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Railway Systems and the 'Universal Good of the State': Technologies of Government in the 19^{th}-Century Papal State

Abstract

Informed by Foucault's concept of governmentality, the paper focuses on nineteenth-century General Commissariat for the Railroad Industry in the Papal State. Unlike in liberal States, where government intervention in the affairs of railway companies was limited, the pressing need to reinforce the Pope's pastoral power, strengthen the bond between the believers and the Holy See and ensure equity and the efficiency of the new infrastructure meant that the Commissariat acted as a governmental centre of calculation. Accounting technologies in the form of budgets, cost accounting systems and penetrating audits enabled the government to intervene in the operations of private railway companies. The study analyses the role of accounting and auditing practices in the pursuit of non-liberal goals in an industry which is traditionally perceived as critical to the development of a liberal economy, one in which accounting was traditionally used to maintain investors' confidence in the capitalist system.

Keywords

Governmentality, calculative devices, railroad industry, 19^{th} century, Papal State, centre of calculation.

Introduction

According to Foucault (1991; 2007; 2008), the nineteenth century marks a pivotal turning point in the development of the modern governmentalised State, one in which technologies of government started to be mobilised to govern populations consistent with the liberal priorities of promoting the development of free markets and the accumulation of capital. To Foucault (2007: 70), promoting these priorities means "not interfering, allowing free movement, letting things follow their course; laisser faire, passer et aller – basically and fundamentally means acting so that reality develops, goes its way, and follows its own course according to the laws, principles, and mechanisms of reality itself". As a result, State intervention in the economic domain must be kept to a minimum and limited to nurturing and protecting free markets.

The construction and operations of railways provided unprecedented impetus to the development of capitalist forms of the economy, most especially in Britain and in the United States (Flesher and Previts, 2009; Duran, 2013). Not only were railways "America's greatest technological achievement of the nineteenth century" (Heier, 2009: 327) and "characterised the first industrial revolution in the US" (Flesher et al., 2003b: 63), they were also "the key engine of growth in the British economy" (McCartney and Arnold, 2002: 403; see also Arnold and McCartney, 2002, p. 195). Following Britain and the US, many other countries sought to take advantage of the contributions of railways in the pursuit of economic development, so much so that "during the mid-nineteenth century, rates of economic growth, the rise of capital markets and the development of new working relationships between the state and the private sector in a number of European countries were all strongly influenced by the patterns of promotion and construction in the railway industry" (McCartney and Arnold, 2002: 402). As a result, consistent with the liberal beliefs of the time, States sought to facilitate "economic development through the encouragement of capitalist investment" (Baker and Quéré, 2014: 300).

The critical role played by railways in the economic development and in the rise of capital markets in liberal States meant that studies in the history of accounting investigating the railway industry have almost exclusively focused on liberal contexts, most especially Britain and the US (Arnold and McCartney, 2002; Bryer, 1991; Edwards, 1986; Flesher and Previts, 2009; Glynn, 1994; McCartney and Arnold, 2002; Odlyzko, 2011; Jupe and Funnell, 2017). These studies have mostly focused on State intervention in the railway industry aiming at developing markets and a State's economy and at regulating consistently the operations of the private companies entrusted with the duty to run the railway network (Kanazawa and Noll, 1994; Kostal, 1994; Houghton, 2002; Renehan, 2007). Governmental bodies were also set up to this end and were important for the State to regulate this strategic industry (Gilligan et al., 1989; Poole and Rosenthal, 1993, 1994). Nevertheless, in liberal States regulation would seldom be heavy (Arnold and McCartney, 2002) and the enforcement of accounting practices mainly aimed at "strengthening the hands of the shareholders vis-à-vis their boards" (McCartney and Arnold, 2002: 402) and hence at maintaining investors' confidence in the capitalist system (Baker and Quéré, 2014: 303).

The role of accounting and auditing practices as an implement of wider, far reaching programmes of government (Rose and Miller, 1992) to direct the railroad industry in non-liberal contexts has mostly escaped the attention of accounting historians. The paper starts to address this oversight by investigating the under-researched setting of Italy (Antonelli et al., 2017). In the mid-nineteenth century, Italy was still split into many regional States and the unification of the State would not happen until 1861. As a result, since the 1840s Italian railway systems had been built and ran on a regional basis, among a variety of institutional settings and regulatory forms. Consistent with the call by Baños et al. (2005) to study accounting under different political and economic contexts, this study focuses on the non-liberal context of the nineteenth-century Papal State. The Papal State was an absolute monarchy and its ruler from 1846 to the annexation of the country to Italy in 1870 – Pope Pius IX– is depicted by historiography as a fierce and explicit opponent of liberalism, modernity and capitalism (Gilmary Shea, 1877; Coppa, 1979; Burns, 1990, 1994; De Mattei, 2004). In the nineteenth century the Papal State's very existence was threatened by the nationalist ideology emerging in Italy, which led to the Wars of Italian Independence (1848, 1859 and 1866). Amidst this turmoil, the construction and development of a new railway network was seen as essential to the reinforcement of the Papal State (Collier, 2003; De Mattei, 2004; Coppa, 2014), not simply as a means to stimulate business. To this end, the use of accounting and auditing practices soon became critical.

The study investigates the role played by the accounting technologies of government adopted in the Papal State to govern its railway industry. The paper focuses on the operations of the General Commissariat for the Railroad Industry (GCRI), later renamed as the Secretariat for the Railroad Industry (SRI), the first governmental body within the railway industry to appear in the Italian scenario in the nineteenth century (Schram, 1997; Scaggiante, 2014). The GCRI was established in 1856 and ceased its activities (as SRI) in 1870 with the annexation of Rome to the Kingdom of Italy. The paper covers the period in which the GCRI/SRI operated to enact the Papal State's programmes of government. This "centre of calculation" (Latour, 1987; Miller, 1990) had its own staff and experts who collected and stored data relating to the railroad companies' investments, activities, traffic, fares, costs and profits. Aggregating, comparing, processing and combining such a large amount of data through accounting tools enabled the Commissariat to render the railway system visible to the Papal government, and hence to make it the object of control at a distance (Miller and Rose, 1990; Robson, 1992). The study therefore adds to the accounting history literature focusing on the railway industry by analysing the role of accounting and auditing practices in the pursuit of non-liberal goals, adopting a Foucauldian perspective (Chiapello and Baker, 2011; McKinlay and Pezet, 2010). Unlike existing studies suggest, the paper documents how in the Papal State's railway system accounting and auditing practices were not a tool to promote commercial exchanges and the accumulation of capital, but an essential means to reinforce the bond between local communities of believers and Rome and ultimately an implement of the Roman Curia's pastoral power (Foucault, 2007; Bigoni and Funnell, 2015). The work also extends the reach of Foucault-based accounting history studies by focussing on a context, that of railway systems, which is yet to attract a significant level of interest from studies inspired by Foucault's concept of governmentality (Miller, 1990; Miller and Rose, 1990; Baños et al., 2005; Sargiacomo, 2008; Lai et al., 2012; Servalli, 2013; Funnell et al., 2016).

To achieve its aims, the study first reviews prior historical literature in the context of State intervention and accounting regulation in the railroad industry in the nineteenth century. The theoretical framework of the paper – based on Foucault's governmentality as interpreted by Miller and Rose – is offered in section three. In the fourth section the sources on which the paper is based are presented, whilst the fifth depicts the historical background of the Papal State until its annexation to the Kingdom of Italy. The sections that follow discuss the political rationality and programmes of government in the Papal State's railroad industry and the related role of accounting practices. The last section offers some brief conclusions.

