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THE ROLE OF ACCOUNTING IN PUBLIC EXPENDITURE AND MONETARY POLICY IN THE FIRST CENTURY AD ROMAN EMPIRE

Abstract: Previous authors have argued that Roman coinage was used as an instrument of financial control rather than simply as a means for the state to make payments, without assessing the accounting implications. The article reviews the literary and epigraphic evidence of the public expenditure accounts surrounding the Roman monetary system in the first century AD. This area has been neglected by accounting historians. Although the scope of the accounts supports the proposition that they were used for financial control, the impetus for keeping those accounts originally came from the emperor's public expenditure commitments. This suggests that financial control may have been encouraged by the financial planning that arose out of the exigencies of funding public expenditure. In this way these two aspects of monetary policy can be reconciled.

INTRODUCTION

This article reviews the literary and epigraphic evidence of the accounts which surrounded the Roman monetary system. Although these provide an early example of public finance accounting, it is an area which has tended to be neglected by accounting historians and classicists alike. The former have concentrated their efforts on the accounts of private individuals rather than of the state, whereas the latter are more interested in the economic implications of Roman monetary policy. Duncan-Jones [1990 & 1994], for example, offers an authoritative and detailed study of the various aspects of money in the Roman economy, but makes scant mention of public accounting or the information flows surrounding the Roman monetary system. A consideration of these factors can provide useful insights into the management of the Roman economy. If, for instance, one

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were to agree with Sugden [1993, p. 235] that Roman coinage was deliberately used by the state as a means of financial control, one might expect to find some evidence of financial planning. Sugden [1993, p. 231], however, does not deal with the accounting implications of his thesis, apart from a brief allusion to the budgetary role of the emperor's principal financial secretary, the *a rationibus*. This article explores the rationale behind Roman public accounting in the first century AD. In so doing it contributes to the ongoing debate over the uses of coinage to the Roman state from a different angle. It starts by describing this debate, before moving on to consider Roman accounting historiography. It then examines the role of public accounting at both operational and strategic levels within the Roman monetary system.

ROMAN MONETARY POLICY

There are two opposing schools of thought regarding the management of the Roman monetary system. The first was summed up by Finley [1973, pp. 160-66] when he asked the question: What did the Roman emperors contribute that was new to the management of the economy, with their "unprecedentedly greater power and greater resources," compared to the Greek city-states, of say, five hundred years before? The answer was "virtually nothing." The emperors were governed by the "satisfaction of material wants" rather than any conception of economic policy or the "needs of the economy." As for the money supply, "money was coin and nothing else." Its principal use was to enable the state to make payments, usually to the troops. This echoed the views of Crawford [1970, p. 48], who argued that the Roman government lacked a monetary policy.

The alternative view is that the Roman Empire was highly monetized, and that the government attempted to maintain a stable coinage for economic reasons. Sutherland [1951, p. 173] described the imperial coinage as "an indispensable element" of a centrally controlled economy. Lo Cascio [1981, p. 76] argued that the stability of the Roman monetary system in the late Republic and early Empire was "not a necessary one nor the result of chance." Rather, it was achieved deliberately through monetary policy. More recently Sugden [1993, pp. 230-31] maintained that although control of the coinage alone was not sufficient to ensure successful financial management, nevertheless the state used it to influence revenues and expenditures.

Financial control might have taken different forms. Lo Cascio [1981, p. 76] stated that the Roman authorities had an empirical understanding of monetary policy, which they used both to maintain fixed relationships between the different denominations of coin, and to supply the market with an adequate means of exchange. Sugden [1993, pp. 229 & 231] identified direct and indirect means of financial control. Directly, the state profited by reducing the gold and silver content of coins, to allow for their minting in greater numbers. The effectiveness of this policy depended on Rome's ability to enforce an enclosed currency system. Indirectly, the state was able to increase both its tax-take and money-stock through the increase in inter-regional trade, which according to Hopkins [1980, p. 101], resulted from the payment of taxes in money.

