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TOWARDS AN UNDERSTANDING OF CHANGING ACCOUNTING PRACTICE USING INSTITUTIONAL THEORY: THE CASE OF THE ROYAL TOBACCO FACTORY OF SEVILLE

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Abstract

This paper is initially informed by an institutional theoretical framework developed by Fligstein (1993) to analyse changes in accounting practices that took place in the Royal Tobacco Factory (RTF) of Seville during the period 1760-1790. Deploying the institutional theory framework, it is possible to argue that the significantly greater development and use of accounting practices during that period can be linked to the move to the much larger and more purpose-built new factories, the decline in total tobacco consumption and the pressure to increase revenue for the Spanish Crown while reducing production cost and maintaining high product quality to deter entry. These new accounting practices may have developed in part with the intent of improving factory efficiency. It is also argued that these new accounting practices provided enhanced external legitimacy for the RTF in the face of the events discussed above and could have contributed to the long survival of de RTF as a monopolist. The paper, however, suggests that typologies such as the one developed by Fligstein are too restrictive in linking the emergence of specific organizational actions (e.g. accounting practises) as a response to a particular organizational typology, in Fligstein's case a conception of control. The paper concludes by suggesting that it may be best to refrain from conceptualizing the rise of accounting practices in terms of strict matching with other organizational parameters, such as strategy, structure, or mode of control.

Key Words and Phrases
Institutional theory, Accounting change, Accounting History.

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TOWARDS AN UNDERSTANDING OF CHANGING ACCOUNTING PRACTICE USING INSTITUTIONAL THEORY:

The Case of the Royal Tobacco Factory of Seville

INTRODUCTION

> *"Although all movements ebb and flow, the interest in institutions has, during the past two decades, swelled into a sizeable flood of work, both theoretical and empirical. And there is no sign of diminishing interest" (Scott, 1995, p133).*

The above quote taken from a recent book written by a leading sociologist neatly sums up the increasing interest by academics in utilising institutional sociological theory to gain an informed understanding of organisational activities. This increased interest in the institutional approach to studying organizations has not been restricted to sociology but has spread across disciplines such as economics, political science, strategy and international management (Scott, 1995, p. 134). Accounting academics have also been quick to adapt institutional sociology to their research agendas (for some recent examples see Hunt III and Hogler, 1993; Carruthers, 1995; Edwards, Ezzamel, Robson and Taylor, 1995).

It is comparatively easy to provide several explanations that account for this popularity of institutional sociology, but only a brief listing of them is warranted in this paper (see Fligstein, 1993 and Scott, 1995 for more detailed discussions). First, institutional sociology focuses attention on knowledge and rule systems constructed within organizations <u>in addition</u> to cultural and normative frameworks in organizational environments, rather than focus more on the latter as earlier frameworks (such as resource dependence and contingency theory) have. Second, institutional theory can be seen to offer a bridge linking various disciplines that could benefit from focusing upon institutions, for example economics, political science and, indeed, accounting. Third, institutional analysis broadens the scope of enquiry to include organizational fields (to be defined later) and permits an examination of interactions among the organizations belonging to a particular field, and these have been presented as yielding a better understanding of organizational action than previously (e.g. Fligstein, 1993). These arguments led Scott (1995, p136) to contend that:

"<u>All</u> organizations are institutionalized organizations. This is true both in the narrower sense that all organizations are subject to important regulative processes and operate under the control of both local and more general governance structures, as well as in the broader sense that all organizations are socially constituted and are the subject of institutional processes that define what forms they can assume and how they may operate legitimately".

Also, more critically for this paper, interest in institutional analysis has engendered a greater awareness of the importance of history. Zald (1990) has argued that in considering interest in history from the perspective of institutional analysis, time matters for two reasons. First, historical analysis contributes to an understanding of institutional context by focusing on changes in organizational context over time which affects what organizations do and how they behave. Second, historical analysis yields an informed understanding of how each organization in its own right develops over time and how such developments impact upon the organization´s specific structural arrangements and scope for action.

This paper uses an institutional theory framework to contextualize and interpret changes in financial and cost accounting practices that took place in the Royal Tobacco Factory of Seville (Spain) during the period 1760 to 1790. The historical material used in this paper has been drawn from the original archives (<u>Archivo de Tabacalera, S.A.</u>) which are currently located in the more modern building of the tobacco factory in the city of Seville. As explained later, this period witnessed a number of events (variations) that were accompanied with the development of new accounting practices. The main aim of the paper is to gain and informed understanding of the conditions that made possible the development of these new accounting practices. The nature of the archival material makes it possible to contextualize the emergence of new accounting practices in specific institutional and cultural settings over three decades. Another aim of this paper is asses the claims, discussed above in brief and later in more detail, made by many writers concerning the analytical power of institutional sociology particularly in the case of longitudinal historical material such as the one used in this paper. Our subsequent analysis suggests that institutional sociology has much to offer in explaining specific patterns of organisational actions and the emergence of new organisational practices such as accounting. We conclude, however, that the institutional sociology framework can be problematical and that the claims made on its behalf may be overstated.

The remainder of the paper is organized as follows. In the next section we provide a brief overview of an institutional sociology framework developed by Fligstein (e.g. 1993) which draws upon much of the mainstream institutional sociology literature. This is followed by a description of the tobacco industry in Spain and a chronology of tobacco production in the Royal Tobacco Factory (RTF) of Seville during the late 17th century and the 18th century. In a separate section, we document the emergence of new accounting (financial and costing) practices in the RTF during the period 1760-1790 using institutional sociological analysis. We then discuss the implications of the use institutional sociological theory to analyse changes in accounting practice before we summarise our main conclusions.

AN INSTITUTIONAL SOCIOLOGY FRAMEWORK

In this section we sketch out briefly the main features of a framework developed within institutional sociology which we later explore more critically in terms of its ability to explain and account for the development of new accounting practices in the RTF. The particular framework we discuss here is the one developed by Fligstein in a series of papers (1985, 1987, 1990a, 1990b) which were formalised subsequently in a book (1993). Fligstein´s framework has been heavily influenced by much of the prior work in institutional sociology, particularly the work of Meyer and Rowan (1977), White (1981), Aldrich (1982), DiMaggio and Powell (1983) and Hannan and Freeman (1984). His main concern was to use institutional sociology to gain an understanding of the long-term shifts in the conception of how the largest USA firms operated over time (particularly during the period 1919-1979) to preserve their growth and profitability.

Instead of identifying managers and entrepreneurs as optimisers of satisfiers, Fligstein prefers to focus on the construction of new courses of action based on managers´analysis of the problems of control they face. His framework is premised on three institutional contexts in which organizational transformation takes place. First, each organization is embedded in an organizational field which may be defined in terms of product line, industry or firm size. Each organizational field comprises a large group of organizations including competitors in the main, but also, suppliers, distributors or owners. Second, organizational action is constrained by rules set by the state that define the limits of legal behaviour. Third, organizational behaviour is constrained further by strategies, structures, and technologies deployed in the firm in addition to the firm's own physical limits (these are the firm's own internal environment).

For Fligstein, the main goal of managers over the past hundred years has been to ensure their firms survival; hence the contention that the main role of organizational fields is to promote stability (the status quo) for their members. Organizational fields are presented in Fligstein´s analysis (1993, p6) as "the basic mechanism of control of the external environment available to managers and entrepreneurs". Managerial action is seen as emanating from a given conception of control, formed by managers, which are based on simplified assumptions concerning how the world should be analyzed. Such conceptions of control are "totalizing world views that cause actors to interpret every situation from a given perspective", (1993, p10).

