“FROM MINTS TO MARKETS: THE MECHANISMS OF COIN TRANSFORMATION IN ANCIENT TIMES”

Journée d’étude internationale organisée le 13 juin 2008
à la Bibliothèque royale de Belgique


Suivant le projet annoncé de tenir désormais une réunion internationale de ce type tous les trois ans, une seconde journée d’étude s’est tenue au Cabinet des Médailles le vendredi 13 juin 2008 sur le thème «From mints to markets: the mechanisms of coin transformation in ancient times». Ce thème est une nouvelle illustration d’un parti pris auquel nous tenons: choisir des sujets proprement historiques et les traiter sur la longue durée.

Les études numismatiques ont considérablement amélioré notre connaissance de la production monétaire dans l’antiquité gréco-romaine, prise ici de c. 600 av. J.-C. jusqu’à c. 400 ap. J.-C. Des centaines d’études de coins, des dizaines de monographies permettent de mieux répondre aux questions de la date et de l’importance des monnayages émis, avec une prédilection particulière pour les émissions d’or et d’argent. D’un autre côté, les fouilles archéologiques ont généré un riche matériel monétaire tout autour de la mer Méditerranée, dont une bonne partie a été publiée. C’est le bronze ici qui prévaut. Les monnaies d’or et d’argent y sont en moyenne représentées par moins d’un pourcent.

Cette conférence s’est donnée pour but d’articuler ces deux types de données en se posant la question: qu’est-ce qu’un légionnaire romain ou un mercenaire hellénistique faisait de sa paie en monnaies d’or et d’argent? Il est très probable qu’ils furent rapides à dépenser une bonne partie de leurs salaires. Mais par quels canaux la grosse monnaie d’or et d’argent, impropre à régler les transactions quotidiennes, s’est-elle transformée dans ces monnaies de bronzes que l’archéologie découvre aujourd’hui?

Neuf conférenciers furent invités à en débattre, dont on retrouvera ci-après les textes pour huit d’entre eux. C’est un plaisir pour nous de remercier les institutions et les personnes qui ont facilité la tenue d’un tel événement scientifique: la Bibliothèque royale de Belgique qui a financé cette
journée en mettant, entre autres, la belle salle Lucien de Hirsch à notre disposition. Que son Directeur général, M. Patrick Lefèvre, qui a tenu à accueillir personnellement les participants, en soit vivement remercié. Notre gratitude va également à la Politique Scientifique Fédérale, à son Président, M. Philippe Mettens, et à M. Pierre Demoitié, qui ont accordé un généreux subside pour la tenue de cette manifestation. Enfin, nous sommes redevables à nouveau envers la Société royale de Numismatique de Belgique d’avoir bien voulu accueillir le fruit de ces réflexions au sein de la Revue belge de Numismatique.

François de Callatay* et Johan van Heesch**

* François de Callatay, Cabinet des Médailles, Bibliothèque royale de Belgique, Boulevard de l’Empereur 4, B-1000 Bruxelles. E-mail: callatay@kbr.be.
** Johan van Heesch, Penningkabinet van de Koninklijke Bibliotheek van België, Keizerslaan 4, B-1000 Brussel. E-mail: Johan.vanheesch@kbr.be.
FROM THE TAX-PAYER TO THE ROMAN TREASURY:
THREE CASE STUDIES

Abstract: The aim of this paper is to shed some light on the problem of how monetary taxes were collected in a rural economy which was only partially mon- etized. Although there is some evidence for landowners paying the land tax in coin, we must always reckon with the possible existence of various conversion mechanisms which made it possible for taxes in kind to be converted into cash or for taxes collected in small denominations to be changed into higher-value coins. It follows from this that the coins which ended up in the coffers of the central or provincial Roman government were not necessarily the same as those circulating in the countryside. At the same time the three case studies carried out in this paper strongly suggest that substantial amounts of coined money circulated in many rural districts of the Roman empire, even in late Antiquity.

In this paper I want to look at the enormous topic of monetary circulation from the narrow perspective of taxation. The relationship between the collection of monetary taxes and the existence of a monetized econ- omy is complex. One of the most notorious problems in this field is that it is extremely difficult to disentangle cause and effect. In many publica- tions on ancient, medieval and early-modern history it is argued that the imposition of monetary taxes stimulated the emergence of a monetized economy because it forced tax-payers, especially peasants, to sell considerable amounts of produce on the market. In many cases, however, it is possible to argue that, instead of stimulating the development of a monetized economy, the collection of taxes in the form of coin actually presupposed the existence of such an economy. Against the well-known theories of Keith Hopkins it has been pointed out, for instance, that those provinces which seem to have been taxed in money under the Principate already had heavily monetized economies under the Republic. The classic instance is the Roman province of Asia. Of course the arrival of the

* Prof. Luuk de Ligt, Universiteit Leiden, Faculteit der Letteren, Postbus 9515, NL-2300 RA Leiden (Netherlands). E-mail: L.de.Ligt@hum.leidenuniv.nl.


