

Aiginetan mina (Thuc. VIII 99). However, temporary political conditions triggered the particular attractiveness of the Chian standard.

Shortly after the Peloponnesian War some towns on the mainland and islands along the coast of the Eastern Mediterranean produced a common coinage marked with the letters ΣΥΝ ('[coin] of the *syn[machoi]* (allies)'). The obverse had a common design – Heracles strangling snakes and the letters ΣΥΝ – but on the reverse each city chose its own type. The coinage was probably the result of a brief alliance formed under the command of the Spartan admiral Lysander at the end of the Peloponnesian War. The weight of the stater was carefully chosen, for it was equal to three Chian drachmas as well as two Persian sigloi. Apparently the coinage was intended to be compatible in both adjacent systems. Yet it also reflected and affected the new importance of the Chian weight standard. Before the federal coinage, the Chian standard had been current only locally in Chios, Ephesus and Rhodes. Immediately after the minting of the alliance coinage it was adopted by Cos, Caria, Smyrna, Colophon, Iasos and Idyma, Aenone and Thasos. By 375 Abydos, Miletus, Assos, Tenedos, Erythrai and the Persian satrapies joined in; twenty-five years later it had been adopted by the Achaemenid royal mint. Of the over 1,000 coins which have been found in hoards deposited in Halikarnassos c. 341/0 BC, all were struck on the Chian standard.

Apart from making the Chian standard more popular, the temporary alliance coinage marks a turning point in the way ancient cities resolved the tension between local and regional identities in terms of coinages. For the first time the alliance coinage was a locally produced coinage, allowing for some local identification with the stamp on the reverse, while transcending local meaning and function by a common type and by its deliberate compatibility with more than one weight standard. The alliance coinage, moreover, was among the first that were produced in combination with civic coinages in the same city; the cities that issued the federal coinage retained their home issues. These civic issues were not even linked to the federal coinage by a shared denominational structure, but circulated independently in what must have been a two-currency system in the cities in which they were produced. In the fifth century, some towns had produced small change while using a more powerful coinage as inter-regional currency. Now, however, even larger communities (such as Rhodes) combined their local with an inter-regional coinage. By the mid-fourth century BC

⁴⁷ Examples are known from Cyzicus, Ephesus, Samos, Cnidus and Rhodes; see Meadows (unpublished) also for the following; the material and examples can be found in CH 9 co-edited by the same author.

Philip II adopted Attic-standard coinage for external transactions, while local Macedonian mints continued to produce coinages on various local standards for internal purposes. Such bi-monetarism, which became the pattern in the Eastern Mediterranean from the fourth century onwards until well into the Roman period, reflects two important developments. Firstly, local monetary networks based on small civic coinages and weight standards continued to exist side by side with inter-regional networks connected through a top currency. Secondly, inter-regional transactions, whether commercial or political in nature, were increasingly conducted by means of such top currencies that were either related to the power of one state, or had some inter-regional political meaning. Examples of the former are the coinage of the Athenians and the denarius of the Romans; an example of the latter is the posthumous Alexander coinages that were minted in all Hellenistic kingdoms except Egypt after the death of Alexander.

CHANGING POLITICS AND CHANGING CURRENCIES

The fourth century saw the transformation of the Greek world from one dominated by independent *poleis* into a conglomeration of leagues and empires. Although civic identities were strongly defended and maintained, autonomy had become more precarious and beyond the control of civic governments. The decline in political autonomy of Greek *poleis* created favourable conditions for the circulation of money and the expansion of monetary networks. In addition, new cities and mints were founded by Alexander the Great, creating new places of production as well as use of the powerful Macedonian coinage. Still, the ease with which Alexander's coinage by the end of the fourth century took over the role of an international currency needs explanation. The power of Macedonia is only one factor. Others were the wise decision of Philip II to adopt the Attic standard for his coinage, which made it compatible with the currency with which it competed most. Yet another factor was the great mobility of Greek troops, mercenaries and, eventually, civilians who created close-knit ethnic subgroups in the countries of conquest. The Hellenistic period also witnessed new degrees of monetization as a result of new degrees of monetary taxation, urbanization, mercenary warfare and access to new precious-metal resources.⁴⁸ The amount of silver captured by Alexander from the Persian treasury between 333 and 330 BC is said to have been worth 180,000 talents

⁴⁸ Von Reden (2007b).

of silver. To give an idea of the scale of this figure, it would have provided metal for 300 years of the estimated annual Athenian production of tetradrachms in the fifth century, which already had been comparatively large. Not all of this treasure was minted into coin; but its impact on coin production – constrained as that was by precious-metal resources – must have been massive.⁴⁹