Accounting and the Railway Industry

In the nineteenth century, both in Europe (Dobbin, 1994) and in the US (Kolko, 2015), the State sought to intervene in the emerging railway industry. Railways would dramatically decrease the time and cost of freight, hence represented an essential aid to the development of commercial exchanges and to the promotion of investors' confidence in free markets (Miranti, 1990; Stevenson-Clarke and Bowden, 2018; Duran, 2013; Chandar and Miranti, 2005). As a result, liberal governments in Europe and in the US sought to facilitate the development of the railroad industry by encouraging private initiative (Jupe and Funnell, 2017; Parker, 1990), hence providing impetus to the creation of new markets, consistent with the priorities of liberal society (Foucault, 2008).

Throughout the nineteenth century, and particularly in Britain and in the US, the State did not seek to heavily regulate the nascent railway industry, which was deemed critical to the development of a capitalist economy (Arnold and McCartney, 2002). Therefore, starting from the second half of the nineteenth century, the State mainly sought to ensure that railway companies disclosed quality information to shareholders and lenders of finance by issuing a set of rules which railway companies were expected to follow in the preparation of their financial statements. Standardisation was deemed useful to allow investors to compare the performance of different companies and to solve interline accounting issues when goods and passengers were transferred from one company to the next (Miranti, 1989, 1990; Flesher and Previts, 2009). Common rules were also enacted to ensure long-term profitability of railway companies in favour of shareholders (Hooper, 1916). Accounting regulations were also seen as important in preventing frauds (Flesher et al., 2003a; Giroux, 2014) or incorrect profit calculations (Brief, 1965; Lee, 1975; Samson and Previts, 2009). These regulations were also to support the State in ensuring that any subsidies paid to the railway companies to sustain their development were properly calculated and well grounded (Stanley, 1993; Sivakumar and Waymire, 2003; Thompson, 2013; Pollins, 1956; Covalenski et al., 1995).

The State could also intervene in the railroad industry through an ad hoc governmental body. The best-known case is the Interstate Commerce Commission (ICC, Lindahl, 1935; Gilligan et al., 1989; Poole and Rosenthal, 1993, 1994), established in the US in 1887. The ICC was responsible for standardising accounting practices and intervening in the determination of the fares (Miranti, 1989; Stone, 1991; Hooper, 1916). Nevertheless, in its early years the ICC could only enjoy limited powers and it was not until 1906 that it could enforce the use of a common accounting system and set limits to fares[1], which further testifies to the reluctance of the government to heavily intervene in the affairs of railway companies. Consistently, regulation of the way in which railway companies kept their accounts was not aiming at exercising an all-pervading control on their activities or limiting their operations, but at promoting transparency and ensure that capital markets would have been provided with reliable information. As noted by Miranti (1990: 183) "[g]reater financial disclosure, it was believed, could make managements more accountable" and "measurement practices also were central in evaluating rate equity".

The rise and development of railway companies, the first large corporations in the Western world (Flesher et al., 2003b; McCartney and Arnold, 2002), created unprecedented agency problems (Previts and Samson, 2000), most especially in such a capital-intensive industry as railways. The need to raise resources for financing the expansion of the rail network meant that accounting practices, in particular the preparation of detailed financial statements, became essential to maintain the confidence of shareholders and lenders in the business. As a result, the main function of accounting was to "communicate with external investors regarding the performance of the railroad and how to monitor the managers who were deemed to be the stewards of the company's assets" (Flesher and Previts, 2009, p. 392). The preparation of financial statements, which would soon become the main goal of railway companies' accounting systems (Chatfield, 1974), represented the main means through which companies engaged with a variety of stakeholders, most especially distant investors in America or Europe. In turn, investors would use information provided through financial statements to assess the earnings power of these businesses and to evaluate their solvency and liquidity (Flesher and Previts, 2009). Stakeholders often included the State which, especially in the US, sought to promote the development of railways through direct investment and hence was interested in evaluating the profitability of such enterprise, which was often lucrative (Thompson, 2013). Some companies included in their annual reports information on their contributions to the economic development of the regions in which they operated (Flesher et al., 2003b). This provided legitimation to the business by showing its wider impact beyond the generation of profits for their shareholders, and was also a means to justify or promote State financial support. Such was the importance of accounting practices to sustain investments in the industry that in the second half of the 1840s British railway companies even responded to a crisis in shareholders confidence through increased voluntary financial disclosure (Edwards, 1985). The pursuit of greater transparency also fuelled the development of early modern accounting practices (Previts and Samson, 2000; Heier, 2009, 2010).

If accounting practices were mostly a means to win the trust of investors, the first form of audits were also essential to this purpose. In the nineteenth century, liberal States did not engage in auditing financial information provided by railway companies. This function was performed in some companies by an internal committee, whose function was promoting efficiency in the use of resources and the reliability of financial statements. An early example of this practice was the Baltimore and Ohio Railroad audit committee in the US, which "served not only as a safeguard of assets, but made both operational and organizational change recommendations that improved the management and financial performance of the railroad" (Flesher et al., 2003a: 385). As a result, studies of the railway industry have mostly investigated the role of accounting as a means to promote the development of a liberal economy through the growth of a critical industry such as railways. Far from being limited to this, the intervention by the Papal State in its railway industry was inspired by far-reaching, non-liberal programmes of government.

The 'Rational Way of Governing'

The work of Michel Foucault, most especially his interrelated concepts of disciplinary power and governmentality (Sargiacomo, 2008), has been a major influence in research into the history of accounting (Napier, 2006). Foucault-based studies have investigated the way in which power is exercised in apparently neutral, unseen ways in different sites, including States (Sargiacomo, 2008, 2009; Lai et al., 2012; Yayla, 2011; Funnell et al., 2016; Nikidehaghani and Hui, 2017), churches (Bigoni and Funnell, 2015), charitable institutions (Servalli, 2013), factories (Carmona et al., 1997, 2002; Fúnez, 2005), military academies (Hoskin and Macve, 1986, 1988), mental asylums (Funnell et al., 2017, 2018), clinics (Preston, 1992), schools (Walker, 2010) and universities (Bigoni et al., 2018; Papi et al., 2018).

Foucault's (1982, 1991, 2007) notion of rational government, or 'governmentality', consists of a complex of institutions, procedures, technologies and tactics in the service of a form of power that is exercised on a population, is based on knowledge and requires apparatuses of security (Foucault, 1991: 102). Governmental power does not have a direct hold over people and things but is only concerned with "the phenomena of politics, that is to say, interests, which precisely constitute politics and its stakes; it deals with interests, or that respect in which a given individual, thing, wealth and so on interests other individuals or the collective body of individuals" (Foucault, 2008: 45). In other words, governmentality is a complex form of activity which aims at shaping, guiding and affecting the conduct of individuals, social groups, economic actors or populations (Gordon, 1991: 2).

In the study of practices inspired by Foucault's concept of governmentality, a distinction between 'political rationalities', 'programmes of government' and 'technologies of government' is needed (Miller and Rose, 1990; Rose and Miller, 1992). Political rationalities are a complex system of beliefs and values about the society and the economy (Miller, 1990: 318), a scheme for organizing interests, representing reality, and acting on it. Consequently, political rationalities organise ideals and principles, conceptualise the objects of government such as the society, the economy, the citizenship, and represent and describe objectives, values, actions and actors (Rose and Miller, 1992: 178-179). Political rationalities also refer to the institutions involved in the political and rational way of governing (Rose and Miller, 1992: 178). Therefore, a necessary premise to the implementation of programmes of government is the distribution of tasks and power across the administrative apparatus of the State (Dean, 2010), which often requires the involvement of other public and private institutions through which governmental power seeps deep throughout society.

