical issues based on the contingency model.*

25	Christiaens	1999	Accrual-based accounting reforms	Quantitative, Statistical analysis (Regression)	Empirical	SC (Belgium)	Loc	⇨ *Analysis of the level of adoption and implementation of the financial accounting reform in Flemish municipalities* - The Flemish municipal accounting reform does not sufficiently take into account non-profit characteristics and municipal environmental factors. - The budgetary accounting system remains the dominant force, while integration with the financial-patrimonial accounting system leads to conflicts. - Several factors have been identified as playing a key (positive) role in compliance, including the assistance of professional accounting consultants, accounting staff qualifications, training programs, and municipal size (although the validity of this last factor requires further testing). Other factors, however, do not appear to be significant: e.g., membership in professional accounting organizations, bookkeepers' business experience, relationships with other organizations using accrual accounting, reliance on debt and municipal wealth.
26	Christiaens et al.	2010	Accrual-based accounting reforms, IPSAS	Quantitative mixed-methods, Questionnaire (Survey), Descriptive frequency analysis	Empirical	CA	Cen & Loc	⇨ *Comparative analysis of the extent of adoption of IPSAS and factors explaining the different levels of their adoption in European MS.* - The trend towards accrual accounting can be explained by the need for transparency and efficiency. - The fact that the IPSAS are unique and offer specific know-how is the main argument for their use. - However, there is a contradiction in the adoption process of IPSAS and accrual accounting in Europe. - While some governments still use cash-based accounting, the majority of local and central governments use accrual accounting, ignoring IPSAS and relying instead on their local business accounting rules. - Several countries that are planning to introduce accrual accounting in the near future will not use IPSAS as a starting point. - Lithuania, Switzerland, and Sweden are mostly inspired by IPSAS.
27	Christiaens et al.	2015	Accrual-based accounting reforms, IPSAS	Quantitative mixed-methods, Questionnaire (Survey), Descriptive frequency analysis	Empirical	Intercontinental CA	Gen	⇨ *Comparative analysis of the extent of IPSAS adoption and factors explaining the differing levels of their adoption worldwide.* - There is a reluctance to adopt IPSAS in some central governments due to political and macroeconomic factors. - IPSAS adoption rates vary in "new" European countries and emerging economies due to the timing of government reforms and IMF support. - Anglo-Saxon countries tend to adopt accrual accounting, influenced by the principles-driven nature of IPSAS/IFRS. - The main reasons for adopting IPSAS are improved comparability of financial information and easier consolidation of financial statements. In contrast, the main reasons for not adopting IPSAS are the fear of losing standard-setting authority, unfamiliarity with IPSAS, and a preference for homegrown business accounting rules. - Cultural change and enforceability are needed to overcome barriers to IPSAS compliance.

28	Cohen & Karatzimas	2015	Governmental accounting, in general	Qualitative, Literature review, Normative analysis	Descriptive / Normative	Gen	Gen	⇨ *Discussion on alternative future forms of reporting in the public sector, with a special focus on integrated reporting and popular reporting, and analysis of whether and how these reports could be linked to meet the needs of the citizens' pillar user group.* - Governmental entities must advance reporting on two parallel fronts. The first requires the publication of information found in integrated reports that contain various informational elements that are not comparable with the traditional financial ones. The second should result in the provision of this information in a concise and easily comprehensible manner. The merging of these two streams will give rise to the publication of "Integrated Popular Reports." - This would provide an adequate information matrix for citizens and other user groups (e.g., politicians, public executives) who are interested in understanding the "big picture" of public sector entities, but lack the advanced accounting knowledge and technical terminology required to do so.
29	Cohen et al.	2017	Governmental accounting, in general	Quantitative, Questionnaire (Survey), Descriptive quantitative analysis	Empirical	Gen	Gen	⇨ *Analysis of whether the use of modern (IT) technology could foster citizens' interest in popular reporting, using a popular report of a fictitious municipality developed in three different formats: PDF, flip book, and website.* - The use of popular reports by citizens seems to be limited. - The website format outperforms the other formats based on citizens' evaluations. Online tools also offer advantages, such as accessibility and cost savings. - Public financial data presented through comparative and dynamic website popular reports would increase accountability and democratic participation. - Continuous online updates and on-demand information could also boost citizen interest in popular reports.
30	Cohen et al.	2019a	Governmental accounting, in general	Quantitative, Statistical analysis (Regression)	Empirical	CA (Greece & Italy)	Loc	⇨ *Comparative analysis of the role influence of political factors on earnings management practices in Greek and Italian local governments.* - Politicians and public administrators may manipulate accrual accounting data due to stakeholder pressure. Local governments engage in creative accounting to present net earnings close to zero. - Auditors, the media, and citizens should monitor net earnings and trends. - Political factors, especially during local government elections, influence earnings management. Election years, pre-election years, term length, and council size also affect earnings management. Moreover, strong oversight from authorities, the media, and citizens can foster earnings management. In addition, the significance of local government elections and the presence of strong "watchdogs" can exert pressure on politicians to engage in earnings manipulation.
31	Cohen et al.	2019b	Accrual-based accounting reforms, IPSAS	Qualitative mixed-methods, Questionnaire (Survey), Interviews, Document analysis	Empirical	CA (European member countries)	Loc	⇨ *Comparative analysis of the requirements and expectations regarding accounting information and performance measurement information for internal or external decision-making and accountability on the basis of the administrative systems in local governments.* - Legal requirements regarding accounting and performance measurement information vary across countries due to different needs. - Accounting reforms oriented towards accruals have been adopted without informing the systems related to administration, accountability, everyday decisions, and assessment from oversight authorities. - There is often a discrepancy between the accounting and performance measurement information needed for internal and external purposes, as determined by the existing administrative system, and the information required by law for decision-making and accountability. - The lack of integration between accrual accounting reforms and administrative systems affects their use. It is therefore unsurprising that accruals are only used to a limited extent. However, this may change in the future due to policy conditionality in some European countries.

32	Cohen et al.	2021b	IPSAS	Qualitative, Normative analysis	Descriptive / Normative	Gen	Gen	⇨ *Debate on IPSAS adoption by EU MS in the context of COVID-19 pandemic, with a specific focus on IT systems, accounting education for preparers, or citizens as users.* In contrast to the 2008 financial crisis, the current situation calls for government financial support rather than austerity measures. It also accelerates the need for harmonized accrual accounting systems. - The EU should seize on the COVID-19 crisis as an opportunity to establish its own accrual reporting standards and corresponding IT system, while providing education initiatives for accounting preparers in universities, for example. - Unfortunately, the EPSAS project initiated after the 2008 crisis lacks a clear completion plan. - The implementation costs of EU-wide accounting reform are no longer a significant barrier. - Furthermore, the accounting reform project presents an opportunity to identify citizens' financial information needs.
33	Cuadrado-Ballesteros et al.	2020	Accrual-based accounting reforms, IPSAS	Quantitative, Statistical analysis (Regression)	Empirical	CA (International organizations)	Gen	⇨ *Comparative analysis of the effect of accrual-basis systems and the IPSAS adoption on corruption.* - Corruption tends to decline as governments make progress in implementing of public sector accounting reforms, including the adoption of accrual accounting and IPSAS.
34	Evans & Patton	1987	Governmental accounting, in general	Quantitative, Statistical analysis (Regression)	Empirical	SC (USA)	Reg	⇨ *Development and testing of models for monitoring and signaling demands for public sector accounting and financial reporting.* - Cities with higher debt, professional city officials, and GAAP reporting requirements are more likely to participate in the Government Finance Officers Association Certificate on Conformance Program (CCP), which is used as a proxy for financial reporting quality. - Bond rating agencies cite GAAP compliance as a criterion for reduced interest costs, which aligns with the CCP as a signaling mechanism. - Cities with higher debt levels are more likely to pursue the CCP in order to reduce their interest costs, potentially resulting in increased wages or non-monetary benefits for city officials.
35	Fuchs et al.	2017	Accrual-based accounting reforms, IPSAS	Mixed-methods, Qualitative document analysis, Semi-structured interviews, Quantitative descriptive analysis	Empirical	SC (Switzerland)	Reg	⇨ *Analysis of the impact of different accrual accounting reforms on financial reporting and elaborates how this new information has affected decision-making processes, using the example of the Swiss subnational level.* - Qualitative evidence from Swiss cantons suggests that accurate financial information resulting from new accounting regimes prompts conceptual and strategic thinking about asset and liability management. - The degree of financial reporting development corresponds with the relevance of the information integrated into decision-making processes. - The implementation of IPSAS, together with a comprehensively managed government balance sheet, is seen as a means of ensuring more resilient government resources and finances. - Accrual accounting information is essential for assessing the ability to cope with adverse events and provide future services, beyond a focus on liabilities or balanced budgets. A government balance sheet provides information on assets, liabilities, and liquidity/equity, integrating relevant information on the ability to cope with adverse future events. - Although there are challenges in determining the appropriate values of assets and liability, changes in accounting regimes can lead to a better understanding of government assets, thereby increasing resilience. - Financial reports should be viewed as a strategic device for actively shaping policies to achieve government resilience.

36	Gomes et al.	2015	IPSAS	Qualitative mixed-methods, Document analysis, Interviews	Empirical	SC	Gen	⇨ *Analysis of the reform of public accounting in Portugal through the adoption of IPSAS, highlighting the perceptions of different stakeholders.* - Portugal's environmental and institutional context plays a significant role in determining the nature and scope of reform stimuli and content. - The context of financial crises and external pressures to cut public deficits and improve financial information quality appear to be the most important factors influencing changes in public accounting. - High stakeholder cohesion indicates a collaborative process that is crucial for successful reform implementation. - External pressures, technical conditions, and strategic planning are key factors influencing reform stimuli and outcomes. - Stakeholders have identified political commitment, stakeholder participation, and networking as key factors in the reform process.
37	Gomes et al.	2019	IPSAS	Qualitative mixed-methods, Document analysis, Interviews	Empirical	CA (Portugal & Spain)	Gen	⇨ *Comparative analysis of the process of implementing the IPSAS for consolidated reporting in Spain and Portugal.* - The IPSAS framework has gained prominence in recent years and served as a reference for accounting modernization and harmonization efforts in many countries, including Spain and Portugal. - Both Spain and Portugal have reformed their accounting standards using IPSAS as a reference, although Portugal is still in the process of implementing these standards. - Consolidated financial statements based on IPSAS have been developed, aiming to suit the characteristics of the public sector, despite criticism of their alignment with business sector standards. - In Spain, consolidated financial statements are not commonly used for management or decision-making purposes, and there is no legal requirement to prepare them. Professionals frequently opt for budgetary reporting, citing limited benefits from accrual accounting and consolidated financial statements. - In Portugal, the context is more conducive to the use of consolidated financial statements, as the consolidation process is highly institutionalized. However, accounting professionals report limited practical use of consolidated information for management decisions, with politicians and managers relying on other tools and control systems.

38	Gómez-Villegas et al.	2020	IPSAS	Qualitative mixed-methods, Document analysis, Interviews	Empirical	CA (Latin American countries)	Gen	⇨ *Comparative analysis of the driving forces, obstacles, and challenges in adopting or adapting IPSAS in Latin American countries.* - The adoption of accrual accounting represents an innovation in public accounting systems, driven by public financial management reforms and guided by the IPSAS. The transition aims to enhance comparability, information content, decision support, transparency, and accountability. - Despite efforts to legitimize accrual accounting and IPSAS, criticisms remain regarding their potential, actual effects, and suitability for application. - In Latin America, ongoing reforms are using IPSAS as a reference for introducing accrual accounting. Several regional countries, including Colombia, Peru, Chile, Brazil, and Costa Rica, have endorsed IPSAS and are making progress in implementing them. However, the pace of implementation varies. Other countries, such as Ecuador, El Salvador, Guatemala, Panama, and Paraguay, have also endorsed IPSAS and are working towards implementation, with notable achievements, including institutionalizing accounting offices, professionalizing public financial management experts, and improving information on public sector assets. - The process of IPSAS institutionalization in Latin America reflects international isomorphism, with governments influenced by mimicry among peers and pressure from international organizations. However, some countries may claim compliance with IPSAS without fulfilling prerequisites or implementing necessary internal changes, indicating a mix of innovation, isomorphism, and rhetoric in the region. - Despite administrative and financial management reforms spanning over three decades in Latin America, improvements in public administration efficiency and in meeting basic population needs have been limited.
39	Guthrie	1998	Accrual-based accounting reforms	Qualitative, Historical-critical analysis	Empirical	SC (Australia)	Gen	⇨ *Contextual historical analysis of the recent development of accrual accounting in the Australian public sector.* - The implementation of accrual accounting in Australia has significantly changed the manner in which annual financial and budget reports are prepared. - This influx has resulted in the redefinition of key financial terms, which are argued to have significant implications for the ongoing process of transformation.
40	Guthrie et al.	1999	Accrual-based accounting reforms	Qualitative, Critical analysis case studies	Empirical	CA	Gen	⇨ *Comparative overview of the key findings and reflections from an in-depth, two-year comparative study examining experiences with (and without) NPFM reforms in eleven different countries.* - Accounting for NPFM developments through simplistic explanatory variables is not unproblematic. - Alternative modes of analysis are needed that are more closely aligned with the distinct national traditions and values associated with the delivery of public services.

41	Heald & Hodges	2015	Governmental accounting, in general	Qualitative mixed-methods, Document analysis, Interviews	Empirical	Gen (EU member countries)	Gen	⇨ *Analysis of how austerity has impacted to date upon EU financial reporting developments and how this might influence future reforms.* - The shock of post-2008 austerity and the Eurozone crisis has propelled EPSAS development, highlighting the influence of broader economic conditions on accounting reforms. - The implementation of EPSAS represents a critical juncture in European public sector accounting, potentially breaking path-dependent characteristics in many EU MS. - Despite efforts to increase fiscal transparency through EPSAS, austerity conditions also drive accounting arbitrage, with attempts to circumvent financial reporting and statistical accounting standards. - The availability of EPSAS data is expected to streamline the process of external judgment (fiscal surveillance) by providing input into statistical accounts. However, the reliability and legitimacy of these data, as well as their interpretation for policy purposes, may be challenged by national governments or citizens. - The subjectivizing role of EPSAS may be promoted through increased centralization of authority at the EU level and within individual EU MS, facilitated by the implementation of uniform accounting systems.
42	Hepworth	2003	Accrual-based accounting reforms	Qualitative, Normative analysis	Descriptive / Normative	Gen	Gen	⇨ *Analysis of the preconditions that governments need to meet to ensure that the full benefits of accrual accounting are achieved.* - The introduction of accrual accounting should be accompanied by broader reforms in public sector management. These reforms will require consultation, acceptance, and involvement of various stakeholders, including the accounting profession, financial managers, auditors, and legislators. - The successful implementation of accrual accounting also depends on adapting private sector accounting standards, developing public sector-specific standards, and ensuring transparency in the standard-setting process. Additionally, the support and understanding of external auditors are crucial for the transition. - The introduction of accrual accounting should be part of a comprehensive reform process that carefully considers the prerequisites for success. Rushing into reform without addressing underlying financial control, management, and governance issues could lead to significant risks and failures.
43	Ingram	1984	Governmental accounting, in general	Quantitative, Statistical analysis (Regression)	Empirical	SC (USA)	Loc	⇨ *Analysis of the relationship between economic factors and cross-sectional variation in accounting practices of US state governments.* - Voter monitoring of government finances, internal monitoring by administrators, and incentives to reduce debt costs are correlated with increased accounting information disclosure. - Governor-appointed administrators and legislature-appointed auditors are associated with higher levels of information production than elected administrators or auditors. - The selection processes for administrators and auditors may result in varying levels of training, understanding of accounting systems, and incentives for financial monitoring.
44	Jones & Caruana	2016	IPSAS	Qualitative mixed-methods, Document analysis, Interviews	Empirical	SC (Malta)	Cen	⇨ *Analysis of the circumstances that led to IPSAS adoption by the Maltese central government.* - Malta considers credibility the most important factor, which derives from the adoption of internationally recognized and accepted standards. - EU pressure did not influence the Maltese government's decision on accounting policy, but there is an undercurrent of potential pressure.

45	Jorge et al.	2019	IPSAS	Mixed-methods, Qualitative content analysis, Questionnaire (Survey), Descriptive quantitative analysis	Empirical	CA (Portugal, Spain)	Gen	⇨ *Comparative analysis of the drivers of IPSAS adoption and process development through an illustrative comparison between Spain and Portugal.* - Standard setters in Spain and Portugal have sought to align existing systems with IPSAS for international harmonization and alignment with IFRS. - Troika pressure, particularly from the IMF due to the financial crisis, has driven IPSAS adoption in Portugal, while the need for comparability with the business sector has driven IPSAS adoption in Spain. - In both countries, major challenges included training civil servants, adapting software, and changing the management of public entities. - Portugal expected low financial costs, as accrual accounting systems were already in place. - Neither country received direct support from the IPSASB, but Portugal did receive technical assistance from the IMF. - Spanish standard setters emphasized comparability with international standards, while Portuguese ones focused on transparency and accountability. - Changes in the accounting for infrastructure assets have improved the control of assets and liabilities.
46	Lande	2006	Accrual-based accounting reforms	Qualitative, Conceptual analysis, Case studies	Descriptive / Conceptual	CA (France)	Gen	⇨ *Comparative analysis and discussion on the definition and strategies of implementation of accrual accounting in the public sector, using France and the EU level as examples.* - Accrual accounting represents a reform in public sector information disclosure, often triggered by financial scandals. - Reform pressures include coercive, normative, and mimetic isomorphisms that shape organizational expectations and systems. - Despite widespread adoption, there are differences in definitions of accrual accounting between OECD and developing countries. - Differences may reflect countries' exercise of free will and potential for innovation. - IPSASB's intention to integrate user-specific needs may result in a public sector accounting framework that differs from private sector accounting.
47	Lande & Rocher	2011	Accrual-based accounting reforms	Qualitative, Conceptual, Descriptive analysis	Descriptive / Conceptual	Gen	Gen	⇨ *Conceptual reflection on the conditions for the application of accrual accounting in the public sector.* - The introduction of accrual accounting in the public sector raises technical issues, such as the recognition of intangible assets and tax treatment. - Each country has to adapt international standards to its circumstances or develop new practices, as seen in the Flemish municipalities. - There are concerns about the lack of standards in sensitive areas, which could lead to politically motivated national standards. - The environmental and organizational factors affecting the adoption of accrual accounting need to be thoroughly examined. - The adoption of accrual accounting marks the beginning of new technical and managerial considerations rather than a definitive end.

48	Lapsley	1999	Accrual-based accounting reforms	Qualitative, Critical literature review	Descriptive / Critical	Gen	Gen	⇨ *Discussion of whether accounting is an instrument of substantive efficiency or rationalizing modernity in the context of NPM.* - Accounting plays a crucial role within the NPM paradigm, contributing to the rationalization and modernization of the public sector by providing measurements, documenting performance, and facilitating negotiations. - Despite the central role of accounting, there are challenges to its primacy, including the development of multidisciplinary groups and advances in information technology that may render traditional accounting functions obsolete. - There is evidence of increased visibility and controversy surrounding accounting practices within NPM, particularly in relation to capital asset accounting and financing mechanisms, such as the Private Finance Initiative. - The impact of NPM and accounting practices varies across countries and public service sectors, with mixed results in terms of efficiency gains.
49	Lapsley et al.	2009	Accrual-based accounting reforms	Qualitative, Critical literature review	Descriptive / Critical	Gen	Gen	⇨ *Brief comment on the nature and extent of accrual accounting in the public sector worldwide.* - The sustained promotion of NPM—which emphasizes quantification and results—in various countries has led to the adoption of reform ideas from the private sector, including accrual accounting. However, the latter presents significant challenges and complexities within the context of public sector accounting. - The IFAC supports the adoption of accrual accounting by governments, emphasizing its benefits for financial reporting and decision-making. - However, presenting accrual accounting as a matter of course overlooks ongoing debates and criticisms within the field of public sector accounting. - Scholars have raised concerns about the applicability of private sector accounting concepts to the public sector, particularly the treatment of assets and liabilities. - The concept of capital preservation and erosion highlights the limitations of accrual accounting in preserving capital in public sector organizations. - While technical and managerial arguments challenge the effectiveness of accrual accounting, political factors play a significant role in its adoption, with some countries tolerating cash-based accounting standards due to political influence.
50	Lüder	1992	Governmental accounting, in general	Qualitative, Conceptual and Descriptive case studies	Empirical	Intercontinental CA	Gen	⇨ *Development of a comprehensive contingency model as a basis for a comparative analysis of accounting innovations in the public sector.* - The introduction of a more informative accounting system depends on the specific combination of favorable and unfavorable conditions within four modules—namely, incentives, social structural variables related to information users, structural variables describing the political-administrative system, and implementation barriers. - Countries with favorable conditions for innovation in accounting systems are Canada, Denmark, Sweden, the United States (at the federal level), and other states that have adopted Generally Accepted Accounting Principles (GAAP). - Conversely, unfavorable conditions for innovation prevail in Germany and France, and to a lesser extent in the United Kingdom and the EU.
51	Lüder	2002	Accrual-based accounting reforms	Qualitative, Conceptual analysis	Descriptive / Conceptual	Intercontinental CA	Cen & Loc	⇨ *Critical discussion of the application and limitations of Lüder's original contingency model (1992), with modifications and extensions.*

52	Mack & Ryan	2006	Governmental accounting, in general	Quantitative, Questionnaire (Likert scale, Survey), Descriptive frequency analysis	Empirical	SC (Australia)	Reg	⇨ *Analysis of the appropriateness of a general-purpose financial reporting model derived from a "decision-useful" framework for Australian government departments.* - General purpose financial reports (GPFR) in the public sector prioritize accountability over economic decision-making. - Reports designed for an accountability framework should include different information than reports designed for a decision-making framework. - Government users prioritize performance information that evaluates departmental effectiveness over traditional financial measures, such as profit and loss. - Private sector accounting concepts may not adequately serve the needs of government agencies. - GPFRs are increasingly seen as inadequate for public sector users who seek performance information in addition to financial data.
53	Manes-Rossi et al.	2016	Accrual-based accounting reforms, IPSAS	Qualitative, Literature review, Normative analysis	Descriptive / Normative	Gen (EU member countries)	Gen	⇨ *Discussion on the current benefits and purposes of harmonizing public sector financial reporting in EU Member States.* - NPFM has been at the forefront of modernization efforts, emphasizing the adoption of accrual accounting systems. - The adoption of accrual accounting is inevitable and politically driven. - The benefits of harmonization in the EU include providing accurate information for the European System of National and Regional Accounts (ESA) 2010, enhancing understandability and credibility with market participants, establishing a transparent and common accounting framework across MS, facilitating informed decision-making and reducing the cost of capital, while improving the comparability of accounting data for policy making and financial transparency. - There is still a need to preserve existing national accounting systems to meet specific national needs and preferences. - The coexistence of alternative accounting systems alongside harmonized standards should be encouraged to maintain flexibility and meet different user needs. - The transition to harmonized accounting systems entails costs related to technological investments, retraining, asset valuation, and consultancy. - Financial constraints in some countries may challenge modernization efforts, but high-quality information can enhance transparency and credibility, potentially offsetting these costs.
54	Mnif Sellami & Gafsi	2019	IPSAS	Quantitative, Statistical analysis (Regression)	Empirical	Intercontinental CA)	Gen	⇨ *Comparative* analysis *of environmental factors explaining IPSAS adoption.* - There is a positive effect of external public funding (coercive isomorphic pressure), the degree of external openness (mimetic isomorphic pressure), and the importance of public sector organizations on IPSAS adoption. - The availability of local GAAP has a negative effect on this decision, while the level of education (normative isomorphic pressure) is an insignificant factor.
55	Ouda	2006	Accrual-based accounting reforms	Qualitative, Normative analysis	Descriptive / Normative	Gen	Gen	⇨ *Analysis of the benefits and shortcomings of cash basis accounting.*
56	Oulasvirta	2014	IPSAS	Qualitative mixed-methods Literature review, Interviews, Document analysis, Participatory observations	Empirical	SC (Finland)	Cen	⇨ *Analysis of the non-adoption of IPSAS by a developed country, using the example of the Finnish central government.* - The Finnish central government's accounting tradition builds on prudence, with accrual accounting based on a revenue/expense model and historical costs rather than an asset/liability model and fair value. - The reluctance to adopt IPSAS in the 2000s was due to a strong domestic accounting tradition that resisted change, a lack of coercive pressure and the absence of significant changes in the government accounting environment. - There is a potential for future challenges to the Finnish accrual accounting model if EU or other coercive pressures emerge, or if normative and mimetic pressures from key accounting officials and Nordic countries supporting IPSAS increase.

57	Oulasvirta & Bailey	2016	Accrual-based accounting reforms, IPSAS	Qualitative mixed-methods, Document analysis, Interviews, Conference observations	Empirical	CA	Gen	⇨ *Comparative analysis of the agenda-setting of governmental accounting reforms in EU countries with regard to international harmonization of standards.* - The final outcome of standardization policy is contingent upon the strength of resistance from idiosyncratic national accounting cultures and political forces that determine the extent of loose coupling of the reform in the national and local contexts of individual member states. - The harmonized application of accrual accounting is likely to be only a minor instrument of EU fiscal governance and its excessive deficit procedure, which aims to prevent governments from running structurally unbalanced public finances.
58	Paulsson	2006	Accrual-based accounting reforms, IPSAS	Quantitative mixed-methods, Questionnaire (Likert scale), Interviews (Survey)	Empirical	SC (Sweden)	Cen	⇨ *Presentation of the experience with the use of accrual accounting information in the Swedish central government.* - Contrary to initial assumptions, accrual accounting information is widely used in the Swedish central government. However, its use is difficult to link directly to specific budget phases or decisions, and it serves more as a general information resource. - There are significant variations in the use of different types of accounting information, with cost per different object being favored over general purpose financial statements. The degree to which accrual accounting information is used is influenced by organizational context and financial circumstances. - Agencies that are primarily fee-funded tend to rely more on income statements, while larger agencies are more likely than smaller ones to favor cost analysis. - Accrual accounting information is more likely to be used during financial crises within certain agencies. In public organizations where cash-based budgeting is the predominant practice, accrual accounting information plays a relatively minor role in budgetary politics and policymaking. - In the Swedish central government, accrual accounting primarily serves as a management tool within agencies.
59	Pina & Torres	2003	Accrual-based accounting reforms, IPSAS	Quantitative, Statistical analysis (Index)	Empirical	CA (OECD and EU member countries)	Cen	⇨ *Comparative analysis of the transformation of governmental accounting in the central governments of the OECD member countries and the EU, using IPSAS as a benchmark.* - There is no single model for accrual accounting in the public sector, with different adaptations and degrees of implementation even within countries that have adopted accrual accounting. - There are differences in the composition of financial statements among countries that use accrual accounting, including differences in financial statement presentation. - In Anglo-American countries, accrual accounting is associated with market-oriented management styles, while in Finland and Sweden, it is more associated with decentralization through agencies. Continental European countries show a less straightforward relationship between accrual accounting and managerial devolution due to limited devolution initiatives. - The adoption of accrual accounting may be driven by modernization, transparency, and external pressure for NPM changes in continental European countries.