Let us digress briefly in order to look further at the scale of the change. It has been calculated on the basis of extant obverse dies that between 332 and 290 BC 240,000 tetradrachms of Alexander coinage were struck – with minor coinages, denominations below the tetradrachm and previous issues adding to that stock.⁵⁰ The annual revenue of Ptolemy II in Egypt was thought to have reached almost 90 million drachmas of silver (14,800 talents) and 1.5 million artabas of grain (*Jer. Comm. To Dan.* 11.5). The grain revenue is estimated by modern scholars closer to six million artabas, equivalent to a monetary value of roughly 20–30 million drachmas of money, while for the cash income even larger figures could be imagined in antiquity.⁵¹ By comparison, the annual income of Athens from the entire Delian League is quoted by Thucydides as 6,000 talents (36 million drachmas) by the beginning of the Peloponnesian War (*Thuc.* 2.13.3).⁵² Xenophon (*Anab.* 7.1.27) gives Athens' total external and internal revenue at the beginning of the war as 6 million drachmas (1,000 talents), which has been regarded as 'plausible as an approximation'.⁵³ Moreover, the income from the 2 per cent harbour tax (*pentekoste*) in second-century Delos, which from 314 BC onwards had taken over the role of Athens as the major port of trade in the Aegean, amounted to some one million drachmas (*c.* 170 talents) in the first quarter of the second century BC (*Polyb.* 30.31.12). This was equivalent to a monetary value of trade passing through Delos of about 50 million drachmas (*c.* 8,300 talents). The comparable income from the *pentekoste* in late fifth-century Athens was a mere 186,000 drachmas (*And.* 1.133), equivalent to a trade volume of 9.3 million drachmas (*c.* 1,550 talents). An impression of the increasing volume of money in circulation can also be gleaned from the wealth of bankers in the Hellenistic period (discussed

⁴⁹ Howgego (1995): 50 with de Callatay (1989).

⁵⁰ De Callatay (2003): 87. De Callatay adopts a fairly positive view about the possibility of calculating coin production on the basis of extant dies. For the controversy, see the bibliography in von Reden (2002), n. 46.

⁵¹ App. *Praef.* 10 (740,000 talents); Strab. 17.1.13 (12,500 talents under Ptolemy XII); Diod. 17.52.6 (6,000 talents); Manning (2007): 454–5 for a discussion of these figures.

⁵² Thus also Plut. *Arist.* 24.4. Diod. 12.40.1 gives 460 talents, which Thucydides quotes (probably mistakenly) as income at the beginning of the League (Rhodes (1988) *ad Thuc.* 2.13.3 for further discussion).

⁵³ Rhodes (1988) *ad Thuc.* 2.13.3.



Figure 4: Posthumous Alexander tetradrachm of the late fourth century BC issued in Miletus

in more detail below, chapter 4). The banking business at Delos flourished in the third and second centuries BC. Bankers appear among the wealthiest benefactors of the cities and were given great honours. Philostratos, a native of Ascalon and banker in Delos around the middle of the second century BC, was among those residents who subscribed towards the building of a theatre. He offered two altars in the sanctuary of the gods at Ascalon and dedicated the northern portico and adjoining exedra in the agora of the Italians. In turn he was honoured with at least four statues.⁵⁴ The Athenian banker Pasion in the fourth century, too, had been very rich, but no more than one banker of his standing is known for the entire classical period.

To return to Hellenistic coins, not only the weight standard but also Alexander's portrait proved so popular that it continued to be produced on coins after his death. The so-called posthumous Alexander coinages did not have standard types, but as a rule bore Alexander's portrait on one side. Some kings started to mint it in Alexander's name, others in their own. Cities added civic symbols to the field or dated each issue. Of posthumous Alexander coinages 4,000 varieties are known to date, but all are recognizably comparable in design and imagery.

Later kings replaced Alexander's portrait with their own, but maintained the weight standard and general layout so as to facilitate their interchangeability. The posthumous Alexander coinage, though locally produced both in civic and royal mints, represented an inter-regional currency that symbolized a new form of trans-local Greek identity and at the same time created a new degree of monetary consolidation in a time of shifting power relationships and boundaries.⁵⁵ It was imitated in Scythia and Arabia where

⁵⁴ Andreau (1999): 49, with further examples. ⁵⁵ Price (1991): 79.

tribes had a demand for 'good money' without being able to get hold of it in sufficient quantities by means of circulation.⁵⁶