When government is understood as “a problematizing activity” (Rose and Miller, 1992: 181), the broad ideas informing the exercise of power represented by political rationality need to be given substance through programmes of government (Radcliffe, 1998). Programmes of government are “sets of calculated, reasoned prescriptions in terms of which institutions are meant to be reorganized, space arranged, behaviours regulated” (Foucault, 1991: 102). Programmes of government are needed to ensure the implementation of the overarching political rationality, they envisage alternatives within the context in which intervention is desired and are based on rational calculations aiming to analyse, choose and implement these alternatives (Rose and Miller, 1992: 181-182). Programmes of government imply a detailed knowledge of what is to be governed (Miller, 1990: 317), that is “knowledge of all the processes related to population in its larger sense, that is to say, what we now call the economy” (Foucault, 1991: 100). The principal form of knowledge in the eighteenth and nineteenth centuries was therefore political economy, a way of knowing the population and its broad phenomena with the aim of “intervening in the delicate balance of social and economic processes no more, and no less, than is required to adjust, optimize and sustain them” (Foucault, 1991: 93; Miller and Rose, 1990, 1995). In this perspective, the art of government –including the way in which economic activities must be regulated –is connected to the “institutions of state and society in a manner consistent with, but not directly derived from, the protocols of political economy” (Dean, 2010: 135; Rose et al., 2006).

Technologies of government include different mechanisms enabling those who exercise power to act on the object of government in order to render programmes of government operable in a given context (Rose and Miller, 1992: 183). Governmental technologies include techniques of notation, computation and calculation along with procedures of examination and assessment or surveys and presentational forms such as tables. Calculative devices are essential to governmentality thanks to their ability to render behaviours visible and to disseminate a new vocabulary based on numbers and "economic objects" (Armstrong, 1994: 42; Miller, 2001; Colquhoun and Parker, 2012). Calculative devices promote "action at a distance" (Latour, 1987: 215). They can measure the number and characteristics of individuals, but also their acts, movements, production and consumption, expenses and receipts or the even features of a territory (Elden, 2007). To this purpose, centres of calculation (Latour, 1987: 219) are critical. Governing at a distance means acting from centres of calculation on the desires and activities of others who are spatially and organizationally distinct (Rose et al., 2006: 89). Centres of calculation engage in collecting data to form a never-ending knowledge of the object of government (Miller and Rose, 1990). 'Accounting inscriptions' (Robson, 1992) are an essential aid in this process as they enable processing, comparing and storing data in a simple and effective way, therefore easing the exercise of control at a distance.

The far-reaching aims of governmentality imply that one of the key tasks of government is intervention in the economy of a State (Foucault, 1991). Consequently, governments have been claiming a right to regulate economic activities since the end of the eighteenth century (Rose, 1991, 1993). Political authorities have consistently sought to act 'at a distance' upon enterprises and consumers "in order to secure economic objectives, and the loose tie-ups between political ambitions, expert knowledge and the economic aspiration of individual firms" (Miller and Rose, 1990: 16). This, most especially in liberal states, requires the regulation of the market (Foucault, 2008: 32). Governmentality is based on an understanding of the market as a mechanism of exchange and requires the mastering of the "complex interplay between individual and collective interests, between social utility and economic profit, between the equilibrium of the market and the regime of public authorities" (Foucault, 2008: 44). Accounting plays various roles as a technology of government in the service of governing economic life (Miller and Rose, 1990), especially by its ability to translate programmes of economic government into attempts to intervene in the activity of companies (Miller, 1990). The accumulation of accounting information through centres of calculation enables the government to represent and visualise the 'things' of the "enterprises and of the markets by means of its calculative routines" (Miller, 1990: 333). Not only does the transmission and accumulation of such inscriptions enhance the understanding of enterprises and markets, it also enables the government to exercise power over economic events and processes distant from itself (Rose, 1991: 676).

Accounting numbers are critical to the regulation of the 'behaviour' of companies as they have a distinctive capacity for intervening in the actions of directors, managers and shareholders. Through their ability to produce certain forms of visibility and transparency, accounting numbers enable the government to observe and modify the behaviour of companies from a distance, hence rendering them governable (Miller, 2008; Mennicken and Miller, 2012). The mobilisation of accounting techniques "for specific state projects" (Miller, 1990: 334) in liberal States has often taken the form of promoting competition and the smooth operations of the market in the interest of the accumulation of capital and privilege by dominant elites (Catchpowle et al., 2004). Nevertheless, accounting has the potential to support the government in "innumerable deliberate attempts to invent, promote, install and operate mechanisms of rule that will shape the investment decisions of managers" (Miller and Rose, 1990: 10). As a result, accounting enables the government to enact programmes which are not necessarily limited to the liberal imperative of safeguarding the primacy of the market. This was the case of the Papal State in the mid-nineteenth century, when accounting technologies were an essential aid in ensuring control of a fundamental infrastructure, the railway system, which was deemed critical to the reinforcement of the State.

Sources

This paper has made extensive use of primary and secondary sources. Primary sources related to the Commissariat were consulted in the State Archive of Rome where the records of the GCRI are preserved. The National Library of Florence has been another important source of materials as it contains all of the documents of the Papal State officially published by the Regia Camera Apostolica (the Accountancy Office of the Papal State). The main political, social and religious events occurring in the Papal State in the period that the paper examines have been documented by means of secondary sources in the form of books and articles on the history of the Papal State. The political debate on the construction of a railroad network informing the decisions made by Pope Pius IX has been documented through mid-nineteenth century pamphlets about Papal State railways. Insights on the history of railroad companies were provided by Papal concessions and essays on the matter.

The identification of political rationalities, programmes of government and the development of the structure and activities of the GCRI, then SRI, was carried out through both primary and secondary sources. Primary sources include the Pope's laws regulating the railroad industry, the Secretary of State's edicts on the GCRI and on the SRI, the regulations issued by the Ministry of Public Works, the agreements between the State and the railroad companies, along with the minutes, reports and letters of the GCRI/SRI[2]. Secondary sources consist of books and essays on the Papal railroad system. The use of calculative devices by the GCRI/SRI emerged from the concessions, statutes and accounting records (budgets, cost spreadsheets, financial statements) of the railroad companies. The letters coming from the Ministry of Finance and the Ministry of Commerce, the audit reports on the financial statements provided to the GCRI/SRI, together with forms, cost estimates, statistics and written comments have provided valuable insights on the pressing control exercised by the State on the railroad companies.

The Papal State and its Railways in the Mid-Nineteenth Century

Following the Treaty of Vienna in 1815, the territory of the Papal State covered the regions of Lazio, Umbria, Marche and Emilia-Romagna (Figure 1), while Italy had been fragmented into several republics, dukedoms and local realms (Galli, 1840; Liverani, 1861).