60	Pina et al.	2009	Accrual-based accounting reforms, IPSAS	Qualitative, Document analysis	Empirical	CA	Loc	⇨ *Comparative analysis of the degree of accrual implementation in EU local government accounting systems.* - The adoption of accrual accounting is slower in areas where there is a greater break with cash accounting practices, such as tangible fixed assets, operation statements, and disclosures related to retirement benefits. - There are differences in the implementation of accrual accounting among EU countries, with leaders such as the UK and Sweden adopting typical financial statements under accrual-based systems. - Institutional theory helps explain the implementation process, with NPM reforms driving accrual adoption in Anglo-Saxon countries, while mimetic isomorphism plays a role in continental European countries. - The gap between legal requirements for accrual accounting and actual implementation is influenced by the interest of the central government and the monitoring role of audit offices. - Accrual accounting is seen as useful for long-term economic planning and for improving accountability and transparency, especially in the euro-area countries. - The adoption of accrual accounting is influenced by the balance between central/regional government interests and local government responsiveness. - Despite initial reluctance, accrual accounting has been widely adopted in OECD countries over the past two decades, driven by demands for transparency and accountability. - Accrual accounting serves not only to improve managerial decision-making, but also to enhance financial transparency and accountability, serving as a symbol of legitimacy. - EU countries are adopting accrual accounting as the basis for GPFR disclosure, and there is no sign of this trend reversing.
61	Polzer et al.	2022	IPSAS	Qualitative mixed-methods, Document analysis, Interviews	Empirical	CA	Gen	⇨ *Comparative analysis of the reasons given by different actors from nine European countries for not implementing the unmodified IPSAS and proposal of a taxonomy of these reasons.* - Deviations and differences in IPSAS adoption in different countries can be explained by several factors, including relevance of specific IPSAS issues, the numerous accounting options offered by IPSAS, the perception of inappropriate solutions for specific public sector transactions, competition with other accounting standards (e.g., IFRS, planned EPSAS), compliance with other regulations, cost-benefit considerations of IPSAS adoption, minimization of reform changes, and conflicts with IPSAS traditions.
62	Roje et al.	2010	Accrual-based accounting reforms	Qualitative, Document analysis	Empirical	CA	Gen	⇨ *Comparative analysis of the adequacy of the governmental accounting and financial reporting model, reflecting the existing accounting regulations and financial reporting framework in Slovenia, Croatia, and Bosnia and Herzegovina.* - All three countries (Slovenia, Croatia, and Bosnia and Herzegovina) are moving towards the implementation of accrual accounting systems. - Oversight of the administrative and regulatory transition of government accounting and financial reporting is primarily centralized in the ministry of finance. - Government accounting systems are deeply integrated into the political and economic environment, particularly in the budgeting process. This integration influences the degree of development of financial information systems and constrains reforms. - The process of entry into European integration has influenced the development and alignment of government accounting systems with international standards, including IPSAS, as part of efforts to meet EU requirements and improve the understanding of public expenditure policies. - There is often a perception that accounting changes, such as the transition to accrual accounting and the adoption of IPSAS, are primarily technical rather than managerial. This perception can limit the focus on the quality and use of accounting information within the broader management system.

63	Schmidthuber et al.	2022	IPSAS	Mixed-methods, Systematic literature review, Quantitative descriptive analysis	Empirical	Gen	Gen	⇨ *Systematic literature review and future research agenda on the antecedents, development, and impact of IPSAS.* - The current state of the art reveals seven research gaps that concern the study of individual IPSAS for development and modification, the cross-national study of IPSAS adoption, the impact of IPSAS on policymakers' decision-making behavior, normative research on IPSAS, the theoretical foundations of research on IPSASs, the use of more advanced statistical techniques to link causes and effects, and the embedding of IPSASs in accounting research.
64	Steccolini	2018	Governmental accounting, in general	Qualitative, Critical literature review	Descriptive / Critical	Gen	Gen	⇨ *Reflections on the different avenues for public sector accounting and accountability research in a post-NPM context.* - Public sector accounting flourished during the NPM era, leading to extensive research on NPM-related reforms. However, the exclusive focus on NPM may have hindered further theorization and integration with other disciplines. - Future developments in public sector accounting should take into account its multidisciplinary nature and emphasize the "public" aspect of research. - Rather than seeking a new paradigm, scholars should reflect on the abstract notion of "publicness" in accounting research and explore its intersection with various sectors and interests. - Accounting scholars should examine how accounting and accountability systems respond to evolving concepts of publicness. - Engaging with current trends in public administration studies, such as public value, performance management and crisis management, offers opportunities for interdisciplinary collaboration. - The focus should shift to understanding the role of accounting in fostering trust, democracy, collaboration, and public value, thereby contributing to societal well-being and happiness.
65	Tickell	2010	Accrual-based accounting reforms	Qualitative, Semi-structured interviews	Empirical	SC (Fiji)	Gen	⇨ *Analysis of Fiji's attempt to use accrual accounting as its financial reporting format.* - Fiji's transition to accrual accounting faces significant challenges, including slow progress and reduced project scope. - Staff training is a critical aspect, with a shift towards more structured and focused approaches. However, concerns remain about the retention of trained staff who might seek higher salaries and benefits in the private sector. - The move to accrual accounting is more than just a software change, requiring significant organizational changes, particularly in terms of the adequacy and skepticism of the training of the staff concerned. However, investment in infrastructure, particularly computer hardware, is also essential for proper asset and liability accounting, asset management, and internal control procedures. Financial constraints may have limited the government's ability to make such investments. - Given these challenges, it may take many years for Fiji and similar countries to make the full transition from cash to accrual accounting. This raises the question of the costs and benefits of implementing accrual accounting in a developing country like Fiji, but also for more developed countries that have already made the transition.

66	Torres	2004	Accrual-based accounting reforms, IPSAS	Mixed-methods, Qualitative document analysis, Quantitative statistical analysis (Index)	Empirical	Intercontinental CA	Cen	⇨ *Comparative analysis of the information content of the financial statements of Anglo-Saxon, Nordic, continental European, and Mercosur central governments, using IPSAS No. 1 as a benchmark.* - In the early 2000s, international institutions favored the presentation of financial information on an accrual basis, with models differing from IPSAS in the EU. - However, there is no universally implemented accrual accounting model at the organizational level, leading to heterogeneity among government accounting systems in different countries. - The IPSAS, supported by organizations such as the IMF, the World Bank, and the OECD, serve as benchmarks for determining the quality of public sector accounting information and for harmonizing it. - Most developed countries have adopted basic aspects of accrual accounting for budgeting and reporting, suggesting a long-term convergence towards IPSAS-based government accounting systems. - The changes observed in government accounting are partly influenced by styles of public administration and NPM initiatives, with the demand for accrual information triggered by public sector reforms in Anglo-Saxon countries, Finland, and Sweden. - In continental European countries, the adoption of accrual accounting is influenced by modernization efforts, transparency goals, and external pressure for NPM changes. - In Mercosur, factors such as credibility vis-à-vis foreign investors and pressure from international institutions are driving the adoption of accrual accounting. - Harmonization of accounting systems at the aggregate and organizational levels can improve fiscal policy and decision-making, especially to meet the Maastricht criteria in continental European countries. - Encouraged by public sector reforms and international organizations, government accounting is moving toward full accrual accounting to improve the accountability, reliability, and transparency of government financial reports.

QUESTIONNAIRE CONCERNANT LES PRATIQUES COMPTABLES DE VOTRE CANTON AVANT LE PASSAGE AU MCH2

CANTON:

Opérations de régularisation (transitoires)

1. Avant le passage au MCH2, une limite concernant les opérations de régularisation (transitoires) était-elle définie ?

☐ Oui

☐ Non

2. Si oui, comment cette limite se situait-elle par rapport à la limite fixée au moment du passage au MCH2 ?

☐ La limite de régularisation était plus haute

☐ La limite de régularisation était plus basse

☐ La limite de régularisation n'a pas changé

☐ La limite de régularisation a été supprimée avec le passage au MCH2

Comptabilisation des recettes fiscales

3. Avant le passage au MCH2, selon quel principe les recettes fiscales, en particulier l'impôt sur le revenu, la fortune, le bénéfice et le capital, étaient-elles comptabilisées ?

☐ Principe de caisse

☐ Principe de l'échéance

☐ Principe de la délimitation de l'exercice

Préfinancements

4. Avant le passage au MCH2, les préfinancements étaient-ils autorisés ?

☐ Oui, dans tous les cas

☐ Oui, sauf exception

☐ Non, dans tous les cas

☐ Non, sauf exception

Comptabilisation des subventions d'investissement reçues

5. Avant le passage au MCH2, comment les subventions d'investissement reçues par le canton étaient-elles comptabilisées ?

- ☐ Principe du produit net
- ☐ Principe du produit brut

Limite d'activation des dépenses d'investissement

6. Avant le passage au MCH2, une limite d'activation des dépenses d'investissement était-elle définie ?

- ☐ Oui
- ☐ Non

7. Si oui, comment cette limite se situait-elle par rapport à la limite fixée au moment du passage au MCH2 ?

- ☐ La limite d'activation était plus haute
- ☐ La limite d'activation était plus basse
- ☐ La limite d'activation n'a pas changé
- ☐ La limite d'activation a été supprimée avec le passage au MCH2

Méthode d'amortissement

8. Avant le passage au MCH2, selon quelle méthode les amortissements étaient-ils comptabilisés ?

- ☐ Méthode d'amortissement dégressif en tenant compte de la durée d'utilisation
- ☐ Méthode d'amortissement linéaire en tenant compte de la durée d'utilisation
- ☐ Autres

9. Si autres, veuillez préciser la/les méthode(s) :

Début de l'amortissement

10. Avant le passage au MCH2, à quel moment l'amortissement commençait-il ?

- ☐ Au début de l'utilisation de l'infrastructure concernée
- ☐ Avant le début de l'utilisation de l'infrastructure concernée, par exemple au début des travaux de construction
- ☐ Autres

11. Si autres, veuillez préciser :

Amortissements supplémentaires

12. Avant le passage au MCH2, comment les amortissements supplémentaires étaient-ils traités dans la législation (lois, ordonnances, directives) ?

- ☐ Ils étaient expressément interdits par la législation
- ☐ Ils étaient expressément autorisés par la législation
- ☐ La législation ne disait rien à leur propos

13. Si la législation les autorisait expressément ou ne disait rien à leur propos, étaient-ils utilisés ?

- ☐ Oui
- ☐ Non

Amortissements du découvert

14. Avant le passage au MCH2, comment l'amortissement du découvert était-il traité dans la législation (lois, ordonnances, directives) ?

- ☐ La législation l'exigeait
- ☐ La législation le laissait facultatif
- ☐ La législation ne disait rien à son propos

15. Si la législation le laissait facultatif ou ne disait rien à son propos, était-il utilisé ?

- ☐ Oui
- ☐ Non

Séparation bâtiments-terrains bâtis

16. Avant le passage au MCH2, les bâtiments et les terrains sur lesquels ils étaient construits étaient-ils portés au bilan séparément ?

- ☐ Oui, dans tous les cas
- ☐ Oui, sauf exception
- ☐ Non, dans tous les cas
- ☐ Non, sauf exception

17. S'il y avait des exceptions, veuillez indiquer lesquelles :

Tableau des flux de trésorerie

18. Avant le passage au MCH2, les comptes annuels contenaient-ils un tableau des flux de trésorerie ?

☐ Oui

☐ Non

Évaluation du patrimoine administratif

19. Avant le passage au MCH2, selon quel principe le patrimoine administratif était-il évalué ?

☐ Principe de la valeur d'acquisition dépréciée

☐ Principe de la valeur vénale

Évaluation du patrimoine financier

20. Avant le passage au MCH2, selon quel principe le patrimoine financier était-il évalué ?

☐ Principe de la valeur d'acquisition dépréciée

☐ Principe de la valeur vénale

Lissage du résultat annuel

21. Avant le passage au MCH2, une réserve, une provision, un fonds ou autre était-il utilisé pour lisser le résultat du compte de fonctionnement, notamment pour couvrir un excédent de charges ?

☐ Oui

☐ Non

Indicateurs financiers

22. Avant le passage au MCH2, des indicateurs financiers accompagnaient-ils les comptes publiés ?

☐ Oui

☐ Non

Part II — Three Essays on the Faithful Reporting of Financial Information in the Public Sector: Insights from Switzerland

7 On the road towards IPSAS with a maturity model: A Swiss case study

Essay 1

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Abstract

The International Public Sector Accounting Standards (IPSAS) have driven the modernisation of public systems of financial information. The extent and pace of their implementation remain uneven. The goal of this study was to measure whether and how much governmental accounting standards converge towards IPSASs' true and fair approach. The empirical context of the 26 Swiss cantons was used to apply a simplified maturity model. Under two successive reforms (maturity stages), each canton's accounting standards were assessed and scored. The derived maturity levels indicate how close—or far—each canton has stood from a state of full IPSAS compliance (full maturity), at each stage of the process. As Swiss cantons have a certain degree of autonomy in setting their own accounting standards, the evolving paths they followed when implementing IPSASs were heterogeneous. The maturity level attained by each canton within each stage thus varies. However, the results show that the two successive reforms had an overall favourable impact on Swiss cantonal accounting standards compliance with IPSAS, and fairly improved the faithfulness of reported financial information. This research contributes to the international literature on public accounting standards and provides new insights for the assessment of convergence with IPSAS.

Keywords

Maturity model; Multicriteria decision analysis; Accounting standards; IPSAS; Convergence; Financial faithfulness; Swiss cantons.

Acknowledgment

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7.1 Introduction

Many governments have implemented accounting reforms over the past forty years to respond more effectively to growing demands of financial accountability and reliability but also for decision-making purposes (Guthrie et al., 1999; Bergmann, 2012). The ongoing development of the *International Public Sector Accounting Standards* (IPSAS or IPSASs) since 1997 has driven forward this modernisation process. It has also provided public entities with a general framework for a harmonised application of accrual accounting principles. Simultaneously, IPSAS have set a yardstick against which to gauge how far the reforms go toward a faithful presentation of financial information. Indeed, there is no legal obligation for governments to adopt these international accounting standards unless their national legislation renders their implementation binding (IFAC, 2019). The incorporation of IPSAS into national or local regulations therefore remains flexible, leading to heterogeneous levels of compliance. Both the scope and content of accounting reforms are influenced by the institutional context and by a government's specific needs, beliefs and preferences (Pina & Torres, 2003; Christiaens et al., 2010). This means that how and when accounting standards are applied, and thus the degree of faithfulness of the financial information, is a constantly evolving and improving process.

The goal of this paper is to precisely measure whether and how much accounting standards converge towards IPSAS. Conceptually, the paper innovates by considering that compliance with these international standards is an evolving process often requiring not only a single reform, but several successive reforms. The concept of maturity model (MM) is well suited to this perspective since it formally defines various maturity stages and dimensions with which to measure overall maturity level. MM has hardly been applied to the field of financial management, and even less to public sector financial management, although it is increasingly applied in other management areas, especially in information systems, as an approach to organisational development, and as a means of organisational assessment (Mettler et al., 2010). For this study, MM is used for this latter purpose.

The procedure relies upon a multicriteria decision analysis technique called MACBETH (Bana e Costa et al., 2016) which requires only qualitative judgments to quantify the relative attractiveness of options (here, accounting practices). Our paper takes advantage of the Swiss empirical context to apply a simplified maturity model. The 26 Swiss cantons (the institutional equivalent of provinces or states in other countries) went through two successive major accounting reforms over the past forty years. Each time, the reform was triggered by an exterior entity, namely an intercantonal body. However, each Swiss canton constitutionally enjoys a high degree of autonomy when setting and applying accounting standards. This means that each canton was able to decide to what extent it would follow the external recommendations and when to implement them. These two reforms delineate two stages of maturity. The cantons all reached the first, then the second maturity stage at different times and, within each stage, demonstrated different maturity levels, i.e. alignment to IPSAS. Consequently, each canton followed its own road at its own pace under successive externally provided maturity guidelines.

Yet, maturity levels generally trended upward, suggesting that both reforms fostered the use of an increasingly sophisticated accrual accounting at the subnational level. It is thus a successful example of what happens when harmonised accounting standards are set at an upper level and lower tiers are then advised to reform their homegrown accounting systems accordingly, while given some kind of implementation margin. The Swiss case could thus inform the initiative to centrally design European public sector accounting standards (EPSAS) that EU country members would then have to implement.

The paper is organised as follows: The next (second) section offers a brief literature review looking first at the assessment of governmental accounting standards and then at the idea and development of maturity models. This allows us to articulate our research questions. The third section introduces the institutional context framing Switzerland's public financial management and accounting. Following that, section four details the methodology used to define the maturity stages and measure the maturity levels. The fifth section provides the results obtained through our empirical investigations in the Swiss cantons and the final section is devoted to our conclusions.

7.2 Literature review

7.2.1 Measuring the harmonisation of accounting standards

Various contributions have addressed the process organisations use to enhance the harmonisation (lesser diversity, greater homogeneity), or actually achieve standardisation (uniformity) of accounting policies at the international level (Tay & Parker, 1990). This evolution of heterogeneous public accounting standards towards a better homogeneity is also referred to as convergence (Qu & Zhang, 2010).

Several studies have assessed the accounting standards set by national or local governments following reforms which aim to shift towards a stricter application of accrual accounting. However, because there is no consistent analytical background for conducting empirical public sector accounting research (Bergmann et al., 2019), some authors used rough methods based on specific benchmarks that are not necessarily common or operable in other contexts (Christiaens, 1999), while others compared homegrown accounting models directly with IPSAS (Benito et al., 2007; Brusca et al., 2013; Christiaens et al., 2015). Indeed, this latter group has gradually become a consistent reference when assessing the international convergence of governmental accounting standards (Manes-Rossi et al., 2016). Nonetheless, many of these qualitative studies were descriptive, only pointing out convergences and divergences without any systematic quantitative measurement of the degree of IPSAS compliance (see, e.g., Brusca & Martínez, 2016).

Originally, accounting harmonisation was quantitatively measured using an index of several accounting criteria and was intended to evaluate how accounting standards were practically applied in both national and international contexts (Van der Tas, 1988). Methodological extensions were then proposed (see, e.g., Carvalho et al., 2007). Other studies have concentrated on the degree of financial disclosure arising from a government's accounting practices. Ingram's (1984) disclosure index, for instance, inspired several studies to measure harmonisation in the presentation of specific accounting elements in financial statements (see, e.g., Stanley et al., 2008). However, national or local accounting requirements have been commonly used as a reference point. A few recent studies (Pina & Torres, 2003; Pina et al., 2009) applied index-based methods to evaluate public sector accounting harmonisation using IPSAS as a benchmark. Furthermore, most index-based studies usually implicitly assumed that the different index components, i.e., the criteria used for assessment, were equally important, therefore unweighted. Yet ignoring the potential differences in importance between criteria could affect the measurement's accuracy (Hassan & Marston, 2019). This issue drives our first research question:

> *RQ1: Are the criteria used to assess accounting standards of unequal importance? That is to say, does the impact they have on the faithfulness of the reported financial information differ?*

If so, this would mean that some accounting and financial reporting practices should be first improved so as to make larger gains toward maturity level and, consequently, toward IPSAS convergence.

7.2.2 Maturity models

Maturity models (MM) arose within the software industry in the 1970s. They have become an important tool for organisational improvement. They are valuable in terms of allowing an organisation to encapsulate its actual development level with respect to a state representing the ideal situation in which to achieve its objectives (Anderson & Jenssen, 2003). MM help to identify strengths and weaknesses compared to an external benchmark, thus providing a roadmap for improvement.

Various MM have been developed both in theory and in practice, mostly to sequence an organisation's path to full maturity and improve its processes. For instance, Harrington's model (1991) offers six consecutive maturity stages, starting with a state where a process is not yet assessed (1) and ending where the considered process is rated world-class and continues to improve (6). Wheeler's (1997) offers four stages: (1) state of chaos, (2) brink of chaos, (3) threshold state, (4) ideal state where the process is in control and customer expectations are met.

Existing maturity models have been criticized despite their popularity, or because of it. According to Röglinger et al., (2012), the majority of existing MM are built upon the practical experience of the researchers. Unsurprisingly, the models then lack a proper theoretical basis. Most provide limited guidance on the specific steps required to increase maturity levels. Cronemyr & Danielsson (2013) also lament the absence of criteria to help users determine a system's current maturity stage, making it difficult to track methodical progression to the next stage. Indeed, criticisms often note the lack of consideration for results. By ignoring the performance relationship, existing MM allow an organisation to move through sequential maturity stages without achieving any noticeable improvement in their business practices (Albliwi et al., 2015).

Despite these criticisms, MM have been widely applied to evaluate processes and to improve the quality and use of technical or managerial resources (e.g., IT digitalisation, information management, e-government) both in business and public administration (Mettler et al., 2010; Andersen & Henriksen, 2006). Campbell et al. (2012) appear to provide the unique example of MM applied to the finance function. The notion of "maturity" has been used in a public sector context (Frintrup et al., 2020) and attempts have been made to categorise the various forms of public accounting encountered (see Lande & Rocher, 2011). As far as we know, only PwC (2014) developed a structured framework to assess 'accounting maturity' in various EU

Member States and Switzerland, according to the extent of their adoption of IPSAS. Accounting maturity—expressed in scores—was then used to provide an indication of the remaining efforts needed to ensure full compliance when implementing EPSASs. However, assessing accounting maturity at a single point in time precluded the exploitation of the temporal dimension (i.e., evolution over time) offered by a full-fledged MM. Furthermore, considering both central and local governments in the same study blurred results, since issues and challenges may differ between institutional levels. Jorge et al. (2016) followed a similar approach to test whether more maturity in implementing IPSAS improves the convergence between governmental accounting and national accounting and reduces the adjustments while translating data from the former to the latter.

The IPSAS reference system can legitimately be considered the stage of full maturity of an accounting and reporting system. Knowing this could then provide a top-down approach towards IPSAS. This approach would be mainly normative with an initial emphasis on what represents maturity and how to measure it (De Bruin et al., 2005). However, a bottom-up approach may be more adequate in the public sector, especially when jurisdictions, like Switzerland's cantons, have varying degrees of autonomy. This latter approach first defines the dimensions and characteristics representing maturity (Lahrmann et al., 2011). It allows the MM to incorporate observed diversity among organisations and non-linearity in the sequence of maturity stages, e.g., moves forward and backward, or skipped stages (Depaoli & Za, 2013; Mettler & Pinto, 2018). This leads to our second research question:

> *<u>RQ2</u>: In cases where jurisdictions have some degree of autonomy for deciding their accounting standards, can a significant diversity be observed among them?*

If so, we recommend a bottom-up approach where dimensions and characteristics of maturity are defined rather than a top-down approach prescribing what "maturity" represents at every stage.

7.3 Public sector accounting reforms in the Swiss cantons

In Switzerland's federalist structure, public finance and accounting policy matters are managed autonomously by the cantons. Concretely, each canton establishes its own Financial Management Act of Parliament (FMAP) defining its fiscal organisation and process, as well as the standards required for preparing and presenting its budget and financial statements.

This institutional setting has fostered the development of diversified accounting standards at the subnational level. For instance, in the mid-1960s, several cantons were already using accounting models inspired by the private sector and similar to accrual accounting, i.e., using an income statement and a statement of financial position. By contrast, other cantons continued to favour traditional cash accounting.

The cantons attempted a few times to coordinate their accounting policies, but without success. However, in the early 1970s, requirements for transparency, comparability and accountability became increasingly prominent in the public sector, notably influenced by the 'New Public Management' (NPM) movement. In 1977, the intercantonal Conference of Cantonal Finance Ministers (CFM) decided to design a first Harmonised Accounting Model (HAM1) and offer it to the cantons (CFM, 1981). The purpose of the CFM gathering is to discuss and coordinate the cantons on fiscal matters when necessary. It has no power to impose policy, only recommend. Therefore, the cantons were free to adopt HAM1 and, if so, to how much they would conform. The heart of HAM1 consisted of a detailed chart of accounts including a statement of financial performance and a statement of financial position. HAM1 thus enshrined accrual accounting and budgeting as the norm for all cantons. However, it included only basic guidance on recognition and measurement and very little on additional disclosure. Consequently, it allowed for hidden reserves and was minimally prescriptive concerning provisions or accrual/deferral of expenses and revenues. Cantonal sovereignty meant this first reform towards accounting standards harmonisation was a slow process. It took until the late-1990s for HAM1 to be fully implemented at the cantonal level. Furthermore, its application was quite varied.

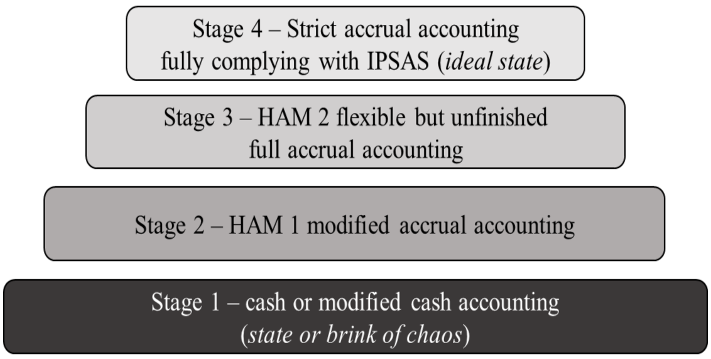
Beginning in the mid-2000s, various pressures arose in both central and subcentral levels of government where a better knowledge of the cost of public goods and services provision was becoming essential. During this same period, IPSAS became available. International capital markets were also asking for financial statements to be prepared in a more standardised way. This context prompted the CFM to design an updated version of HAM1. The second-generation of the Harmonised Accounting Model (HAM2) was released in 2008 and is currently the standard (CFM, 2008). The revised chart of accounts remains central in HAM2. It works alongside 20 standards established as recommendations the cantons may adopt or not. These standards generally follow IPSAS's principle of true and fair accounting. They include all IPSAS presentation requirements and most of the recognition requirements. However, on some points these standards offer the cantons alternative and less stringent accounting policies. Compared to HAM1, HAM2 restricts the possibility of accumulating hidden reserves and requires more systematic accrual/deferral of expenses and revenues. However, it also openly offers some forms of political finessing when preparing the financial statements (Soguel, 2020). Hence by providing alternatives to a strictly aligned IPSAS version, the CFM issued a set of standards that was able to satisfy two broad categories of cantons with possibly competing goals: (a) the cantons that wish their financial statements to give a faithful representation of their financial condition; (b) the cantons that wish to follow a political and prudent approach in their financial management, at the expense sometimes of a sincere and regular presentation of their financial statements. By 2018, all cantons had introduced HAM2.