With this framework in hand, Fligstein set about to examine how the conceptions of control in the largest USA firms were transformed from 1880 onwards. His analysis led him to identify four specific conceptions of control: direct control of competitors, manufacturing control, sales and marketing control, and finance control. These conceptions of control are not "disembodied, idealist constructs" (p12) but rather have emerged from interactions within organizational fields and have been constrained and mediated by the state, that is they are social constructions. New conceptions of control emerge when the organizational field is destabilised.

Direct control of competitors as a conception of control emerged in the late 19th century in response to the absence of rules governing competitive behaviour and the instability of organizational fields. During that phase three strategies were deployed with the purpose of lessening competition: predatory trade practices, cartelization and monopolization. While this conception of control extended well into the 20th century, the manufacturing conception of control started to emerge and its main vehicles for containing competition were the stabilization of the production process and the creation of oligopolistic pricing conditions in organizational fields. These were achieved through vertical and horizontal integration to absorb suppliers and marketing functions, and hence reduce the firm's external dependence, and also to increase firm size to enhance its overall stability. The sales and marketing conception of control arose out of the marketing revolution of the 1920s and became dominant in the post Second World War era. The problem of control was perceived as the selling of goods and hence the emphasis shifted from combating competition to engineering new ways to increase sales by expanding into existing markets and creating new markets. Hence, the strategy that evolved was concerned with growth by non-predatory competition. This was achieved through a combination of product quality and price differentiation, increased advertising and market expansion. The fourth conception of control, which is dominant currently, is finance-based as it seeks to emphasise control through greater reliance upon financial measures of performance rooted in short-term profit rates. Firms are viewed as collections of assets earning differential asset returns rather than as producers of goods. Shareholders wealth maximisation is the key objective and managers are constantly looking for ways to maximise short-term profit by changing product-mix. This conception of control is implemented through strategies such as diversification through mergers and divestments, raising finance through debt, identification of take-over targets, and using financial controls to effect internal allocation of capital.

These successive conceptions of control are related in the sense that each was built on the insights that came before it but this does not mean that each conception of control gave rise to its successor. Rather, each conception emerged as the outcome of interactions in the organizational field with the state. But ultimately, for Fligstein (1993, p. 17) "the power struggle within the firm determines which conception of control will dominate and how that conception will be translated into concrete strategies. The winners of this struggle will push the organization into a certain direction and maintain that direction as long as their strategies bring positive results",

We will suspend our evaluation of the institutional sociology perspective in general and Fligstein´s framework in particular until after we present the archival evidence, but suffice it to say at this stage that this approach has some import for our paper but also some major shortcomings. Before we proceed to the next section, however, we need to establish potential close links between Fligstein´s framework and the emergence of specific accounting practices. Taking Fligstein´s framework at face value for the time being, it is easy to establish a link between each of his four conceptions of control and specific accounting practices. Fligstein, a sociologist with perhaps little or even no direct interest in accounting practice, has none-the-less identified accounting as the major focus in the operation of the finance conception of control: "the basic insight of the finance conception was that such a firm could be more tightly controlled by strict accounting" (1993, p. 16). It would therefore be possible to identify the emergence of specific accounting practices that, for example, focus on quantifying short-term performance and assessing the profitability rates of bundles of assets with the development of the finance conception of control. Similarly, one can extend this analysis further by postulating that specific accounting practices are closely aligned with certain conceptions of control; as emphasis shifts from one conception of control to another one should observe a shift in accounting practices more aligned to the new conception of control. This line of argument is plausible but it also has very strong deterministic overtones which we will examine more critically later. Attention, however, is now turned to providing a brief description of the tobacco industry in Spain.

THE TOBACCO INDUSTRY IN SPAIN

During the 16th and early 17th centuries the tobacco industry in Spain was organized in small, family run workshops until it came under state control later on in the 17th century and became organized as a state monopoly. In the main, the new monopoly was coordinated and controlled by the Tobacco Agency (Dirección General de la Renta). The city of Seville was grated by a Royal decree the privilege of producing tobacco and in 1684 tobacco production was located in the Factory of San Pedro (Fábrica de San Pedro) in downtown Seville. Although a small tobacco factory was built in Cadiz, by 1718 this factory had become insignificant and fully dependent upon the factory in Seville so that the latter effectively became the sole tobacco producer in Spain. Over time, tobacco consumption in Span became very popular as tobacco sales volume rose from 1.1 million pounds in 1701 to 3.2 million pounds in 1740.

This increase in tobacco sales was accompanied by an increase in the production capacity of the San Pedro Factory through the purchasing and renting of additional buildings close to the Factory. Factory space, however, remained at a premium given the sharp increase in tobacco sales, and this in addition to the desire to minimise the scope for tobacco theft that was so frequent in the San Pedro Factory and to improve manufacturing discipline (Morales Sánchez, 1991; Carmona, Ezzamel and Gutiérrez, 1994) culminated in the issuing of a Royal decree in 1723 to build new factory premises outside the city walls. The New Factories (Nuevas Fábricas), which had a production capacity two and a half times that of the old factory (San Pedro) and which were built like a fortress to reduce tobacco theft, were completed in 1758 and full production there was well under way by the 1760s.

INSERT FIGURE 1 ABOUT HERE

Figure 1 shows how the tobacco industry was organized as a state monopoly and the role played by the RTF within that industry. Tobacco leaves were imported into Spain from the Americas by the Havana Company prior to their transfer to the RTF for manufacturing into snuff and cigars. Once completed, snuff and tobacco products were sent from the RTF to another unit, Estanco del Tabaco which was responsible for tobacco distribution and sale, and the tobacco revenue was then transferred by the Tobacco Agency to the Crown Treasury. Hence, within the overall organization of the Spanish tobacco monopoly, the RTF was the manufacturing link, and because of this it was internally organized into two sets of more detailed cost centres, one for snuff production and the other for cigar production.

In institutional analysis terms, we can easily locate the three institutional contexts that form the pillars of Fligstein´s work: the organizational field; the state rules; and organization specific constraints. In the case of the RTF, its organizational field comprised the Havana Company, the Distribution Company, the Tobacco Agency, and also any external producer or distributor of tobacco operating illegally outside the monopoly, of whom there were quite a few (Goodman, 1994). The actions of these members of the organizational field would have had immediate implications for the scope for action available to the RTF, as these members impacted on the supply of raw materials, tobacco production, and distribution of output. State rules, detailing the constraints desired by the Spanish Crown, were formally issued in the form of Royal decrees which were subsequently entrusted to the Tobacco Agency to see to their strict implementation. Finally, the RTF had its own production plans, organizational structure, production technologies and physical space which, while somewhat changeable, posed some important limitations on the RTF´s ability to pursue specific courses of action.

Tobacco production, both in the Old and New Factories, comprised both snuff and cigars. The earliest year for which we have a breakdown of statistics on consumption of each product is 1740 and the results show some interesting variations both in terms of the relative consumption of the two products and the total consumption of both products combined over time - this is shown in Table 1 below.

INSERT TABLE 1 ABOUT HERE

The Table reveals a number of changes in the pattern of tobacco consumption. First, annual snuff consumption as a proportion of total tobacco consumption declined over the period from 67.4% in 1740 to only 37.8% in 1798 in comparison with a corresponding rise in cigar consumption. Given that the design of the New Factories was premised on providing much larger production capacity for snuff compared to tobacco (which was the pattern of consumption in the decades preceding the building of the New Factories) there was now a problem facing the management of the New Factories as to how to adapt the snuff production facilities to produce more cigars. A second, and perhaps more serious problem was the steady decline in total tobacco consumption during the period 1770-1780 (taking 1770 as a base year, this decline amounted to nearly 15% and reached 24% by 1798). The scale of the problem was even more severe given the much larger production capacity of the New Factories as these production volumes could have been easily produced in the San Pedro (Old) Factory.