Insert Figure 1 here

Pius IX[3] was the last Pope-King of the Papal State and his papacy was the longest in history, lasting from 1846 to 1878 (Martina, 1990; De Mattei, 2004). During his reign, the debate about the railroad industry and its implications for mobility and economic development of the Papal State became topical. Following the rising popularity of the first railways built in the early 1840s in other Italian states, Pius IX started to appreciate how such innovation could have favourable economic and social repercussions (Anonymous, 1847; Blasi, 1847; Bocci, 1847; Anonymous, 1850; Ciardi, 1850). In particular, Pius IX thought that a railway system was essential to bring pilgrims to Rome, to connect the capital with the other Italian and even European States (Moroni, 1860) and to enable the Pope and his Curia to visit all the Catholic dioceses[4]. A first project to start the construction of the State's rail network in 1848 (BNCFSP,

1849) ended abruptly when the revolutionary movements and riots spreading throughout Italy reached Rome. Pius IX was forced to flee to Gaeta (Di Benedetto and Rendina, 2014; Martina, 1974), while liberals and republicans led by Garibaldi and Mazzini gathered in Rome (Spada, 1869) and proclaimed the rise of the Republic of Rome on 9th February 1849 (Monsagrati, 2014). The intervention of the European Catholic powers meant that the revolution was quickly silenced, and the Pope was able to return to Rome in the second half of 1849 (Collier, 2003).

The project for the development of a railroad system was promptly restored. A few years after his return to Rome, the Pope entered into an agreement with the governments of the neighbouring Italian States to join their national railroad systems into interstate lines (BNCFSP, 1852). The overall design of the railroad system (Table 1) was devised by the Minister of Public Works along with the Secretary of State and consisted of three thoroughfares: Roma-Frascati-Ceprano (southbound, in the countryside); Roma-Civitavecchia (northbound, along the coast); Roma-Ancona-Bologna (westbound, through the Apennines) (Branchetti and Siniso, 2003; Panconesi, 2005). Private companies were so keen to be involved in the rising industry that many businesses were set up to make the most of the new investment opportunities (Felisini, 1988; Schram, 1997).

Insert Table 1 here

In 1859, with the outbreak of the Second War of Italian Independence, the Papal State was partially invaded by the troops of the Kingdom of Sardinia. The regions of Marche, Umbria and Emilia-Romagna were conquered and annexed to the nascent Kingdom of Italy. The territory of the Papal State was confined to the region of Lazio only (Gilmary Shea, 1877; Martina, 1986;

Mack Smith, 1997). With the unification of Italy in 1861, most territories where the Pio-Centrale railroad company operated came under the control of the Kingdom of Italy. Thus, the Roma-Ancona-Bologna line, which connected the main cities of the Papal State, was split into two parts. The section along the region of Lazio ran within the Papal State, whilst the remaining part ran in the Kingdom of Italy and was therefore lost. With the outbreak of the Franco-Prussian War (1870-71), France recalled the troops who had been left in Rome to defend the city, thus leaving the Papal State to its own devices. The Italian Army could therefore capture Rome on 20th September 1870. On 9th October 1870, Victor Emmanuel II issued a decree ratifying the annexation of the conquered territories to the Kingdom of Italy (Mori, 1967).

Governing the Railway System

Political Rationalities and Programmes of Government in the Railway System of the Papal State

The management of the Papal State's railroad network was influenced by a complex system of beliefs and values about the economy, the role of railroad entrepreneurship, citizens' and State interests. The government of the Papal State aimed to spread the belief that railroads would have improved the life of every citizen, and hence to promote a wide use of the new means of transportation. The presence of a railway system would have benefitted the economy of a backward country such as the Papal State by encouraging the "multiplication of internal trade, that is traffic, negotiations, exchanges, markets, travels, transport of things and people from city to city" (BNCFSP, 1847: 7). The construction of railroads was therefore instrumental in bringing the State and its population to a "condition of prosperity" (BNCFSP, 1847: 6). Nevertheless, the overarching aim that the development of railways aimed to pursue was the broader and "universal good of the State" (Blasi, 1847: 11), which could not have been limited to its economic affairs. In an epoch of intense political turmoil, where the very existence of the

Papal State was endangered, a railway system would have served the critical purpose of reaffirming the temporal and spiritual primacy of the Pope and his Curia, on which the State's national and international reputation was largely based.

Critical to the preservation of the standing of the State and of its leader, the new railway system would have contributed to reaffirming the role of Rome as the centre of the Catholic world. As a result, the main role of the railway system was to facilitate access to Rome (ASRCGFP, 1858: 1). Reaching the 'eternal city' should have been made possible by a means of transportation which was "prompt, easy and cheap" (Blasi, 1847: 14). Consequently, the need for a quick and safe communication system between Rome and the other cities was given prominence (BNCFSP, 1847: 10; Ciardi, 1850: 7). Although all the lines were critical to this end, the government was particularly insistent on the Roma – Civitavecchia line, which would connect the Papal State to the north of Italy, hence ensuring the transportation of large numbers of travellers to Rome (ASRCGFP, 1858: 11). The creation and subsequent enlargement of a rail network were deemed to be essential in enabling believers, but also political leaders and even troops to reach Rome from all European countries. It was also critical to make it possible for the Pope himself to visit the Italian and European cities both as a chief of State and as a religious leader (Blasi, 1847: 21; Galli, 1846). Especially in times of great crisis, the exercise of pastoral power which characterises the operations of the Catholic Church (Foucault, 2007) requires the ability of the leaders of the Catholic religious community, that is bishops, cardinals or even the Pope, to exert close control over the distant communities of believers and hence to ensure their committed allegiance. For the effective exercise of pastoral power, the physical presence of the religious leader - the 'pastor'- is essential as a symbolic means to demonstrate the influence and reach of the Church. It was also necessary to enable a penetrating control on each and all of the members of the local clergy and the believers, one which could hardly be achieved from a distance (Bigoni and Funnell, 2015). As a result, railways were especially needed to ensure the mobility of cardinals and bishops for the discharge of their pastoral duties.

Strictly connected to the aforementioned aim was another programme of government. In order to reinforce the primacy of Rome over its State and the Catholic community, trains should have been accessible to all of the believers, not only to the well-off. Therefore, the promotion of equity and efficiency became goals of the upmost importance. The railroad was to be guarantee of equity among people as users (Recchi, 1846: 4), which was essential to maximise access to the capital of the State, therefore reinforcing the bond between a religious and political community and its leaders. Fares were to be as low as possible, most especially for less affluent believers living both inside and outside the Papal State (Blasi, 1847). To this end, the determination of fares was mainly placed in the hands of the Ministry of Finance (ASRCGFP, 1862b), which also held the power to decrease them in the name of the 'public interest' (ASRCGFP, 1862b). This in turn required that the companies entrusted with the duty to build and manage the railway system operated in an efficient manner, keeping their costs under close control, most especially those of materials, personnel and others directly attributable to journeys (Anonymous, 1847).

The achievement of the aims of the Papal State's programmes of government required it to engage with the companies running the railway on behalf of the government. The large, increasing debt afflicting the Papal State hindered any possibility of intervening directly in a capital-intensive industry such as railroads. Despite the traditional suspicion with which the Papal State regarded the promotion of private business (Burns, 1990, 1994), the debilitating investments needed for the construction of railways meant that the Papal State had to come to terms with private investors. This was particularly obvious when even the Papal State's chief accountant, Angelo Galli, proclaimed that there would not be any moral reasons to oppose a regular and satisfying rate of return on investments for private companies (Galli, 1846: 82), most especially those involved in an industry which the Secretary of State, Cardinal Antonelli, deemed to be "of the greatest importance" to the State (BNCFSP, 1860: 28). As a result, in order to attract private capital and expertise, securing ongoing investment in the construction and upkeep of the railway system, the Papal State agreed to ensure that the railroad companies could achieve at least an agreed amount of profit in exchange for the construction and operation of the new railway system. An example of this arrangement is provided by the Roma-Ancona-Bologna line. The Papal government would grant the company "a minimum net profit of ten million francs a year" (BNCFSP, 1857e: 93). The subsidy would be granted as from the opening of the Roma-Foligno, Foligno-Ancona and Ancona-Bologna lines to 1910. The amount of the subsidy was prorated to the length of the line that had been actually opened, at 20,000 francs per kilometre (BNCFSP, 1857e: 94). The agreement was meant to incentivise the company to invest in the development of the line since this would have translated into a higher subsidy. This operation was almost risk-free for a private company, when the government was responsible for covering any differences between the minimum profit agreed and the actual annual profit achieved by the company (BNCFSP, 1857e: 101). Should the profit earned be higher than the minimum amount agreed, the company was entitled to retain it in its entirety[5].