7.4 Methodology

7.4.1 Definition of maturity stages

The methodology considers the two successive reforms–HAM1 and HAM2– as two maturity stages. HAM1 was already an improvement on the previous stage where some cantons prepared and presented cash-based financial reports. Generally, this early stage can be described as equivalent to Wheeler's (1997) *state or brink of chaos*. HAM1 corresponds to a modified accrual accounting (Lande & Rocher, 2011) where most tangible assets and certain provisions are recognised and where accrual/deferral of expenses and revenues are still only partial. HAM2 intends to strengthen the standards over HAM1, however in a flexible way, notably by allowing governments some possibilities for political finessing. After HAM2, the next stage would be a strict accrual accounting that would ensure full IPSAS compliance. This would then achieve Wheeler's *ideal state* (Figure 1).

Figure 1 – Four maturity stages
(own elaboration)



7.4.2 Measurement of maturity levels

All cantons incorporated HAM1 and then HAM2 into their own legislation, i.e., into their FMAP, at some point in time. However, they exercised their sovereignty to "shop around" within the proposed models in order to meet their own needs, often perpetuating their accounting and financial management practices. As a result, while all eventually reached the same maturity stage, the degree of maturity of their practices varies between cantons within each maturity stage.

Since HAM2 lists explicitly where alternatives are offered to cantons who would not follow the IPSAS, this list provides the necessary criteria to evaluate maturity level. Accordingly, these 15 assessment criteria measure the extent to which the accounting policies converge with IPSAS's true and fair approach. These alternatives were mainly introduced at the request of the cantons that had privileged traditional accounting policies under HAM1 (see Soguel & Luta, 2020). Table 1 presents the identified criteria ranked in decreasing order of importance.

A simple way to address RQ1—does the importance of these criteria vary?—would be to score each criterion using a standard scale of 1 (not important) to 10 (very important), or to allocate percentages among the criteria, with the most important criterion allocated the larger percentage-points. However, these solutions are too rough and hasty to enable a thoughtful elicitation of weights. Here, we relied on the MACBETH (Measuring Attractiveness by a Categorical Based Evaluation Technique) multiple criteria decision analysis technique developed by Bana e Costa et al. (2016). The technique involves a first ordinal ranking of the different criteria followed by a pairwise comparison of their importance. Indeed, combining these two stages makes the information consistent enough to achieve numerical evaluations that can be properly considered weights.

The ranking and comparison were obtained from the members of the Swiss Public Sector Financial Reporting Advisory Committee (SRS) in June 2019 and June 2020. As SRS members, these persons are highly knowledgeable of accounting standards and strongly aware of the impact of fulfilling each individual criterion on the reported financial performance and position of the Swiss cantons. They also have a technical view of the issue and no political interest. Each expert was interviewed individually and asked to classify the different criteria in decreasing order of importance (1st rank for the criterion of highest importance through 15th rank for the criterion of lowest importance), with equal rankings allowed.[1] Secondly, each expert was asked to state the difference in importance between each criterion and the one immediately ranked below, by means of the following verbal statements: "null", "very weak", "weak", "moderate", "strong", "very strong" or "extreme" difference in importance. Using the MACBETH algorithm, we then computed the weights they attributed to each criterion.

[1] The wording of the question was: *"What is important to ensure a true and fair presentation of a government's financial situation (i.e., financial position and performance) in financial statements?"*

Table 1 – Criteria for measuring the maturity level of Swiss cantons' accounting standards

Rank n°	Criteria
1	Use of accrual rather than cash basis accounting principles
2	Linear depreciation method, over useful life rather than degressive depreciation
3	Absence of additional depreciation charges (i.e., no political finessing)
4	Low threshold for accruals and deferrals of past or future revenues and charges
5	Absence of annual performance smoothing, e.g., using rainy-day funds (i.e., no political finessing)
6	Measurement of non-administrative assets at market value rather than at depreciated historical cost
7	Accrual recognition of tax revenues
8	Absence of pre-financing (i.e., no political finessing)
9	Low threshold for the recognition of capital expenditures in the statement of financial position
10	Start of depreciation as soon as the asset is available for use
11	Measurement of administrative assets at market value rather than at depreciated historical cost
12	Presentation of financial indicators[a]
13	Separate recognition of capital expenditures from the obtained grants to finance them
14	Separate recognition of plots of land from buildings erected on them
15	Presentation of a cash flow statement in accordance with IPSAS (investing activities including yield-producing investments rather than financing activities including yield-producing investments)

[a]This criterion is not directly prescribed by IPSAS. It was formally introduced by HAM2 but was already applied by some cantons under HAM1. It is considered for the maturity assessment since this practice contributes to the understandability of financial statements aimed at by IPSAS.

The data regarding HAM1 implementation in cantonal legislation were collected via a questionnaire sent directly to the 26 Cantonal Finance Department Senior Budget Officers in late 2018. This dataset had never actually been exhaustively gathered.[2] For the standards defined by the cantons under HAM2, information came from the SRS.

Various scaling formats were used for coding the different criteria (see Soguel and Luta, 2020). Scales were either dichotomous, discrete, or continuous. However, they were always bounded over a closed and increasing interval extending from 0 to 1, i.e., from 0% to 100%. For each criterion, a maximum value of 1 was attributed to a canton whose accounting policy was fully compliant with IPSAS, or 0 if totally opposed.

The resulting values were multiplied by the weights associated to each criterion. Maturity levels were then computed for each canton by summing up the 15 weighted values. A canton that

[2] We would have liked to obtain information about cantonal accounting practices before the HAM1 reform, i.e., before the 1980s. Unfortunately, these data have never been surveyed. And the current serving officials were unable to provide this information.

defined its accounting standards in accordance with IPSAS obtained a level close to 100% (high degree of IPSAS compliance). A canton with a conservative approach of public finance management displayed a level closer to 0% (low degree of IPSAS compliance). This process was performed separately for both HAM1 and HAM2 reforms.

7.5 Results

7.5.1 Scores per criterion

Table 2 shows the coded cantonal scores for each criterion used to assess maturity levels under HAM1 and HAM2. Criteria are ranked in descending order according to the average weights computed, based on the answers collected during the interviews. Essentially, respondent views converged regarding both the standards that are crucial to ensure true and fair reporting and those that are less important. This provides an empirical answer to RQ1: when using criteria to assess accounting standards, one should definitely consider the possibility that they are of unequal importance, meaning that they affect the faithfulness of the reported financial information with varying degrees.

As for the score, a mean value close to 1.00 point (pt) indicates that most of the cantons applied the criterion in a way that is consistent with IPSAS. In turn, a mean value close to 0.00 pt indicates that practices are far from what IPSAS recommend. Right away, it is interesting to compare the weights given to the criteria by SRS members with the scores. The comparison indicates that criteria considered important for true and fair financial reporting are not necessarily those that score highly.

The *application of accrual rather than cash basis accounting principles* criterion shows a maximum score of 1.00 pt under both HAMs. Not surprising since the goal of each HAM was to increase the use of accrual accounting. Other related criteria display high scores in a range between 0.86 and 0.95 pts, under HAM1 already *(low threshold for the recognition of capital expenditures in the statement of financial position, presentation of financial indicators, low threshold for accruals and deferrals of past or future revenues and charges*).

By contrast, the Swiss cantons performed much worse in four other cases with scores between 0.10 and 0.25 pts (*absence of additional depreciation charges, separate recognition of capital expenditures from the obtained grants to finance them, start of depreciation as soon as the asset is available for use, separate recognition of plots of land from buildings erected on them)*. This indicates that most cantons stuck to traditional accounting policies in these matters when implementing HAM1 reform. Eventually, two criteria show a score of 0.00 pt under the HAM1 reform (*presentation of a cash flow statement in accordance with IPSAS, measurement of administrative assets at market value)*. HAM1 did not address these matters, while HAM2 presented corresponding recommendations.

Table 2 – Weights of assessment criteria and Swiss cantons' coded scores under HAM1 and HAM2

Criteria	Weights	Score HAM1		Score HAM2	
		Mean	Median	Mean	Median
Use of accrual rather than cash basis accounting principles	11.03	1.00	1.00	1.00	1.00
Linear depreciation method, over useful life rather than degressive depreciation	8.62	0.37	0.50	0.82	1.00
Absence of additional depreciation charges	8.46	0.10	0.00	0.58	0.50
Low threshold for accruals and deferrals of past or future revenues and charges	8.23	0.95	1.00	0.89	0.99
Absence of annual performance smoothing	8.21	0.58	1.00	0.54	1.00
Measurement of non-administrative assets at market value rather than at depreciated historical cost	7.42	0.54	0.75	0.83	1.00
Accrual recognition of tax revenues	7.33	0.60	0.50	0.65	0.50
Absence of pre-financing	7.21	0.40	0.33	0.40	0.00
Low threshold for the recognition of capital expenditures in the statement of financial position	7.07	0.86	0.95	0.79	0.90
Start of depreciation as soon as the asset is available for use	6.61	0.19	0.00	0.65	1.00
Measurement of administrative assets at market value rather than at depreciated historical cost	4.42	0.00	0.00	0.08	0.00
Presentation of financial indicators	4.33	0.88	1.00	1.00	1.00
Separate recognition of capital expenditures from the obtained grants to finance them	4.12	0.15	0.00	0.19	0.00
Separate recognition of plots of land from buildings erected on them	3.83	0.25	0.00	0.58	1.00
Presentation of a cash flow statement in accordance with IPSAS	3.10	0.00	0.00	0.85	1.00
Total average of mean and median values		**0.46**	**0.47**	**0.66**	**0.73**

The move from HAM1 to HAM2 increases the mean and median scores. Since the accounting standards recommended in HAM2 push toward IPSAS compliance, this overall improvement fits our expectations. In some areas, the evolution is especially apparent, as indicated by the large increase in scores for the *presentation of a cash flow statement in accordance with IPSAS* (0.00 to 0.85 pts), *start of depreciation as soon as the asset is available for use* (0.19 to 0.65 pts), *linear depreciation method* (0.37 to 0.82 pts) and *measurement of non-administrative assets at market value* (0.54 to 0.83 pts). Otherwise, results are more mixed. For instance, the

Swiss cantons are still a long way from IPSAS regarding their practices for the *measurement of administrative assets at market value* (0.08 pts) or the *separate recognition of capital expenditures from the obtained grants* (0.19 pts). In a few exceptional cases, cantons even slightly relaxed their standards with the second reform (*low thresholds for the recognition of capital expenditures in the statement of financial position, recognition of accruals and deferrals of past or future revenues and charges and annual performance smoothing*). Mean and median scores are consequently lower under HAM2. However, this relaxing remains overall marginal.

These results provide an empirical answer to RQ2: we observed a significant diversity in the accounting standards implemented when jurisdictions, such as Switzerland's cantons, had some degree of autonomy in this area. This consequently legitimizes a bottom-up approach where maturity stages do not prescribe what "maturity" represents at every stage and therefore allow for different levels of maturity within a given stage.

7.5.2 Maturity levels under HAM1 and HAM2

Given each canton's scores and each criterion's weight, Table 3 reports the maturity level individually achieved by cantons, both at the HAM1 and HAM2 stages. Cantons are ranked in decreasing order according to HAM2 maturity levels. A result close to 100% reflects a high level of compliance with IPSAS and accordingly of maturity. In turn, a result close to 0% indicates a low maturity level, as well as accounting and reporting practices that widely depart from the recommended accounting policies.

Results shows that the HAM1 reform already led the cantons towards a strict use of accrual accounting. Maturity levels lay in a range between 27.26% (SH) and 88.25% (GE). Only 15 cantons show maturity levels below 50%, whereas 2 cantons are already above 80%.

HAM2 reform brought the faithfulness of the financial information a step further. Maturity levels reach a range between 45.96% (OW) and 97.76% (ZH).[3] Only 3 cantons remain below 50%, while 6 cantons are above 80% and 3 even above 90%. Alongside HAM2 implementation, IPSAS are referred to as the standards to be applied in most of the top-scoring cantons' FMAP (ZH, GE, BS, LU).

Beyond these figures, there are glaring intercantonal disparities, as evidenced by the high standard deviations, both during HAM1 and HAM2 stages. Although cantons were twice given

[3] Additional robustness checks were performed by comparing the obtained weighted values and maturity levels computed with equally weighted (i.e., unweighted) criteria. Maturity levels were found to be strongly correlated, but significantly different. The use of weighted or unweighted values does not much impact the overall picture of cantonal maturity levels but does influence the accuracy of measurement.

the opportunity to improve and harmonise their standards, their progress has not necessarily been equal. Obviously, accrual accounting is practiced in different ways by the cantons.

Table 3 – Swiss cantons' maturity levels under HAM1 and HAM2

Canton	HAM1			HAM2		
	Maturity level	**Time of introduction**	**Early bird or Latecomer**	**Maturity level**	**Time of introduction**	**Early bird or Latecomer**
Zürich (ZH)	48.61	1982	EB	97.76	2009	EB
Basel Stadt (BS)	83.81	1999	LC	97.55	2013	EB
Lucerne (LU)	55.34	1988	LC	97.52	2012	EB
Solothurn (SO)	67.98	1982	EB	87.61	2012	EB
Geneva (GE)	88.25	1985	LC	87.37	2014	LC
Basel Land (BL)	45.42	1981	EB	84.45	2010	EB
Graubünden (GR)	49.37	1988	LC	78.20	2013	EB
Aargau (AG)	48.17	1995	LC	76.77	2014	LC
Bern (BE)	47.14	1989	LC	76.47	2017	LC
Neuchâtel (NE)	66.76	1981	EB	72.17	2018	LC
Schwyz (SZ)	49.27	1987	LC	72.05	2016	LC
Appenzell A. (AR)	47.16	1978	EB	68.73	2014	LC
Schaffhausen (SH)	27.26	1990	LC	65.20	2018	LC
Ticino (TI)	56.38	1986	LC	63.72	2014	LC
Uri (UR)	55.07	1984	LC	62.91	2012	EB
Thurgau (TG)	41.49	1987	LC	62.40	2012	EB
Nidwalden (NW)	46.71	1980	EB	60.54	2010	EB
Glarus (GL)	34.98	1984	LC	59.19	2011	EB
Vaud (VD)	50.31	1992	LC	57.26	2014	LC
Freiburg (FR)	47.75	1996	LC	55.37	2011	EB
St. Gallen (SG)	46.59	1997	LC	55.21	2014	LC
Jura (JU)	54.57	1979	EB	54.26	2012	EB
Appenzell I. (AI)	34.98	1979	EB	53.12	2015	LC
Valais (VS)	52.22	1983	LC	48.62	2018	LC
Zug (ZG)	60.04	1979	EB	46.55	2012	EB
Obwalden (OW)	33.33	1986	LC	45.96	2012	EB
Min.	**27.26**	**1978**		**45.96**	**2009**	
Max.	**88.25**	**1999**		**97.76**	**2018**	
Mean	**51.50**	**1986**		**68.73**	**2013**	
Median	**48.94**	**1986**		**64.46**	**2013**	
Std. Dev.	**13.80**	**6**		**15.90**	**3**	

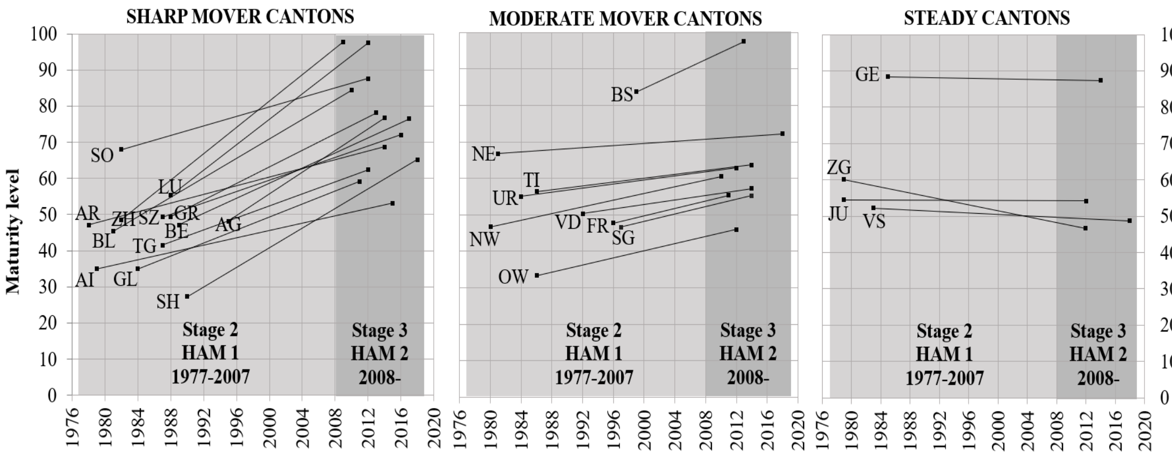
Table 3 also highlights disparities regarding when reforms were implemented. It took 22 years (1977 to 1999) for all cantons to introduce HAM1 and 10 years (2008 to 2018) for HAM2. The table also shows the cantons that implemented the reform within 5 years of the CFM release of HAM1 (i.e., until 1982) or HAM2 (i.e., until 2013), considered early bird cantons (EB). Others are considered latecomers (LC). The cantons that introduced HAM1 relatively quickly were also often those to first introduce HAM2, and likewise for latecomer cantons. On average, early bird cantons reached higher maturity levels than latecomers under both HAM1 (+1.5 percentage points, pp) and HAM2 (+4.3 pp). There seems then to be a positive correlation between moving early into a new maturity stage and the level of maturity attained within the stage.

7.5.3 Characteristics of the evolutionary paths towards compliance with IPSAS

Maturity levels generally trended upward, meaning cantonal accounting standards converged towards IPSAS over the two successive reforms. Accordingly, the faithfulness and transparency of reported information improved over time. Where the variation occurs, however, is in when cantons chose to move from one stage to the next (i.e., move to HAM1 and then to HAM2) and the maturity levels targeted within each stage. This suggests a diversity of paths towards possible full compliance with IPSAS.

Figure 2 introduces a distinction between three identified varieties of evolutionary paths (see Fuchs *et al*., 2017).

Figure 2 – Swiss cantons' evolutionary paths towards a possible full compliance with IPSAS



The variety depicted in the left panel comprises the **sharp mover** cantons. These 13 cantons saw the benefit of moving into the third maturity stage with the release of HAM2. They have consistently drawn their accounting and reporting practices closer to IPSAS. As a result, the maturity level soared by +15 pp or more when shifting from HAM1 to HAM2. Admittedly, most cantons, which now closely comply with IPSAS, previously demonstrated levels of maturity below 50%. The middle panel shows the **moderate mover** cantons. The maturity level in this group of 9 cantons has also increased, but to a lesser extent (between 0 pp and +15 pp). Five of them already showed levels above 50% under HAM1. Finally, the right panel includes 4 **steady** cantons. In this group, Geneva (GE) is an exception since its maturity level was already very high under HAM1 (88.25%). Furthermore, Geneva had already then among the highest scores meaning it had extremely limited room to further improve its practices. This is definitely not the case for the three other cantons in this group (ZG, JU, VS). With maturity levels between

50% and 60%, they were in HAM1 mid-table. Despite the advent of HAM2, they decided not to seize the opportunity of this new maturity stage and maintained most of their standards while even sometimes relaxing others. They did not perceive the third stage of maturity brought by HAM2 as an opportunity to evolve their accounting and reporting practices. Also note that Obwalden (OW), although listed as a moderate mover, displays a lower maturity level than the steady cantons. These results suggest that large cantons (e.g., ZH, GE) are keener to align their public sector accounting standards with IPSAS. The larger amounts of resources they manage, and the greater levels of indebtedness that often characterise them, may have prompted their compliance with well-known accounting standards for financial accountability purposes. In contrast, technical or administrative barriers may have prevented moderate movers and steady cantons from achieving a higher maturity level while implementing HAM2 and moving to the third maturity stage. Other, more political reasons may also explain why especially steady cantons deliberately maintained their existing—and comparatively low—maturity level. Accordingly, these cantons could have sought to keep or even extend their accounting and financial reporting room to manoeuvre. Indeed, several moderate movers and all steady cantons (with the exception of Geneva) explicitly specified in their FMAP the possibility of practicing certain forms of political finessing (e.g., additional depreciation charges, annual performance smoothing, pre-financing).

7.6 Conclusions

Switzerland's federalism confers a high degree of autonomy to its subnational governments for setting their own standards when preparing and presenting their financial statements. Accordingly, this study used the empirical context of the 26 Swiss cantons to develop a simplified maturity model for assessing the level of convergence between their accounting standards and IPSASs' true and fair approach.

Twice in recent history, cantons received recommendations to change their accounting and reporting standards. These successive sets of recommendations delineate two maturity stages: a stage where accrual accounting, although modified, is recommended; followed by a stage where full accrual accounting is recommended, although in a flexible way. Within each stage, our study assesses the maturity level of the cantons' practices. The maturity level is measured according to 15 criteria aggregated using the MACBETH technique.

In response to our first research question, the empirical results—based on expert judgments provided by all members of the Swiss Public Sector Financial Reporting Advisory

Committee—show that the unequal importance of the criteria should definitely be considered when appraising the ability of accounting and reporting standards to faithfully represent economic and other phenomenon. The most important criteria should logically be fulfilled as a first step toward attaining a faithful representation, yet the criteria prioritised by the different cantons for fulfilment were not necessarily those considered most important by the surveyed experts.

In response to our second research question, the results reveal a significant diversity in the accounting standards implemented when jurisdictions, such as the Swiss cantons, have some degree of autonomy in this area. The maturity level attained by each canton within each stage varies, although the two successive maturity stages implied by the succeeding sets of recommendations led to an increasing overall compliance of the Swiss cantons' accounting standards with IPSAS. Nevertheless, the evolutionary paths followed by the cantons through the maturity stages were highly heterogeneous. Three path "types" were identified. Half of the 26 cantons fall into the group called "sharp mover cantons". These governments took the opportunity of the release of the second set of recommendations to significantly increase the maturity level of their accounting and reporting practices. Consequently, these latter now closely comply with IPSAS. A third of the cantons falls into the "moderate movers" category. These cantons had already reached an acceptable maturity level following the first set of recommendations and then brought their practices slightly closer to IPSAS with the second reform. Eventually, only a handful of "steady cantons" decided not to seize the opportunity of this new maturity stage and kept most of their standards unchanged. These cantons probably maintained their existing—and comparatively low—maturity level in order to also maintain the possibility of practicing certain forms of political finessing.

A further set of recommendations leading to a third reform and a new maturity stage would probably be necessary for cantons to draw even closer to IPSAS and possibly fully comply with the international standards. However, the persistent heterogeneity in the definition of accounting standards and pace at which reforms have been adopted has demonstrated that some prudent cantons remain reluctant to change. Consequently, these might require more specific attention when defining the content of any forthcoming reform, to encourage efficiency and timeliness in their maturity process towards a full implementation of IPSAS.

This paper is one of the first to use a maturity model to assess the degree of IPSAS compliance at various stages in time. It is also the first to rely on a multiple criteria decision analysis technique and to use weighted criteria. From a research perspective, our methodology proves relevant for accurately assessing the evolution of financial information reporting and transparency in the public sector. It therefore offers a consistent method of measuring the dependent variable for future studies looking to identify the driving factors of heterogeneous governments' accounting standards and practices. Of course, the criteria used to assess maturity levels reflect the specificities of the Swiss accounting practices. This may lower the transferability of our results. However, future analyses could circumvent this limitation by assessing maturity levels according to criteria directly derived from the IPSAS.

Policy-wise, this paper shows that even when governments remain free to adopt, or not, new sets of accounting standards as well as determine the extent of their conformity, time does its work. For sure there are early and late adopters, sharp and moderate movers, and also steady governments. However, these latter are a minority.

The Swiss cantons still have some distance to go. But after two major accounting reforms, the maturation process towards a full and sophisticated use of accrual accounting is unequivocally engaged. This incremental approach appears to be a success story since it has it both ways. The sovereignty of Switzerland's subnational governments in financial and accounting matters remains intact. Simultaneously, the use of accrual accounting is expanding at the cantonal level, thereby further strengthening the faithfulness of reported financial information.

This makes us cautiously optimistic if at some point European Public Sector Accounting Standards become a reality with member states granted flexibility in terms of implementation. Allowing a flexible implementation would certainly increase the chance of EPSAS being accepted. Flexibility, together with a few maturity stages, may lengthen the road but this is probably the price to be paid for a successful convergence towards a common set of standards.

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8 What factors drive faithful financial reporting by subnational governments? Insights from Switzerland

Essay 2

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Abstract

Using the context of the 26 Swiss subnational governments, this paper aims to empirically identify factors driving—or not—the use of accounting and reporting standards aimed to increase financial faithfulness. Because the 26 entities had a certain autonomy, as they jointly implemented two major successive accounting reforms over the past forty years, policy outcomes were heterogeneous. Findings suggest that both citizen demand and government supply-side factors contribute to explaining the extent to which each entity's policy led to a faithful reporting. This paper thus highlights some of the challenges in implementing supranational (e.g., IPSAS, EPSAS) or national accounting standards at lower tiers, when governments have some leeway over the process, while yet facing strong democratic scrutiny.

Keywords

Financial faithfulness, Governmental Accounting Standards, Factors, IPSAS, Swiss subnational governments, democracy.

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8.1 Introduction

The increased attention to improving public sector accountability and transparency over recent decades has encouraged various related reforms, including the modernization of accounting and reporting systems (Chan, 2003). The International Public Sector Accounting Standards (IPSAS or IPSASs, late 1990s) have fostered this process by providing a common framework for a harmonized application of accrual accounting principles (International Public Sector Accounting Standards Board – IPSASB, 2022). Accrual accounting enhances the transparency and comparability of public financial information while improving its usefulness with a view to governmental decision-making and accountability towards the general public (Manes-Rossi et al., 2016). It also facilitates a more faithful reporting of public financial information, i.e., according to a comprehensive, neutral and free from material error depiction of transactions (IPSASB, 2022). Although many national or local governments have claimed to transition towards an extensive application of accrual accounting principles, often using IPSAS as a reference, the implementation of related reforms has remained highly flexible and with heterogeneous outcomes (e.g., Christiaens et al., 2015).