Romans meant that large amounts of tax money were now spent outside the province. It does not follow, however, that the imposition of Roman rule resulted in a switch from taxation in kind to taxation in money.3

Even if we ignore the problem of whether and why some provincial economies in the Hellenistic East became more monetized in Roman times than they had been before, and simply concentrate on the collection of taxes under the Empire, it remains very difficult to reach any meaningful conclusions concerning the methods used to collect taxes in the countryside and concerning the economic background against which the fiscal system operated. In this paper I want to make a small contribution to this line of research by briefly presenting three case studies, two on early-imperial Asia Minor and one on fourth-century Egypt.

Before proceeding with my two Asian case studies I want to say a few words about the development of the tax-system of late-Hellenistic and early-imperial Asia Minor. As is well known, the Hellenistic land tax in western and south-western Asia Minor took the form of a dekatê, a tenth of the crop.4 When the Romans arrived in Asia, they took over this system but also entrusted its collection to tax-farmers (publicani). From a variety of sources it appears that, instead of collecting the land tax themselves, these tax-farmers concluded agreements with individual towns, which promised to pay sums of money.5 There are no indications that the publicani received taxes in kind,6 except perhaps in some extra-territorial districts which were, by definition, not controlled by towns.

Although these broad outlines are relatively uncontroversial, it remains obscure how the tax system of the province functioned at the level of individual farmsteads and villages. Does the fact that the towns of the

3 We also hear about monetary taxes being levied in Pannonia (R.P. Duncan Jones, op. cit. [n. 2], p. 188). Did such taxes stimulate the emergence of a monetary economy in the countryside (as assumed by D.W. Rathbone, The Imperial Finances, in A. Bowman (ed.), The Cambridge Ancient History, vol. X, Cambridge, 1996, p. 312) or were they imposed only after the rural economy had been partially monetized as a result of expenditure by and on behalf of the frontier armies? Cf. also C. Katsari, The Monetization of Rome’s Frontier Provinces, in W.V. Harris (ed.), The Monetary Systems of the Greeks and Romans, Oxford, 2008, p. 242-266, for the interesting suggestion that the level of monetization achieved in the Danubian provinces and in the frontier areas of Syria seem to have been determined mainly by the level of urbanization rather than by the presence of frontier troops per se.


province of Asia discharged their obligations in coin imply that peasants and landowners also paid the land tax in a monetary form? And what were the implications of Caesar’s decision to take away the collection of the direct taxes of Asia from the tax-farming companies and to make the towns themselves responsible for their collection?

Of course these questions are more easily asked than answered. Nonetheless there are some snippets of epigraphic information which illuminate the operation of the Roman tax system in western Asia Minor in imperial times. One of these snippets is a passage in the “Will of Epikrates,” which was inscribed in the first or second century AD. The will contains a set of provisions concerning a funerary foundation set up with the aim of maintaining the tomb of the testator and the hero-cult established in honor of his father. One of these provisions runs as follows:

Ὑπὲρ ὧν χωρῶν ψειλῶν καὶ ἐνδένδρων καὶ τῶν προγεγραμμένων πάντων καὶ συνκαθωσιωμένων τῷ μνημείῳ δόσει ἐπ’ ἕκαστῳ εἷς φιλακτόν ὑπὸ ὑπάρχοντος δοκει συνκαθημένη καὶ νειμόμενης καὶ τὴν ἐξ αὐτῶν πρὸς μνήμην δώσει ἐπὶ τῷ ἐνιαυτῷ ἁπλῆς ὀυκίας ὁ διακατέχων καὶ νεμόμενος καὶ τὴν ἐξ αὐτῶν πρόσοδον βαστάζων δραχμὰς δέκα δύο εἰς Νάκρασον...

“For these plots, that is the treeless ones and those with trees and vineyards on them, and for everything else that has been mentioned as having been dedicated alongside the tomb, the person who holds and possesses them and receives the revenue accruing from them is to pay Nakrason the annual sum of 12 drachms for each uncia for the provincial treasury” (lines 21-25).