Additional evidence from literature, papyrus documents and coin-finds has resulted in a swing of opinion towards the monetary view of the Roman economy [Greene, 1986, pp. 50, 169]. For example, Howgego [1992, p. 1] wrote that "the possibility of using old coin for making payments means that, at least as regards the restriking of existing coin, decisions to coin might be taken for reasons other than the requirements of expenditure." The evidence is inconclusive, however, and recent studies have undermined the monetary view by questioning the extent of monetization within the Roman economy. Howgego [1992, p. 30] maintained that although the Roman world was monetized, in the sense that money was the normal means of exchange for goods, "agricultural produce, particularly corn, played a substantial role alongside money in taxation, rents, wages, and credit." Based on a study of Roman coin-survivals, Duncan-Jones [1994, p. 32] concluded that the level of monetization in the Roman Empire was "restricted and uneven," and "exchange based on barter was probably widespread below the surface." Such conclusions undermine Hopkin's [1980] trade and taxes theory, and Sugden's [1993] suggested corollary, concerning the implications for financial control.

It follows that there is still doubt over the function of money in the Roman economy. Study of the problem from an accounting perspective helps reconcile the opposing views, as it provides clues to the sophistication of Roman monetary policy by answering two key questions: (i) What was the scope of the accounts surrounding the Roman monetary system in the first century AD? (ii) Why were these public accounts brought into being?

ROMAN ACCOUNTING HISTORIOGRAPHY

Previous Roman accounting studies have concentrated on the level of sophistication of the accounting techniques. De Ste. Croix [1956, pp. 60-61] demonstrated the rudimentary nature of Roman bookkeeping and the absence of double-entry. Most [1979, pp. 8-11] identified certain flaws in de Ste. Croix's argument concerning the categorization of "debit" and "credit," the use of columns, and the numerical notation of accounts. While rejecting Most's criticism, Macve [1985, pp. 234-57] expanded de Ste. Croix's paper in relation to taxation and business management. He questioned de Ste. Croix's observation that the primitive nature of Roman accounting prevented the state from taxing income rather than capital, arguing that the converse was true. Roman accounts did not calculate income because the state saw no need to tax it. Similarly, Macve did not agree that rational economic decision-making was inhibited by accounting. Rather it was the lack of opportunity of Roman estate owners to benefit from alternative courses of action which resulted in the lack of systematic profit calculations. Other authors have focused on particular accounting records, such as Columella's profitability calculations in his first century textbook on agriculture [Carandini, 1983], or the accounts of the Appianus estate in third century Egypt [Rathbone, 1994].

In all of these cases the authors are concerned principally with the accounts of private individuals rather than of the state. The distinction between the two is not always clear, however, given the difficulty in separating the state's finances from those of the emperor personally [Millar, 1977, p. 189].

A factor which emerges from these works is a consciousness among Romans of the general advisability of keeping accounts. De Ste. Croix [1956, p. 43] notes, for example, that "it seems fairly safe to conclude that men of property at Rome often did write up their permanent account-books about every month." Personal wealth was both "necessary and good" [Finley, 1973, p. 35]. The fact that a citizen's rights were connected to the amount of property he declared was an incentive for keeping accounts [Edwards, 1989, p. 28]. In some cases political expediency determined the need for accounts. In a litigious society in which state officials could be prosecuted for extortion or embezzlement for political ends [de Ste. Croix, 1956, pp. 44-46], and in which the normal activity of young political aspirants was the launching of prosecutions in the law-courts [Grant,

1969, p. 27], it might be beholden on such officials to keep accounts for their own protection.

THE ROLE OF ACCOUNTING IN PUBLIC EXPENDITURE AND MONETARY POLICY

Turning now to the scope of the accounts surrounding the Roman monetary system, there are two levels at which accounts played a facilitating role in the quantification and storage of bullion in the *Aerarium* (treasury), and its issues to the Imperial Mint. First, there is the operational level at which the process was conducted; and second, there is the strategic level, at which decisions were made regarding the timing and quantity of coinage issued, and the mix of metals used.

Howgego [1992, p. 4] has described the various factors affecting the supply of bullion to the *Aerarium*. These included the gains or losses associated with conquest, the productivity of the mines and the balance of payments with the East. The relative importance of these factors fluctuated over the course of Roman history, as did the number and location of the mints in operation at any one time. Nevertheless when one speaks of the Roman monetary system which existed at particular points in time, one is able to draw analogies with earlier or later periods, because of the marked degree of continuity over a prolonged period [Bolin, 1958, p. 47; Howgego, 1992, p. 2]. In particular there was continuity in the central control exercised by the state [Sutherland, 1951, p. 9], and in the translation of procedures from the late Republic to the early Empire [Jones, 1968, p. 101].