Previous studies based on contingency, institutional, actor-network, legitimacy or agency theoretical frameworks, among others, have mainly focused on government representatives and officials (as suppliers and/or users), when explaining implementation processes or outcomes of accrual-based or IPSAS-related reforms, at national or subnational levels, investigating how their characteristics and interests affect the evolution of governmental accounting and reporting systems, and the resulting provision of public financial information. However, besides the government viewpoint, such outcomes also depend on a range of other primary stakeholders of public financial information (i.e., users/demanders, such as citizens, managers, investors and lenders, oversight and regulatory bodies, lobbies, analysts, auditors, the media) with different needs and interests (IPSASB, 2022). Unfortunately, these other groups remain largely under-researched (van Helden and Reichard, 2019).

This study therefore aims to tackle the evolution of governmental accounting and reporting systems and the resulting provision of public financial information through the joint and specific lens of government and citizens. Governments are generally responsible for safely managing citizen resources and monies, while providing them with the quality goods and services they need. Citizens are involuntary providers of financial resources who cannot decide whether or not to pay taxes, nor benefit from a direct exchange relationship between the resources provided and the services received (Brusca and Montesinos, 2006: 205). Public financial reports (e.g., financial statements) are thus a key accountability tool that citizens may use to evaluate whether their governments are acting responsibly and fulfilling their obligations, especially at subnational levels where concerns are most directly felt (Haustein and Lorson, 2022). However, significant discrepancies may exist between government incentives for providing a faithful representation of the financial situation and citizen demand for transparent and accountable reporting of public financial information (Pina et al., 2009).

Using an innovative approach, this paper argues that public sector accounting reforms are inherently political processes which should consider the views of both citizens (as demanders of public financial information) and governments (as suppliers of public financial information). Therefore, the goal of the paper is to address the following research question:

> *What factors drive—or not—the use of governmental accounting and reporting standards that increase the faithfulness of public financial information?*

The empirical investigations were conducted in the context of the 26 Swiss cantons, a heterogenous group of subnational administrative entities (equivalent to states or provinces), that jointly reformed their accounting and reporting standards on two main successive occasions between 1978 and 2018, under a strongly democratic polity. However, Switzerland's cantonal autonomy in terms of setting standards has led to heterogeneous policy outcomes. Given this research setting, a two-period pooled OLS regression model was estimated to explore citizen demand and government supply-side variables influencing 'cantonal scores of financial maturity' (CSFM)—which reflect the extent to which each entity's accounting policy led to faithful financial reporting.

This research shifts the emphasis from the incentives or challenges in support of public accounting reforms on a regulatory or organizational level (e.g., Anessi-Pessina et al., 2010; Jorge et al., 2019) to the similarities/differences in accounting reform outcomes and adherence (e.g., Christiaens, 1999; Carvalho et al., 2007; Christiaens et al., 2015). Switzerland hence offers a suitable context for investigating potential political issues at play when standards are set at an upper level and lower tiers are then advised to reform their homegrown accounting and reporting systems accordingly, while given some implementation margin (Soguel and Luta, 2021); all this, in a context where citizen views directly matter.

The remainder of the paper is structured as follows: The second section provides a literature overview and hypotheses development. The third section introduces the Swiss institutional context. Following this, the fourth section details the methodology. The fifth section presents the empirical results, and the final section is devoted to the conclusion.

8.2 Literature review and hypotheses

8.2.1 Public accounting and financial reporting in a democratic context

Public accounting and financial reporting systems are used to inform and discharge the accountability of government representatives who manage public resources on behalf of their principals, namely citizens. However, accountability relationships between citizens and their representatives can be hard to monitor in practice, leaving room for inefficiencies or corruption (Chan, 2003). When the financial information provided thoroughly details the activities and decisions of politicians, it becomes a tool for curbing the abuse of power. Thus, government accountability improves when citizens can access high-quality public financial information.

In many European (continental) countries, public sector functioning and accountability relationships are ruled by an administrative law model of governance, implying that legislation defines the framework surrounding notably public financial management and the provision of financial information. Furthermore, public finance reforms are mainly operated through legislative revision or amendment (Jorge et al., 2019). As political processes, in a democratic context any legislative-based accounting reforms should thus consider the views of governments and, to some extent, those of citizens.

Public accounting and financial reporting are often perceived as a specialized, technical topic, especially by average citizens who are neither well-informed nor keen experts on the matter (Cohen and Karatzimas, 2015). Citizens also show low interest in accounting and reporting matters, as seen in their limited ability to properly understand and process the information in government financial reports (e.g., van Helden and Reichard, 2019; Haustein and Lorson, 2022). Moreover, decision-making power is usually concentrated in the hands of the political elite (Brusca et al., 2013). This is especially so under representative democracy, where citizens exert indirect control on public policy or legislation by rewarding (or penalizing) their representatives' decisions through elections. Conversely, direct democracy incentivizes citizens to collect more information and participate more intensely.

Modern political and public policy decision-making processes have aimed to better integrate citizen views since their involvement and participation in public sector governance constitutes a pillar for the quality of democracy and public trust (Fung, 2015). Accordingly, awareness is increasing about the need to further consider democratic demands, especially in terms of the transparency, accessibility and understandability of public financial information (Brusca and Montesinos, 2006; Cohen and Karatzimas, 2015; Cohen et al., 2017)—but also about the need to incentivize citizen participation in public financial decision-making, notably through co-production processes (e.g., participatory budgeting, e-democracy).

Consequently, governments are increasingly prompted to deal with citizen views—as voters, major providers of the government's financial resources or service recipients—as they align their systems with current international public sector accounting and reporting requirements, such as the IPSAS (IPSASB, 2022). Yet while public sector accounting reforms are the outcome of a technical, almost scientific process, their translation into legislation involves an intricate political interplay between different forces and agents—namely citizens and governments, in a democratic context—seeking to fulfill their own purposes (i.e., public trust and satisfaction vs. political accountability and legitimacy) (Pina et al., 2009). Hence, both elements can take potentially conflicting stances on how public financial information should be provided and then used. This depends on how they perceive and value the challenge of strengthening financial accountability and transparency, based on their respective needs and interests (Piotrowski and Van Ryzin, 2007; van Helden and Reichard, 2019). Accordingly, distinct theoretical perspectives should apply when investigating the factors driving their respective positions on this issue.

The two following subsections are not intended to present an exhaustive review of the literature that may have tackled connected issues using different theories or users' perspectives. Instead, I seek to provide relevant theoretical insights that aim to better combine both government supply and citizen demand perspectives when investigating the factors that explain the outcome of public sector accounting reforms, from a political standpoint. Indeed, this specific issue remains scarcely addressed.

8.2.2 Citizen demand-side perspective: some literature and hypothesis

The theory of political cleavage offers a consistent framework to explore a citizen demand-side perspective. According to Lipset and Rokann (1967), a variety of cleavages generally shape the outcome of political processes in western societies. These cleavages stem from socio-structural factors (e.g., class, education, culture, religion, status) and create ideological, identity or politicization-based partition blocs among voters. Cleavages encourage support for the political party, actor, or option that will best defend the group's ideology. This infers that different political or ideological streams can shape democratic demands, notably for transparency and accessibility of public information.[1]

The **educational level** is often identified as generating marked partition among voters. Highly educated citizens tend to have a broad understanding of advanced or complex political topics, including public sector accounting and financial management. Consequently, they may request more accurate and consistent information from government (e.g., Piotrowski and Van Ryzin, 2007). Carvalho et al. (2007) report that well-educated individuals are also keener to support reformative political agendas.

Although **culture** (i.e., traditions, beliefs and values) is commonly identified on the side of governments, it can also impact citizen attitudes and preferences towards public policies and management. This can manifest via different levels of confidence in State institutions, different attitudes towards publicly provided goods and services, or fiscal preferences (e.g., Anessi-Pessina et al., 2010; Pujol and Weber, 2003), also leading to varying demands for public accountability.

Citizen **partisan ideology** may also influence public policies and reform outcomes. Voter ideology impacts the strategies set by their representatives, supporting the existence of a partisan cycle model. Left-wing partisans often advocate for larger State intervention, tolerating larger deficits and higher public debt; conversely, right-wing partisans usually advocate budgetary efficiency (Cusack, 1997). By extension, citizen political ideology may also matter when discussing the extent of information requested for monitoring the quality of public resource management. Some authors show that left-wing partisans support greater access to information on public activities, as enhanced financial transparency is considered a consistent way of improving good governance (e.g., Guillamón et al., 2011; Sol, 2013) while other scholars argue that both left-wing and right-wing partisans prefer financial transparency, depending on the nature of the information reported or the political composition of the government (e.g., Piotrowski and Van Ryzin, 2007).

Accordingly, our main hypothesis for the demand-side is:

> *H1: There is a relationship between citizen background and ideological or political position and the degree to which governments faithfully report their financial information.*

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[1] The literature discusses various types of cleavages. The paper addresses those considered the most relevant for the specific issue raised by this paper.

8.2.3 Government supply-side perspective: some literature and hypotheses

Public choice theory provides valuable insights for explaining how government representatives choose to demonstrate to voters that they are dutifully fulfilling their social welfare goals through sound financial management. Indeed, some politicians may have a vision of welfare that diverges from that of the public, while others may selfishly try to maximize their own utility by capturing rents from the environment in which they exert their power and functions (e.g., (re-)election securing), at the risk of financial waste and inefficiencies (Buchanan and Tollison, 1972). Consequently, government representatives are not necessarily disposed to benevolently provide all required or expected information, especially with regards to financial management (Pina et al., 2009). They could seek instead to take advantage of any information asymmetry stemming from a restrictive or simplistic provision of financial content. Accordingly, elements taken from the political, financial, and institutional environment are essential for understanding how governments negotiate the trade-off between setting accounting policies, whether to enhance the faithfulness of the reported public financial information, or that make it possible to adapt the depicted financial reality to suit their own interests (Guarini, 2016).

Political competition, meaning inter-party rivalry within or between government bodies, may affect reforms aiming to increase incumbent accountability through public financial information. When political competition is low, politicians are more confident about remaining in office and promote lower levels of transparency on public activities (Sol, 2013), whereas stronger political competition compels them to signal their efforts for balanced political compromise allowing for sound financial management (e.g., Pérez et al., 2014). In contrast, political competition can induce a voluntary reduction of accessibility to accounting information when politicians worry about weakening their position or reducing their credibility; on the other hand, lower political competition may provide an incentive to communicate more extensively on public activities (Guarini, 2016). However, research in the European context highlights an overriding tendency to arrange the reported financial information when political pressure is stronger (e.g., Cohen et al., 2019). Accordingly, the second hypothesis is:

H2: There is a (negative) relationship between political competition and the degree to which governments faithfully report their financial information.

The **financial condition** of a government directly reflects the quality of its public money management. Executive members especially (e.g., finance minister) may want to report a sound and stable financial position, since their capacity of achieving this objective directly affects their reputation and personal benefits (Buchs and Soguel, 2022). Several researchers argue that lower deficits and public debt are associated with higher degrees of fiscal transparency (e.g., Guillamón et al., 2011; Sol, 2013). Yet because financial soundness is perceived as central to good governance, governments can also seek to offset an unfavorable financial condition by providing higher-quality financial information to enable tighter control (Christiaens, 1999). Indeed, transparency contributes to mitigating information asymmetry and risk perception upon voters or lenders on capital markets (Bastida et al., 2017). However, when efficiency is recurrently unmet because of blatant financial mismanagement, governments may seek to 'manage' financial information by hiding or arranging the reported information, notably to safeguard their political or electoral interests (Clémenceau and Soguel, 2018; Cohen et al., 2019). Therefore, the third hypothesis is:

H3: There is a relationship between the prevailing financial context and the degree to which governments faithfully report their financial information.

Recent objectives to improve public accounting and reporting systems have mainly involved internationally unifying policies (external harmonization), chiefly for comparability and understandability purposes. Country-based harmonization also enabled governments to align accounting practices, either horizontally—within a level of government—or vertically—across the different levels of government (Manes-Rossi et al., 2016). In countries with decentralized or multi-level systems of governance, both horizontal and vertical harmonization may be particularly at stake at subnational levels where governments are often subject to strong comparative (or "yardstick") policy competition (Benz, 2012) or political scrutiny (e.g., Caruana and Zammit, 2019). Therefore, they may be particularly prone to coordinate their policies, to gain accountability by pursuing common goals and using similar means or standards. Usually, accounting policy **coordination** or **diffusion** is particularly strong among governments sharing geographical proximity or common administrative boundaries (Carvalho et al., 2007). Hence, the fourth hypothesis is:

H4: The diffusion of practices among governments has an incidence on the degree to which they faithfully report their financial information.

8.3 Context for public sector accounting and financial reporting in the Swiss cantons

Switzerland is a federal State comprising three institutional levels: the Confederation (national), the 26 cantons (state) and their municipalities (local). Cantonal and municipal governments share the task of delivering public services with national level, while enjoying some organizational and fiscal autonomy (e.g., tax collection, financial management and financial reporting).[2] Each cantonal and municipal government has a legislative and executive branch, both elected through universal direct suffrage.[3]

The cantonal level executive branch (including the finance minister) sets the rules and modalities for preparing and presenting public financial information. The legislative branch (Parliament) establishes the related legal framework in a cantonal Financial Management Act of Parliament (FMAP). The FMAP includes provisions on how the financial management process works. It also specifies the standards used to prepare and disclose the financial statements. According to the country's semi-direct democracy, citizens may express their opinion on any cantonal law enacted by the Parliament, including the FMAP. They may oppose amendments by requesting an optional referendum; they may also raise legislative issues through popular initiatives. Although seldom applied, these tools obviously impel government representatives to integrate citizen views in policy decision-making.

The 20th century saw several attempts to harmonize cantonal (and municipal) accounting policies. In 1977, the intercantonal Conference of Cantonal Finance Ministers (CFM) decided to design a first Harmonized Accounting Model (HAM1) (CFM, 1981) intended for cantons—and potentially their municipalities. The CFM is organized to discuss and coordinate the cantons on commonly shared fiscal matters by providing non-binding guidelines and recommendations. This means that each canton was free to implement HAM1 as well as decide when and to what extent it would comply. The heart of HAM1 consisted of a detailed chart of accounts including a statement of financial performance and a statement of financial position. HAM1 made accrual accounting and budgeting the cantonal standard. However, it provided little guidance on recognition and measurement (e.g., hidden reserves, provisions or accrual/deferral of expenses and revenues), or additional disclosure (Soguel and Luta, 2021). This first reform was a slow process, taking until 1999 to be fully implemented by all the cantons and involving various policy outcomes.

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[2] Their respective competencies are laid down in the national Constitution; The Swiss financial system relies simultaneously on fiscal competition at subnational levels and fiscal equalization (i.e., horizontal and vertical intergovernmental transfers).

[3] This contrasts with other countries where executive representatives are not designated by the people but appointed by a president, a prime minister, or a Parliament. In Switzerland, the chances of elected representatives remaining in their position are directly related to how citizens hold them accountable for their actions and decisions.

In the early 2000s, both national and subnational levels of government faced growing concerns for improved and standardized financial reporting; this was while IPSAS became available (Soguel and Luta, 2021). In response, the second-generation of the Harmonized Accounting Model (HAM2) was released (CFM, 2008). It then took until 2018 for all cantons to adopt the revised model as their standard. HAM2 provides 20 standards that the cantons are free to implement or not. These standards include all IPSAS presentation guidelines and most of the recognition requirements. The revised chart of accounts remains a core element under HAM2. But in contrast to HAM1, HAM2 is more prescriptive for recognition and measurement. Furthermore, it limits the possibility of accumulating hidden reserves and imposes a more systematic accrual/deferral of expenses and revenues (Soguel and Luta, 2021). However, on some points, these standards offer the cantons alternative and less stringent accounting policies by allowing for political finessing (e.g., additional depreciation charges, annual performance smoothing, pre-financing) when preparing financial statements (CFM, 2008). By issuing a joint set of standards with alternatives, the CFM were able to fulfill the expectations of two broad categories of cantonal governments with opposite goals: (i) to give a faithful representation of their financial condition while strengthening the practicality and transparency of their financial statements for external users such as citizens; or (ii) to follow a politically strategic and conservative approach, at the occasional expense of a complete and regular presentation of financial statements (Soguel and Luta, 2021).

8.4 Methodology

8.4.1 Explained variable: Cantonal scores of financial maturity (CSFM)

Soguel and Luta (2021) developed an index-based method to assess the extent to which the 26 Swiss cantons' accounting policies led to faithful reporting under each successive HAM reform. Figure 1 presents their list of criteria. For each criterion, the authors assigned a maximum value of 1 (100%) to the cantons whose accounting policy enabled a high degree of financial faithfulness, or 0 (0%) in the opposite case. As criteria may contribute with varying levels of importance to financial faithfulness, each was weighted accordingly. Eventually, the 15 weighted (and coded) values were summed to compute a 'cantonal score of financial maturity' (CSFM)—ranging between 0% and 100%—for each canton (see Soguel and Luta, 2021 for methodological precisions). A score close to 100% represented a high level of compliance with IPSAS recommendations, thus high standards of faithfulness in financial reporting. Likewise, a score close to 0 (%) reflected accounting and reporting practices that widely departed from

IPSASs' benchmark, implying lower financial faithfulness. This process was performed separately for HAM1 and HAM2.[4]

Figure 1 – Criteria used to assess Swiss cantons' accounting standards, in decreasing order of importance

1. Use of accrual rather than cash basis accounting principles
2. Linear depreciation method, over useful life rather than degressive depreciation
3. Absence of additional depreciation charges (i.e., no political finessing)
4. Low threshold for accruals and deferrals of past or future revenues and charges
5. Absence of annual performance smoothing, e.g., using rainy-day funds (i.e., no political finessing)
6. Measurement of non-administrative assets at market value rather than at depreciated historical cost
7. Accrual recognition of tax revenues
8. Absence of pre-financing (i.e., no political finessing)
9. Low threshold for the recognition of capital expenditures in the statement of financial position
10. Start of depreciation as soon as the asset is available for use
11. Measurement of administrative assets at market value rather than at depreciated historical cost
12. Presentation of financial indicators
13. Separate recognition of capital expenditures from the obtained grants to finance them
14. Separate recognition of plots of land from buildings erected on them
15. Presentation of a cash flow statement in accordance with IPSAS (investing activities including yield-producing investments rather than financing activities including yield-producing investments)

Notes: Adapted from Soguel and Luta (2021). *(i)* IPSAS does not directly prescribe criterion 12. However, the latter contributes to the understandability of financial statements that IPSAS aims for.

Table 1 shows the CSFM scores under each HAM reform. As HAM1 already enabled an extensive use of accrual accounting, various degrees of faithful financial reporting resulted. Therefore, CSFM ranged between 27.26% (SH) and 88.25% (GE). HAM2 brought cantonal accounting standards yet closer to IPSAS, as scores rose to between 45.96% (OW) and 97.76% (ZH). Note, however, that most of the top-scoring cantons (ZH, GE, BS, LU) took the step of referring to IPSAS in their FMAP, alongside HAM2 implementation (see Fuchs et al., 2017). Overall, all cantons took the successive reforms as an opportunity to modernize their accounting policies to some extent. However, some cantons still resort to various forms of political finessing, generating lower scores. The high standard deviations suggest that practices remained varied under each HAM.

[4] Admittedly, HAM1 was designed and implemented in most cantons prior to the advent of IPSAS in the late 1990s. However, HAM1 already provided a sound framework for an extensive implementation of accrual accounting that partially conforms with current international requirements. HAM2 then strengthened the already-reformed standards and further improved their compliance with IPSAS, while still allowing some flexibility, notably for political finessing. But in general, the content addressed as well as the approach chosen remained quite similar under each HAM. Instead, the main challenge was in how the Swiss cantons set their accounting and reporting standards accordingly, when implementing each of the two reforms. Under this setting, each canton's FMAP-established standards were easily assessed, using an identical set of criteria and the same metric under both HAM reforms (see Soguel and Luta, 2021).

Table 1 – CSFM and year of implementation of HAM1 and HAM2 reforms

Canton	Score of financial maturity (%)		Year of implementation	
	HAM1	HAM2	HAM1	HAM2
Aargau (AG)	48.17	76.77	1995	2014
Appenzell Ausserrhoden (AR)	47.16	68.73	1978	2014
Appenzell Innerrhoden (AI)	34.98	53.12	1979	2015
Basel Land (BL)	45.42	84.45	1981	2010
Basel Stadt (BS)	83.81	97.55	1999	2013
Bern (BE)	47.14	76.47	1989	2017
Freiburg (FR)	47.75	55.37	1996	2011
Geneva (GE)	88.25	87.37	1985	2014
Glarus (GL)	34.98	59.19	1984	2011
Graubünden (GR)	49.37	78.20	1988	2013
Jura (JU)	54.57	54.26	1979	2012
Lucerne (LU)	55.34	97.52	1988	2012
Neuchâtel (NE)	66.76	72.17	1981	2018
Nidwalden (NW)	46.71	60.54	1980	2010
Obwalden (OW)	33.33	45.96	1986	2012
Schaffhausen (SH)	27.26	65.20	1990	2018
Schwyz (SZ)	49.27	72.05	1987	2016
Solothurn (SO)	67.98	87.61	1982	2012
St. Gallen (SG)	46.59	55.21	1997	2014
Thurgau (TG)	41.49	62.40	1987	2012
Ticino (TI)	56.38	63.72	1986	2014
Uri (UR)	55.07	62.91	1984	2012
Valais (VS)	52.22	48.62	1983	2018
Vaud (VD)	50.31	57.26	1992	2014
Zug (ZG)	60.04	46.55	1979	2012
Zürich (ZH)	48.61	97.76	1982	2009
Min.	27.26	45.96	1978	2009
Max.	88.25	97.76	1999	2018
Mean	51.50	68.73	1986	2013
Median	48.94	64.46	1986	2013
Std. Dev.	13.80	15.90	6	3

Source: Adapted from Soguel & Luta (2021).

8.4.2 Explanatory variables

8.4.2.1 Citizen demand-side variables

Education (H1) represents the percentage of cantonal inhabitants enrolled in a Swiss university. Given the literature previously discussed, and the Swiss context, a positive relationship is expected with the CSFM explained variable.

Since linguistic groups are more likely to share common cultural traits, values and/or beliefs, **culture** (H1) is proxied by a dummy taking the value of 1 for French- or Italian-speaking (Latin) cantons or 0 for German-speaking cantons. Indeed, the cultural cleavage between Switzerland's language areas is deeply rooted and often translates into diverging attitudes towards public policies. Latin (i.e., French and Italian-speaking) citizens are known to defend larger public intervention while German-speaking citizens are generally more concerned by efficiency in public services provision and rigor in financial management. A negative relationship is thus expected.

Additionally, at the cantonal level, the electoral system is based on a direct ballot and proportional (mainly in cantonal parliament) or majoritarian (mainly in cantonal executive) representation. Constituent partisan preferences thus tend to be reflected in the composition of cantonal bodies, especially the legislature. **Partisan ideology (H1)** represents the share of cantonal parliament seats occupied by right-wing political parties.[5] Given the mixed evidence (see subsection 8.2.2), the sign of its relationship with CSFM remains to be identified in the Swiss context.

8.4.2.2 Government supply-side variables

With regards to political competition, **fragmentation (H2)** indicates the number of political parties represented in the cantonal executive. Additionally, **concordance (H2)** reflects the alignment between the executive and the legislative powers through the share of seats in the parliament held by the parties represented in the executive. Considering the literature previously discussed, the sign of the relationship is respectively expected to be negative and positive in the Swiss context.

In terms of the financial context, **fiscal balance (H3)** measures the difference between total (operating and investment) revenues and expenditures. It indicates the cash available to pay down the government's debt, as well as show whether citizens paid adequate taxes and received a correct amount of public services, for a reasonable cost. The (gross) **debt (H3)** level reflects each canton's financial position, i.e., its level of reliance on debt. The trade-off between a strategically prudent or faithful reporting of financial information may be particularly salient for cantonal governments facing an unsustainable financial situation since their reputation and chances of electoral success are directly at stake. Therefore, a negative relationship is expected in both cases.

[5] The cantonal parliament approves the budget on behalf of citizens (in some cases subject to a direct popular approval, e.g., referendum on new spending projects). Thus, it can also use financial statements to scrutinize budget application by the executive.

Given Switzerland's federalist structure, **municipal scores of financial maturity (MSFM) (H4)** is used to measure the extent to which the policies implemented by Swiss municipalities led to faithful reporting under each successive HAM reform.[6] Indeed, the existence of a common context and connected political issues may mean that cantonal and municipal accounting policies evolve similarly (i.e., vertical harmonization), drawing scores of financial maturity upwards (or downwards) at both institutional levels. A positive relationship should be observed.

8.4.2.3 Control variables

The cantonal **population** is a proxy for the size of government, as commonly seen in previous literature (e.g., Christiaens, 1999; Carvalho et al., 2007). The larger the population, the greater the amount of financial resources managed by governments to deliver public services (Guillamón et al., 2011). Furthermore, as the number of citizens increases, so does the amount of people with a potential interest in monitoring government activities and performance. Accordingly, larger governments may be prompted to opt for increased levels of financial disclosure to better fulfill their accountability requirements (Sol, 2013).

Voter turnout measures the cantonal share of participation in national ballots, since the objects submitted for vote, as well as election conditions, may differ at the cantonal level. This variable proxies citizen involvement in politics, and by extension it should reflect their demand for government transparency (Piotrowski and Van Ryzin, 2007; Sol, 2013). Higher voter turnout may indicate that citizens are more prone to request information on government activities and performance, mainly for monitoring or political awareness, whereas lower voter turnout may reflect the opposite (Guillámon et al., 2011).

Pace is a dummy variable which accounts for the differences observed among early bird cantons (EB=1) that introduced HAM reforms in the first five years and latecomer cantons (LC=0). The cantons that introduced HAM1 relatively quickly were also often those to first introduce HAM2, and likewise for latecomer cantons (Soguel and Luta, 2021). In line with previous findings, early bird cantons are expected to reach higher maturity levels over latecomer ones.

[6] A separate legal framework is commonly provided for financial management and reporting at the Swiss municipal level. It applies indifferently to all municipalities within each canton (i.e., 26 financial laws for municipalities). Although not necessarily in the same year as the cantons, both HAM reforms were also introduced at the municipal level—except for Vaud (VD) and Appenzell I. (AI)—and resulted in varied outcomes. Accordingly, MSFM variable was constructed using the same method as for CSFM.