The dramatic shift in product mix away from snuff consumption towards more cigar consumption coupled with the significant decline in total tobacco production after the 1770s onwards almost paradoxically rendered the new, much larger and more expensive factories obsolete. The management of the RTF was under strong pressure to demonstrate its competence by taking necessary steps to effect the requisite switch in production facilities to reflect the changes in product mix as well as to engineer ways of improving the overall utilization of factory production capacity.

Two additional arguments made the situation worse for the management of the New Factories. First, in order to protect and strengthen further the monopolistic power of the RTF, there was strong pressure on management to reduce the price of tobacco while maintaining high product quality so that barriers to entry are made more difficult. This was deemed necessary given the scope for producing tobacco illegally outside the monopoly and the high profit margins that could be achieved. Second, there was strong pressure on management to maximise the Crown's intake of tobacco revenue. Over the years the Crown became increasingly more dependent upon tobacco revenue and during the 1730-1775 period tobacco income as proportion of total Crown income increased from 13% to 28% (Artola, 1982). Taking these two arguments together meant that the management of the RTF had to pursue various means to improve production efficiency and minimise production cost in order to be able to both reduce tobacco prices while securing at least a minimum level of income for the Crown.

This brief chronology of the development of tobacco production in the RTF makes it possible to identify three main events (or discontinuities) which we seek to link to the emergence of new financial and cost accounting practices:

1. The move to the New Factories in the 1760s.

2. The decline in the overall consumption of total tobacco which became particularly pronounced after the 1770s.

3. The pressure to keep tobacco prices down as a deterrent against entry while at the same time increasing tobacco revenue for the Crown; this was to be achieved through reducing production cost but without sacrificing quality.

THE EMERGENCE OF NEW ACCOUNTING PROCEDURES IN THE RTF

It will be recalled (see Figure 1) that within the overall organization of the tobacco monopoly the RTF was essentially an aggregation of cost centres that was responsible for the conversion of raw materials into finished products of snuff and cigars. As a production facility, the RTF received cash inflows from de Tobacco Agency in order to be able to undertake the manufacturing activities. In return, the RTF was required to report to the Tobacco Agency on its manufacturing activities through the cargo and data (charge and discharge) method of bookkeeping which allowed the Tobacco Agency to monitor strictly the application of the cash inflows within the RTF. The RTF therefore enjoyed little autonomy in its relationship with the Tobacco Agency. Our aim in this section is to examine the extent to which the emergence of new financial and cost accounting practices in the RTF can be linked to the three events identified in the previous section, namely the move to the New Factories, the pressure to switch production facilities to reflect changes in product mix and the desire to increase the overall utilization of factory capacity coupled with the incentive to keep tobacco prices low while maximising tobacco revenue for the Crown.

The design of the cargo and data (charge and discharge) bookkeeping system made possible the splitting of cash inflows as a general accounting series into a number of applications (or detailed accounting series), with each particular application in turn comprising a number of sub-applications. In addition to these financial reporting series there were accounting series concerning raw materials, work in progress, and finished goods (i.e. accounting procedures for controlling inventory), as well as other factory based activities, susch as the accounting series dealing with payrolls, consumption of horse fodder, etc. Below we trace out the emergence of new accounting series (summarised in Table 2) identifying new accounting procedures that may be linked to the events identified above.

INSERT TABLE 2 ABOUT HERE

As the first major discontinuity we are concerned with here starts with the move to the New Factories in the 1760s, we contrast the development of new accounting procedures from that period onwards against the accounting procedures that were operating at the RTF prior to the 1760s. As Table 2 shows, there were 33 accounting series in operation in the RTF in the Old San Pedro Factory until 1760. A detailed breakdown of these series in the Archives shows that they were classified into two main groups; the first related to those that were intented for preparation in the Accounting Office (twenty seven series) and the second related to those to be elaborated in the Factories (six series).

The series intended for use in the Accounting Office contained accounting practices that dealt with general tobacco business matters including some aggregate accounting information reporting on the performance of the Factories. Thus, eight series dealt with inflows and outflows of and to the warehouse and reports submitted to the Tobacco Agency, including consolidated inflows and outflows of tobacco reports for the snuff and cigar factories. There were also nine series detailing the accounting practices concerning the inflow and outflow of cash with respect to matters such as rents collected, salary and wage payments, etc. Three more series dealt with cargo and data entries for the snuff and cigar factories, two series dealt with Factory bills paid, one series dealt with snuff tobacco delivered from the Factory, one more series covered practices related to documentations of tobacco leaves imported from Havana (Cuba) and awaiting processing, and the last three series dealt with sundry items. The series for use in the Factories covered items such as bills, payrolls and sundry materials (for example, horse fodder, oil, tins, etc) which were detailed for each of the snuff and cigar Factories.

These accounting series, which were developed over several years, continued to operate in their totality as the accounting system for the RTF while production was located in the old San Pedro Factory. While the conception of control during that period could be seen to be manufacturing-focused, the accounting practices contained in these thirty three series, it is plausible to argue, would have been seen as sufficient for the measurement and reporting of snuff and cigar activities. These practices became embedded and institutionalized in the activities of the San Pedro Factory with little or change in them once they were introduced and became established.

Interestingly for our purposes, as Table 2 demonstrates, the move to the New Factories and the events relating to the dynamics of the product mix and tobacco consumption, mark a significant change in accounting practices as reflected in the number of the new series issued and those discontinued. During the decade immediately following the move to the New Factories (1760-1770) thirty one new series were launched and four old ones were discarded. The sheer <u>number</u> of changes is impressive in its own right (since the total number of series used during that decade was nearly twice as large as that used in the old Factory) but a detailed analysis of these dynamics reveals even more insights. Of the four series that were discontinued, one related to tobacco leaves imported from Havana because of the reorganization of tobacco imports and three were related to general accounting practices. These latter three were replaced with two new series which revised and updated them. A further new series was developed for the General Accounting Office to specifically provide monthly and weekly cash statements. Five more new series were concerned with cash, the aim of which was to provide more detailed cash inflows, in addition to more detailed accounting for payrolls including items such as daily payments to operators in the snuff factory, loans advanced to white-collar personnel and deductions from their salaries to account for interest on loans and social security benefits. Two series dealt with personnel and were kept in the office of general manager. The remaining twenty one series related indirectly or directly to snuff and cigar factories, a staggering increase in factory-based accounting given that only twelve of the thirty three series used in the old San Pedro Factory were directly devoted to manufacturing. This statistic suggests that the increase in factory accounting series during 1760-1769 decade was linked to the significantly increased emphasis on manufacturing during the same period - to cope with the change in factory premises, the shift in product mix, and the focus on low cost, high quality products and improved utilization of manufacturing capacity. Thus, the accounting series for the snuff factory that were used before 1760 which simply focused on receipts and distribution were augmented to deal with general tobacco processing (beneficios) and packaging (fermentación). Eight new series were launched to improve accounting for that factory, but they were classified under General Accounting, two of each for receipts, general tobacco processing, packaging, and distribution. These series also dealt with cargo and data of tobacco materials, weekly production, monthly payments, etc. The practices contained in these series were kept by the foremen of the various production stages; indeed some of these posts were created after the move to the New Factories. Three more series dealing with factory accounts, but at the same time being classified under the Accounting Office, as in the case of the above eight series, were concerned with improving warehouse management and monitoring and controlling the number of cigars made by each operator in the cigar factory.

Ten new series intended for use in the factories were directly related to manufacturing dealing further with receipts, tobacco processing, packaging and distribution particularly in the snuff factory. They emphasised cargo and data of tobacco materials and the daily control of tobacco processed in every stage of the production process.