The Rise of a "Centre of Calculation"

The presence of a guaranteed minimum profit was therefore a key mechanism to attract private investors. Nevertheless, the translation of the government's far-reaching political aims into practice, especially when these involved the presence of profit-seeking private concerns meant that the State had to control closely the operations of the railroad companies. Consistently, Cardinal Antonelli issued three edicts in which the general rules about the building, running and safety of the railroad system were set and which all private railway companies were expected to follow (BNCFSP, 1857a, 1857b, 1857c, 1864b). Moreover, the operations of each railroad company commissioned to build the lines and manage the traffic of passengers and goods were informed by the detailed terms set in a concession, which were specific to them (BNCFSP, 1857d, 1857e, 1857f, 1862a, 1863)[6]. Critically, in line with the key aims of government, through the concession the State set a 99-year price list for the transportation of passengers, luggage and goods which ensured ample access to the new facilities.

The enactment of the Papal State's programmes of government required "mechanisms that establish, constrain or empower certain agents" (Rose and Miller, 1992: 190) through the intervention of several governmental bodies, among which were the Ministry of Public Works, the Ministry of Finance, the Ministry of the Interior, public Inspectors and the Police (Figure 2). Nevertheless, the key agency mediating the relationship between the State and the service providers was the GCRI (BNCFSP, 1859, 1860; ASRCGFP, 1856).

Insert Figure 2 here

The operations of the GCRI[7] were first regulated in 1858 (BNCFSP, 1859: 3-12). Consistently, the GCRI was to "supervise and monitor the building, running and operation of all railroads, either licensed or to be licensed" (art. 1). The GCRI was in charge of "making the companies strictly and fully adhere to the terms and conditions of the concession, the articles of incorporation, the laws and the regulations" (art. 5). It was understood that the powers of the GCRI were granted "in the interest of public safety and for the service to be commensurate to *people's requirements* as well as to make the company make decisions about its staff and services that will attract more users" (art. 25, emphasis added). The GCRI was therefore an essential implement of the State's programmes of government since it was entrusted with the duty to ensure the widespread use of the new means of transportation. This would have allowed the believers to enjoy an efficient way to reach Rome and the members of the clergy to move across the Papal State and Italy. Since the "construction and elaboration of governmental programmes are processes that often call upon the calculative practices of accounting to make their objectives operable" (Miller, 1990: 316), it became soon clear how the enactment of the GCRI's control depended upon the fundamental contributions of accounting practices. Consistently, the GCRI was entitled to "audit, through an auditor, the servicing and operating costs, as well as the application of the fares. To this end, the company shall keep the Commissioner informed of any cost entry or record. The Commissioner shall submit the yearly budgets to the Minister for approval" (art. 24). The records were needed for the Commissioner to decide "how the company should substantiate its yearly servicing and operating costs and revenues" (art. 28). With the revision of the GCRI's regulations in 1859, which aimed to provide a "more accurate description of the tasks of the Commissariat" (BNCFSP, 1860: 28), a set of accounting principles that the private companies were expected to follow was issued (BNCFSP, 1864a)[8].

The GCRI was replaced by the SRI[9] in 1864 (BNCFSP, 1864a: 267; BNCFSP, 1864b: 40-51). The purpose of the reform was a "better coordination of the Government's supervision of the Papal railroads, in terms of building, maintenance, running as well as in terms of finance, whenever the Government provides a minimum profit" (BNCFSP, 1864b: 40). The tasks and powers of the SRI were even wider than those of the GCRI. The railroad companies were therefore reminded they were expected to "take measures, in terms of staff, services and expenses that will attract more users and increase profits" (article 22). The new regulations reinforced the pivotal aim to attract new users, consistent with the overarching programmes of government, but it was also shown how this also would have benefitted the companies through higher profits. The State was seeking to align the aim of the companies to those of its programmes of government (Miller and Power, 2013) to secure the companies' committed allegiance. At the same time, more attention was paid to the issue of keeping costs under control to ensure efficiency. The presence of a minimum profit guaranteed by the State should not have been an incentive to laxity, hence article 34 stated that "the companies shall prove they did all they could to keep their expenses consistently low". Not only would this have been translated into lower pressure on the State's budget, it would have enabled it to keep fares low and hence ensure widespread access to the new means of transportation. As a further measure to make the costs of a company visible and thus more easily controllable (Hopwood, 1987), the companies had to draw up a yearly operating and maintenance expenses budget (article 27).

These powers were then coupled with more penetrating controls, which took the form of audits carried out by a five-member Committee, which was to report to the directors of the SRI. Three of members of this Committee were appointed by the Minister of Finance and the remaining two were selected by the Minister of Public Works (BNCFSP, 1864b: art. 35). Critically, its president was a member of the clergy[10], a further indication of the importance of controlling the railways as part of the Papal State's programmes of government. The subsidised companies had to let their premises, warehouses and accounts be inspected and audited (article 23), and new requirements in terms of justifying revenues and costs included in the company's financial statements were enforced to ease control. As a result, revenues had to be "supported by monthly reports listing the revenues from each station, based on the accounts and certified by the company's head accountant" (article 31). At the same time, maintenance costs had to be justified through supporting evidence and certified by a Ministry-appointed Inspector (article 32). Operating costs had to be supported by agreements, contracts, supplier receipts and inventories; staff costs had to tally with the employees' receipts and payrolls; any other cost had to be justified through a specific report (article 33).

The GCRI and SRI were a centre of calculation, a site where "information is accumulated about other places, processes, entities and activities that are distant" (Miller, 1990: 318) and where events can be "aggregated, compared, compiled and calculated about" (Rose, 1991: 676). The centre of calculation also took advantage of the work of experts such as auditors and engineers (Radcliffe, 1998) who were to ensure the rightfulness of the company's expenses and their commitment to the improvement of the network, without overburdening the travellers and hence ensuring ample access to the railways and hence to Rome. The GCRI/SRI was primarily engaged in collecting written information about the object of government – the railway system, its demand and supply, its prices and costs –, in calculating and comparing data and performance and finally in authorising subsidies. The directors of the GCRI/SRI received the financial statements, the budgets and the cost-accounting reports from the railroad companies together with the related documents (BNCFSP, 1859: 8; 1864b: 50). These were then sent, with comments, to the Minister of Public Works, which relayed them to the Minister of Finance, with further comments. Only when the Minister of Finance was satisfied with the achievements of the companies and with the reliability of their accounts could any subsidy be issued. The railroad companies' financial statements were formally approved by the Papal government and when this happened the companies were entitled to receive the subsidy (ASRCGFP, 1867d: 74; ASRCGFP, 1870b: 89).