Stage is a dummy variable which distinguishes between HAM1 and HAM2 reform timeframes. The faithfulness of financial reporting should be overall improved between the two successive reforms. Table 2 provides a statistical description of the model's parameters.[7]

Table 2 – Descriptive statistics for explained and explanatory variables

Variable	Min.	Max.	Mean	Std. Dev.
EXPLAINED VARIABLE				
Cantonal scores of financial maturity (CSFM)	27.26	97.76	61.11	17.12
EXPLANATORY VARIABLES				
Demand-side explanatory variables				
Education	0.53	1.79	1.04	0.30
Culture	0.00	1.00	0.27	0.45
Ideology	0.00	64.00	42.39	12.91
Supply-side explanatory variables				
Fragmentation	0.00	5.00	3.53	0.92
Concordance	0.00	1.00	0.79	0.18
Balance	-2.10	1.63	-0.03	0.59
Debt	0.85	3.46	1.72	0.61
Municipal scores of financial maturity (MSFM)	16.79	97.55	58.49	16.16
Control variables				
Population	10.21	14.08	12.05	1.05
Voter turnout	52.03	73.73	64.62	4.40
Pace	0.00	1.00	0.49	0.51
Reform stage	0.00	1.00	0.49	0.51

Notes: (i) Data sources: Swiss Federal Statistical Office, Swiss Political Year, Swiss Federal Finance Administration or own calculations. *(ii)* Financial variables are expressed in real terms and per capita in units of 1'000 Swiss Francs (CHF) for the sake of comparison between cantons. *(iii)* Cantonal population and debt variables are logarithmically transformed.

8.4.3 Regression model and estimation specification

Given the diversity of accounting policies and the different paths, the Swiss cantons offer a suitable context for investigating what helps or hinders greater financial faithfulness. Consequently, the following two-period linear regression model is used to test hypotheses on the variables that might explain CSFM under both HAM reforms:

$$\begin{aligned} CSFM_{i,t} = {} & \alpha + \beta_1 Education_{i,t-2} + \beta_2 Culture_{i,t-2} + \beta_3 Ideology_{i,t-2} + \beta_4 Fragmentation_{i,t-2} \\ & + \beta_5 Concordance_{i,t-2} + \beta_6 Balance_{i,t-2} + \beta_7 Debt_{i,t-2} + \beta_8 MSFM_{i,t-2} \\ & + \beta_9 Population_{i,t-2} + \beta_{10} Voter\ turnout_{i,t-2} + \beta_{11} Pace_{i,t} + \beta_{12} Stage_{i,t} + \varepsilon_{i,t} \qquad (1) \end{aligned}$$

[7] The control variables used in this study were already highlighted in previous literature on public accounting and reporting of financial information at subnational levels of governments. Other control variables previously considered (e.g., GDP, unemployment, financial dependency) were not included either due to the lack of data availability or because of their minor relevance in the Swiss cantonal context. Furthermore, a variable was considered to control for Switzerland's institutions of direct democracy (i.e., the ease of resorting to initiatives and optional referenda at the cantonal level; see Frey and Stutzer, 2000), but it was eventually dropped for lack of statistical significance.

where α is the constant term, β are the estimated coefficients associated to each explanatory and control variables, ε is the error term, i indicates the observed canton and t represents year of HAM1 and HAM2 implementation.

The sample consists of an unbalanced panel of 49 observations. All the cantons—except Appenzell Innerrhoden (AI) and Vaud (VD)[8]—are considered twice between 1976 and 2016, according to when they implemented each HAM reform.

Accounting reforms require extensive legal, educational, and even operational (IT, publishing) preparations. As indicated by field experts, an average of two years elapsed between the design of the new cantonal accounting standards and the corresponding rules (year t-2), and the first application (year t). The level of the explanatory and some control variables is the one that prevailed when the main policies of each reform were designed within each canton, i.e., two years before the actual introduction of each accounting model (e.g., the 1987 and 2015 levels for the canton of Bern that brought HAM1 and HAM2 into force in 1989 and 2017, respectively).

Given that the variation of the explained variable is overall more prominent between cantons than across time (see *Appendix I*), the model is estimated by a pooled ordinary least squares (pooled OLS) regression method to emphasize cross-sectional differences rather than temporal aspects. Robust standard errors are computed using cantonal (state) clustering to account for eventual heteroskedasticity or correlation in errors within clusters.

8.5 Results

Table 3 presents the results from the multivariate regression analysis. The adjusted R^2 peaks at 67%, indicating that more than half of the variance of the CSFM is explained by the set of explanatory variables. However, further robustness checks were performed to ensure results validity (see *Appendix II*).

On the demand-side for financial information, results from the regression show that citizen **educational level** plays no major role in explaining CSFM. This result differs from previous studies, notably from Piotrowski and Van Ryzin (2007) who found a significantly positive relationship between citizen education and their demand for public information transparency.

[8] Appenzell Innerrhoden (AI) is totally excluded from the sample, while Vaud (VD) is only considered under HAM1. In those cases, missing data at the municipal level would otherwise compromise testing hypothesis 4 (see note 6).

Perhaps Switzerland's strong democratic institutions encourage citizen involvement in public affairs (e.g., financial management), regardless of education level.

Table 3 – Regression results

Explained variable: Cantonal scores of financial maturity (CSFM)		
	(1)	
	Coeff.	**(SE)**
Demand-side explanatory variables		
Education (H1)	0.1623	(0.1221)
Culture (H1)	-0.1093 ***	(0.0340)
Ideology (H1)	0.0023 ***	(0.0008)
Supply-side explanatory variables		
Fragmentation (H2)	-0.0065	(0.0178)
Concordance (H2)	-0.0509	(0.0644)
Balance (H3)	-0.0469 **	(0.0171)
Debt (H3)	0.0605 *	(0.0338)
MSFM (H4)	0.5145 ***	(0.1431)
Control variables		
Population	0.0364 ***	(0.0129)
Voter turnout	-0.0055	(0.0040)
Pace	0.0841 **	(0.0331)
Reform stage	0.0114	(0.0585)
Constant	-0.1005	(0.3025)
Observations	49	
Adjusted R^2	0.6656	
Clusters	25	
F-Test (Joint-sign.)	$F_{12,24} = 43.51$ ***	

Notes: *(i)* *** p<0.01, ** 0.01<p<0.05, * 0.05<p<0.10. *(ii)* CSFM and MSFM variables are scaled between 0 and 1 in the model. *(iii)* Mean VIF: 2.23.

In contrast, results suggest that citizen **cultural background** figures prominently in explaining CSFM. Latin cantons opted for standards providing, ceteris paribus, significantly lower degrees of financial faithfulness than German-speaking ones. This result is consistent with evidence that Latin citizens tend to place greater trust in the State, compared to German-speaking citizens who may expect greater fiscal discipline and tighter fiscal monitoring (Pujol and Weber, 2003). It also confirms that the Swiss cultural cleavage between language areas entails significant differences in citizen preferences or attitudes towards public policies, notably in public finance.

As for the cleavage stemming from **partisan ideology**, it has a statistically significant, positive impact on CSFM. The fact that rightist cantonal parliaments correlate with a more rigorous application of the recommended standards could reflect right-wing partisan preferences for financial accountability that would improve efficiency and reduce expenditure in the Swiss context. Although this result contrasts with previous studies indicating that left-wing political parties are keener for greater financial information disclosure (e.g., Guillamón et al., 2011; Sol, 2013), it corroborates the view that left- and right-wing partisans may be interested in supporting increased financial accountability (Piotrowski and van Ryzin, 2007). Therefore, H1 is supported, with a few reservations on the role played by citizen education level.

For the supply-side for financial information, political competition variables (**fragmentation** and **concordance**) are considered irrelevant for explaining CSFM. This suggests that despite the existence of a multi-party system, there is no marked changeover of power between the parties represented at the Swiss cantonal level. Cantonal governments may seek instead for collegial consensus on how financial information should be delivered, since their chances to remain in office could directly depend on their financial accountability. This agrees with Clémenceau and Soguel (2018) who found that political competition has no significant influence on the propensity of cantonal governments—mainly finance ministers—to manage financial statements (i.e., reduce financial faithfulness) for specific and possibly self-interested goals. Therefore, H2 cannot be verified.

The **fiscal balance** is found to draw CSFM significantly downwards. This means that cantons showing a surplus balance (positive financial performance) achieve, ceteris paribus, lower financial maturity scores than those showing a zero or deficit (negative financial performance) balance. Governments are expected to manage public monies efficiently and be accountable. When they don't, politicians may seek to legitimize their results by arranging the depicted financial reality (i.e., reduce financial faithfulness), within the limits of the law. Indeed, accrual accounting enables discretion in financial reporting with the help of deceptive accounting manipulations (i.e., political finessing) (Cohen et al., 2019). Politicians may present a more favorable (or worrisome) financial condition, or at least make it closer to government policy objectives. According to Buchs and Soguel (2022), Swiss voters tend to favor balanced accounts or small surpluses as well as re-elect the finance ministers who deliver those outcomes. Underplaying large surpluses may thus help improve appraisal of cantonal governments' financial performance. It may also reduce risks of calls for tax and subsidy cuts or spending increases which may compromise fiscal sustainability (Clémenceau and Soguel, 2018; Cohen et al., 2019). Additionally, the **debt** level shows an unexpectedly positive association with CSFM, albeit only at a 10% statistical significance level. In line with Christiaens (1999), this finding could mean that cantonal governments are sensitive, yet not fully conditioned by the need to mitigate the risks in debt management perceived by voters or lenders using standards ensuring faithful financial reporting. According to these assertions, H3 is accepted, while cautiously interpreting the role played by the debt level.

The significantly positive relationship between **municipal** and cantonal **scores of financial maturity** shows that Switzerland's subnational governments have sought to harmonize accounting policies both within and across institutional levels. As cantonal and municipal governments often share both context and many connected issues, they may coordinate when devising accounting and reporting strategies, either by jointly moving towards greater financial faithfulness, or by maintaining lower levels of financial faithfulness with conservative/prudent policies. Vertical harmonization can have strong practical implications, particularly in a situation of multi-level governance. It can improve coordination in financial decision-making or intergovernmental monitoring (Caruana and Zammit, 2019). It can also strengthen political accountability by easing intergovernmental performance comparison and benchmarking on financial matters (CFM, 2008). These comparisons and benchmarking could then help elector decisions at the ballot box (Benz, 2012). This finding echoes Carvalho et al. (2007) who showed that accounting policies tend to diffuse among governments sharing common geographical or administrative boundaries in the context of accrual-based reforms. Of course, one cannot totally exclude that how municipalities deal with financial or accounting matters can reversely or simultaneously depend on the cantonal level. Nonetheless, this finding highlights that public accounting reforms can be built upon a multi-level approach, notably in a federalist context. Therefore, H4 holds true, with specific regards to vertical harmonization occurring across government tiers.[9]

Additionally, **population size** is significantly and positively associated with CSFM. As Guillamón et al. (2011) argued, this occurs because, firstly, larger governments manage higher amounts of public funds and must account for it more extensively. Secondly, larger governments are usually more effective at implementing advanced accounting reforms involving important technical and material adjustments (Christiaens, 1999). Next, results show the **pace** of implementation is also relevant. In line with Soguel and Luta (2021), early bird cantons who adopted each HAM reform quickly are also those that achieved the highest scores of financial maturity. In contrast, the negative but incidental role of **voter turnout** suggests that when popular interest for public financial management is higher, government's willingness to ensure a faithful financial reporting may be weakened, albeit not significantly. Finally, the

[9] The role played by the diffusion of practices was also tested among cantons, by replacing MSFM with the (average) score of financial maturity obtained by the canton's geographical neighbour(s) (see Carvalho et al., 2007). However, this variable was not statistically significant. This suggests a stronger harmonization occurred between cantonal governments and their municipalities than among cantons themselves.

distinction of **reform stage** is insignificant, probably because not all the cantons perceived the two successive reforms as an opportunity to evolve their standards (Soguel and Luta, 2021); some cantons maintained most of them while even sometimes relaxing others (see *Appendix I*).

8.6 Conclusion

Within the context of the 26 Swiss cantons and their successive adoption of two major accounting reforms over a 40-year time period, this study identified some of the factors driving their use of accounting and reporting standards meant to increase (or not) the faithfulness of public financial information. By focusing on both citizens and governments, within a framework of political cleavage and public choice theories, this innovative research contributes to the international literature on public accounting reforms, not only from a technical but also a political viewpoint.

With regards to the demand-side, empirical results suggested that cultural background and partisan ideology are significantly related to the degree of faithful financial reporting, but not educational level. As for the supply-side, results showed that a canton's government financial condition and compliance at the municipal level are significantly associated with the degree of faithful financial reporting, but not political competition. Government size and the pace of transition were also found to have a significantly positive relationship with the faithfulness of the reported financial information, while the influence of the reform stage as well as voter turnout remained incidental.

A main implication of these findings is that any legislative-based reform of accounting and reporting standards is a political process influenced to some extent by both government and citizen views in a democratic context. Hence, a bill may backfire when it does not properly reflect citizen needs and preferences, or when it chiefly satisfies a government's self-interested political goals. In contrast, it will be welcomed, not only if financial accountability and transparency are unanimously desired, but also if it is designed using democratic participatory (or collaborative) logic. Accordingly, achieving a well-balanced compromise on the standards to be used is fundamental to ensure a match with citizen interests and ability to use public financial information properly, while effectively supporting representative accountability in financial decision-making, and thus, their political reputation. Besides, the Swiss case reminds that the democratic threat on legislative-based accounting reform processes is not only theoretical; it can also materialize. For example, in the canton of Appenzell Ausserrhoden (AR), opponents initially set a referendum against modifications to adapt the cantonal Financial Act to HAM2 recommendations; fortunately, it was rejected by the people, and the second reform eventually implemented in 2014.

Allowing for a flexible implementation of accounting reforms at subnational levels may lengthen harmonization, but it is probably the price to be paid for successfully converging towards a common set of standards while accounting for the needs and interests of the different stakeholders. Switzerland has been successful on this matter. The sovereignty of Swiss subnational governments in financial and accounting matters is strong, allowing them to adapt related policy decision-making to their own circumstances. Simultaneously, the use of accrual accounting is expanding at the cantonal level, which further strengthens the faithfulness of reported financial information (Soguel and Luta, 2021).

Switzerland's institutional setting has certainly favored the emergence of public accounting and financial reporting policies that directly account for democratic interests at the subnational level, which may contrast with other countries where decision-making for accounting and financial reporting is more centralized or concentrated by select stakeholders (e.g., Southern European countries). Nevertheless, this study provides relevant insights for other democratic contexts, where non-binding supranational or national accounting standards are incorporated into lower tiers' homegrown accounting and reporting systems with some implementation leeway; it could, for example, prove useful for European leaders in charge of centrally developing European Public Sector Accounting Standards (EPSAS) that could be easily acknowledged by EU member countries—not only decision-makers but also the general public—if they were to be adopted on a flexible basis.

Considering the limitation of the small sample size used here, upcoming studies could investigate the determinants of financial faithfulness in other (European) countries to facilitate further comparisons and broader conclusions which may be helpful for national standard setters, decision-makers and practitioners. Also, future research could focus on the effect the faithfulness of financial information has on the quality of a government's financial management.

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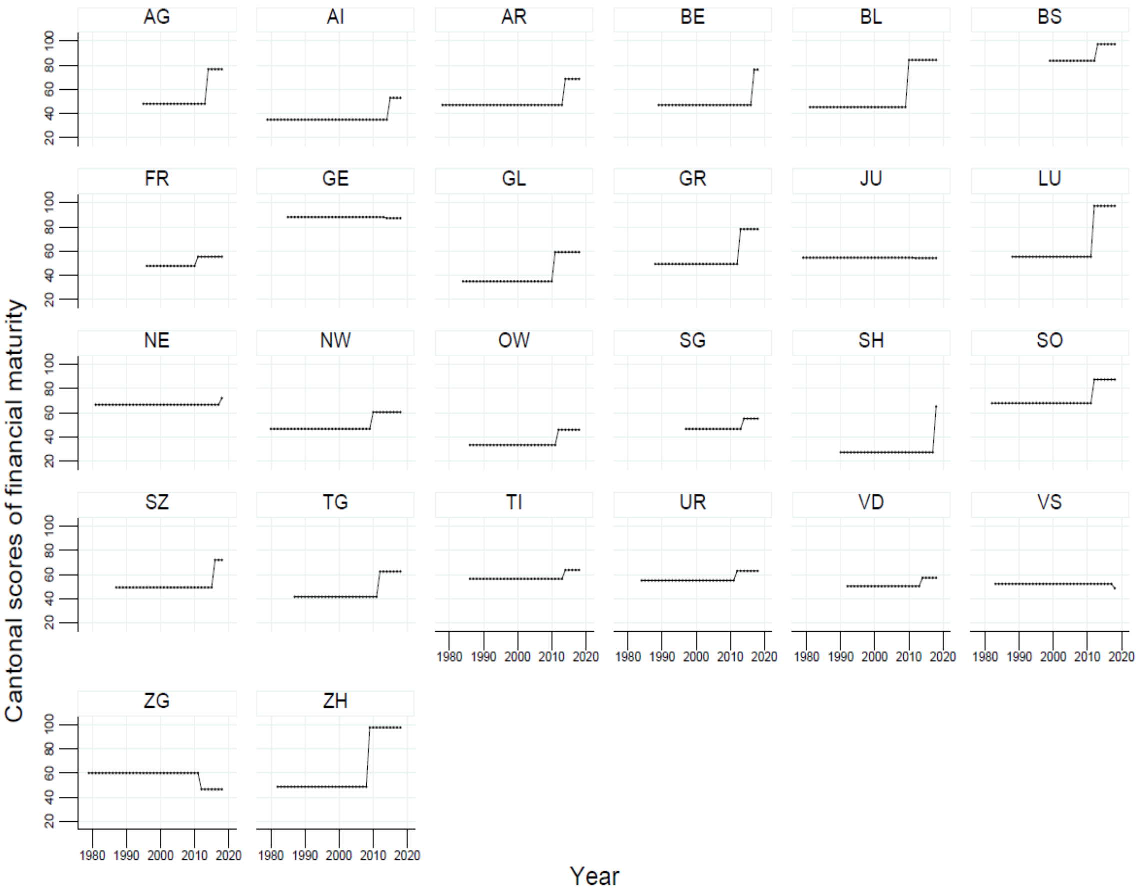
Appendix I – Cantonal scores of financial maturity (y-axis) over the time period of 1978-2018 (x-axis)



Note: Each canton's score changed on one single occasion, which corresponds to when it transitioned from HAM1 to HAM2 accounting model.

Appendix II – Robustness checks

Explained variable: Cantonal scores of financial maturity (CSFM)				
	(2)		**(3)**	
	Coeff.	**(SE)**	**Coeff.**	**(SE)**
Demand-side explanatory variables				
Education (H1)	0.1879	(0.1441)	0.1623	(0.1221)
Culture (H1)	-0.1068 **	(0.0459)	-0.1093 **	(0.0340)
Ideology (H1)	0.0001	(0.0011)	0.0023 **	(0.0008)
Supply-side explanatory variables				
Fragmentation (H2)	0.0106	(0.0213)	-0.0065	(0.0178)
Concordance (H2)	-0.0696	(0.0801)	-0.0509	(0.0644)
Balance (H3)	-0.0432 **	(0.0198)	-0.0469 ***	(0.0171)
Debt (H3)	0.0810 **	(0.0367)	0.0605 *	(0.0338)
MSFM (H4)			0.5145 ***	(0.1431)
Control variables				
Population	0.0425 ***	(0.0149)	0.0364 ***	(0.0129)
Voter turnout	-0.0028	(0.0039)	-0.0055	(0.0040)
Pace	0.0743	(0.0437)	0.0841 **	(0.0331)
Reform stage	0.1111	(0.0829)	0.0114	(0.0585)
Constant	-0.1137	(0.3241)	-0.1005	(0.3025)
Observations	52		49	
Adjusted R^2	0.5206		0.6656	
Clusters	26		25	
F-Test (Joint-sign.)	$F_{11,25} = 13.26$		$F_{12,24} = 43.51$***	

Notes: *(i)* *** p<0.01, ** 0.01<p<0.05, * 0.05<p<0.10. *(ii)* In regression (2), MSFM variable is removed from the model. Since data limitation imposed by this explanatory variable are eliminated (see note 8), all the cantons are contained in the sample henceforth composed of 52 observations. Results remain overall close to those presented in Table 3, which suggest that the model is not significantly affected by the possible shortcomings of MSFM variable. *(iii)* In regression (3), p-values for cluster-robust standard errors are estimated using the wild-cluster bootstrap-t procedure to account for the small number of clusters which are sometimes unbalanced. *(iv)* To further test the model's sensitivity, it was estimated using t-1 and t-3 year-lagged values, as well as without any lag. The coefficient's significance remained universally stable across regressions. These supplementary results are available upon request from the author.

9 The effect of faithful accrual-based financial reporting on government deficits: New insights from Switzerland

Essay 3

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Abstract

This study aims to investigate how and to what extent accrual-based accounting and financial reporting affect the financial performance of governments. It takes advantage of a panel dataset covering the 26 Swiss cantons from 1980 to 2020, which are characterized by a high degree of autonomy in financial matters. Furthermore, two major successive accounting reforms were implemented at the cantonal level during this period, resulting in heterogeneous policy outcomes. The results suggest that the overall fiscal balance is not directly affected by the degree of faithfulness required by the accrual-based standards used to report financial information in the cantonal financial statements. However, when disentangling the effect on the fiscal balance, the results show that financial faithfulness has a downward impact that is slightly larger on expenses than on revenues, implying a combined effect that improves financial performance. This paper thus sheds light on some of the potential implications of implementing supranational (e.g., IPSAS, EPSAS) or national accounting standards at lower tiers, when governments are given some leeway in the process. It contributes not only to the literature on the determinants of fiscal deficits, but also to the growing debate on the impact of budgetary and accounting rules on financial decision-making.

Keywords

Political economy of government deficits; Financial performance; Public sector accounting; Accrual; IPSAS; Financial faithfulness; Swiss cantons.

9.1 Introduction

From the 1970s onwards, skyrocketing levels of public spending and less dynamic revenue triggered persistent fiscal deficits and indebtment. A diverse range of measures were progressively taken to foster a return to balanced budgets, with mixed outcomes both across national and subnational governments and over time. Subsequently, a large body of literature sought to clearly identify the determinants of governments' fiscal outcomes (e.g., revenue and expenses, deficit and surplus, cash flow, debt, etc.), with particular emphasis on political factors. However, in the wake of various events with important fiscal implications at both the European and global level, researchers refocused on the impact of budgetary institutions, with a view to determining which improvement measures are effective and to what extent. Many scholars examined the impact of more stringent fiscal rules on fiscal outcomes (e.g., Grembi et al., 2016), although some argued, somewhat more cynically, that when confronted with more binding fiscal rules, governments could seek to circumvent them (e.g., Milesi-Ferretti, 2004; Burret & Feld, 2018). Specifically, politicians can manipulate budget reports (*ex-ante*) or financial reports (*ex-post*) in order to artificially distort the results to align with those they wish to communicate politically—for instance, by taking advantage of various budgeting and accounting technicalities that compromise the regular and transparent provision of financial information (Alesina & Perotti, 1999). Evidence of the existence of such "gimmicks" has prompted authors such as Koen and Van Noord (2005) to advocate for "transparent and consistent accounting practices" (p. 6).

Increased transparency and consistency have been among the main drivers of the recent wave of accounting reforms in the public sector, with the advent of the International Public Sector Accounting Standards (IPSAS or IPSASs) in the late 1990s, providing a strong impetus. The main goal of IPSASs is to ensure a "*true and fair*" (i.e., faithful) representation of the condition of a given public sector entity in its financial statements, which is accomplished by laying out a common framework for the internationally harmonized implementation of accrual-based principles. Ultimately, IPSASs aim to improve the quality of reported financial information, which is "useful for accountability and decision-making purposes" (IPSASB, 2014, p. 13). Moreover, the board issuing the IPSASs (IPSASB) recognizes that ensuring consistent and comparable financial information across jurisdictions brings significant benefits (IPSASB, 2014). However, the IPSASB has remained silent about the possible effects that the adoption of IPSASs, or more accurate financial information, may specifically have on financial outcomes. This gap is also reflected in the literature, which provides only limited theoretical insights and empirical evidence regarding the impact of accrual-based accounting systems and the efficiency of public expenditure (Cohen et al., 2021, p. 397).

The goal of this study is therefore to determine whether and to what extent a higher degree of faithfulness in financial reporting affects fiscal outcomes—i.e., financial performance, deficits, or surpluses. It further aims to establish whether such an effect, if it exists, materializes through the revenue and/or expenses channels. Accordingly, it draws on the theory of the political economy of fiscal deficits. It represents a contribution to the literature on the determinants of fiscal deficits, linking it to the burgeoning literature on the impact of public sector accounting on fiscal outcomes.

The 26 Swiss cantons (i.e., federal states or provinces) have been chosen as the empirical context due to their variability. Within Switzerland's federalist structure, each of the 26 cantonal governments has competence over financial management—including accounting and financial reporting. Furthermore, two successive major accounting reforms have been implemented over the past forty years, both of which were intended to expand and harmonize the use of accrual accounting among the cantons. However, heterogeneous outcomes were observed in terms of both the timing of the implementation and the depth of the reforms (Fuchs et al., 2017; Soguel & Luta, 2021). Accordingly, a panel dataset spanning four decades (1980–2020) is used to estimate two different econometric models, in order to establish how the degree of faithfulness established by cantonal accounting and reporting standards (i.e., the main explanatory variable) affects the fiscal balance (i.e., the dependent variable either in deficit or surplus). To begin with, a single equation model is used to estimate the direct effect on the fiscal balance. Subsequently, a simultaneous equations model is employed to further disentangle how financial faithfulness affects revenue in contrast to expense. Although the empirical results do not indicate a significant direct effect on the overall fiscal balance, they reveal a simultaneous downward effect on expenses and revenue that is not yet fully offset. Cantonal governments with higher levels of financial faithfulness tend to achieve better fiscal outcomes, exerting slightly more downward pressure on their expenses than on their revenues.