During the next two decades (1770-1990), two accounting series that were used in the 1760s were discontinued; one relating to general processing in the snuff factory and one relating to the General Accounting Office. However, thirteen new series were launched; four for use in the General Accounting Office and nine for use in the factories. The new series developed for the Accounting Office dealt with the inflow and outflow (movement) of tobacco, payrolls, social security benefits for white-collar employees, and matters relating to the office of the General Manager. The new series developed for use at factory level dealt with cargo and data for warehouses (yielding more detailed calculations than previously), wages of operators in charge of horses and the inflow and outflow of tobacco in the snuff factory, and tobacco inflow and outflow relating to a snuff product called rapé which was produced by the RTF for the first time during that period (the new product differed from other snuff products in terms of both type of raw materials used and production processes).

We have already indicated that the vast majority of the new accounting series launched during the 1760-1790 period were related to factory operations whether intended for use in the General Accounting Office or in the factories themselves. A further breakdown of the new accounting series by factory reveals another interesting dimension: of the thirty one new series issued in the period 1760-1790 and relating to the factories (either for use in the Accounting Office or the factories), six related to warehouses, and only one to the cigar factory in contrast to twenty four for the snuff factory. We can offer several explanations for the major imbalance in the number of accounting series devoted to snuff manufacturing compared to cigar manufacturing.

First, as indicated earlier, a new snuff product called rapé which used different raw materials and went through different production stages to those of other snuff products in the RTF was introduced during the 1770-1790 period. New accounting practices emerged to account for and monitor this new product, culminating in the launching of three series. But this still leaves twenty one new series for snuff manufacturing compared to only one new series for cigar manufacturing.

A second and quite an important explanation, relates to differences in the manufacturing technologies used in the cigar and snuff factories. The manufacturing technology of cigars was based on handiwork as production was highly individualised with very skilled operators each carrying out the entire job of rolling the tobacco leaves into finished cigars. Each cigar operator was paid on the basis of a piece-rate system where operators were paid only for perfect cigars and upon meeting a minimum production target. Control was therefore internalised into the production process itself an in the operation of the reward system. As cigar production could not be easily routinised (due to the high individual skills required) and segmented into a series of sequential production processes minimal accounting practices were used to monitor production, and the reward system of piece rate in addition to physical inspection of cigars produced were deemed sufficient to monitor the cigar operations.

In a sharp contrast, snuff operators were paid a fixed daily wage as snuff was produced through six distinct stags: drying tobacco leaves, grinding, moistening, fine grinding, packaging, and storage (Carmona, Ezzamel and Gutiérrez, 1994). Moreover, the skill levels required in snuff production were far more modest than those required in cigar production. Because the premises of the Old San Pedro factory developed in a rather haphazard way, these production stages were not as finely tuned and clarified as such classification had to await the new, purpose-built factories. Once production moved to the New Factories the newly found clarity of the production stages lent itself readily to greater accounting monitoring as each production stage became gradually more routinised. Also, given the payment of fixed wages daily the absence of a payment incentive for snuff operators had to be compensated for through increased accounting-based accountability.

We also discern a third explanation for the significantly larger number of accounting series for snuff compared to cigars. As indicated earlier (see Table 1), annual consumption of snuff declined constantly over the 1740-1798 period so that by 1798 snuff consumption was less than half its level in 1740. Given this downward trend and the decline in total tobacco consumption during the 1770-1798 period, there was much greater pressure to cut the cost of producing snuff in order to reduce snuff prices and hence boost demand, and in order to increase profit margins per pound of snuff. This pressure was much less obvious in the case of the cigar production given the significant increase in cigar consumption over the same period.

In order to provide further evidence on the intentions of these new accounting practices we refer briefly to the contents of some of these practices by way of illustration. One example relates to an accounting series with cargo and data in the snuff factory which was launched in 1762 and remained in operation until 1838. The series contained the following documents (see Figures 2, 3 and 4).

INSERT FIGURES 2,3 AND 4 ABOUT HERE

1. Grinding cargo and data (Bundle 1367): This document contains inflows and outflows of tobacco in each grinding mill (Figure 2) and also provides information concerning final inventory and scrap. Information was calculated daily and subsequently aggregated into monthly figures.

2. Fine grinding cargo and data (Bundle 1367): This document contains inflows and outflows of tobacco, the latter subsequently delivered to the packaging stage (Figure 2).

3. Moistening operations: In this document (Figure 3) the cargo is entered on the left page and the data on the right page. It contains accounting entries relating to tobacco delivered to the fine grinding stage and it concludes with a final summary.

4. Cargo document with entries from the drying stage to grinding and fine grinding stages.

5. Data book documenting dried leaves as received by the grinding and fine grinding stages.

6. Overall cargo and data of the grinding stage (Bundle 1636) which was aggregated on a monthly basis for every type of tobacco (Figure 4).

7. <u>Cargo</u> and <u>data</u> of the grinding stage detailed by each mill (Figure 4).

8. <u>Cargo</u> and <u>data</u> of the fine grinding stage detailed by each mill (Figure 4).

Similarly, an accounting series (Bundle 1365) which was launched in 1762 and continued in operation until 1847, was concerned with the internal control of foremen in the snuff factory (Figure 5). The document details the quantity of tobacco milled each day for every type of tobacco. These daily figures were aggregated monthly and were then entered into the <u>cargo</u> and <u>data</u> book for the grinding and fine grinding stages discussed above.

INSERT FIGURE 5 ABOUT HERE

DISCUSSION

The main purpose of this section is to explore the extent to which the data relating to the RTF conforms to institutional analysis, particularly as spelt out in Fligstein's framework, and to identify any instances that show tensions or limitations in instituional sociology. In describing the institutional setting in which the RTF operated, we have already identified the organizational field, the state rules and the constraints specific to the RTF. Although the only legitimate maker of snuff and cigars in Spain by virtue of its monopolistic privileges, the actions of the management of the RTF were strongly influenced by its relationships with the Havana Company (as the supplier of tobacco leaves), the Distribution Company (as the unit within the monopoly responsible for the sale of finished snuff and cigars), and illegal tobacco smugglers and makers in the black market. Production plans and levels of capacity utilisation in the factories depended to a large extent on the ability of the Havana Company to secure regular supplies of high quality tobacco leaves, and on the capabilities of the Distribution Company to sell large volumes of snuff and cigars. Moreover, the presence of a substantial illegal trade in tobacco outside the monopoly (e.g. Goodman, 1994) despite severe state sanctions meant that the management of the RTF had to pursue alternative strategies to contain and, hopefully, marginalise such illegal activities. This strategy involved an increased focus on product quality <u>and</u> at the same time, driving cost of production down. The strategy was aimed at both differentiating the RTF products from those traded illegally (both in terms of higher quality and lower costs) and creating a perception of overall efficiency in order to minimise the chances of new entry (through the creation of additional production factories by the state).

State rules were typically issued in the form of Royal Decrees or Regulations which in the main were administered by the Tobacco Agency (see Figure 1). These Decrees and Regulations determined the scope for action by the RTF; they stipulated the rules according to which the RTF was to function in terms of having the privilege of being the sole legitimate producer of snuff and cigars, the high levels of production efficiency expected from the RTF in return, in addition to the securing of significant revenues for the Royal Treasury. The Spanish Crown maintained a regular interest in important developments in the RTF, including the receipt of reports on the findings of significant experiments aimed at improving production efficiency and the appointment and rewarding of key personnel in the RTF (Carmona, Ezzamel and Gutiérrez, 1994). Moreover, many of the accounting series discussed earlier, particularly those concerned with financial reporting, were developed and imposed by the Tobacco Agency acting on behalf of the state.