According to Duncan-Jones this passage refers to a money-tax being due “on a small portion of a vineyard”, but this reading is certainly incorrect. As we have just seen, the text refers not only to vines but also to other trees and to chôrai psilai. As the first editors observed, the latter term must be understood as referring to all “land without trees”, such as grain land. All these types of land seem to have been taxed at a rate of 12 denarii per uncia, that is to say, if the term uncia denotes a unit of land in this inscription.

At first sight this is a surprising finding, if only because different types of land are known to have been taxed at different rates in other parts of the empire. One thinks not only of Egypt but also of Pannonia where a distinction was made between as many as seven types of land, varying from first-class arable land to pasture land, each of which was taxed “in

8 R.P. Duncan-Jones, op. cit. [n. 2], p. 83.
9 P. Herrmann & K.Z. Polatkan, op. cit. [n. 7], p. 25.
relation to the degree of fertility” (ad modum ubertatis). There is, however, also good evidence for the application of a totally different system of taxation in which variations in land use and fertility were ignored. One example comes from fourth-century Italy where landowners had to pay a fixed amount of tax for each *millena*, a land unit equivalent to 12 ½ *iugera*. In addition to this there is the case of late-Roman Africa where taxes were levied at a fixed rate per *centuria*, a unit comprising 200 *iugera*. In my view this last example may well be the key to the enigmatic *uncia* of Nakrason, since a tax rate of 12 *denarii* make good sense if we interpret the term *uncia* as referring to one twelfth of a *centuria* or 16.7 *iugera*.

Of course the “Will of Epikrates” is in line with the usual interpretation of Caesar’s tax reform, which made the cities of Asia responsible for the collection of the land tax. As the text demonstrates, landowners of this particular town paid the land tax to the city, which in its turn discharged its obligations towards the *fiscus*. Interestingly, the landowner is also expected to pay cash. Of course there is a theoretical possibility that the peasants actually working the land paid rents in kind but the existence of a uniform monetary tax rate per unit area makes this unlikely. It looks therefore as if in this part of Asia Minor taxation took a monetary form even at the level of individual farms. It must, however, be emphasized that this finding cannot be generalized to other parts of the province. The obvious reason for this is that, precisely because the obligation to collect the land tax rested on the individual cities of Asia, they were free to institute any system of their own choosing. A fairly large degree of variation is therefore to be expected.

The second text I want to discuss comes from an anonymous village in the province of Lycia. In view of the importance of this text, which was published in 1997, it has received surprisingly little attention. For our purposes the most interesting part of this document is a brief survey of the revenues from the grain tax, the *seitikê apomoira*, in the collection of which the village community appears to have played a mediating role. In the survey three different terms are used to denote this tax. One of these is the expression *seitike dekatê*. This points to a Hellenistic origin and also suggests that there was a time when this tax was paid in kind. Perhaps the peasants belonging to the village still discharged their tax obligations

10 Hyginus in *Corpus agrimensorum Romanorum*, p. 168 Thulin (= p. 205 Lachmann).
13 App., BC, 5.4; Cassius Dio, 42.6; Plut., *Caes.*, 48; Strabo, 10.485 and 14.657.
14 SEG 47, 1806, briefly mentioned by H.W. PLEKET, *art. cit.* [n. 4], p. 120-121.
in this form. Interestingly, however, it appears that after the village community had discharged its obligations towards the urban tax-collector, the *eikosapròtos*, it was left with a surplus of 550 *denarii*. In other words, even if the peasants and landowners of this village paid taxes in kind, the village was clearly expected to pay money. We must conclude either that the local inhabitants were in the habit of paying the *dekatê* in money (like the landowners of Nakrason) or that some mechanism for the conversion of taxes in kind into money existed at the level of the village. In either case the villagers, or at least the village community as a whole, was involved in a commercial and money-using economy.

It will be clear that these examples are in harmony with the traditional view that in the early-imperial period the governors of Asia and those of at least some other provinces in the East expected to receive the land tax in monetary form. Unfortunately, we do not know what happened to the tax money after it had reached the coffers of the provincial *aerarium*. Thanks to some literary snippets concerning the period immediately following Caesar’s death we know that large amounts of tax money were sometimes shipped to Italy. Unfortunately, however, there is very little evidence for the Empire. The most important exception is a passage in the Neronian customs law from Ephesos, which declares all shipments of money by or on behalf of the Roman people to be exempt from customs duties. This provision suggests that considerable amounts of money continued to be shipped to Italy or perhaps to other tax-consuming parts of the Empire.