The presence of a specialised governmental body, which was supported by expert auditors, was essential to allow the government to control the railroad companies while keeping the agreement between them and the State mutually convenient, which ensured the enactment of the State's programmes of government. The presence of an authority involved in the development of accounting regulation and in the monitoring of fares has been also documented at the end of the nineteenth century in the US, where the Interstate Commerce Commission (ICC) operated (Miranti, 1989, 1990; Stone, 1991). Nevertheless, the GCRI and the SRI had the government as their primary reference point and its functions were not limited to providing guidance on the preparation of financial statements or the definition of maximum rates (Gilligan et al., 1989; Lindahl, 1935; Poole and Rosenthal, 1993, 1994). Moreover, the ICC, being part of a liberal State, had often to engage with other State authorities in the discharge of its duties, which could have meant limiting the reach of its action. This was exemplified by a ruling of the US Supreme Court which restricted its power to intervene in the determination of rates (Hooper, 1916). The wide-ranging powers enjoyed by the GCRI/SRI emanated directly from the uncontested, unlimited power of the government led by the Pope. As a result, there had to be no limit to the activity of the Commissariat when it performed its duties in the interest of the State. The use of "written techniques for the art of governing" (Miller and Rose, 1990: 5), among which accounting was critical, was essential to the functioning of the system envisaged by the government and to enable the latter to control it from a distance (Latour, 1987; Robson, 1992).

Calculative Devices in the Service of the Papal State's Programmes of Government

Accounting for the Papal State's Programmes of Government

The proper functioning of the control system centred on the GCRI/SRI required the prompt circulation of written information (Sargiacomo, 2008). As a result, the Papal State sought to render the programme of government operable through the implementation of accounting techniques and procedures (Rose and Miller, 1992; Miller, 2001). The use of accounting tools allowed the State to control the connection between its own aspirations and the activities of the railroad companies and to verify if the programmes of government were translated into the domain of reality (Miller and Rose, 1990). For this reason, control of costs and revenues became a goal of the upmost importance. Consistently, the railroad companies had to adopt management accounting tools following the provisions of the concessions (BNCFSP, 1857d, 1857e, 1857f, 1862a, 1863) and of the articles of incorporation of the CGRI/SRI (BNCFSP, 1864b: 48). Such a detailed intervention on tools which were meant to guide managerial decisions would have been hardly achievable in contexts where the key belief was that individuals and businesses were to be left to act for themselves (McCartney and Arnold, 2002). Detailed information regarding revenues included, in particular, a report on income earned in each railway station which was to be sent to the government on a daily basis. This was then coupled with a thorough control of costs, which enabled the government, through the GCRI/SRI, to "regulate the level of fares" for each line, with the railway companies strictly forbidden to "offer their service at a price which is different form that set by the government" (BNCFSP, 1864b: 5-6). As a result, only if costs were kept under control would the low level of fares set by the government to ease access to the railways have been sustainable. The main tools to ensure the accurate measurement and management of costs were the budget and the cost-accounting system.

Budgets and reports based on the cost-accounting system had to be regularly drawn up, according to a set format[11], and timely submitted to the GCRI/SRI (BNCFSP, 1864b: 48). Following the replacement of the GCRI by the SRI, railroad companies operating under a concession were legally bound to submit a budget to the Secretariat every year by 1st December (BNCFSP, 1864b: 48). Figure 3 provides an example of these budgets.

Insert Figure 3 here

The document is made up of two sections. The left-hand section lists the staff costs and the replacement costs of the infrastructure and rolling stock. The right-hand section shows the revenues and the calculation of the net profit per km, the key indicator of the line's profitability, on which the subsidy was based. The budget for the next year was based on the previous year's average costs and revenues (ASRCGFP, 1867e). The budget had to be split into three sections: General expenses, to be shared between the company and the government; Operating expenses; Papal government's allowance (ASRCGFP, 1866a, 1867a, 1868). Maintenance and running costs had to be based on standards that were agreed upon with the Papal government (ASRCGFP, 1862a: 270). Budgets were used by the government to control the railroad companies from a distance and to seek to "re-orient the activities of managers and employees, who adjust their operations according to the 'visibilities' (representations) created by the accounting numbers and associated calculations" (Robson, 1994: 78). The budget, indeed, was a form of economic calculation (Miller, 2008) through which the government was able to monitor costs and revenues and to verify if the prescribed aim of pursuing efficiency was achieved and to control the allocation of resources. It also forced the railroad companies to plan ahead and allocate resources according to the aim of reducing their costs. The budget also enabled the government to monitor the highly sought investments in the improvement of the network, which were critical to the enactment of the State's programmes of government.

The effectiveness of the budget as a planning tool, for both the companies and the government, was based on the reliability of the estimates included therein. Therefore, a cost-accounting system was needed to accumulate detailed information on those aspects of the business which were more likely to impact on the outcome of the programmes of government (Mennicken and Miller, 2012). Relevant cost objects included personnel (ASRCGFP, 1867b, see also Figure 4), fuel (ASRCGFP, 1867c) and operation of railways (ASRCGFP, 1867b). Average costs were calculated to enable comparisons. Particularly important was the average cost per km of railway, which could have provided essential information on the level of efficiency achieved over time in an epoch in which the network was being expanded (ASRCGFP, 1867b). The accumulation of information (Robson, 1992) enabled the drawing up of diagrams, which included calculations of monthly fuel costs, staff costs, yearly railway costs, total average costs per km, and any difference between railway costs and planned/average costs (ASRCGFP, 1867a: 150-163). These diagrams allowed the SRI to ensure that each company was "constantly visible" (Foucault, 1979: 200), most especially its cost structure, and were used to render reality in a calculable form with the aim of comparing and evaluating performance (Miller and Rose, 1990; Rose and Miller 1992). By means of budgets and the cost-accounting system, the Papal State was therefore able to create a responsible and calculable organization (Miller, 2001).

Insert Figure 4 here

Auditing for the Papal State's Programmes of Government

The introduction of planning tools and the focus on cost calculation were not the only tools in the service of the State's programmes of government. Financial and performance audits were equally important and were an essential means to assess how the railroad companies had operated over the last year. Particular attention was paid to the analysis of the year-end financial statements "to prove how much the government owed to the company" and hence to determine the amount of government funding needed to meet the guaranteed minimum profit (ASRCGFP, 1867a: 187). In contemporary liberal States the auditing function was performed by the directors of the company and aimed at safeguarding its assets and at providing suggestions for improving business performance (Flesher et al., 2003a). In stark contrast, in the Papal State penetrating audits performed by State-appointed auditors reflected the unchallenged authority of the government and were meant to ensure that the operations of the railway companies were consistent with the State's programmes of government.

Financial audits sought to assess the accuracy and reliability of the cost and revenue figures presented in the financial statements. The government had made very clear that each company had to provide proof of "costs through specific documented receipts, otherwise such costs would not be refunded" (ASRCGFP, 1864: 171). To this end, evidence such as tickets sold or invoices were carefully checked to ensure that revenue was not understated and costs overstated for this would have meant the payment of undue subsidies to the company (ASRCGFP, 1866a: 92; ASRCGFP, 1867a: 191; ASRCGFP, 1868: 35). Since the companies had to meet the "government's requirements […] in the calculation of the expenses to be deducted from the revenues to receive the guaranteed minimum income" (ASRCGFP, 1867a: 187), audits were also an occasion for the restatement of the costs of the railway lines when only certain categories of costs were allowed in the calculation of the minimum guaranteed profit (BNCFSP, 1859, article 3; ASRCGFP, 1870a: 6). Only costs that were essential to the operations of the railway network could have been included, this providing a further incentive to efficiency. These accounting practices and related audit procedures therefore did not simply aim at "achieving certain ends without introducing any change of [their] own" but were a means to take advantage of the "transformative effects" that these calculations brought about (Miller, 1990: 333). Consistently, in 1863 the Ministry of Finance stated that it did not want to factor in the wages paid to the employees that had been dismissed in the year as they could have been regarded as redundant and therefore unnecessary (ASRCGFP, 1863: 166). In this way the Papal State sought to 'teach' the railway companies how to align their conduct to the political objective of guaranteeing their efficiency and profitability (Miller and Rose, 1990).