Over the period of investigation (1760-1790), the organization-specific constraints shifted very noticeably. While operating in the Old San Pedro Factory, the RTF had its production activities spread over several buildings rendering the production stages, particularly for snuff, ambiguous, thereby posing serious problems for control (given the ambiguity of production stages as well as location of production activities in several different buildings), and also imposing severe limits on production levels given the difficulty of expanding physical facilities. The move the New Factories marked a relaxation of these restrictions. In the newly purpose-built factories, production capacity was enlarged significantly, and all production stages for snuff were located in one large space on the same floor thereby making the production stages much clearer and also rendering them readily susceptible to direct monitoring. But as these constraints were relaxed, new ones emerged: the pressure to fully utilise the now much larger production capacity; the difficulty posed by the decline in total tobacco consumption after 1770; and the challenge to reorganize production facilities given the significant change in consumption patterns away from snuff and towards cigars.

Invoking Fligstein's framework, it can be readily demonstrated that throughout the 1760-1790 period the main conception of control was manufacturing-based. Designed as a monopoly tobacco activities were all concentrated within the Tobacco Agency and organized through both horizontal and vertical integration. The various small, family-based workshops that operated before the monopoly was established were now horizontally integrated within the RTF, and production levels in the Cadiz factory had become so insignificant by 1718 that the RTF soon afterwards became effectively the only legitimate producer of snuff and cigars in Spain. Further, the supply of raw materials (mainly tobacco leaves) and the distribution channels became vertically integrated with the manufacturing of snuff and cigars within the broader umbrella of the Tobacco Agency (see Figure 1). Quite simply, the strategy of the RTF within this overall structure was production-dominated in a monopolistic setting. And the monopolistic privilege enjoyed by the RTF was sustained through a manufacturing strategy that aimed to establish unambiguously the superiority of tobacco production within the RTF(both in terms of quality and cost) compared with alternative possibilities, whether illegal such as the black market or legitimate through the setting up of new factories. There was no real and legitimate competitors for de RTF to actively seek containing. As long as the RTF could demonstrate its superior quality and cost attributes, it deemed itself capable of pre-empting the possibility of new entry and of ensuring the survival of the RTF. This observation is borne out by the survival of the RTF as a monopoly for a long time, for it was not until the first decade of the next century that its virtual monopoly on cigar and snuff production was broken through the establishment of new factories in Alicante, Madrid and La Coruña and the significant expansion in the production capacity of de Cadiz factory.

The above discussion suggests that an institutional theory framework such as that developed by Fligstein can illuminate our understanding of the contexts within which specific organizational actions are constituted, become institutionalized, and given meaning. In common with other institutional sociological approaches, this framework can also shed interesting light upon the role of accounting, as a form of organizational practice, in organizations. Within such a framework, it can be demonstrated that accounting practices matter irrespective of which view one holds of accounting.

Those who focus more upon formal structure and view accounting practices primarily from an instrumentalist, functionalist angle can explain the emergence of new accounting series and the elimination of old series as a natural and logical consequence of the changes in factory location, design, capacity and structure. For example, one can point to the emergence of accounting practices seeking to improve the monitoring of production activities in the various production stages in the snuff factory in terms of ensuring that accounting practices had to mirror the clearer and more logical sequential production stages made possible by the design of the new production facilities in the New Factories. Similarly, it is possible to explain the development of new accounting practices emphasising the measurement of quality and the containment of production cost as a natural response to the need to stimulate greater demand for tobacco products and to increase the flow of tobacco revenue to the state Treasury.

Equally, other interpretations of the role of accounting in organizations are not only possible but are even more consistent with an institutional theory perspective. For against the view that accounting is a neutral technology that aspires to mirror reality by presenting an objective measure of economic activity, there is also the view that accounting techniques, and information, are susceptible to different uses and interpretation, and in so doing, accounting creates, rather than mirrors, organizational reality. This different view of accounting has not only been promoted by some accounting academics (e.g. Burchell et al, 1980; Ezzamel and Hoskin, 1994) but has increasingly become recognised by others, such as sociologists:

> *"Accounting has a more fundamental role than the accounting as mirror version suggests, for it constitutes economic and organizational realities as much as it reflects them" (Carruthers, 1995, p. 321).*

Hence, according to that view accounting practices become consequential as they shape, process, and filter specific pieces of information that form the basis for action by several organizational actors. Accounting is able to achieve this by utilising the same attributes that are presumed to be deployed under the instrumentalist and functionalist view of accounting. Accounting is a technology of calculation; its practices convert qualities into quantities; they partition organizational activities into centres of calculation and what is made calculable is also rendered visible. Hence, systems of accountability can operate by utilising accounting measures of human performance. But equally, what accounting measures fail to quantify can remain invisible and therefore escape accountability (Morgan and Willmott, 1993). To this effect, accounting can be used to determine what should be rendered accountable and what could be suppressed, thereby having a major impact on deciding what is deemed real and what is not.

Within this view of accounting, the development of new accounting practices as well as their use can be explain in institutionalist terms. Thus, taking the position that organizations strive to sustain their legitimacy in society and to demonstrate their strict adherence to widely held norms and beliefs, it is possible to argue that the Tobacco Agency as well as the RTF had a vested interest in creating an external visibility that reflected superior performance and high levels of efficiency. As new discontinuities or events emerged, such as the move to the New Factories or the decline in total tobacco consumption, new accounting series were developed to demonstrate unequivocally to outside parties (the Crown; the public) that new measures have been taken by the Tobacco Agency and the RTF to improve quality and enhance efficiency.

But the invention of new accounting practices is insufficient alone to create/sustain the myth of efficiency over time. In addition, these new practices (accounting series) have to be shown to be put to use, hence the creation of new accounting books for use both in the General Accounting Office and the factories themselves. For those inside and outside the RTF, the use of these new accounting practices is concrete evidence for the quest for better quality products and higher production efficiency. Moreover, once available inside the organization, new accounting calculations can be mobilised to rationalise past actions; as Carruthers (1995, p322) has remarked:

> "If accounts are consequential before and during decision making, they are also useful in the aftermath. This is when the rationality of decisions turns into the rationale for decisions".

This latter view, however, should not be taken to imply exclusively that when new accounting practices are put into use, they only function as mechanisms for creating a myth of efficiency and rationality. As suggested earlier, accounting practices <u>are</u> consequential and thus even if they are deployed primarily to enhance external visibility they are simultaneously capable of being utilised to inform decisions and influence/guide action. A major difference, however, from the instrumental, functionalist view is that viewing accounting as a means of organizational legitimation opens up the possibility that not only would accounting practices be viewed as a rationalised myth, but also importantly they are developed and shaped by the very organizations which have to use them to demonstrate their legitimacy in society. Thus, in the case of this paper, the above interpretation implies that many of the new accounting series used by the RTF to signal externally the RTF's concern for quality and efficiency were developed in the first instance by the RTF itself (and similarly, the same could be said of the series developed by the Tobacco Agency as it strived to demonstrate its own competence in overseeing the activities of the RTF). Hence, the medium (the new accounting practices) becomes the message (concern for quality and efficiency).

The preceding discussion shows that institutional sociological approaches, such as the one developed by Fligstein, are capable of offering interesting explanations of accounting practices, old or new, that are rooted in a broader understanding of the institutional settings of a particular organization. Moreover, when deployed to trace out accounting practices during a specific historical episode, such as the one covered in this paper, sociological institutional theory has the added advantage of affording the opportunity to examine the functioning/rise of accounting practices in different institutional contexts. As Scott (1995, p146) has observed: "It is difficult if not impossible to discern the effects of institutions on social structures and behaviour if all our cases are embedded in the same or very similar contexts".