The paper proceeds as follows. Section 9.2 provides an overview of the two intersecting streams of literature that inform this study, namely the literature on the determinants of fiscal deficits[1]

[1] "Deficits" is the striking word scholars often favor to refer to the more general concept of fiscal balance or financial performance. The latter term, which is more precise, is used in the IPSASs to refer to the difference between revenue and expense (IPSASB, 2014, p. 55).

and recent research on the implications of developments in public sector accounting for financial decision-making. On the basis of this review, two main research questions are formulated. Section 9.3 then introduces the institutional context of the Swiss cantons and its broader relevance for determining how accounting and reporting standards impact fiscal outcomes. Subsequently, section 9.4 elaborates on the methodology, section 9.5 discusses the empirical findings, and section 9.6 presents the conclusions.

9.2 Literature and research questions

For the last forty years, researchers have mainly relied on a positivist approach to develop a political economy of fiscal deficits rooted in the public choice literature. Divided into four main strands,[2] the political economy of fiscal deficits examines governmental behavior and attitudes toward fiscal policymaking through a politico-institutional lens, while integrating macroeconomic elements (Mawejje & Odhiambo, 2020). A shared assumption is that government members are not benevolent social planners, but rather purposeful political agents participating in a well-defined fiscal policy decision-making process involving various key stakeholders, including themselves, as well as voters, lobbyists, or bureaucrats (Pinho, 2004, p. 2). These stakeholders are characterized by heterogeneous preferences and partisan ideologies, both within and between groups, as regards the composition of public spending or the size of the state (e.g., Alt & Lassen, 2006). Although each individual (or group) may have some concern for others, the primary motivation is self-interest. Conflicts may therefore arise between the government and voters, among politicians, and between social/interest groups or regions, increasing political pressure and compromising the efficiency of budgetary resource allocation (e.g., Krogstrup & Wyplosz, 2010). For example, various studies have shown the impact on fiscal outcomes of political ideology and government fragmentation (e.g., Roubini & Sachs, 1989; Tellier, 2006; Houlberg & Pendersen, 2015), cabinet size (i.e., the number of spending ministries; see, e.g., Wehner, 2010), and the finance minister’s own characteristics (e.g., Jochimsen & Thomasius, 2014; Clémenceau & Soguel, 2017). Incumbent politicians may thus be incentivized to protect their reputation or chances of re-election by opportunistically influencing fiscal outcomes (e.g., deficit-financed spending increases or tax cuts), notably in pre-election years (e.g., Cusack, 1997; Shi & Svensson, 2006). Concretely, they may seek to please myopic or naive voters, who generally underestimate the future tax burden resulting from

[2] (i) heterogeneity of preferences and partisan ideologies, (ii) conflicting distribution of public resources, (iii) opportunistic politicians and myopic/ill-informed voters, (iv) budgetary institutions.

current deficit-financed public spending—at least in the short run (e.g., Nordhaus, 1975). Alternatively, they may take advantage of rational but ill-informed voters, who must rely on the past fiscal decisions of incumbent politicians to monitor current outcomes (e.g., Rogoff & Sibert, 1988). Such strategic behavior, aimed at maximizing the utility of government representatives rather than social welfare, may undermine the long-term spending or revenue structure, thus weakening financial performance.

However, the extent to which these behaviors determine fiscal policy choices ultimately depends on institutional constraints on budgetary management (Eslava, 2011). Consequently, a main research strand has addressed how budgetary institutions—the set of rules, procedures, and practices that govern the different stages of the budget process, including its formulation, approval, and execution—can influence fiscal discipline and outcomes. Two distinct sets of constraints are generally identified: numerical budget targets and budgetary procedural rules (Alesina & Perotti, 1999). Numerical budget targets, like balanced budget rules or debt constraints, are legislative measures that have generally been found effective in improving fiscal outcomes (e.g., Vinturis, 2023). Procedural rules frame the budget process and promote democratic accountability and transparency, by curbing incumbents' ability to satisfy special interests at every stage. For instance, budgetary procedural rules requiring voter approval (e.g., spending referenda, popular initiatives) can improve fiscal outcomes, especially when institutions allow for rigorous democratic scrutiny of fiscal decisions (e.g., Funk & Gathmann, 2011; Feld & Matsusaka, 2003). However, in addition to the stringency of the constraints or procedural rules applied, the literature also emphasizes the importance of transparency in budgetary institutions for ensuring sound fiscal decision-making (e.g., Benito & Bastida, 2009). Indeed, if binding rules are coupled with complex, unclear, or lax procedures and practices, politicians are more prone to exploit their strategic advantage over naïve or underinformed voters and take evasive measures (e.g., hidden off-budget activities, misestimation of tax revenue, accounting and reporting gimmicks) to circumvent fiscal constraints, while achieving the desired fiscal outcomes (e.g., von Hagen, 1991; Goeminne et al., 2008; Chatagny & Soguel, 2012; von Hagen & Wolff, 2006; Buti et al., 2007; Clémenceau & Soguel, 2018).

Once the budget has been implemented, accounting and reporting standards are the set of institutional rules, procedures, and practices that come into play to demonstrate ex-post adherence to the approved budget, while providing a structured and holistic representation of the government's financial condition. The fixing of accounting and reporting standards in law can be viewed as a democratic political process concurrently involving the—potentially conflicting—needs and interests of the electorate, as "demanders" of financial information, and the government, with subordinate administration officials, as "suppliers" (e.g., Rahman et al., 1994; van Helden & Reichard, 2019; Luta, 2023). As the latter may opportunistically seek to exploit the informational advantage they have over the former, they are not necessarily inclined to communicate extensively (i.e., in a fully transparent way) about their financial activities and decisions. Instead, they may try to take advantage of the standards used to produce financial information to selfishly adjust financial results to suit their own interests. Such a strategy entails an increased risk of uncertainty or inefficiency in fiscal policy outcomes (e.g., persistent deficits, debt accumulation), due to moral hazard, because of hidden or distorted information, or due to adverse political selection (Pina et al., 2009). In such circumstances, neither the incumbent government's true ability to allocate the budget efficiently nor the prevailing financial conditions can be properly determined from the information reported in financial statements.

The harmonized framework established by IPSAS is precisely intended to foster a more faithful representation of economic phenomena, by providing a more neutral, complete, and error-free picture of financial reality in public financial accounts (IPSASB, 2014, p. 35). Nonetheless, while many national and local governments have moved to accrual accounting, often using IPSAS as a reference, the intensity and pace of the convergence process has varied between and within countries (e.g., Christiaens et al., 2015; Soguel & Luta, 2021). Indeed, accrual accounting provides room for flexibility, notably as regards the reporting of assets and liabilities, the recognition and measurement of revenue and expenses, and the disclosure of information (Sun & Rath, 2010). It may also have paved the way for the deliberate use of accrual-based standards to manipulate financial figures, where permitted by law (Pilcher, 2011). For this reason, it can be reasonably argued that the specific application of accrual-based standards differs in virtue of the objectives targeted (Christiaens et al., 2015).

Although previous research has extensively debated the impact of implementing accrual accounting for accountability purposes, only a handful of studies have investigated its implications for financial decision-making, especially at the subnational level. Christofzik (2019) recently examined the impact of the transition from cash to accrual accounting on fiscal policy at the local level in Germany, finding no evidence to suggest a major change in the fiscal balance of the core budget. However, the results did indicate that accrual accounting changed the structure of the budget, especially on the revenue side, which decreased significantly. Similarly, Dorn et al. (2021) did not find that accrual accounting had a large impact on the performance of local governments in Germany, although an increase in operating costs was observed. Kim and Chung (2023), for their part, investigated the impact of accrual accounting on decision-making in South Korean higher-education institutions. They found a small impact on the reduction of the debt ratio and educational expenditures at the institutions. Bessho and Hirota (2023) showed that the adoption of accrual accounting at the local level in Japan negatively impacted short-term social assistance expenses, which decreased, but had no significant influence on primary current expenditures. These adjustments may have helped governments keep their overall expenditure structure unchanged in a context where accrual accounting was introduced more for symbolic purposes than to strengthen information usefulness for decision-making. These studies unanimously took advantage of a quasi-experimental setting (i.e., variation in the decision to switch or not to switch from cash to accrual accounting across government units, as well as in the timing of this process) and presented an innovative difference-in-difference or event study design combined with standard panel regressions. However, these studies all relied on a rough operationalization of the variable measuring the effect of moving towards accrual accounting, such as a dummy variable that merely indicates a switch from cash to accrual accounting or the share of local entities under an accrual regime within a state. In the Swiss context, Bergmann (2012) also developed a detailed argument for the importance of accrual accounting and reporting standards for financial decision-making, notably with regard to financing capital expenditures, reducing debt, and maintaining equity. Fuchs et al., (2017) praised the benefits of accrual-based financial information for making financial management more strategic and resilient at the cantonal level. Both studies remained descriptive, however. Based on the existing literature, the following two research questions (RQ) are formulated:

> *RQ1: Do the accrual-based standards set by a government impact its fiscal balance? That is, does greater faithfulness in a government's accounting and financial reporting standards contribute to improving its financial performance (i.e., reducing deficits)? If so, to what extent?*
>
> *RQ2: Is it through the revenue and/or expense channel(s) that this potential effect of faithfulness on a government's financial performance materializes?*

9.3 The Swiss cantons

9.3.1 Institutional background

Switzerland is a three-tier federal state, comprising the Confederation (national), the 26 cantons (state), and their municipalities (local). The cantons are characterized by organizational and fiscal autonomy. Each cantonal government has its own legislative and executive branches, which are both multi-party bodies elected by universal direct suffrage, thus directly designated by the population. Financial management,[3] along with accounting and financial reporting, falls within the competence of the individual cantons. The executive branch, more specifically the finance minister, oversees financial processes and executes the budget approved by the legislative branch (parliament), as well as setting the rules and modalities for the preparation and presentation of the budget and financial statements. The legislative branch establishes the related legal framework in a cantonal Financial Management Act of Parliament (FMAP). In Switzerland's semi-direct democracy, citizens can also shape cantonal laws or decrees, including the FMAP, through standard democratic channels, such as referenda and initiatives. In this way, each of the 26 FMAP reflects, to some extent, the fiscal views of the canton's government and population.

Most cantonal FMAPs lay out certain requirements (i.e., fiscal rules) aimed at constraining the ability of governments to run deficits and accumulate debt by means of a balanced budget target. However, the stringency of cantonal fiscal rules varies widely along several dimensions, such as rules on budget coverage/compensation, escape clauses, sanction mechanisms, and the existence of a constitutional guarantee ensuring the effective enforcement of the rule (see, e.g., Luechinger & Schaltegger, 2013). Most FMAPs also provide for a financial referendum to constrain spending, which can be either mandatory, when a once-off or a recurring expenditure exceeds a specific threshold, or optional, when a predetermined number of petitioners request that an expenditure be submitted to a popular vote within a specified timeframe.[4]

9.3.2 A harmonized accounting model in two successive reforms

Over the last century, different accounting and reporting policies have coexisted at the subnational level within Switzerland's federal system. In the past, most cantons relied on the traditional cash-based accounting model, although a few of them were already using business-like accounting models (Soguel & Luta, 2021). The generalized advent of accrual accounting

[3] Around 40% of all public revenues and expenditures are managed directly by the cantons.

[4] The threshold level of expenditure, as well as the number of signatures required and deadlines, differ between cantons.

dates back to 1977, when the intercantonal Conference of Cantonal Finance Ministers (CFM) decided to develop the first Harmonized Accounting Model (HAM1), offering common and comprehensive recommendations for the implementation of accrual accounting and budgeting by the cantons and their municipalities (CFM, 1981; Bergmann, 2012). The core element of the HAM1 was the detailed accrual-based chart of accounts that included a statement of financial performance and a statement of financial position (i.e., a balance sheet). However, it also provided basic guidance on recognition and measurement, or additional disclosure. Consequently, no specific prescriptions were given regarding the potential use of certain forms of political finessing, such as hidden reserves, provisions, or accrual/deferral of revenue and/or expenses. This left each canton with full discretion either to set standards that ensure the faithful presentation of its financial results or to allow for some accrual-based manipulations for the sake of reporting more favorable—or at least, defensible—results. As HAM1 was non-binding, its full implementation at the cantonal level took about twenty years. In 2008, an updated, second-generation version (HAM2) was implemented, which remains in force. HAM2 relies upon a revised common chart of accounts and twenty standards, also provided under the form of non-binding recommendations (CFM, 2008). It is only since 2018 that its implementation has been completed in all cantons. The second model was designed to improve on the first version, while also offering the cantons the possibility to align with IPSAS's true and fair accounting approach. Indeed, HAM2 includes all of the IPSAS presentation requirements and most of the recognition requirements. However, on some points, like measurement and disclosure, it offers less stringent alternative options. In contrast to HAM1, HAM2 limits the use of hidden reserves and provides guidance for the more regular accrual/deferral of expenses and revenue. Nevertheless, several accounting gimmicks (e.g., additional depreciation charges, rainy-day funds, pre-financing) remain permissible. Despite the uniform implementation of the revised chart of accounts, the second reform enabled the cantons to choose between significantly improving the accuracy of their financial reports and taking advantage of mechanisms offered by HAM2 to maintain or strengthen their political leeway in financial decision-making, at the expense of a regular and faithful presentation of the relevant information in the accounts.

9.4 Methodology

9.4.1 Dependent variable: Cantonal fiscal balance

This econometric analysis uses an unbalanced panel dataset of the 26 Swiss cantons covering the period 1980–2020.[5] At the cantonal level in Switzerland, the statement of financial performance (equivalent to the income statement or the operating statement) is usually the most scrutinized component of the financial statements, as it provides a direct indication of whether revenues, including taxes paid by citizens, are sufficient to cover the cost of services provided. Therefore, most cantonal fiscal rules primarily dictate that the statement of financial performance should be fully or almost balanced, by limiting the size and occurrence of the deficit or surplus, albeit to varying magnitudes (Clémenceau & Soguel, 2018).

Accordingly, the fiscal balance (B), corresponding to the difference between the revenue (R) and expenses (E) reported in the cantonal statement of financial performance, is used as the dependent variable (DV). This entails that $B = R - E,$ where $B > 0 \Leftrightarrow R > E$ indicates a surplus, and $B < 0 \Leftrightarrow R < E$ indicates a deficit. R and E include, respectively, gross inflows (e.g., tax revenue, patents and concessions, royalties) and outflows (e.g., wages and salaries, purchases of goods and services) of economic benefits or potential for operating activities, as well as financial revenue and expenses (e.g., interest income or expense). However, both components may also include other so-called "extraordinary" operations, which are either unforeseen but substantial or which do not trigger any cash transaction—that is, purely creative accounting operations with no apparent economic or material justification, but that nevertheless significantly influence the final reported fiscal balance.[6] For instance, a cantonal finance minister may artificially improve the reported fiscal balance by adding extraordinary operating revenue, in an attempt to hide a large deficit. Conversely, extraordinary operating expenses may be used to worsen the reported fiscal balance, so as to justify an increase in tax rates aimed not

[5] There are two main reasons for delimiting the period in this way. For most variables, data have only been provided on a harmonized basis at the cantonal level since 1980. In addition, although data for 2021 are already available, they are deliberately omitted due to the influence of COVID-19 on most financial and economic variables.

[6] On the revenue side, extraordinary operations consist mainly of withdrawals from special funds and financing (heading in the chart of accounts: *48* under HAM1, then *45* under HAM2), equity withdrawals (*48* and then *489*), and other truly extraordinary revenue identified in the additional notes to the accounts, such as the amount received exceptionally by each canton from the Swiss National Bank in 2005 (distribution of proceeds from surplus gold sales). On the expenses side, extraordinary operations include allocations to special funds and financing—i.e., hidden or "cookie-jar" reserves (*38; 35*), additional depreciation charges (*332*; *383*), additional depreciation charges on loans, equity and grants (*38*; *387*), equity allocation (*38*; *389*), and other truly extraordinary expenses. It should be noted that discretionary additional depreciation charges are distinct from ordinary depreciation charges (*331*; *33*). The latter refer to the annual charges resulting from the wear and tear and obsolescence of public infrastructure and are therefore recorded on a regular basis.

only at generating smaller deficits or larger surpluses in the future, but also at increasing the cash flow available to pay down the debt, or simply to reduce a strong surplus. Although their use is permitted by the FMAP, these practices are inconsistent with a true and fair representation of the cantons' financial realities. Accordingly, in my dataset, R and E (and thus B) have been cleansed of extraordinary operations, as such a specification makes it possible to focus on the cantons' ordinary—or true and fair financial performance.

Table 1 ranks, in ascending order, the 26 Swiss cantons according to their mean ordinary fiscal balance in real[7] CHF per capita (pc), to ensure comparability of data across entities for the period 1980–2020. To provide context for the transformed data, the average (av.) cantonal population size is also presented. The cantonal mean balances are quite heterogenous, ranging from CHF -205.12 pc (SO) to CHF 816.94 pc (BS) over the period, with an overall average of 146.03 CHF pc. The mean results for NE and TI are the closest to balance, but the former displays an average deficit (CHF -13.47 pc), while the latter has an average surplus (CHF 3.64 pc). Only a minority of cantons (5 out of 26) show a negative result over this period. However, the negative results of SO (CHF -205.12 pc), JU (CHF -129.44 pc), and GE (CHF -97.06 pc) are about twice as large as those of the other cantons with a deficit. As for the 21 other cantons showing an average surplus, 12 of them are above the overall average. In summary, all 26 cantons display a negative minimum and a positive maximum mean balance, as they all at some point experienced a situation of deficit or surplus, albeit of varying size and frequency. There is, therefore, a strong heterogeneity not only between years, but also between cantons, which is particularly interesting to exploit.

[7] Consumption Price Index (2020 = 100).

Table 1 - Summary statistics of each Swiss canton's mean ordinary fiscal balance reported in the statement of financial performance (1980–2020), in real CHF pc

Canton (acronym)	Av. population	T(i)	Mean	Std. Dev.	Min.	Max.
Solothurn (SO)	243 388	39	-205.12	795.80	-4165.15	789.43
Jura (JU)	68 735	41	-129.44	265.19	-895.39	264.84
Geneva (GE)	417 644	36	-97.06	919.73	-1711.05	1859.20
Bern (BE)	961 331	32	-58.09	473.26	-2186.90	322.84
Neuchâtel (NE)	166 446	40	-13.47	247.00	-652.69	414.54
Ticino (TI)	312 146	35	3.64	462.96	-984.46	1032.55
Appenzell Ausserrhoden (AR)	52 511	41	7.80	195.40	-456.52	506.03
Zurich (ZH)	1 270 000	39	27.34	347.55	-1171.82	628.88
Vaud (VD)	645 082	29	28.09	532.84	-866.37	769.40
Basel Land (BL)	255 366	40	81.84	782.01	-4113.17	1178.45
Thurgau (TG)	228 778	34	88.82	245.15	-260.72	829.24
St. Gallen (SG)	450 507	24	99.44	287.87	-502.29	633.82
Lucerne (LU)	350 167	33	121.13	255.03	-376.05	683.02
Obwalden (OW)	32 248	35	139.88	351.33	-767.87	883.00
Aargau (AG)	555 855	26	155.84	455.93	-1608.36	898.25
Freiburg (FR)	244 839	25	158.15	232.38	-214.23	631.66
Valais (VS)	281 284	38	182.11	353.62	-414.90	838.78
Nidwalden (NW)	37 137	41	216.62	354.20	-291.77	1173.55
Schwyz (SZ)	129 071	34	233.30	491.47	-1174.03	1100.70
Glarus (GL)	38 436	37	242.19	527.90	-817.98	1903.13
Schaffhausen (SH)	74 446	31	282.61	455.86	-410.30	1399.11
Appenzell Innerrhoden (AI)	14 743	41	290.19	245.52	-78.73	1117.68
Graubünden (GR)	183 236	33	299.00	581.35	-773.12	2190.91
Zug (ZG)	100 078	41	520.50	762.22	-1032.01	2359.08
Uri (UR)	35 068	37	561.40	590.46	-302.93	1720.31
Basel Stadt (BS)	192 252	22	816.94	1740.35	-3135.99	4741.06
All	**282 153**	**904**	**146.03**	**590.13**	**-4165.15**	**4741.06**

Note: To ensure the comparability of data across cantons, only the financial statements prepared according to the harmonized chart of accounts (i.e., HAM 1 or 2) were considered. As HAM1 was introduced in different years in each canton, the first year of observation, as well as the length of the time series T (i.e., the total number of observations), varies across cantons.

9.4.2 Explanatory variable: Cantonal scores of financial maturity

The econometric analysis also incorporates a measure of the degree of faithfulness in cantonal financial reports, based on Soguel and Luta (2021). To determine how accrual accounting is applied by the 26 Swiss cantons, I rely on the quantitative index-based method developed by Soguel and Luta (2021) to accurately assess the extent to which each entity's accounting policies have led to faithful reporting under each successive HAM reform.

The set of 15 assessment criteria in Table 2 was used to assess each canton's accounting practices under each of the two HAM reforms.

Table 2 – Criteria for assessing Swiss cantons' accounting and reporting standards, in descending order of importance

Rank n°	Criteria	Weights
1	Use of accrual rather than cash basis accounting principles	11.03
2	Linear depreciation method, over useful life rather than degressive depreciation	8.62
3	Absence of additional depreciation charges	8.46
4	Low threshold for accruals and deferrals of past or future revenues and charges	8.23
5	Absence of annual performance smoothing	8.21
6	Measurement of non-administrative assets at market value rather than at depreciated historical cost	7.42
7	Accrual recognition of tax revenues	7.33
8	Absence of pre-financing	7.21
9	Low threshold for the recognition of capital expenditures in the statement of financial position	7.07
10	Start of depreciation as soon as the asset is available for use	6.61
11	Measurement of administrative assets at market value rather than at depreciated historical cost	4.42
12	Presentation of financial indicators	4.33
13	Separate recognition of capital expenditures from the obtained grants to finance them	4.12
14	Separate recognition of plots of land from buildings erected on them	3.83
15	Presentation of a cash flow statement in accordance with IPSAS	3.10

Note: While financial indicators (criterion 12) are not directly prescribed by IPSAS, they enhance the understandability of financial statements aimed at by IPSAS.

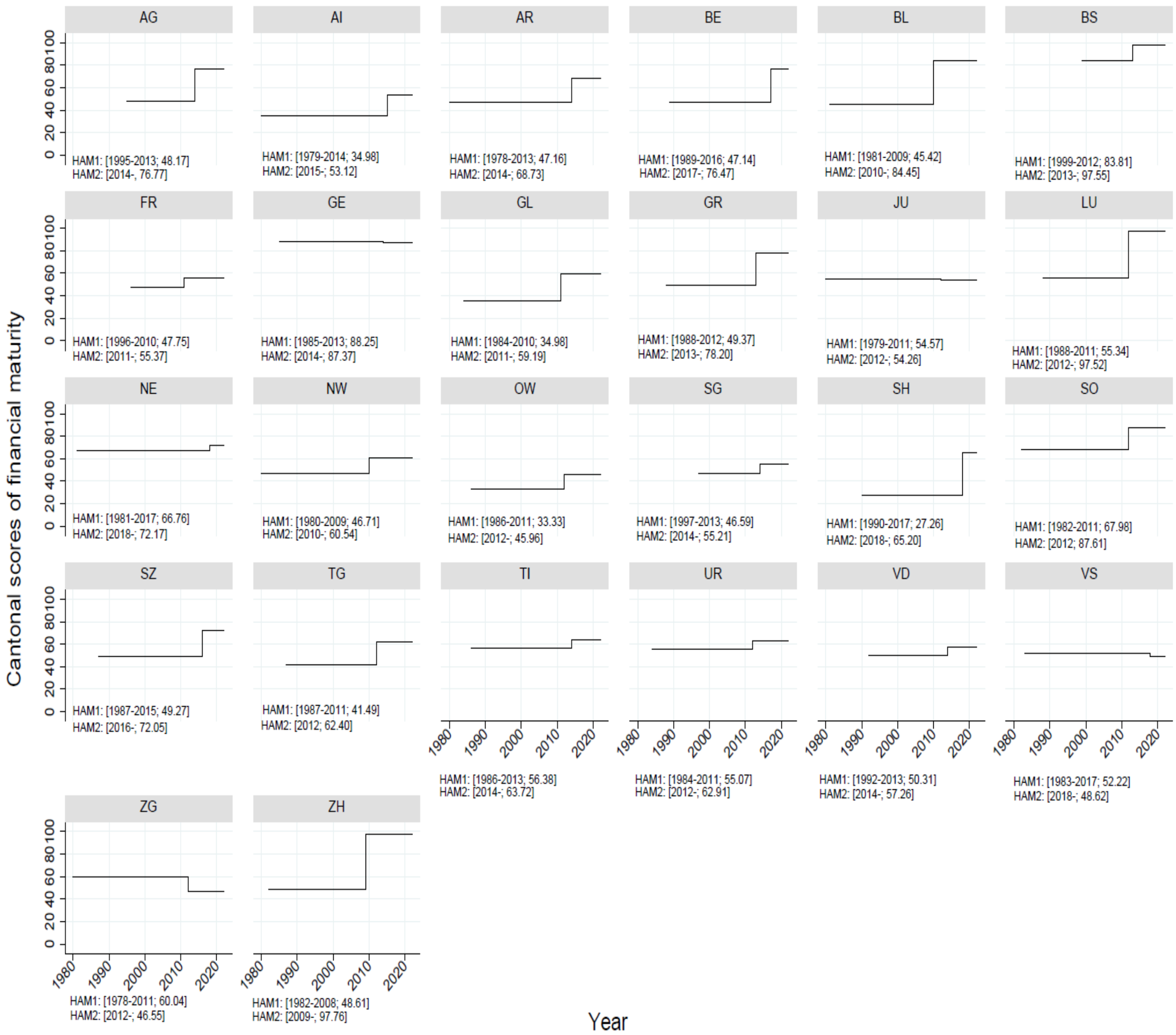
Source: Adapted from Soguel & Luta (2021).

The MACBETH multicriteria decision technique (Bana e Costa et al., 2016) was first employed to weight the different criteria according to their relative contribution to financial faithfulness as judged by the members of the Swiss Public Sector Financial Reporting Advisory Committee (SRS-CSPCP). Each canton's standards were then coded along the 15 dimensions with a maximum value of 1 (i.e., 100%), when it enabled a high degree of financial faithfulness, or a minimum value of 0 (i.e., 0%) when it enabled a low degree of financial faithfulness. The 15 weighted and coded dimensions were then summed up to obtain a "cantonal score of financial maturity" (hereafter "*CSFM*") for each canton. Accordingly, a score approaching 100% indicates strong compliance with IPSAS recommendations, signifying high financial faithfulness in accordance with the standards set by the canton. Conversely, a score close to 0% suggests a lack of alignment between the accounting and reporting standards and IPSAS benchmarks, implying low financial faithfulness (for further methodological insights, see Soguel & Luta, 2021).[8]

Figure 1 shows the percentage scores of financial maturity achieved by each canton under the two successive HAM reforms. The results indicate that cantons differ from each other not only in the timing of the introduction of the reform, but also in the financial maturity scores achieved. While HAM1 was introduced by the cantons over a 21-year span (from 1978 for AI to 1999 for BS), implementing HAM2 took only nine years (from 2009 for ZH to 2018 for VS, SH, and NE). HAM1 already encouraged the thorough application of accrual accounting standards, but this resulted in highly heterogeneous degrees of financial faithfulness. Accordingly, under the first reform, financial maturity scores ranged from 27.26% (SH) to 88.25% (GE), with most cantons (15 of 26) scoring below 50% and two (BS and GE) above 80%. The HAM2 reform further increased the faithfulness of financial information, with results ranging from 45.96% (OW) to 97.76% (ZH). While OW, ZG, and VS remained below 50%, other cantons like BL and SO rose above 80%, catching up with GE, and even exceeding 90% in the case of LU, BS, and ZH.