Operational Role

Looking at the operational level first, there was a formal organizational structure within the *Aerarium* and Imperial Mint, which included supervision of the staff of freedmen and slaves, and specified lines of reporting. Included on the Mint staff were the *dispensatores*, or accountants, who kept the books. The other workmen can be categorized as skilled artists, unskilled workers or *nummularii*. These were probably state bankers, whose duty it was to receive bullion and obsolete coin, and to bring new issues on to the market [Mattingly, 1923, pp. lvii-lx; 1960, pp. 129-131]. Although there is a complete lack of surviving records, it is possible to infer the existence of inventories from the Natural History of Pliny the Elder, who was able to list the amounts of gold and silver, in cash and bullion, contained within the

Aerarium at various points in time to 49 BC [Pliny, Natural History, xxxiii, 55-56]. For instance, he noted that in 156 BC "the Roman treasury contained 17,410 pounds of gold, 22,070 pounds of silver, and in coin 6,135,400 sesterces." Such inventories could have been used to exercise physical control over the stocks of precious metals. We do not know the source of Pliny's information. Its inclusion in his encyclopedia suggests its retention within the public records, as it preceded the time of writing.

Effective control of production was established during the Republic. In addition to the inventories, this was achieved by a system of control-marks on the coins and dies, and by stringent mint regulations [Mattingly, 1982, pp. 22-24]. There are occasions when issues of coin contained the inscription "*EX A(rgento) PV(blico)*," to indicate that they were struck from public bullion rather than bullion drawn directly from the treasury. Mattingly [1982, p. 23] suggests that the moneyers were using state money on its way to the treasury, and that the suffix represented a control-mark, forming part of the procedures for checking the amount of bullion involved.

Finally at the operational level, accounts were used by the state as a check on the stewardship of its officials. Much of public finance was conducted at a distance because of the dispersed locations of the provinces. Accounts were kept to enable the state to exert some control over the inflows and outflows of revenues and expenditures. The governors in the provinces accounted to the *Aerarium* in Rome for their expenditure, in addition to any local receipts alongside the *publicani* (tax collectors) [Jones, 1968, p. 103]. These accounts or *rationes* evolved in the Republic to provide a retrospective check on the individual governors, rather than as an aid to imperial planning and budgeting [Millar, 1964, p. 38]. Millar suggests that they were used in this novel way for the first time by Augustus, which leads to a discussion of the extent to which accounting played a strategic role in the monetary system.

Strategic Role

In many respects Augustus was a watershed in Roman history. His rise to power as principal citizen and commander-in-chief of the army followed a turbulent period of civil wars. He remained in control for forty years until his death in AD 14, and in so doing restored peace. During this time Augustus sought to control the organs of state; and the nature of government

changed to become consolidated in the person of the emperor. This applied not only to politics, but also to the monetary system, which Augustus took under his control. Arguably he could not have done this without the use of accounting information, which is known to have existed, and is discussed in due course.

It has been suggested that the archives and stores of information which were at the emperor's disposal consisted mainly of the acts and pronouncements of himself and his predecessors [Millar, 1977, p. 266]. Thus his role has been seen as essentially passive, making decisions in response to initiatives from below, rather than actively seeking information. Accounting information, however, represents one of the major exceptions, certainly in the early Empire at least. We know something of the content of these records from literary references and from the *Res Gestae* (The Acts of Augustus), copies of which were inscribed on temple walls throughout the Empire.

LITERARY AND EPIGRAPHIC EVIDENCE OF ACCOUNTING'S STRATEGIC ROLE

The dependency of the Roman currency on the supply of precious metals implies that it would have been a limiting factor in any budget. Corroborative evidence comes from the debasements following periods of heavy spending, and from the urgency with which the precious metal resources of new provinces were exploited following conquest. Archaeological finds of date-stamped ingots in Britain, for example, suggest that Britain's lead resources, from which silver was produced by cupellation, were developed rapidly following the Claudian invasion in AD 43 [Frere, 1974, pp. 321-24; Ireland, 1986, pp. 221-24]. Thus, one might ascribe a more proactive role to the inventories alluded to by Pliny, as being needed not solely to safeguard the stocks from theft, but also to plan expenditure and coinage issues, and ultimately to indicate the need to replenish stocks by securing new supplies.