It is important, however, to note that the insights drawn from sociological institutional theory should be viewed with some caution. In particular, typologies such as the one proposed by Fligstein run the serious risk of stripping down some of the strongest claims made on behalf of sociological instituional theory. Such typologies seek to reduce much of the complexity inherent in organizational practices and abstract away from them to present a simpler and supposedly clearer view of the world. In so doing, however, tensions and possibly conflicts in the model arise. In the case of Fligstein's framework this may be reflected, and rather conveniently for the purposes of this paper, in the proposition that specific conceptions of control give rise to specific strategies for organizational action, including accounting practices. We will demonstrate our concern over Fligstein's framework by concentrating, by way of example, on two specific issues; the first relates to the extent to which there is demonstrable increase in emphasis on the use of accounting-based controls under different conceptions of control, and the second is concerned with the extent to which there is a significant improvement in the fortunes of certain professionals whose expertise may be deemed central to a particular conception of control.

It will be recalled that in his framework Fligstein called attention to the significant rise in the use of accounting-based monitoring as the conception of control shifts from one based on sales and marketing to one based on finance. During this latter phase Fligstein contends that the firm "could be tightly controlled by strict accounting" (1993, p16). This observation appears to be at odds with the archival evidence we have consulted. As we have argued earlier, the conception of control that emerged during the 1760-1790s was primarily manufacturing-based. As far as we can discern from the evidence, the intensified use of accounting-based controls after the 1760s seems to relate to the occurrence of a new set of events relating to the move to the New Factories, the decline in the consumption patterns of aggregate tobacco products and the significant change in product mix from snuff to cigars. During those three decades, emphasis remained focused, as previously, on manufacturing. Whether a shift in control conception towards finance would have resulted in an even greater reliance on the use of accounting controls is beyond our evidence. Nevertheless, there has been a <u>significant</u> increase in the number of accounting practices during the 1760-1790 period the majority of which were directly concerned with monitoring human performance, and Fligstein's framework offers no compelling explicit explanation of such developments.

Similarly, the rise in the eminence and fortunes of an accountant called Vallarin (who designed the cost accounting system in the RTF) as well as the high esteem in which senior accounting staff were held during that period is difficult to explain within the confines of Fligstein's framework. Although Vallerin never rose to the level of General Manager of the RTF (Fligstein has been concerned to document the rise of finance specialists to the highest managerial ranks in the USA during the finance conception of control) both his salary and rank were enhanced significantly. The post of Chief Accountant was among the most senior and prestigious occupations in the RTF, for example, the Chief Accountant deputised for the Superintendent of the RTF when the latter was absent. In 1773, Vallarin was an Assistant Accountant with a salary of 833 Reales per month. In 1774, Clement de Castro, the Chief Accountant and Vallarin's superior was appointed Acting Superintendent of the RTF. Because the tradition of the RTF at that time was for the post of Chief Accountant to be restricted to members of the Knighthood and because Vallarin did not belong to the upper crust of Spanish society, he was initially appointed in 1774 as Acting Chief Accountant but with the same salary of 833 Reales per month that he was paid previously instead of the salary of 1,583 Reales paid to his predecessor.

In 1780, after being involved in a successful production experiment aimed at increasing production levels, Vallarin was appointed Chief Accountant with a salary of 2,000 Reales, more than twice his previous salary and 417 Reales higher than the salary of his predecessor. To appreciate the extent of Vallarin's financial reward, it is relevant to compare his salary history to that of the influential General Inspector Portocarrero. In 1778, when the production experiment was conducted, Portocarrero's salary was 4,166 Reales per month, more than two and a half times the salary of the Chief Accountant at that point in time. In 1779, while Vallarin was Acting Chief Accountant at a salary of 833 Reales, Portocarrero's salary was reduced to 2,500 Reales. Once Portocarrero left his post later on in 1779, the salary of General Inspector was reduced further to 1,666 Reales, exactly twice as much as Vallarin's salary in that year. In 1780, the year when Vallarin was appointed Chief Accountant, the salary of General Inspector was down to a mere 833 Reales, well under half Vallarin's new salary.

The dynamics of the salary scenario described above raise several interesting questions: Given the success of the production experiment, why was the salary of the General Inspector reduced so significantly (ultimately, to only 20% of its level in 1778)? What precise reasons lead to the elevation of the salary of Chief Accountant in 1780 from 1,583 Reales to 2,000 Reales? Was that because of a perceived increased importance of the post of Chief Accountant? Or was the increase in salary more of a reflection of the personal capabilities of Vallarin? These, and similar questions are intriguing but the lack of evidence in the archives renders it impossible to address them in a meaningful manner. Yet it is clear that

Vallarin was handsomely rewarded both financially and in terms of career progression. Quite simply, Vallarin's personal fortunes, and those of the post of Chief Accountant, rose with the emergence and rise of cost accounting within the RTF.

Yet, the historical evidence suggests that at that time (1760-1790) the RTF had not 'graduated' through the four successive conceptions of control suggested by Fligstein; from direct control of competitors, through manufacturing control and sales and marketing control ultimately to finance control. This supposedly clear cut transitional process is not discernible in the historical chronology of the RTF from its inception in the late 17th century and over a whole century. What we discern instead is an increased focus on production simultaneously with more extensive use of accounting calculations. Rather than a single-focused and crystallized conception of control during a particular corporate era, as Fligstein argues, we discern, if anything, multiple and more complex conceptions of control in which accounting most frequently (almost invariably) played a crucial role.

This, we contend, is a crucial observation. For rather than viewing the emergence of accounting practices purely as the natural response to specific shifts in the conception of organizational control, we see accounting as an important mode of monitoring performance in a variety of organizational settings. In this respect, our views are significantly different not only from those of Fligstein but also from the views of the academic orthodoxy concerned with accounting history. Thus, Pollard (1965) found little evidence on the use of cost accounting to guide decision making in British firms during the industrial revolution and has surmised that this was due to the prevalence of high profit margins and the absence of competition. Following in his footsteps Edwards and Newell (1991) and Fleischman and Parker (1991) have suggested that intensive competition provides the stimulus for the use of cost calculations in order to improve firm efficiency and to strengthen its competitive position. The argument here is parallel to that advanced by Fligstein; specific competitive settings give rise to a significantly greater use of cost accounting calculations.

The evidence drawn from the archives of the RTF and reported in this paper clearly departs from the above contention. First, we have clear evidence of regular use of accounting calculations in a monopolistic setting thereby suggesting that the use of accounting in organizations is not restricted to competitive settings. Second, we observe much greater intensification in the use of cost accounting in the RTF post-1760 which we can link to the occurrence of specific events, such as the move to the New Factories, etc. While, as suggested earlier, it is plausible to argue that these events gave rise to the emergence and use of new accounting practices to improve overall factory performance (and this may have indeed been the case in many instances), we propose that an explanation of these new accounting practices needs to extend beyond this restrictive view. Institutional sociological theory has offered one such possible extension; new accounting practices may emerge purely as a means for enhancing the external legitimacy of the organization. Our discussion above suggests that such need for external legitimacy is not necessarily restricted to organizations operating in highly competitive settings but could be extended to monopolistic situations. Indeed, it is more likely that monopolistic organizations, such as the RTF, are under much greater pressure to demonstrate to external constituencies the legitimacy <u>and</u> rationality of their actions given the potent privileges such monopolies normally enjoy.

CONCLUSIONS

This paper traced out the emergence of new accounting practices over the period 1760-1790 in the Royal Tobacco Factory (RTF), Seville, which was set up as the sole legitimate tobacco producer in Spain from the late 17th century onwards. During the period under study, three sets of events occurred. First, tobacco production was moved from the old San Pedro Factory to the New Factories, which were purpose-built and had much larger production capacity compared to the San Pedro Factory. Second, there was a decline in the total consumption of tobacco, which became particularly sharp after the 1770s. Third, there was pressure to increase tobacco revenue to please the Crown whilst keeping prices down and product quality high to deter entry. The paper examines these events from the perspective of sociological institutional theory, in particular, a framework developed by Fligstein, to establish the extent to which the emergence of new accounting practices can be linked to these events.