[8] This was done separately for each of the two HAM reforms, meaning that each canton was assigned two scores.

Figure 1 - Cantonal scores of financial maturity (y-axis) over the period 1980–2020 (x-axis), in percent



Note: Each cantonal score of financial maturity changed only once over the period, which corresponds to when the entity transitioned from HAM1 and HAM2.
Source: My illustration, adapted from Soguel & Luta (2021).

Most top-scoring cantons (GE, LU, BS, ZH) explicitly mentioned the IPSAS as the standard to be applied in their financial legislation (Fuchs et al., 2017; Soguel & Luta, 2021). The majority of the cantons thus took the successive reforms as an opportunity to somewhat improve their accounting policies, although others still resort to various forms of political finessing, reducing the faithfulness of the financial information reported in their accounts (e.g., ZG, VS, JU).

9.4.3 Control variables

Furthermore, the econometric analysis outlines a set of political, macroeconomic, and socio-structural control variables that have been traditionally mobilized in empirical studies of fiscal deficits, particularly in the Swiss context. Table 3 provides detailed descriptive statistics and indicates the data sources. To account for potential electoral budget cycles, an *election* dummy is included, with a value of 1 in cantonal election years and 0 otherwise. Furthermore, a variable reflecting the average political *leaning* of the cantonal (executive) government is used. The higher the value, the further to the right the government's center of gravity (see Ladner, 2006). *Fragmentation* controls for the number of political parties represented in the cantonal government, whereas *concordance* reflects the share of parliamentary seats held by the parties represented in the government. Among the institutional variables, *department* accounts for the number of spending ministries (i.e., cabinet size). Additionally, the composite index *democracy* is used to represent the extent of direct democratic rights at the cantonal level, with the help of an ordinal scale (1–6). The higher the value, the more accessible the main instruments of direct democracy are (i.e., constitutional or legislative initiatives, and legislative or financial referenda; see Frey & Stutzer, 1999). Moreover, the stringency of cantonal fiscal *rules* is proxied by an ordinal scale ranging from 0 (no rule) to 3 (most stringent) (see Feld & Kirchgässner, 2008), while tax *misestimation* is represented by the difference between budgeted and real (effective) tax revenue (see Chatagny & Soguel, 2012). Additionally, the social structure of a canton's population is accounted for by the annual variation in the number of *elderly* inhabitants aged 65+. Finally, the *unemployment* rate, expressed as a percentage of the active cantonal population, and the cantonal real gross domestic product (GDP) *growth* rate are used as macroeconomic control variables.

Table 3 – Descriptive statistics of the dataset

Variable	Unit/Domain	N	Mean	SD	Min	Max	Source
DEPENDENT VARIABLE							
Ordinary fiscal balance	CHF pc	904	146.03	590.13	-4165.15	4741.06	CAFS, OC
Ordinary revenue	CHF pc	904	8953.36	3472.2	4022.75	28490.96	CAFS, OC
Ordinary expenses	CHF pc	904	8807.33	3401.62	3745.28	27210.86	CAFS, OC
EXPLANATORY VARIABLES							
Cantonal scores of financial maturity (CSFM)	%	904	55.32	15.93	27.26	97.76	Soguel & Luta (2021)
Election	$\mathbb{N}$	1066	0.29	0.45	0.00	1.00	SPY, SFSO
Leaning	$\mathbb{R}_+$	1066	5.57	0.56	4.22	7.06	OC based on Ladner (2006), SPY, SFSO
Fragmentation	$\mathbb{N}^*$	1066	3.49	0.90	1.00	6.00	SPY, SFSO
Concordance	%	1066	77.71	22.12	0.00	100	SPY, SFSO
Departments	$\mathbb{N}^*$	1066	6.91	1.95	5.00	12.00	BADAC, CAFS
Democracy	$\mathbb{R}$	1066	4.32	1.07	1.88	5.75	OC based on Frey & Stutzer (1999)
Rules	$\mathbb{N}$	1066	1.02	0.97	0.00	3.00	OC based on Feld & Kirchgässner (2008)
(Tax) Misestimation	CHF pc	1066	-88.94	232.4	-2086.81	1217.01	OC based on Chatagny & Soguel (2012)
Elderly	%	1040	1.64	1.23	-6.94	9.69	SFSO
Unemployment	%	1066	2.23	1.65	0.00	7.81	SSEA
Growth	%	1040	1.66	2.55	-9.56	10.77	BAK Economics (ante 2008), SSEA (post 2008), OC
Fiscal preferences	%	1066	50.07	5.83	19.58	78.38	Dafflon & Pujol (2001), SFSO

Notes: (i) The table reports the descriptive statistics for the full dataset over the period 1980–2020. In the econometric analysis, the number of observations was reduced due to differences in the year in which HAM1 was introduced in each canton and the use of lagged values. *(ii)* Abbreviations: Database on the Swiss cantons and cities (BADAC), BAK Economics, cantonal annual financial statements (CAFS), Swiss Federal Finance Administration (SFFA), Swiss Federal Statistical Office (SFSO), Swiss Political Year (SPY), State Secretariat for Economic Affairs (SSEA), author's own compilation (OC).

9.4.4 Empirical specification

Before drawing empirical conclusions, certain properties of the dataset need to be considered. The unbalanced panel structure is of little concern, since the length of the cantonal time series varies randomly (see subsection 9.4.2). However, it should be noted that the large number of observation periods exceeds the cross-section (T = 41 years > N = 26 cantons). This may raise concerns about (non-)stationarity, which could affect the model specification and lead to spurious regressions.[9] Therefore, Fisher-type Philipps-Perron and Augmented Dickey-Fuller (ADF) unit-root tests[10] (Maddala & Wu, 1999) were performed on the variables in the dataset. *Appendix I* presents the results, indicating that the financial (i.e., *balance*, *revenue*, and *expenses*) and macroeconomic variables (*unemployment* and *growth*), which are traditionally considered most susceptible to this issue in the literature, are all stationary I(0). Other control variables, either political (*fragmentation)* or institutional (including the variable of interest *CSFM*, *department, democracy, rules*) variables, while exhibiting non-stationarity in levels, are integrated I(1), and thus stationary in first difference. However, these variables show little and/or infrequent variation and are characterized by a bounded structure (e.g., 0–100% for *CSFM*, 1–6 for *democracy*, 1–3 for *rules*, see Table 3). In the long run, the extent to which these variables may deviate from their mean or show increased variance thus remains limited (see, e.g., Beck & Katz, 2011). Based on these observations, the equation models are formulated in levels. However, to ensure consistency, estimations are also conducted using variables averaged over two and five years[11] to account for their relationship over a longer timespan.[12]

Besides this, the cantons are highly diverse, notably in terms of their budget size, which implies heterogeneity of variance (i.e., heteroskedasticity) (*Appendix II.A*). In addition, several regressors, including the explanatory variable of main interest, are quite time-invariant, which strengthens the degree of collinearity when two-way fixed effects (TFE) are included (*Appendix II.B, II.C*). Moreover, institutional variables (*democracy*, fiscal *rules*, tax *misestimation*) are

[9] Stationarity refers to the statistical properties of time series data, such as the mean, variance, and covariance, that should remain constant over time. When these data are non-stationary, a spurious and misleading relationship can be indicated between the variables.

[10] The Phillips-Perron test statistic corresponds to the Augmented Dickey-Fuller statistic, but is robust to heteroskedasticity and serial correlation. In both cases, the null hypothesis is the existence of a unit root in the different cross-sections (non-stationarity).

[11] The number of averaged observations may become too small beyond five years.

[12] First-difference modeling solution is less suitable here, because several variables in the dataset vary little over time.

commonly considered endogenous in the literature,[13] since they are potentially reversely influenced by fiscal policy outcomes (i.e., simultaneity). For this reason, they should be instrumented to avoid bias or inconsistency in parameter estimates.

To properly address the research questions, two complementary econometric approaches are considered, as suggested by Krishnakumar et al. (2010). First, a linear regression model is used to investigate the direct and overall effect of *CSFM* on the fiscal balance. It is expressed as follows:

$$B_{it} = \alpha + CSFM'_{i,t}\,\delta + \beta X_{i,t} + \theta_i + \tau_t + \varepsilon_{i,t} \quad \text{(I)}$$

where the dependent variable $B = (R - E)$ represents either a fiscal deficit ($B < 0$) or a surplus ($B > 0$), the subscripts i and t respectively denote the individual canton and the observation year, α is the intercept, $CSFM$ is the explanatory variable of main interest, and δ is the corresponding coefficient. X indicates the vector of control variables, while β is the vector of associated coefficients. Finally, θ captures the individual-cantonal FE,[14] τ denotes the time FE, and ε is the error term.

To estimate model (I), the Two-Stage Least Squares (2SLS) instrumental variable (IV) estimator is used along with robust standard errors. The *democracy* and fiscal *rules* variables are instrumented by their t-2 lagged values, whereas the first difference serves as an instrument for tax *misestimation*.[15]

Second, the effect of *CSFM* on the fiscal balance is disentangled when distinguishing between revenue and expenses, in order to identify the channel(s) through which it materializes. This model specification allows us to explicitly consider the interconnection between revenue and expenses levels. By definition, revenue and expenses should be included in the budget without being linked, implying that the revenue should be allocated freely to tasks deemed necessary,

[13] The main explanatory variable *CSFM* is also an institutional component. Thus, it could be argued that future budgetary prospects may have reversely influenced when and how cantonal governments decided to reform their accounting and reporting standards. Although plausible, this risk is mitigated here by the fact that each of the two HAM reforms were a joint initiative triggered by specific events (see subsection 9.3.2), as well as by the relative stability of the scores over the observation period (only one change per canton). Moreover, an average period of two years elapsed between the formal definition of the accounting and reporting standards (t-2 + t-1) and their application, when the cantonal FMAP came into force in year *t* (Soguel & Luta, 2021). Therefore, the risk of the *CSFM* level being reversely influenced by the canton's financial performance in year *t*—i.e., endogenous, remains marginal.

[14] e.g., language, culture, long-term preferences, or persistent legal provisions.

[15] As cautioned by Reed (2015), this estimation strategy is effective only if the lagged or differenced variables used as instruments do not themselves belong in the estimated equation and are sufficiently correlated with the endogenous regressors (see *Appendix III* for statistics on instrument validity).

without offsetting or contracting expenses, nor earmarking revenue to expenses. In practice, however, the budget structure and implementation inevitably link these elements, particularly due to balanced-budget targets in cantonal legislation. That is, the debit side and credit side must be balanced to avoid snowballing debt and increased interest payments, which would lower long-term revenue. If revenue exceeds expectations in a fiscal year, the government has greater flexibility to finance additional spending or implement tax cuts (i.e., tax-spend policy). When the opposite occurs, governments implement mitigating measures almost immediately to prevent a debt-based increase in government expenses, which would create stronger future tax liabilities (i.e., spend-tax policy). Furthermore, governments frequently designate revenue for particular expenses, thereby strengthening the relationship between the two sides of the budget (i.e., fiscal synchronization) (see, e.g., Krishnakumar et al., 2010; Salvi & Schaltegger, 2023). Besides this, the model specification accounts for the fact that revenue and expenses are directly influenced by a set of explanatory variables that may be either common or specific to each of the two components (Krishnakumar et al., 2010, p. 70). Hence, the second model relies upon the following system of two equations that simultaneously explain revenue (R) and expenses (E):

$$\begin{cases} R_{i,t} = \alpha^R + CSFM'_{i,t}\delta^R + \gamma^R E_{i,t} + \beta^R W_{i,t} + \theta_i^R + \tau_t^R + \varepsilon_{i,t}^R \\ E_{i,t} = \alpha^E + CSFM'_{i,t}\delta^E + \gamma^E R_{i,t} + \beta^E Z_{i,t} + \theta_i^E + \tau_t^E + \varepsilon_{i,t}^E \end{cases} \quad \text{(II)}$$

where, in each equation, α represents the intercept, δ is the coefficient associated with the main explanatory variable *CSFM*, θ and τ are two-way fixed effects, and ε is the error term. In addition, γ^R expresses the marginal effect of expenses on revenue, whereas γ^E expresses the marginal effect of revenue on expenses. β^R and β^E are the vectors of coefficients respectively associated with W and Z, which include an almost identical set of control variables, except for the lagged dependent variable of their respective equations, which account for temporal inertia, as cantonal governments generally favor an incremental budgeting strategy (i.e., incrementally increasing or decreasing the budget components of the year t-1 in year t, see *Appendix II.D*), and tax *misestimation*, which only appears in the equation explaining E.[16] As in model (I), the institutional regressors included in W and Z are endogenous, and thus correlated with ε. Likewise, R and E are endogenous, because they are simultaneously determined by both equations (i.e., E[$R_{i,t}\varepsilon_{i,t}^E$] ≠ 0 and E[$E_{i,t}\varepsilon_{i,t}^R$] ≠ 0). Moreover, the systemic structure of the model

[16] This specification builds upon Chatagny and Soguel (2012), who show that the effect of tax misestimation is mainly channeled through expenses at the cantonal level in Switzerland.

implies that the errors terms are correlated across equations (i.e., $\mathrm{E}[\varepsilon_{i,t}^{R}\varepsilon_{i,t}^{E}] \neq 0$). The Three-Stage Least Squares (3SLS) method thus appears particularly suitable for estimating model (II), while controlling for endogeneity with an identical set of instruments across equations.

9.5 Results

9.5.1 Main results

Table 4A presents the estimation results reports 2SLS estimates from the single equation model (I), with the fiscal balance as dependent variable. Estimations were performed with variables expressed in levels to account for the short-term effect (column 1a) on the fiscal balance, and with two-year (column 1b, medium-term effect) and five-year (column 1c, long-term effect) averages to ensure consistency in the effect over a longer period.

For the single equation model, the coefficient associated with the *CSFM* variable turns out to be statistically insignificant under each model specification, meaning that no clear-cut conclusion can be drawn about its relationship with fiscal balance. This suggests that, on the whole, the fiscal balance is not significantly affected by the degree of faithfulness required by the accrual-based standards used to report financial information in cantonal accounts, corroborating the findings of Christofzik (2019), Dorn et al. (2021), and Besso and Hirota (2021). In other words, a given canton's financial performance is not significantly affected by how and to what extent the government chooses beforehand to communicate and, accordingly, to disclose the accountability of the financial actions and decisions taken.

In addition, the results indicate that a right-*leaning* cantonal executive is consistently associated with a significantly lower fiscal balance (columns 1a–1c), as are stricter fiscal *rules*, but only in the short run (1a). How this negative effect on the fiscal balance should be interpreted depends, however, on its degree of influence on revenue and expenditure, as shown in the following Table 4B below. *Fragmentation* also seems to have a negative effect on the fiscal balance, but only at the 10% significance level. Higher *unemployment* tends to worsen the fiscal balance in the short-medium run (1a and 1b). Conversely, the positive effect of *growth* on the fiscal balance only becomes significant in the medium-long term (1b and 1c).

Table 4A – Results from the single equation model (I)

2SLS	Level	2-year av.	5-year av.
	(1a)	(1b)	(1c)
Dep. var.: Balance			
CSFM	-1.8862	-1.6378	-2.7447
	(2.6972)	(3.1882)	(4.2440)
Election	13.1315	38.2517	200.0516
	(40.4503)	(102.5331)	(299.7536)
Leaning	-205.8320***	-228.4323***	-269.7381***
	(43.1902)	(51.4180)	(92.8562)
Fragmentation	-77.1111*	-105.1804*	-222.9965*
	(41.0682)	(56.6431)	(115.8479)
Concordance	-1.3518	-1.0372	-0.2885
	(1.4577)	(2.1319)	(4.7860)
Department	-4.0027	0.1478	17.6444
	(12.9814)	(16.3707)	(26.1509)
Democracy	-7.8873	-14.5109	59.7202
	(65.5408)	(81.5240)	(177.4211)
Rules	-98.7842**	-98.8669*	-198.7701*
	(48.3858)	(57.0889)	(114.0392)
Misestimation	-0.2739	-0.0732	0.6294
	(0.2394)	(0.2574)	(0.6545)
Elderly	12.9784	36.3354	26.6252
	(17.3250)	(29.0454)	(54.2291)
Unemployment	-70.3656***	-78.6089**	-55.0426
	(24.8087)	(38.9744)	(75.4463)
Growth	12.4684	31.7048**	102.0469***
	(10.4736)	(16.0337)	(27.4631)
Observations	899	463	198
Cantonal FE	✔	✔	✔
Time FE	✔	✔	✔
R^2	0.2336	0.2549	0.2137
Joint, *p-value*	0.0000	0.0000	0.0000

Notes: (i) * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. *(ii)* Robust standard errors are shown in brackets. *(iii)* In models *1b* and *1c*, the *democracy* and *rules* variables are instrumented by their t-1 lagged values.

Table 4B then shows the 3SLS estimates for the second equation model (II), simultaneously explaining revenue and expenses. This second specification is more insightful, as it disentangles the effect of *CSFM* and other control variables on both components of the fiscal balance.

Table 4B – Results from the simultaneous equations model (II)

3SLS	Levels		2-year av.		5-year av.	
	(2a)	(2b)	(3a)	(3b)	(4a)	(4b)
Dep. var.:	Revenue	Expenses	Revenue	Expenses	Revenue	Expenses
CSFM	-4.7417**	-6.4923***	-5.8613**	-5.9293*	-8.7865*	-5.2546
	(2.0590)	(2.4424)	(2.8783)	(3.0272)	(5.2764)	(7.5626)
Election	7.8727	9.7017	31.1042	60.5269	111.9604	-81.5597
	(30.3815)	(36.5833)	(65.5470)	(69.1758)	(147.0610)	(149.5564)
Leaning	-106.3139***	64.7280	-118.0826**	83.3754	-163.9097*	95.8443
	(36.4834)	(44.5585)	(52.0802)	(55.3654)	(92.4460)	(98.5708)
Fragmentation	-41.0929	18.3430	-82.4644**	-9.6747	-183.7622***	51.9742
	(29.5633)	(35.9080)	(41.2914)	(44.9249)	(69.7276)	(106.3059)
Concordance	-0.5796	1.5868	-0.4792	1.9873	-0.9409	3.7710
	(1.2786)	(1.5275)	(1.8084)	(1.8925)	(3.2023)	(3.8114)
Department	15.3840	34.4649**	19.8746	40.3580**	37.7242	61.7472
	(13.1212)	(15.3038)	(18.6071)	(19.2859)	(37.9137)	(55.2623)
Democracy	14.9222	102.3746	54.9443	152.0083	-8.0368	133.8923
	(72.7313)	(85.9445)	(97.8279)	(101.3236)	(245.7181)	(342.6442)
Rules	-7.0576	81.8444*	-13.6399	100.8160*	-46.9085	166.5564
	(38.7218)	(46.3645)	(50.6658)	(54.0988)	(116.2156)	(132.8779)
Misestimation		-0.3228**		-0.4812***		-0.8793*
		(0.1446)		(0.1818)		(0.5313)
Elderly	4.4237	-13.9035	40.1974	-2.9782	45.5875	-1.3563
	(14.4463)	(17.3830)	(26.6243)	(28.4969)	(58.2009)	(80.0775)
Unemployment	-21.4524	27.4960	-47.7739	-34.9363	42.3721	-55.6447
	(26.3627)	(31.6221)	(38.1916)	(41.7085)	(84.3238)	(88.3471)
Growth	9.1053	-5.6244	16.9598	-13.1204	70.6254***	-76.4042***
	(6.9106)	(8.3315)	(11.9659)	(12.5666)	(23.7484)	(23.7633)
Revenue		0.4006***		0.3165***		0.5344
		(0.0575)		(0.0809)		(0.3719)
Expenses	0.4510***		0.5152***		0.7148***	
	(0.0653)		(0.0818)		(0.1492)	
Revenue(-1)	0.4393***		0.3722***		0.1659*	
	(0.0420)		(0.0549)		(0.0912)	
Expenses(-1)		0.3594***		0.4699***		0.2591
		(0.0390)		(0.0583)		(0.2260)
Constant	1810.2001***	162.1173	1919.7886**	-138.2776	2836.9703	-448.1583
	(558.0653)	(691.0238)	(758.2831)	(828.4462)	(1734.5959)	(1767.7072)
Observations	878	878	444	444	184	184
Cantonal FE	✔	✔	✔	✔	✔	✔
Time FE	✔	✔	✔	✔	✔	✔
R^2	0.9870	0.9817	0.9878	0.9869	0.9889	0.9893

Notes: (i) * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. *(ii)* Robust standard errors are shown in brackets. *(iii)* In models 3 and 4, the *democracy* and *rules* variables are instrumented by their t-1 lagged values.

A significant negative effect of *CSFM* on both revenue and expenses can be observed, especially in the short-medium run (columns 2a/2b and 3a/3b), as the effect on revenue fades, while the effect on expenses disappears completely, in the five-year average model (4a/4b). Concretely, a 1 percentage-point increase in *CSFM* is associated with a statistically significant decrease in revenue of CHF 4.74 pc at the 5% level and in expenses of CHF 6.49 pc at the 1%

level, implying a combined effect that improves the fiscal balance by about CHF 1.75 pc.[17, 18] Thus, under the simultaneous specification, the impact of *CSFM* becomes not merely positive, but also significant, in contrast with the single equation model. This result can be explained by the joint influence of the explanatory variables on revenue and expenses (Krishnakumar et al., 2010, p. 75). This can either induce a non-compensatory effect, which ultimately implies a non-zero and significant impact on the fiscal balance, or be compensated out, resulting in a null or less marked overall impact on the fiscal balance, as is precisely the case for *CSFM*. This evidence suggests that the degree of financial faithfulness required by cantonal accounting and reporting standards has a downward effect on the structure of revenue, and even more so on expenses. Although Bessho and Hirota (2023) emphasize that tax revenues are rather inflexible, these results align with the findings of Christofzik (2019) and Dorn et al. (2021), who point out that accrual accounting may induce a reduction in revenue, notably from sales of non-financial assets, as governments can no longer use them as a strategic tool to balance the budget. Moreover, although it contradicts previous studies, the decrease in the expense level observed when financial information reporting leads to a higher degree of financial faithfulness is still relevant. Indeed, the ability of a government to better control the level of its operating costs over the years, or to stabilize them relative to the level of its revenues, is a key indicator not only of good performance, but also of financial sustainability. However, one should be cautious with causal inferences, especially since the coefficients associated with CSFM lose statistical significance across models.

Results further indicate that a right-*leaning* cantonal executive is associated with lower levels of revenue, corroborating the negative effect on the fiscal balance (i.e., reduced deficits) noted in Table 4A. Similarly, the simultaneous positive and negative effects of *growth* on revenue and expenses tend to materialize in the long run (4a/4b), consistent with the previously observed positive effect on the fiscal balance. Regarding fiscal *rules*, no clear conclusion can be drawn, as the associated coefficient which shows a (counterintuitively) positive effect on expenses is significant only at the 10% level. The negative effect of *fragmentation* on revenue is more

[17] In Model 2, the negative effect of *CSFM* on revenue is not statistically different from that on expenses (Wald test: $\chi^2(1) = 0.26$, *p-value* = 0.61). This suggests that both components are reduced simultaneously and almost proportionally when financial reporting is more faithful. By offsetting each other, lower levels of revenue and expenses can reduce the size of the budget, while keeping the overall effect on the fiscal balance insignificant, as shown by the *CSFM* coefficient in Model (I).

[18] In terms of magnitude, this corresponds to an improvement in the fiscal balance of approximately CHF 2 million for ZH, as opposed to CHF 0.3 million for AI, for example.

pronounced in a medium-long time specification (columns 3a/3b and 4a/4b). The results also show that expense levels increase significantly with the number of *departments* in the short-medium term (2a/2b and 3a/3b). Since the value of the misestimation is negative when tax revenues are underestimated (i.e., tax misestimation < 0), the associated coefficients indicate that such a strategic budgeting error tends to increase expenses. Additionally, the results demonstrate that revenue and expenses are interrelated, at least in the short-medium run, given the strong significance of the coefficient of the one in the explanatory equation of the other. The existence of an incremental budgeting approach is also confirmed by the fact that the significance of revenue and expenses depends strongly on their respective levels in the previous year.

9.5.2 Robustness checks

Several additional checks were also performed to ensure the robustness of the results.[19] Specifically, I accounted for the fact that the implementation of budgetary institutions may also depend on voters' fiscal preferences. In the main estimates, fiscal preferences are considered to be highly stable over time, meaning that they are long-run preferences captured by fixed effects at the cantonal level. However, following Dafflon & Pujol (2001), it might be relevant to alternatively mobilize a continuous variable measuring cantonal voters' preferences based on the average approval rates in annual national ballots on fiscal matters between 1980 and 2020 (see also Funk & Gathmann, 2013).[20] In such cases, all the cantons take a position on the same issue at the same time, thus providing a comparable and time-varying measure of the degree of fiscal conservatism of cantonal voters—i.e., their preferences for a balanced budget.[21] However, this new specification reveals that voters' fiscal preferences do not appear to directly affect the government's financial performance, nor do they affect the significance level of other institutional variables that constrain public finances, particularly fiscal *rules*—which

[19] Robustness checks consisted mainly of: removing two-way fixed effects or insignificant regressors, estimating the two models with averages from three to five years, splitting the dataset between surpluses and deficits, high and low (gross) debt cantons, and the two HAM reforms, and controlling for the pace of reform—i.e., early birds who implemented HAM1 or HAM2 in the five years after their publication, vs. latecomers. Inspired by Clémenceau and Soguel (2017), I also examined the characteristics of the cantonal finance minister, but did not find any statistically conclusive results. These additional estimates are available upon request.