These brief remarks refer only to direct taxation under the Empire. In the case of the Asian *portoria* a completely different system was used. As the tax law from Ephesos reveals, these continued to be farmed out to tax-farmers who leased the right to collect them from the *aerarium Saturni* in Rome. The inescapable conclusion is that the money in question had to be paid in the capital of the Empire. How the tax-farmers transferred their money to Italy we do not know. What is clear, however, is that this arrangement relieved the central Roman government of the risk

15 B II, 57-62.
17 L. De Ligt, art. cit. [n. 5].
18 SEG 39, 1180, *passim*.
19 SEG 39, 1180, lines 58-61.
involved in transporting large sums of cash over long distances. In my view this was one of the reasons why the republican practice of farming out the Asian *portoria* was maintained for a very long time.\(^{20}\)

In other words, if we look at the tax system of early-imperial Asia as a whole, we find that some tax money was spent in Asia.\(^ {21}\) There is also evidence for tax-money being shipped either to neighbouring provinces or to Italy. Finally, Asian tax money could be made available in Italy by entrusting its collection to tax-farmers who had to discharge their obligations in Rome. Unfortunately the relative importance of these three options cannot be determined.

My third case study comes from another part of the Empire, and also from a later period, namely from the Egyptian town of Oxyrhynchus in the 360s AD. As so often, the Egyptian papyri provide us with detailed information which is not available for other parts of the Empire. In this specific case some tantalizing insights into the late-antique system of tax collection are provided by the archive or dossier of Papnouthis and Dorotheos. This archive is discussed briefly in Bagnall’s book on late-Roman Egypt but has never been studied in detail.\(^ {22}\)

Let me start with the observation that both under the Principate and in the late Empire most direct taxes in Egypt were collected in kind.\(^ {23}\) There were, however, some notable exceptions, such as the monetary taxes on vineyards and olive groves.\(^ {24}\) In the late Empire some new monetary taxes were added, such as the well-known *aurum tironicum*, which was used, or at least supposed to be used, to pay recruits for the army. From the dossier of Papnouthis and Dorotheos it appears that they were involved in the collection of this tax (and of other taxes) as “assistants” (*boêthoi*) of one of the *praepositi pagi* of the district of Oxyrhynchus.

One of the documents in the dossier is a letter from Papnouthis, who is writing to his brother in the countryside.\(^ {25}\) Papnouthis needs money


\(^ {22}\) R.S. Bagnall, *Egypt in Late Antiquity*, Princeton, 1993, p. 76-77. I am grateful to my colleague Klaas Worp for assisting me in the interpretation of this important set of documents. One of my students, Sander Boek, plans to carry out further research on this dossier and on the balance between monetary taxes and taxes in kind in late-Roman Egypt.


\(^ {25}\) *POxy* 3397.
to pay certain “workers,” and he is also under pressure from the “receivers” (apaitetài) working on behalf of the provincial government. In line 22 he writes that he is “locked in” because of the chryson tês arouratiônos, “the gold for the arouratio.” Although the nature of this tax cannot be determined with absolute certainty, it seems likely that the term arouratio refers to the Egyptian equivalent of the late-Roman land tax, which is occasionally referred to as iugatio in the legal sources. Because he is in urgent need of cash, Papnouthis urges his brother to send either the money already collected or the kômarchai responsible for the collection of the tax from the villagers.

But exactly how was this tax collected? From the letter just quoted it is clear that Papnouthis and Dorotheos were expected to pay the apaitetài in gold. But does this mean that the villagers or at least the kômarchai were also expected to discharge their obligations in gold? Fortunately, the dossier contains another letter which sheds some light on this problem. This time Dorotheos is writing to Papnouthis in connection with the exchange rate of the solidus. It appears that he has found a money-trader from Alexandria who is willing to sell solidi at a rate of 13,500,000 denarii. Apparently, Dorotheos thinks this is a good bargain. As he explains, there are rumors about the aurum tironicum as a result of which many people are looking for solidi. For this reason the price of the solidus in terms of denarii is going up.

This second letter helps us to see how monetary taxes were collected at a local level. As we have seen, Papnouthis and Dorotheos had to discharge their obligations towards the apaitetài in gold. It appears, however, that at the level of the village the aurum tironicum was paid in very small denominations. In order to be able to meet their obligations, Papnouthis and Dorotheos therefore had to convert the billon coins they had collected from the komarchs into solidi. For this they relied on the services of professional money-dealers.