The original archival material on which this paper draws shows that prior to the period examined here, thirty three accounting series were in use detailing practices undertaken both in the General Accounting Office and in the factories of the RTF. During the period under investigation, six series were abandoned and 44 were invented so that by 1790 more than seventy series were in operation. By far the greatest majority of the new accounting series dealt with factory matters, in particular, the process-like, standardized snuff factory. Many of the new accounting practices mirrored the production flow that became much clearer in the New Factories, while others were concerned with overall factory productivity and product quality.

It was both possible and plausible to locate these new accounting practices within the framework of institutional sociology. Thus, while recognising the real possibility that these practices were developed with the intent of improving the efficiency and effectiveness of the RTF, the paper suggests that these new accounting practices may have been aimed at enhancing the external legitimacy of the RTF and protecting its monopolistic hold over tobacco production in Spain. The paper also suggests that Fligstein's framework of sequential conceptions of control in the history organizations may be both restrictive and over-simplified. Specifically, during the historical episode examined in this paper there was much emphasis placed upon manufacturing but also simultaneously upon greater use of newly developed, more intensified, and far more elaborate accounting calculations. The archives also contain clear evidence to suggest that the post of Chief Accountant in the RTF was extremely prestigious, as indicated by the high salary and standing of Manuel Vallarin, the accountant who designed the cost accounting system in the RTF. In Fligstein's framework, such increase in the use of accounting for monitoring purposes and rise in the fortunes of senior accounting staff are premised to occur only beyond the sales and marketing conception of control which Fligstein perceives to emerge <u>after</u> the manufacturing conception of control. Hence, the archival evidence cited in this paper would at least suggest that Fligstein's framework is in need of important revisions. More radically, this paper agues that there is a serious danger that lurks in typologies such as the one proposed by Fligstein, in conceptualizing organizational action. Such typologies tend to be restrictive by imposing specific matchings between a particular typology and <u>expected</u> organizational action (e.g. accounting practices) which may be difficult to sustain in practice. It may be that, contrary to Fligstein's argument, the intensity with which accounting practices get used and/or the magnitude of new and emerging accounting practices have less to do with the dominance of specific conceptions of control.

In common with research informed by sociological institutional theory, the present paper has limitations that could be addressed by future researchers (see Scott, 1995). First, the period examined here is fairly short compared to the whole life span of many organizations. Future researchers may be able in certain instances to examine the life course of organizations in order to gain a better understanding of the extent to which specific practices (such as accounting) persist over time. Second, the archival evidence examined here does not capture fully the relation between institutional and organizational processes; an area that future researchers may be more capable of illuminating. Finally, this study is concerned with a specific institutional setting. There is need for comparative studies dealing with differing institutional contexts to enhance our understanding of the extent to which certain accounting practices are embedded in, but also strongly shape, the institutional setting of an organization.

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FIGURE 1: ORGANIZATION OF THE TOBACCO MONOPOLY

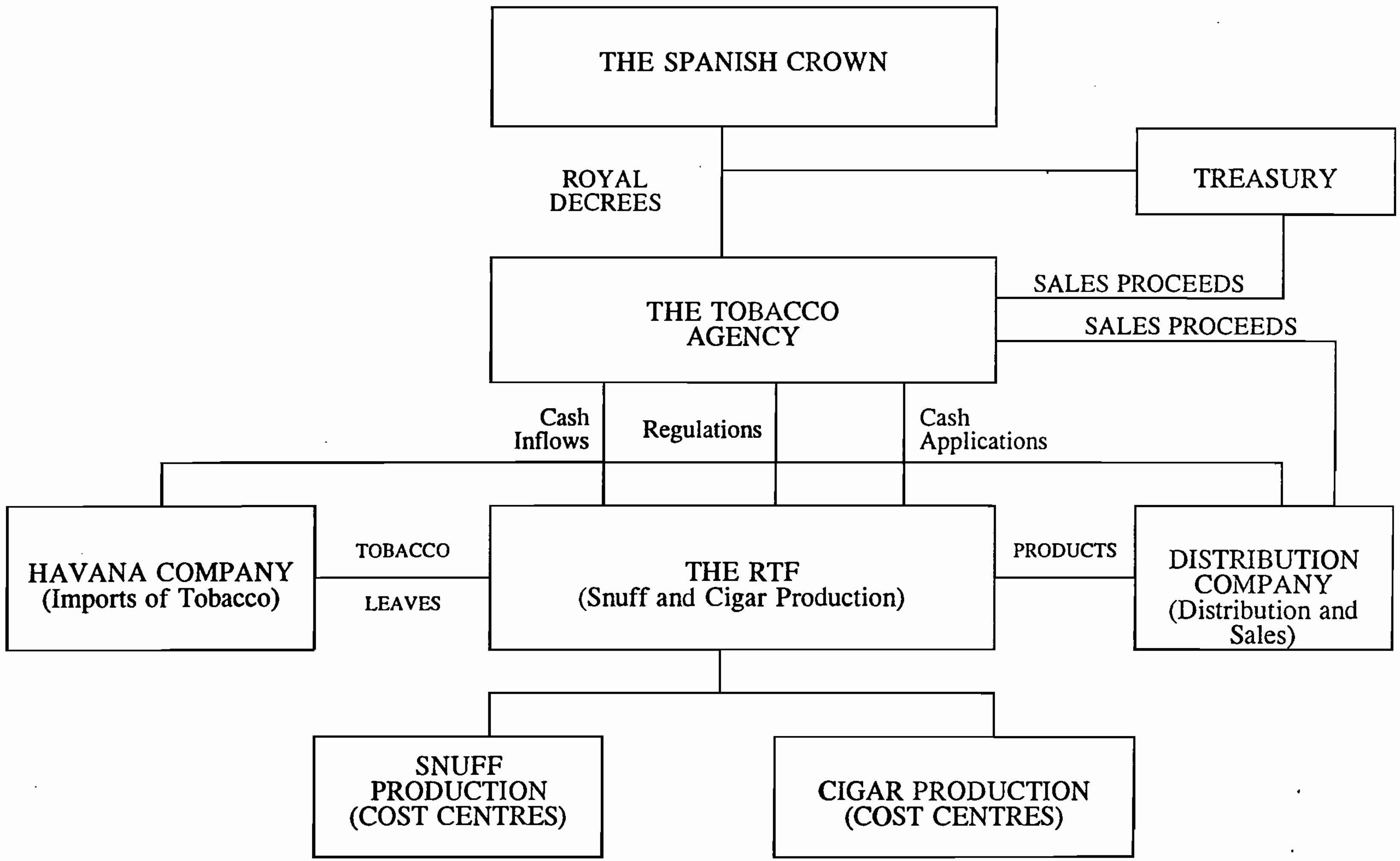

FIGURE 2: ACCOUNTING SERIES
(CARGO AND DATA, SNUFF FACTORY)

Sta. Catalina de Sena

Maqna. de Monte

Cargo

	Enero de 1770	Sacas de 131 lb.	Medias de 81	Libras	aumto.
C.L.S.	Exia. en fin de Dre. de 69			0281	
	en 2 de dn.	2		0162	
	en 3	3		0243	
	en 4	2		0162	
	en 5	2		0162	
	en 8	3		0243	
	en 9	2		0162	
	en 10	2		0162	
	en 11	3		0243	
	en 12	2		0162	
	en 13	3		0243	
	en 15	2		0162	
	en 16	3		0243	
	en 18	2		0162	
	en 19	3		0243	
	en 20	2		0162	
	en 22	3		0243	
	en 23	2		0162	
	en 24	3		0243	
	en 25	2		0162	
	en 26	3		0243	
	en 27	2		0162	
	en 29	2		0162	
	en 30	2		0162	
	en 31	2		0162	
	Cargo	57		04898	
	Data			04806	
	Mermas			0092	0178
	se hallaron quedan de Cargo			0270	
	Febrero				
	en 1°	3		0243	
	en 3	2		0162	
	en 5	3		0243	
	en 6	2		0162	
	en 7	3		0243	
	en 8	2		0162	
	en 9	3		0243	
	en 10	2		0162	
		20		[illegible]	