[20] The variable corresponds to the deviation of the annual average cantonal approval rates, which are normalized to obtain a national average approval rate of 50%. In 1982, 2005, and 2011, there was no federal ballot that directly addressed a fiscal issue. Therefore, missing values were replaced by the cantonal fiscal preferences observed in the previous year.

[21] For any specific ballot, more conservative cantons were assigned greater values when the approval rate of ballots resulting in reduced expenditures was higher. Likewise, they were assigned higher values when the approval rate of ballots leading to increased revenues was higher (see Dafflon & Pujol, 2001, for further methodological insights).

counterintuitively tends to increase expenses,[22] but only at 10% significance level (see *Appendix IV.A*).

Furthermore, the results were compared with other fiscal outcome variables, namely the total fiscal balance which accounts for extraordinary—i.e., politically motivated operations on revenue and expenses (see *Appendix IV.B*), as well as the financing balance—i.e., the evolution of the debt corresponding to the difference between both operating and capital receipts and expenditures (see *Appendix IV.C*).[23] In each case, the balance remains unaffected by *CSFM* in the single equation model. Subsequently, in the simultaneous regressions model, the effect on total revenue and expenses remains negative, but it fades out (see Appendix *IV.B*). Furthermore, estimations yield no effect of *CSFM* on receipts, while expenditures are drawn significantly downward, except in the five-year average specification where the significance drops (see Appendix *IV.C*).

9.6 Conclusion

This study contributes to the emerging literature on the impact of recent developments in public sector accounting by investigating the relationship between the degree of faithfulness in a government's accrual accounting and financial reporting standards, on the one hand, and its fiscal outcomes, on the other. Data from the 26 Swiss cantons covering the period 1980–2020 were used, which provided an opportunity to exploit the existing heterogeneity among cantonal entities, particularly with respect to their financial management and accounting policies. Initially, a single equation model was estimated to determine the impact of the degree of faithfulness in cantonal financial reporting (i.e., the main explanatory variable) on the fiscal balance (i.e., the dependent variable either in deficit or surplus). Then, a simultaneous equations model was used to identify whether such a potential effect on the fiscal balance materializes through the revenue and/or expense channel.

In response to the first research question, the empirical results showed that financial performance (i.e., the fiscal balance taken as a whole) is not directly affected by the degree of faithfulness required by the accrual-based standards used to report financial information in the

[22] This rather odd result could be explained by the fact that the cantonal fiscal balance shows a surplus more regularly than a deficit. When the sample is split accordingly, the coefficient of fiscal rules turns positively correlated with expenses in case of a surplus, but turns negative in case of a deficit. In both cases, however, the effect is not statistically significant.

[23] Harmonized cantonal data (from SFFA) only covers the period 1990–2020; extraordinary operations are not included.

cantonal accounts. However, in response to the second question, the results revealed a significant negative effect of financial faithfulness on revenue and even more so on expenses, implying a combined effect that indirectly improves the fiscal balance (i.e., reduces the deficit), mainly in the short run.

Although the IPSAS claim that they are "likely to strengthen public financial management" (IPSASB, 2014, p. 15), the achievement of this objective in practice has not been well documented. While the literature has shed extensive light on the accountability implications of IPSAS-based accrual accounting, there is still too little evidence that convincingly demonstrates its concrete impact on financial decision-making. This study is thus one of the first to provide a quantitative-based empirical confirmation that IPSAS do indeed make a difference. In line with Bergmann (2012) and Fuchs et al. (2017), it confirms that Switzerland provides a successful example of how the implementation of supranational (e.g., IPSAS, EPSAS) or national principles-based accounting standards can concretely contribute to enhancing the quality of public financial management—in this case, from the specific perspective of governments' financial performance—even when they are granted some leeway in the process. Accordingly, greater transparency concerning public financial information is found to play a key role in shaping, or in this case reducing the size of government budgets. Conversely, the study provides evidence that politicians in government, who are more prone to engage in strategic behavior, have a laxer approach to financial management under accrual accounting, since they can use their discretion to deliberately adjust the subsequently reported fiscal balance through extraordinary operations (i.e., political finessing).

Policy-wise, the insights arrived at here may be particularly relevant to politicians (i.e., spending ministers and the legislature), as the decision-makers primarily responsible for ensuring sound financial management, but also to standard setters and public officials. They may also prove useful in the context of the international trend towards improving the quality of financial information available to citizens, particularly in order to more effectively combat government inefficiency and corruption in democratic regimes.

On the level of research, the study is innovative in that it uses a long-term dataset covering forty years to analyze the impact of accrual accounting on the financial performance of state-level governments. To do so, it relies on Soguel and Luta's (2021) variable for measuring the degree of financial faithfulness provided by accrual-based standards over two major accounting reforms, rather than simply capturing a shift from cash to accrual accounting as observed in previous studies. Yet, while the diachronic nature of the dataset provided valuable insights over an extended period, the analysis revealed inherent complexities that limit causal inferences. Another important limitation of the study concerns the level of information provided by the explained variables, namely revenue and expenses, which reduces the scope of interpretation of the results. In contrast to previous studies conducted in other countries (e.g., Germany, Japan, and Korea), the available data did not allow me to further disentangle revenue and expenses to determine more precisely whether the decrease in both components observed in cantons showing higher degrees of financial faithfulness resulted from across-the-board cuts on both sides or from targeted cuts in different categories of revenue and expenses.

It would be worth further studying the potential of accrual accounting to serve as a key institutional feature in financial decision-making processes, not only from the government's perspective, but also from that of other public financial information stakeholders (e.g., financial administration officials, voters, creditors). This would require the use of alternative methodologies (e.g., questionnaires and interviews), while providing an opportunity to exploit other innovative approaches. Additionally, the impact of accrual-based accounting standards on other financial outcomes, such as debt or financial market access (i.e., interest rates), may be of interest. Future research could also seek out evidence from developing countries, where the stakes for financial transparency and the sustainability of public institutions are even higher.

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Appendix I – Stationarity

H0: All panels (cross-sections) contain unit roots (i.e., are non-stationary)
HA: At least one panel is stationary

Variables	**Philipps-Perron**		**Conclusion**	**ADF**		**Conclusion**
	Levels	**1st Δ**		**Levels**	**1st Δ**	
	With trend	**With trend**		**With trend**	**With trend**	
CSFM	-0.1064	-33.1225***	I(1)	0.8058	-8.8894***	I(1)
Election	-90.9732***	-41.4341***	I(0)	-91.8506***	-95.5590***	I(0)
Leaning	-2.8123**	-41.5697***	I(0)	-2.0309**	-10.2209***	I(0)
Fragmentation	0.3480	-38.6953***	I(1)	0.3742	-9.8847***	I(1)
Concordance	-2.3378***	-42.1509***	I(0)	-2.01060**	-10.3365***	I(0)
Department	3.6037	-36.7197***	I(1)	2.9714	-8.4442***	I(1)
Democracy	1.3934	-37.0792***	I(1)	1.6254	-9.7970***	I(1)
Rules	1.0892	-41.2319***	I(1)	1.5227	-9.1541***	I(1)
Misestimation	-18.2802***	-68.0995***	I(0)	-9.8621***	-25.5027***	I(0)
Elderly	-26.0172***	-98.2066***	I(0)	-4.4634***	-26.9797***	I(0)
Unemployment	-1.4568*	-19.6553***	I(0)	-1.8064**	-11.0493***	I(0)
Growth	-28.8612***	-87.1999***	I(0)	-10.9799***	-29.1500***	I(0)
Balance	-11.2601***	-62.2486***	I(0)	-2.5650*	-13.2165***	I(1)
Revenue	-2.0139**	93.9480***	I(0)	1.1048	-9.9677***	I(1)
Expenses	-5.3506***	-57.1184***	I(0)	-0.0220	-10.9043***	I(0)

Notes: *(i)* *** $p<0.01$, ** $p<0.05$, * $p<0.1$. *(ii)* Results correspond to the inverse logit *t* statistics. *(iii)* Lags of order 2 are used. *(iv)* Given the heteroskedastic and serial correlation robust properties of the Philipps-Perron unit root test, conclusions are based on the corresponding statistics.

Appendix II – Statistical tests

A. Homoskedasticity/Heteroskedasticity - Breusch–Pagan/Cook–Weisberg test

H0: Constant variance (i.e., homoskedasticity)		
	$\chi^2(1)$	Prob > χ^2
Balance	243.53	0.00

Note: H0 is rejected; heterogeneity in variance (i.e., heteroskedasticity) is confirmed.

B. Fixed vs. random effects

Breusch-Pagan Lagrange Multiplier test[(i)]			Hausman specification test[(ii)]	
H0: Random effects (RE) are not more appropriate than pooled OLS			*H0: The difference in coefficients is not systematic (either fixed or random effects may be used)*	
	$\chi^2(1)$	Prob > χ^2	$\chi^2(13)$	Prob > χ^2
Balance	31.95	0.00	15.23	0.23

Notes: *(i)* Random effects should be preferred over pooled OLS. *(ii)* Although H0 cannot be rejected, FE appear to be more appropriate in this case than RE, since the individual characteristics of the full population are analyzed, rather than a randomly selected sample of cantons (Nerlove & Balestra, 1996).

C. Collinearity - Variance inflation factors (VIF)

	Without TFE	With TFE
CSFM	1.31	4.99
Election	1.14	1.18
Leaning	1.21	2.54
Fragmentation	1.58	4.58
Concordance	1.51	5.28
Department	1.25	3.45
Democracy	1.65	20.59
Rules	1.13	4.02
Misestimation	1.11	1.47
Elderly	1.13	2.05
Unemployment	1.79	10.39
Growth	1.07	2.04
Mean VIF	*1.40*	*4.68*

Note: Although *democracy* and *unemployment* show inflated VIFs (>10) when TFE are included, there is no major concern about collinearity as the mean VIF remains below 5.

D. Autocorrelation (AR)

H0: No autocorrelation		
Wooldridge test, first-order AR		
	AR(1)	
	F(1,25)	Prob > *F*
Balance	*3.24*	0.08
Revenue	74.90	0.00
Expenses	7.41	0.01

Note: H0 is rejected; While AR(1) is largely confirmed for revenue and expenses, it is only at the 10% significance level in the case of the fiscal balance.

Appendix III – Instrument validity

A. Correlation between each endogenous variable and its instrument

Endogenous variable	Democracy	Rules	Misestimation
Instrument	Democracy (lag *t-2*)	Rules (lag *t-2*)	Misestimation (*first diff.*)
Correlation	0.9631	0.8552	0.5186

Note: The correlation between each endogenous variable and its instrument is quite strong, as it is systematically higher than 0.5.

B. Instrument validity (2SLS)

2SLS first stage

Variable (instrument)	Democracy (lag *t-2*)	Rules (lag *t-2*)	Misestimation (*first diff.*)
F-statistic	66.42	150.04	41.34
p-value	0.00	0.00	0.00

IV Estimation

Underidentification test, *Kleibergen-Paap rk LM statistic* *H0: Instruments are not correlated with endogenous regressors*	$\chi^2(1) = 36.74$, *p-value* = 0.00
Overidentification test, *Hansen J statistic* *H0: The instruments are valid instruments, i.e., uncorrelated with the error term*	*p-value* = 0.00

Note: Instrument validity is confirmed.

Appendix IV.A – Robustness check (Fiscal preferences)

	Levels			2-year av.			5-year av.		
	(1)	(2a)	(2b)	(3)	(4a)	(4b)	(5)	(6a)	(6b)
Dep. Var.	Balance	Revenue	Expenses	Balance	Revenue	Expenses	Balance	Revenue	Expenses
CSFM	-1.9453	-4.7944**	-6.5057***	-1.6755	-5.8495**	-5.9228*	-2.6668	-8.8214*	-5.5654
	(2.7088)	(2.0601)	(2.4459)	(3.1979)	(2.8799)	(3.0287)	(4.2338)	(5.2851)	(7.4496)
Election	13.6581	8.4848	9.8354	39.5188	30.9581	60.2457	226.1172	125.5970	-93.1668
	(40.2997)	(30.3796)	(36.5958)	(101.3746)	(65.6503)	(69.2726)	(300.7547)	(149.8482)	(154.5109)
Leaning	-206.6255***	-107.1565***	64.5722	-229.8107***	-118.0906**	83.5854	-288.3527***	-172.3815*	102.2420
	(42.9335)	(36.4826)	(44.5929)	(50.6888)	(52.1842)	(55.4728)	(93.5139)	(92.6232)	(100.9626)
Fragmentation	-78.5409*	-42.2004	18.0843	-106.4941*	-82.3835**	-9.5340	-229.6217**	-187.1378***	51.9397
	(40.8344)	(29.5878)	(35.9621)	(55.8390)	(41.3632)	(44.9954)	(115.4291)	(69.9211)	(106.4644)
Concordance	-1.2757	-0.5192	1.6033	-0.9517	-0.4854	1.9809	0.2775	-0.6685	3.5943
	(1.4523)	(1.2827)	(1.5326)	(2.0993)	(1.8207)	(1.9056)	(4.6559)	(3.3003)	(3.9145)
Department	-3.7653	15.5834	34.5159**	0.3795	19.7772	40.3386**	18.9467	39.7020	62.6326
	(12.9813)	(13.1194)	(15.3085)	(16.3742)	(18.6072)	(19.2861)	(26.2707)	(38.4738)	(54.7911)
Democracy	-5.6733	17.6500	103.2339	-11.7576	54.9522	151.7356	93.0102	4.0291	126.6872
	(65.6093)	(73.0836)	(86.3997)	(81.7660)	(98.6071)	(102.1546)	(180.1370)	(253.0945)	(347.7510)
Rules	-97.2508**	-6.3140	82.1232*	-97.9364*	-14.4146	101.1174*	-206.3259*	-44.8777	170.1096
	(48.7244)	(38.6485)	(46.2989)	(57.6956)	(50.5359)	(53.9817)	(115.1971)	(116.6487)	(131.3780)
Fiscal pref.	-2.1683	-1.7409	-0.4513	-1.9695	0.1418	0.1381	-13.7144	-6.3921	5.8451
	(3.2695)	(2.6113)	(3.1511)	(5.2248)	(4.3291)	(4.5608)	(13.9061)	(13.2833)	(13.6143)
Misestimation	-0.2753		-0.3232**	-0.0719		-0.4818***	0.6642		-0.9047*
	(0.2397)		(0.1447)	(0.2570)		(0.1819)	(0.6596)		(0.5266)
Elderly	13.1951	4.5456	-13.8504	36.6939	40.1359	-2.9399	27.0451	47.0314	-0.5514
	(17.3578)	(14.4437)	(17.3865)	(29.1537)	(26.6372)	(28.5074)	(54.7244)	(58.5501)	(79.6097)
Unemployment	-72.5723***	-23.2060	27.0521	-80.8296**	-47.7102	-34.7304	-66.9153	35.6299	-48.8434
	(24.9746)	(26.4988)	(31.8209)	(39.1144)	(38.5256)	(42.0219)	(74.2712)	(85.1214)	(90.6896)
Growth	12.4389	9.0573	-5.6383	31.4660*	16.9864	-13.1069	100.0653***	68.8703***	-75.1279***
	(10.4805)	(6.9087)	(8.3320)	(16.0795)	(11.9820)	(12.5843)	(27.1674)	(24.2097)	(23.7038)
Revenue			0.4006***			0.3168***			0.5220
			(0.0575)			(0.0808)			(0.3647)
Expenses		0.4508***			0.5157***			0.7077***	
		(0.0652)			(0.0817)			(0.1517)	
Revenue(-1)		0.4392***			0.3720***			0.1712*	
		(0.0419)			(0.0549)			(0.0929)	
Expenses(-1)			0.3593***			0.4698***			0.2653
			(0.0390)			(0.0583)			(0.2225)
Constant		1888.0682***	182.0946		1912.0204**	-146.6338		3162.4721*	-699.8824
		(567.9249)	(705.1523)		(782.7702)	(852.7630)		(1786.2829)	(1852.2494)
Observations	899	878	878	463	444	444	198	184	184
Cantonal FE	✔	✔	✔	✔	✔	✔	✔	✔	✔
Time FE	✔	✔	✔	✔	✔	✔	✔	✔	✔
R^2		0.9870	0.9817		0.9878	0.9869		0.9889	0.9892
Joint, *p*-value	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Notes: *** $p<0.01$, ** $p<0.05$, * $p<0.1$. Robust standard errors are in parentheses. Columns 1, 3, and 5 show *2SLS* estimates from the single equation model, and columns 2a/b, 4a/b, and 6a/b report *3SLS* estimates from the simultaneous equations model.

Appendix IV.B – Robustness check (DV: Total fiscal balance)

	Levels			2-year av.			5-year av.		
	(1)	(2a)	(2b)	(3)	(4a)	(4b)	(5)	(6a)	(6b)
Dep. Var.	Tot. balance	Tot. revenue	Tot. expenses	Tot. balance	Tot. revenue	Tot. expenses	Tot. balance	Tot. revenue	Tot. expenses
CSFM	-1.6896	-3.9873	-5.2151**	-1.6964	-0.8131	-3.4141	-3.6271	-8.0175	-5.8225
	(2.6650)	(2.5549)	(2.6359)	(3.1196)	(3.3744)	(3.1469)	(4.1374)	(5.4198)	(26.2755)
Election	-28.8202	-38.4994	47.8451	-33.1180	-59.3157	75.9714	215.3055	136.6130	-144.9518
	(42.3001)	(34.6222)	(37.8083)	(98.8856)	(70.9299)	(69.1938)	(287.6725)	(143.1331)	(171.8569)
Leaning	-208.5495***	-161.6525***	100.5668**	-226.8633***	-181.4012***	153.5430***	-219.5566***	-148.6739*	34.8032
	(44.2757)	(41.0520)	(47.6299)	(50.3478)	(55.7301)	(56.0914)	(83.9718)	(86.6619)	(229.6318)
Fragmentation	-100.5222**	-77.5756**	50.7867	-118.9394**	-93.7932**	68.8476	-199.2270*	-178.5651***	63.8525
	(45.3017)	(33.5701)	(37.4950)	(59.6101)	(44.6457)	(45.0766)	(108.8588)	(66.2441)	(303.3978)
Concordance	-0.4045	-0.3426	0.9744	-0.5398	-0.8358	0.9263	0.5479	0.0161	1.1268
	(1.6811)	(1.4590)	(1.5816)	(2.2722)	(1.9562)	(1.8960)	(4.6026)	(3.0212)	(7.0106)
Department	-2.3904	4.7180	22.7494	-0.3754	-6.2734	17.7291	7.7224	15.2706	46.9482
	(14.6717)	(15.0807)	(15.7491)	(16.8736)	(20.1832)	(19.0495)	(22.8508)	(35.4061)	(126.0889)
Democracy	-95.6971	-52.2761	137.0330	-137.2753	-131.1913	146.9650	-90.0038	-129.8743	112.1845
	(79.5429)	(89.0414)	(89.5831)	(88.6446)	(114.1993)	(101.2835)	(157.8221)	(250.9827)	(764.8165)
Rules	-10.3512	10.2226	21.0623	-5.5727	16.4619	11.1752	-34.9894	2.5672	33.8362
	(52.3319)	(43.1601)	(48.0014)	(55.5070)	(53.6810)	(54.4175)	(94.2716)	(106.8652)	(176.5947)
Misestimation	-0.1672		-0.3420**	-0.2032		-0.2072	0.4049		-0.6701
	(0.2314)		(0.1542)	(0.2179)		(0.1954)	(0.5166)		(1.3082)
Elderly	4.3724	-0.9266	-8.2439	6.0829	9.7833	-12.3845	14.4848	8.4805	-15.5589
	(16.4252)	(16.4402)	(17.9643)	(25.9583)	(28.7425)	(28.1961)	(48.2443)	(54.3322)	(125.5185)
Unemployment	-86.4195***	-54.2294*	59.8956*	-86.1511**	-68.2550*	49.3252	-79.0650	-8.8536	9.5932
	(29.7679)	(30.1913)	(32.7139)	(39.9983)	(41.1502)	(41.5332)	(73.1654)	(79.3715)	(137.3211)
Growth	0.2400	3.0079	1.4691	14.1459	13.5387	-11.6601	73.6474***	58.2182***	-62.8700**
	(10.2288)	(7.8966)	(8.5872)	(14.7139)	(12.7558)	(12.4727)	(26.4540)	(22.1622)	(29.7742)
Revenue			0.6347***			0.7781***			0.6560
			(0.0731)			(0.0803)			(1.2142)
Expenses		0.7187***			0.9647***			0.8153***	
		(0.0996)			(0.1177)			(0.1660)	
Revenue(-1)		0.2004***			0.0684			0.1011	
		(0.0541)			(0.0678)			(0.0849)	
Expenses(-1)			0.1661			0.0845*			0.1273
			(0.0409)			(0.0468)			(0.6409)
Constant		2320.3353***	-318.5475		2277.5265***	-1259.1932		3110.5520*	464.1105
		(641.6527)	(746.7051)		(822.1369)	(871.1581)		(1632.1945)	(4141.6632)
Observations	899	878	878	463	444	444	198	184	184
Cantonal FE	✔	✔	✔	✔	✔	✔	✔	✔	✔
Time FE	✔	✔	✔	✔	✔	✔	✔	✔	✔
R^2		0.9870	0.9817		0.9862	0.9866		0.9948	0.9906
Joint, *p*-value	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Notes: *** p<0.01, ** p<0.05, * p<0.1. Robust standard errors are in parentheses. Columns 1, 3, and 5 show *2SLS* estimates from the single equation model, and columns 2a/b, 4a/b, and 6a/b report *3SLS* estimates from the simultaneous equations model.

Appendix IV.C – Robustness check (DV: Financing balance)

	Levels			2-year av.			5-year av.		
	(1)	(2a)	(2b)	(3)	(4a)	(4b)	(5)	(6a)	(6b)
Dep. Var.	Fin. balance	Receipts	Expenditures	Fin. balance	Receipts	Expenditures	Fin. balance	Receipts	Expenditures
CSFM	-2.9319	-2.9580	-4.4690**	-2.6950	-4.4568	-6.0480**	-0.7314	6.0108	-3.0563
	(2.0971)	(2.0806)	(1.7735)	(2.9089)	(2.9934)	(2.9268)	(3.9693)	(7.6067)	(5.5684)
Election	-12.5472	0.5960	50.0375*	6.0419	32.3517	79.9648	101.7452	34.5054	-28.8489
	(45.7534)	(34.7148)	(29.5835)	(94.4943)	(73.5836)	(71.4971)	(208.0660)	(163.9618)	(97.5934)
Leaning	-174.5568***	-152.4245***	-103.5125***	-174.7730***	-205.3757***	-177.2620**	-140.9941	68.6692	-13.9094
	(53.5125)	(42.4219)	(38.9191)	(66.6583)	(60.9995)	(69.5623)	(106.0296)	(165.6649)	(152.5231)
Fragmentation	43.5837	-48.8423	-42.9078	35.4564	-73.7763	-78.1190	12.1641	8.0704	6.8495
	(42.4732)	(34.7030)	(29.9697)	(53.1261)	(48.6631)	(48.8546)	(86.5160)	(88.4215)	(68.6940)
Concordance	-7.6490***	-1.9852	2.3104*	-8.3999***	-3.2836	3.1846	-6.4427*	-9.8365**	6.7303**
	(2.6005)	(1.5761)	(1.3341)	(3.1153)	(2.2833)	(2.1896)	(3.8123)	(4.6073)	(3.3912)
Department	-54.5688***	13.9206	24.8874*	-53.5141**	12.1676	28.6489	-64.3492**	-89.6261	58.0485
	(16.3611)	(15.9463)	(13.5724)	(20.8975)	(23.8943)	(23.2369)	(26.6429)	(68.8587)	(40.4350)
Democracy	-124.8766	18.6359	14.0832	-102.1943	19.7483	62.6678	-142.8037	110.1072	-92.1897
	(92.9544)	(95.3086)	(80.8768)	(113.9221)	(132.3899)	(128.0493)	(271.3808)	(439.4860)	(280.5253)
Rules	137.7159***	8.1260	-50.4021	167.5569***	-13.0787	-99.4514*	238.5223**	70.8948	-25.7077
	(43.3045)	(43.4662)	(37.1244)	(59.7419)	(57.6118)	(56.3488)	(97.6034)	(141.9014)	(87.7350)
Misestimation	-0.5557**		0.5395***	-0.6273**		0.6119***	-1.3457***		0.0546
	(0.2286)		(0.1037)	(0.2927)		(0.1663)	(0.5068)		(0.2372)
Elderly	16.6539	-3.9047	-4.6649	23.5589	-31.7782	-50.0033	-54.2787	128.0543	-67.7369
	(16.4926)	(15.9715)	(13.5946)	(28.1889)	(37.3032)	(35.8628)	(57.7405)	(118.6271)	(69.5034)
Unemployment	-67.5212***	-23.0123	22.0907	-45.1440	-79.7760	23.0356	56.8771	-55.1950	49.8505
	(21.4319)	(34.7570)	(29.5409)	(27.8436)	(51.9216)	(51.3047)	(58.1083)	(103.2699)	(77.1879)
Growth	22.1425***	17.0832**	-2.7295	16.9753	31.5854**	-10.1488	1.3039	71.6936***	-51.5035**
	(6.6712)	(7.6760)	(6.6046)	(10.9565)	(13.1418)	(13.2591)	(16.8207)	(25.4027)	(24.9409)
Receipts			0.1985***			0.2095**			0.6983**
			(0.0531)			(0.1039)			(0.3036)
Expenditures		0.3899			0.5085***			1.5564***	
		(0.0522)			(0.1004)			(0.3858)	
Receipts(-1)		0.5154***			0.3885***			-0.0226	
		(0.0352)			(0.0560)			(0.1559)	
Expenditures(-1)			0.6053			0.4845***			-0.0233
			(0.0450)			(0.0785)			(0.2195)
Constant		1622.3286**	2197.0800***		2574.5350**	3437.5042***		-4130.2458	2209.5969
		(689.4140)	(595.0430)		(1114.3725)	(1110.9679)		(4298.6091)	(2335.5798)
Observations	777	756	756	403	382	382	178	156	156
Cantonal FE	✔	✔	✔	✔	✔	✔	✔	✔	✔
Time FE	✔	✔	✔	✔	✔	✔	✔	✔	✔
R^2		0.9868	0.9900		0.9881	0.9885		0.9883	0.9948
Joint, *p*-value	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Notes: *** p<0.01, ** p<0.05, * p<0.1. Robust standard errors are in parentheses. Columns 1, 3, and 5 show *2SLS* estimates from the single equation model, and columns 2a/b, 4a/b, and 6a/b report *3SLS* estimates from the simultaneous equations model.