These arrangements shed an interesting light on the circulation of different types of coin in fourth-century Egypt. One important lesson to be learned is that the existence of a variety of conversion mechanisms made it possible for the Roman government to collect taxes in gold coin in a rural economy in which very few gold coins seem to have circulated. It also appears, however, that it would be completely wrong to interpret the dearth of very high-value coins in the countryside as an indication that coined money played no role of any significance in the rural economy of late-Roman Egypt. As we have seen, the system used for the collection of

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26 A.H.M. Jones, *Capitatio and iugatio* (orig. 1957), repr. in Id., *The Roman Economy. Studies in Ancient Economic and Administrative History*, Oxford, 1974, p. 280-292. Cf. Id., *op. cit.* [n. 11], for the fact that the iugum system was never introduced in Egypt, the assessment being based on the traditional aroura of arable and vineyard.

the *aurum tironicum* was based on the assumption that the rural population was able to discharge some of its tax obligations in small change. This points to the existence of a mixed economy in which the use of money, including money in the form of coins, played a considerable role.\(^\text{28}\)

It is time to pull the threads of this short article together. I have argued that in the early Empire at least some landowners in the province of Asia were in the habit of paying the land tax in money. In the specific case of Nakrason there are even indications to suggest that *all* landowners were expected to pay taxes in the form of coin. In about the same period a village in the province of Lycia also discharged its obligations in respect of the grain tithe in cash. In this case the epigraphic evidence is at least compatible with the idea that the villagers discharged their tax obligations in kind, although it must be emphasized that strictly speaking the use of the term *seitikê dekatê* does not prove this theory to be correct.

The most important lesson to be learned from these examples is that in studying the relationship between taxation and the circulation of coin we must always reckon with the existence of various conversion mechanisms which made it possible to raise monetary taxes in an economy large sectors of which were only partially monetized. As we have seen, the Roman government could entrust the task of collecting taxes, both in money and in kind, to tax-farmers who were required to pay cash.\(^\text{29}\)

Under the Republic the tax-farmers of Asia further delegated the collection of the land tax to the cities with which they concluded their *pactiones*. The cities of Asia continued to perform this mediating role after they had become directly responsible to the provincial government. A further layer is documented for the early Empire when we hear about villages being required to discharge their obligations in respect of the land tax in coin.\(^\text{28}\) Of course this observation is compatible with the view that the rural population of late-Roman Egypt paid *most* of its rents and taxes in kind, as had been the case in the early Empire. See e.g. R.P. Duncan Jones, *op. cit.* [n. 2], p. 189; W.V. Harris, *art. cit.* [n. 23], p. 17; P. van Minnen, *Money and Credit in Roman Egypt*, in W.V. Harris, *op. cit.* [n. 3], p. 229-230. In my view the commutation of most deliveries in kind to gold in the late fourth and early fifth century AD (e.g. A.H.M. Jones, *op. cit.* [n. 11], p. 460; J. Bansal, *Agrarian Change in Late Antiquity. Gold, Labour and Aristocratic Dominance*, Oxford, 2001, p. 60-66) does not imply that the majority of the rural population discharged most of its tax obligations in cash. For the overwhelming importance of rents in kind throughout the late-Roman empire see D. Vera, *Forme e funzioni della rendita fondiaria nella tarda antichità*, in A. Giardina (ed.), *Società romana e impero tardoantico*, Roma, 1986, p. 367-447.

\(^{29}\) Of course it was also possible for the central Roman government to ship taxes in kind to Rome and to convert them into cash by selling them to merchants or bakers. See my review of J. Andréau, P. Brilant & R. Descat, *Économie antique. Les échanges dans l’Antiquité: le rôle de l’état*, Saint-Bertrand-de-Comminges, 1994, in *Klio*, 79, 1997, p. 515-518. This idea has been taken up and further developed by P. Erdkamp, *The Grain Market in the Roman Empire. A Social, Political and Economic Study*, Cambridge, 2005, p. 249-255.
tax in cash. Finally we also read about tax-collectors collecting taxes in small coins and about money-dealers who helped them to convert these coins into larger denominations.

The existence of these conversion mechanisms implies, by definition, that the coins which ended up in the coffers of the central government were not necessarily the same as those circulating in the countryside. On the other hand the arrangements which are attested for early-imperial Nakrason and late-antique Egypt could not have worked if coined money was not widely used in the rural economy of the areas concerned. At the very least the rural economies of these areas must have been mixed economies in which the use of coined money played an important role alongside payments in kind and barter transactions.  

30 Of course we have to reckon not only with a variety of conversion mechanisms but also with the existence of credit arrangements by means of which the monetization of the rural economy could be extended beyond the limit of the quantity of coin in circulation. See e.g. W.V. Harris, *art. cit.* [p. 23], p. 14.