Suetonius [Augustus, xxviii] and Dio [liii, 30,2] record that in 23 BC, Augustus, fearing he was about to die after a long illness, handed over an account (*rationarium*), which listed public revenues and armed forces. Suetonius [Augustus, ci] informs us that on his death in AD 14 Augustus left "a summary of the condition of the empire" (*breviarium totius imperii*), which Tacitus describes as containing "a list of the national resources. It gave the numbers of regular and auxiliary troops serving in

the army; the strength of the navy, statistics concerning the provinces and dependent kingdoms; direct and indirect taxation; recurrent expenditure and gifts" [Annals i, 11, 4]. Suetonius and Dio note that it also listed the amounts of cash in the *Aerarium*, in the provincial *fisci*, and in the hands of the *publicani*; and that it included the names of the freedmen and slaves from whom a detailed account could be obtained [Suetonius, Augustus ci; Dio, lvi, 33, 2]. The closeness of this information to the executive authority of the emperor is attested by Tacitus' statement that it was written out by Augustus himself.

There is evidence that the imperial accounts were continued beyond Augustus' reign. Suetonius [Caligula, xvi] and Dio [lix, 9, 4] commented that the "accounts of the empire" (*rationes imperii*), which had been made public regularly by Augustus, were allowed to lapse by Tiberius (AD 14-37), and revived by Caligula (AD 37-41). It would have been surprising had they not been continued beyond Augustus' lifetime, when one considers the evolutionary character of Roman political institutions in the first century AD. Revolutionary change did not follow the eclipse of the Republic. Rather, Augustus "proceeded by a slow process of trial and error, feeling his way forward with patient care." The system of government he established was enduring, and "gave the world a large measure of peace and stable government for over two hundred years." [Scullard, 1976, p. 215].

The *Res Gestae* is a remarkable account to the Roman people of Augustus' stewardship. It listed and quantified his public largesse, which encompassed distributions to the people, grants of land or money to army veterans, subsidies to the *Aerarium*, building of temples, religious offerings, and expenditures on theatrical shows and gladiatorial games. It was not an account of state revenue and expenditure, but was designed to demonstrate Augustus' munificence. The significance of the *Res Gestae* from an accounting perspective, lies in the fact that it was compiled retrospectively towards the end of Augustus' life. This illustrates that the executive authority had access to detailed financial information, covering a period of some forty years, which was still retrievable after the event.

Viewed in conjunction with the literary references, one is struck by the scope of the accounting information at the emperor's disposal, which suggests that its purpose encompassed planning and decision-making, particularly when one considers its closeness to the executive authority. Indeed, it is hard to imagine that financial control could have been exercised

without some financial planning. Although, by itself, the sophisticated nature of the accounts surrounding the Roman monetary system in the first century AD cannot prove that financial control took place, it does corroborate that view.

Origins

It remains to consider why these accounts were brought into being. The evidence indicates that the answer lies in the emperor's public expenditure commitments. He was obliged to subsidize the state heavily from his own private funds (*fiscus*), because of the inadequacy of public revenues which resulted in large budget deficits. The scale of these subsidies, and the wealth of the emperor, is apparent from the 2.4 billion sesterces noted in the *Res Gestae* as having been spent by Augustus on the *Aerarium*, the people and the veterans alone [*Res Gestae*, Summary, 1], compared to annual public revenues, which have been estimated hypothetically in the region of 500 million sesterces [Millar 1977, p. 191]. Increasingly, therefore, the emperor's personal finances became intertwined with those of the state [Millar, 1977, pp. 189-201], and he had strong personal motivation to exercise budgetary control over public spending [Brunt, 1966, p. 89].

De Ste. Croix's [1956, p. 43] observation that it was common practice for men of property to keep accounts begs the question of whether the accounts kept by Augustus were a continuation of this. Their national scope and content were fully consistent with the extent of his property. As principal citizen his property transcended that of anyone else, and over the period of his reign became difficult to separate from that of the state. It was not unnatural, therefore, that his accounts should be of national significance.