FIGURE 3: ACCOUNTING SERIES
(CARGO AND DATA, SNUFF FACTORY)

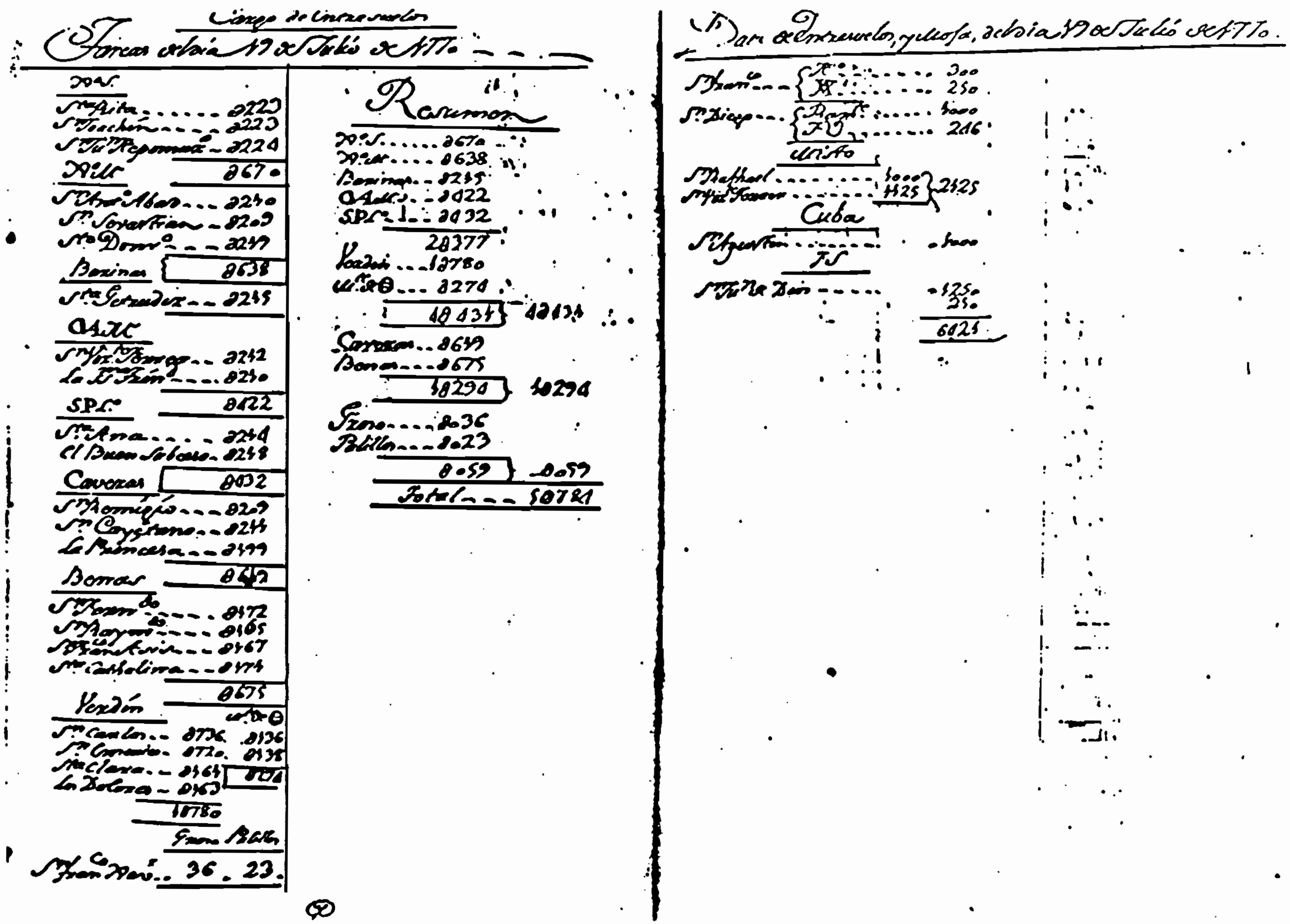

FIGURE 4: ACCOUNTING SERIES
(CARGO AND DATA, SNUFF FACTORY)

Razon de los Tabacos que quedaron Existentes en las Quadras de Monte y Repasso el Dia 31 de Henero de 1770, a que assi como Interventor que soy de estas Rs. Fabricas.

Monte
Exg.

C.L.S.
S. Carlos 0373
Sta. Cathª 0270
0643 0643

P.
S.L.S.
S. Fernando 0235
Sta. Rita 0043
0278 0278

C.L.M.
S. Ant. Abad 0339
S. Sevastian 0378
0717 0717

M.T.S.
S. Remigio 0306
S. J. Nepom.no 0339
0645 0645
20283 +

Monte de Indias pª
Exg.

S.P.
Los Dolores 0079

S.
Sta. Clara 0339
0418 0418
20704

Fino
Cavezas de Martonos
S. Franc.co de Asis ... 0423
S. Vic.te Ferrer ... 0644
S. Caytano 0358
Sto. Domingo 0310
S. Raymundo 0388
S. Joaquin 0237
Sta. Ana 0266
Sto. Gerundio 0287
La Primera 0502
20908 ... 20908 +

Monte de Indias pª 20908
Fino

O
S. Emerico 0250
La Trinidad 0564
Buen Suzeso 0690
10504 +

Total de Fino 10412

Repasso
Fino
S. Diego 0425
S. Jul. de Dios ... 0844
S. Raphael ... 0760
S. Vic.te Ferrer ... 0675
20704

Fco. Fran.co de Rivas

FIGURE 5: ACCOUNTING SERIES
(INTERNAL CONTROL OF FOREMEN, SNUFF FACTORY)

Sev.a 3 de Hen.o de 1763

Importe del tabaco beneficiado en las Quad.s de [illegible] y subtrad.s a los [illegible] en el [illegible] molido, y Cer.do [illegible] sig.tes

Cedaceros	Sacas	Lib.s
Puntas de [illegible]	5	463
Polvo		
[illegible]	23	1180
Barred[illegible]	9	452
[illegible]	2	120

TABLE 1: ANNUAL TOBACCO CONSUMPTION (1740-1798) (IN POUNDS)*

YEAR	SNUFF		CIGARS		TOTAL (A + B)	DIFFERENCE (A - B)
	VOLUME (A)	%	VOLUME (B)	%		
1740	2158241	67.4	1042048	32.6	3200289	1116193
1750	1710736	63.9	963586	36.1	2674322	847150
1760	1850754	59.1	1276182	40.9	3126936	574572
1770	1849045	53.0	1637093	47.0	3486138	211952
1780	1478057	48.6	1563943	51.4	3042000	-85885
1790	1450337	46.6	1656106	53.4	3106443	-205769
1798	1015392	37.8	1661706	62.2	2667098	-646314

* Source: Rodríguez Gordillo (1990, p74)

TABLE 2: ACCOUNTING SERIES USED IN THE RTF (PRE 1760-1790)*

Number of Accounting Series Operating Before 1760	Number of Accounting Series Eliminated During the Period 1760-1768	Number of New Accounting Series Launched During the Period 1760-1769	Number of Accounting Series Eliminated During the Period 1770-1790	Number of New Accounting Series Launched During the Period 1770-1790	Total of Accounting Series Operating After 1790
33	4	31	2	13	71

* Source: The Tobacco Archives