The detailed calculations to determine the exact amount of the subsidy testify to the importance of the issue of promoting efficiency. The working papers drawn up by the CGRI/SRI were particularly insistent on the sharing of the common costs of the three railways: the Roma-Civitavecchia, the Roma-Frascati-Ceprano, and the Roma-Orte[12]. These overheads were allocated through a two-stage allocation method. The overhead costs reported by the company were divided into eight cost components and each was traced to a specific cost centre (see Table 2; ASRCGFP, 1867a: 193 ff.; ASRCGFP, 1868: 36 ff.).

Insert Table 2 here

Costs could have been left out of the calculation of profit for three reasons. Some categories of costs, such as entertainment expenses, were excluded because the accounting regulations did not allow their inclusion for they were not strictly linked to the operation of railways. Other costs were left out because the company did not provide adequate proof of their existence or amount. Lastly, the common costs of the unsubsidised lines were not included (ASRCGFP, 1867a: 187). Then, for each cost component left, overheads were allocated among the lines (ASRCGFP, 1868a: 36). Such costs were allocated on the basis of the mileage covered by the standard, relief, special and optional trains operating on the subsidised lines or on the basis of the total length of the line (ASRCGFP, 1866a: 105; ASRCGFP, 1867a: 199). General costs per type were prorated to the total amount of the cost component (ASRCGFP, 1867a: 203) (Table 3).

Insert Table 3 here

All financial reports had to include a special book called "Left-out items" (ASRCGFP, 1867a) that summarised any cost that had not been included in the calculation of the minimum guaranteed profit. The book was kept by the five members of the Audit Committee and was submitted to the Ministry along with the financial reports. The book listed all the costs included in the eight classes of overheads that had been wrongly allocated to a line (ASRCGFP, 1866a, 1867a, 1868). Attached to each record were details on the way in which the amount of each cost had been calculated and the reasons why it had been left out. The book enabled the GCRI/SRI to keep track of the methodologies used in the restatement of costs and to ensure consistency. It also highlighted any miscalculation made by the company and hence showed, by means of comparisons over time, whether the company had aligned its conduct to what was expected of it. Careful audits of the financial statements and the restatement of costs were therefore critical in "representing and intervening upon processes and activities" (Miller, 1990: 333).

Control of costs was certainly critical to the government's plan to promote efficiency and hence equity and affordability of the new means of transportation. Nevertheless, in order to control whether the railways were widely used by members of the clergy, believers and citizens performance audits were necessary. To this end, railroad companies were to draw up specific reports where statistics relating to the number of passengers on different lines and the application of fares were recorded (ASRCGFP, 1867c). Such statistics were essential in turning the railway industry into a field of "cognition, calculation, experimentation and evaluation" (Rose and Miller, 1992: 175). They provided detailed information on fares for the first and second class and on the number of passengers for each class in a certain period for each line (ASRCGFP, 1867c). These reports were to be sent to the GCRI/SRI, which enabled the 'centre of calculation' to appreciate if progress had been made in making railways widely popular. Moreover, since the determination of the daily timetable for each line was in the hands of the Ministry of Public Works, these statistics enabled informed action by the government, which could have increased the frequency of trains at busier times (BNCFSP, 1864b: 4). The use of these "techniques of political arithmetic" (Hoskin, 1994: 65) enabled the centre to couple financial information on the efficiency of each company with the results they had achieved. This made the performance of each company amenable to intervention and regulation (Miller and Rose, 1990; Rose and Miller, 1992; Mennicken and Miller, 2012).

Conclusion

Studies in the history of accounting practices in the railway industry have mostly focussed on Britain and the US and have paid particular attention to the State's attempt to regulate the industry consistent with the liberal priorities of giving impetus to business and promoting the development of free markets (Bryer, 1991; Flesher and Previts, 2009; McCartney and Arnold, 2002; Odlyzko, 2011; Jupe and Funnell, 2015, 2017). Much less is known of the role of accounting practices within far-reaching programmes of government aiming at intervening in the railway industry in the pursuit of goals which are not necessarily grounded in liberal values. Drawing on Foucault's concept of governmentality (Foucault, 1991, 2007, 2008), the work has investigated the forms of political rationality, programmes and technologies of government (Rose and Miller, 1992; Miller and Rose, 1990; 1995) in the non-liberal context of the nineteenth-century Papal State. The Papal State differed from most of contemporary modern States since its leader, the Pope, held both spiritual and political unlimited power. Unlike in liberal States, bureaucratic elites were not appointed on the basis of their technical expertise (Foucault, 2007) but were selected from the Roman Curia, which testified to the primacy of spiritual beliefs over 'secular' matters. Moreover, diffidence towards liberalism, capitalism and modernity in a broad sense were evident, most especially at the time of Pope Pius IX (Martina, 1974, 1986).

In contrast to liberal States, where the development of railways was primarily seen as a decisive incentive to the development of capital markets and a capitalist economy (Duran, 2013; Flesher and Previts, 2009; Heier, 2009), the Papal State was interested in the construction of a rail network to enable quick and safe communications between Rome and other cities (BNCFSP, 1847: 10). The key aim of Pius IX's programmes of government was to allow himself and his Curia to exercise their pastoral power in a more direct, penetrating way (Foucault, 2007). Moreover, it was important to strengthen the weakening links between citizens, believers and the centre of the State. This therefore required the achievement of equity and efficiency in the management of the rail network so that all citizens could afford to travel by train. These conflicting aims translated into a different approach to regulating the industry.

In liberal States, regulation was limited and mostly aimed at supporting the development of railway companies by means of improved financial disclosure (Arnold and McCartney, 2002; Miranti, 1989; Hooper, 1916), whereas the governmental body created by the Papal State, the GCRI/SRI, was entrusted with the duty to exercise a penetrating control on the private companies which provided the transportation service. Confirming the importance of a clear distribution of tasks among government bodies in the exercise of governmental power (Dean, 2010), the GCRI/SRI soon started to act as a centre of calculation (Latour, 1987; Miller, 1990) where information on the railroad companies and the functioning of the network was accumulated, aggregated and relayed to the government (Rose, 1991). The Commissariat was responsible for monitoring the costs connected to the infrastructure and operations of the trains, as well as the fares. Its tasks included the dissemination of common formats through which information should have been sent to the GCRI/SRI. These all-encompassing powers were greater than those enjoyed by similar bodies, such as the ICC in the US (Poole and Rosenthal, 1993), which in the nineteenth century still “lacked the power to prescribe uniform accounting systems” (Miranti, 1990: 186) and whose prerogatives in the determination of rates would only be augmented in 1906. Nevertheless, the ICC could only set ‘caps’ and not determine fares, and was not involved in the monitoring and approval of the railway companies’ financial information, which would have contradicted the US federal government’s laisser faire policies. These, on the contrary, were not a priority of the Papal State.