The manner in which the process was administered further illustrates the connection with the emperor's personal finances. At the center of the management of the Roman monetary system was the emperor's principal financial secretary, the *a rationibus*. The most detailed description of his duties comes from the poet Statius [Silvae, iii, 3], from whom we can deduce that in addition to advising on how much coin to issue, he was required to forecast public revenues, and estimate public expenditure. Statius was writing about the reign of Domitian (AD 81-96), which indicates the importance of this office some seventy years after Augustus' death. But how did the office evolve? Brunt

[1966, p. 89] suggests its origins lay in the employment by Augustus of the same staff to administer both his public and private finances, which as we have seen became inextricably linked. Thus he used clerks and accountants from his private staff at Rome to assist him in supervising the public treasury, which entailed them having access to the public records held within the *Aerarium*. If this scenario is correct, the public accounting records maintained by Augustus, and the budgetary role of the *a rationibus* under Domitian, can be viewed as part of the same evolutionary trend; and there is no reason to suppose that it excluded the emperors in between. In the case of Claudius (AD 41-54), for example, his private secretaries, including Pallas, his *a rationibus*, seem to have enjoyed unprecedented political status [Millar, 1977, pp. 74-77].

The dependency on the emperor for subsidies was heightened by the absence of government borrowings, which exposed the state to short-term deficits. These could result in the state defaulting on obligations, seizing large fortunes, or debasing the coinage [Duncan-Jones, 1994, pp. 3-5]. Difficulties in funding army discharge bonuses under Augustus and his immediate successor, Tiberius, led to virtual mutiny [Duncan-Jones, 1994, p. 11]. It follows that although there has been a shift away from the view that coin was minted solely to enable the state to make payments, this role remained vital. Furthermore, the origins of the emperor's accounts in the first century AD appear firmly linked to the state's public expenditure requirements. In this respect, the evidence from the accounts runs contrary to the view that money was used for financial control, because it emphasizes the importance of money to the state for making payments. These two aspects of monetary policy are not mutually exclusive, however, and the one may have been the logical outcome of the other. Effective financial control depended on financial planning, which was initiated by the keeping of the accounts that arose from the emperor's public expenditure obligations. This supports Lo Cascio's [1981, p. 77] argument, that even when the "primary purpose" of government measures was to make payments, "this result was attained by a government aware of, and interested in, what happened to its coinage once it was in circulation."

CONCLUSION

The scope of the accounting information surrounding the Roman monetary system in the first century AD supports the

view that coinage was used for financial control. Accounts enabled the state to control the operations of the *Aerarium* and the Imperial Mint, and also the financial dealings of the state's officials in the provinces. The possible uses of this information went beyond facilitating the minting operations; and it was during the reign of Augustus that its potential as an aid to imperial planning and budgeting was first recognized. This represents an exception to the normally passive role of the emperor in not actively seeking information. The *Res Gestae* together with the literary references indicate a wide range of financial information over a prolonged period of time, suggesting that its purpose included planning and decision-making, particularly when one considers its closeness to the executive authority of the emperor. There is evidence in the role of the *a rationibus* under subsequent emperors, and from literature, that these accounts were continued beyond Augustus' lifetime.

The emperor had strong personal motivation to exercise budgetary control over public spending owing to the inadequacy of public revenues, which required him to provide large subsidies. The dependency on the emperor was increased by the absence of government borrowings. Increasingly his personal finances became intertwined with those of the state. This was apparent in the government office of *a rationibus* which evolved out of the management of the emperor's private estate. It follows that although the scope of the accounts supports the proposition that they were used for financial control, the impetus for keeping those accounts originally came from the emperor's public expenditure commitments and the need for the state to make payments. This suggests that financial control may have been encouraged by the financial planning that arose out of the exigencies of funding public expenditure; and in this way these two aspects of monetary policy can be reconciled.

The main way forward for research lies in the coins themselves. Analysis of quantities, composition and geographical distribution provides evidence of the adjustments to the coins' relative weight and content, decisions on when and how much to mint, and the extent to which the currency system was enclosed, all of which have been put forward by previous authors as indicators of financial control. Inevitably the evidence is incomplete owing to the haphazard nature of the coin-survivals. The evidence is still being augmented by the discovery of new finds and the publication of old ones. Studies from alternative perspectives, such as the present one, are useful because they compli-

ment the incomplete evidence from coins. The process can work the other way, however. In this respect, the major inference to be drawn from this article is that financial control, which depended on planning, is likely to have become more developed under Augustus and his successors than before, because it was Augustus who initiated systematic planning information. Coin-research in this direction could help confirm or deny the role of accounting as a facilitator of financial control.

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