In liberal States, the production of accounting information by railway companies was seen “as a way of encouraging capitalist development” (Baker and Quéré, 2014: 299). The main object of accounting soon became the preparation of detailed financial statements (Chatfield, 1974), which were instrumental to achieving ongoing, committed shareholder support. Accounting information was therefore to make sure that investors appreciated “that the company was prudently employing scarce resources” (Previts and Samson, 2000: 17). Consistently, the focus was placed on financial reporting (Flesher et al., 2003b), which also led to an evolution of the accounting techniques used in the preparation of financial statements (Edwards, 1985; Arnold and McCartney, 2002) to maintain investors’ confidence in the railway companies and, ultimately, in the overarching liberal economic system. In stark contrast, in the Papal State the operations of the GCRI/SRI meant that accounting was used as a technology of government, one which would provide detailed information on every aspect of the activity of the railway companies. In the Papal State’s attempt to control the development of railways, reliance on financial statements would have not been enough. Intervention on managerial information was therefore needed if a comprehensive understanding of the operations of the railway companies was to be achieved. In particular, it was essential to appreciate whether the companies were pursuing efficiency as expected of them. Hence, through the GCRI/SRI the State took a role in the production of compulsory budgets and in the construction of a cost accounting system. Accounting practices were essential to force railway companies to plan and cut their costs, and allowed the government to monitor the companies’ costs, revenues and investments from a distance. In particular, in the calculation of the subsidy granted by the State, the method chosen by the GCRI/SRI had to be used, which gave specific visibility to selected cost objects (Hopwood, 1990).

The role played by accounting tools was sustained by auditing practices. Within the railway industry in nineteenth-century liberal States auditing was mostly an internal function of a business and was aiming at ensuring the smooth functioning of the company and the protection of its assets. It could also be a means to address operational and organisational issues (Flesher et al., 2003a). In the Papal States, external auditors appointed by the GCRI/SRI were an essential means to provide further incentive for the railroad companies to seek efficiency. The use of advanced cost accounting techniques, most of which were still fairly unknown to the Italian companies of the time (Antonelli et al., 2006, 2009), and the careful analysis of costs, most especially overheads, ensured that only those which were essential to the running of the infrastructure could have been included in the calculation of the subsidy paid by the State. Financial information was also coupled with non-financial information as the railway companies were required to prepare detailed statistics on passenger traffic, which were collected by the GCRI/SRI on behalf of the Ministry of Public Works. This enabled the State to understand whether the plan to grant ample access to the new infrastructure was bearing the expected fruits.

Although Foucault (1991; 2007; 2008) saw the nineteenth century as the epoch in which technologies of government were deployed in the construction of the governmentalised liberal State, the paper has shown how these technologies, among which accounting was critical, could have been used in the pursuit of non-liberal aims. In particular, accounting techniques can be seen as a 'toolbox' in the service of governing the economic and social life of a country under different political regimes (Miller, 1998, 2001, 2008). The paper has revealed the coherent articulation of ends and means (Miller, 1990) pursued by the Papal government with the aim to reinforce its hold on its territory. A political discourse was developed, knowledge of the field to be governed was accumulated through a centre of calculation, accounting technologies of government rendered visible both the railway companies and the way the rail network was managed, hence, enabling control at a distance (Robson, 1992). Thus, from a Foucauldian perspective, the study also offers an extension of the governmentality framework (Miller, 1990; Miller and Rose, 1990; Baños et al., 2005; Sargiacomo, 2008; Lai et al., 2012; Servalli, 2013; Funnell et al., 2016)., which confirms that "what is really important for our modernity - that is, for our present - is not so much étatisation of society, as the 'governmentalization' of the state" (Foucault, 1991: 103).

The main limitation of the work is the focus on the official documents preserved by the National Library of Florence and by the State Archive of Rome, whilst some of the accounting records and letters sent by the railroad companies are not available to historians. It has also been challenging to understand how, from where and by whom the technical and accounting skills were brought into the bureaucratic apparatus of the Papal State. This study paves the way for future researches. It would be interesting to identify and analyse other 'agencies' involved in issuing accounting regulations and in auditing the accounts of private companies in Italy during the nineteenth century. It would be also most helpful to compare the auditing practices and regulations issued by government bodies before and after the Italian unification in the light of the institutional changes and pressure exerted by the Kingdom of Italy on the regional licensees' operating in the railroad industry. Finally, from the perspective of Comparative International Accounting History (Carnegie and Napier, 2002), a wide and systematic comparison could be made between calculative devices adopted in Italy and abroad during the nineteenth century, especially in the railroad industry.

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[1] In its first years the ICC could only take companies to court when it was believed that fares were unreasonable (Thompson, 2013). Following reforms in 1906 it could not determine rates but gained the power to set maximum rates (Flesher and Previts, 2009).

[2] In the State Archive of Rome a special section is entirely devoted to the General Commissariat for the Railroad Industry. It consists of 63 cases, numbered progressively, and 649 files. The records date back to the period 1856-1871 (Negri, 1976: 25).

[3] Giovanni Maria Mastai Ferretti, 1792-1878, was elected Pope in the Conclave held in June 1846. Pius IX was beatified on 3rd September 2000.

[4] To this purpose, the Pope was donated a three-carriage train, with facilities that included a bedroom, a bathroom, a meeting room, a chapel and a balcony for giving blessing.

[5] At first, such subsidies did not apply to the concession for the Roma-Civitavecchia to the Pio-Centrale (BNCFSP, 1857d) or for the Roma-Frascati-Ceprano to the Pio-Latina (BNCFSP, 1857f). Under the Pope’s edict of March 7th 1860, a guaranteed

minimum income of 300,000 francs for the Roma-Frascati and of 1,620,000 francs through to Ceprano would be granted on completion of the line (BNCFSP, 1864a).

[6] They referred to: (a) Building of lines and stations. (b) Expropriation of land. (c) Maintenance, safekeeping and safety of transport. (d) Employment of personnel. Unskilled personnel had to be hired in the Papal State, while the executive and engineering staff could come from other States. (e) Free public services (post, transport of convicts, military convoys in the event of a war). (f) Fares.

[7] The directors of the GCRI were: (a) Mario Massimo, Duke of Rignano (General Commissioner); (b) Filippo Ricci, lawyer, as legal consultant and deputy Commissioner; (c) Benedetto Giovenale, lawyer, as secretary; (d) Professor Federico Giorgi, engineer, as technical expert; (e) Fortunato Lanci, auditor. (Anonymous, 1861: 457).

[8] Unfortunately, we did not find the text of the regulation, which was not published.

[9] The SRI was first led by Filippo Ricci, a lawyer, then, after Ricci's death in 1865, by Benedetto Giovenale, a lawyer. They were former members of the GCRI (Anonymous, 1865: 432; Anonymous, 1867: 442).

[10] The Committee was appointed shortly after the issuance of the regulations for the SRI (ASRCGFP, 1864b), and its members were: Reverend Pasquale Badia (as president); Count Antonio Saccani, lawyer, as state advisor; Michele Negri, general accountant of the Reverend Apostolic Chamber; Francesco Guglielmi, as state advisor; professor Federico Giorgi, engineer, as technical expert (Negri, 1967: 58). One year later, Pius IX conferred a gold medal on the Committee (ASRCGFP, 1865).

[11] This can be argued from the content of the GCRI's reports, even if in the archives we did not find the 'forms' the companies had to adhere to.

[12] After 1861, some areas were no longer part of the Papal State, so this led the Commissariat to include in the financial reports the railways that were still within the State. In particular, for the Roma-Ancona-Bologna, only the Rome to Orte section was considered (ASRCGFP, 1866a, 1867a, 1868). This also let the railways that were partly out of the state unsubsidised. From 1866 to 1870, the only subsidised line was actually the Roma-Frascati-Ceprano.