The importance of weight standard for the formation of monetary networks is once again borne out by the fact that Attic-weight coins circulated alongside the posthumous Alexander coinages, while those of other standards did not. The Seleucids tolerated Attic coinages in their sphere of influence, but those of a different weight standard, such as Ptolemaic and Rhodian coinage, are not found there.⁵⁷ Outside the Seleucid kingdom too, the Attic standard dominated coin production. In Syria, Macedonia and the smaller kingdoms of Asia Minor it was continuously used until the end of their dynastic histories. Most cities in Greece and Asia Minor adopted it for their civic and royal coinages. The economic power of Attic standard coins is illustrated impressively by the large number of Hellenistic coin hoards which are of very mixed composition, but contain exclusively coins of Attic weight.⁵⁸

The posthumous Alexander coinage, in combination with the dominance of the Attic standard, created an unprecedented degree of monetary cohesion in a Greek world now spanning from the Eastern empires into the west. Other weight systems had a more limited circulation pattern. The Chian standard survived along the Western coast of Asia Minor, in the Aegean islands, and on Rhodes.⁵⁹ The Aeginetan standard continued to be used in various coinages of Central Greece, the Peloponnese and Crete during the early Hellenistic period. The weight system of the Persian *siglos* was used by Byzantium and other mints in the Propontis, and was adopted occasionally by Phaselis in Lycia and Aspendus in Pamphylia. In the Western Mediterranean the monetary system was dominated by Syracuse and the Greek cities in Southern Italy that now used the Attic weight system. The Carthaginians, controlling the Western Mediterranean economically and politically until the second half of the third century, had a weak monetary tradition and do not seem to have imposed any unified fiscal or monetary structure in their direct sphere of influence in North Africa or Spain.⁶⁰ Nor did Roman coinage at first compete with Greek currencies in the Eastern Mediterranean, despite increasing movement of Roman troops and expanding political influence of the Romans.

The Roman denarius began to spread in Italy, Sicily, Africa and Spain from the end of the Second Punic War (214 BC). Macedonia after the Roman conquest, which led to its division into four regions in 167 BC,

⁵⁶ Mørkholm (1991): 35 f.

⁵⁹ Ashton (2001) for Rhodes.

⁵⁷ Howgego (1995): 52.

⁶⁰ Crawford (1985): 87, 138.

⁵⁸ Mørkholm (1991): 8.

retained monetary autonomy. Yet the coinages of the coin-producing regions, though imitated in adjacent Romania and Bulgaria, did not spread into Greece.⁶¹ The increasing re-fragmentation of the Hellenistic empires in the second century BC led to the fragmentation of currencies as well. The Attalid kingdom with its capital in Pergamon produced a new light-weight coinage, the so-called *kistophoroi*, circulating in a closed-currency system similar to, but much smaller than, that of the Ptolemies.⁶² In Greece the so-called New Style Athenian coinage gained in influence, above all because of its use on Delos which in 167 BC had been made a toll-free harbour by the Romans. In the second half of the second century BC, New Style Athenian coinage was the only inter-regional currency in Greece, but unlike its predecessor it did not spread much beyond the Aegean.⁶³

The re-emergence of regional monetary networks during the long decline of Hellenistic power in the Eastern Mediterranean during the second and first centuries BC once again demonstrates the interplay of local factors with larger political developments. The spread of the posthumous Alexander coinages and the resulting monetary network had been a consequence of Hellenistic empire-building in the late fourth and third centuries. Yet this had no long-term effects.⁶⁴ The dominance of particular currencies had been stimulated by the power and prestige of their issuing authorities, on the one hand, and by fiscal pressure, military needs and the demand of capitals and courts, on the other. Inter-regional monetary networks, however, did not last independently of the imperial structures which had sustained them. In particular, they do not seem to have had the capacity to transform economic behaviour in the long term, as the regional economy of Hellenistic Delos seems to demonstrate.⁶⁵

However, Finley's claim that local coin production and idiosyncratic weight standards prevented economic integration and inter-regional exchange cannot be sustained. Rather than actively preventing economic integration, they were themselves part of economic patterns that could not be transformed simply by monetary policy. The fact that measures such as the Athenian Standards Decree were extremely difficult to implement or, conversely, that territorial 'closed'-currency systems could be maintained only under special political circumstances, shows the resistance of exchange patterns to top-down interference.

⁶¹ Crawford (1985): 128 f.

⁶² See above, chapter I; Le Rider (1989) for the currency system of the Attalids.

⁶³ Mørkholm (1991): 171.

⁶⁴ Meadows (2001) for the continuity of regional exchange networks that seem to have continued to exist even when the political situation changed.

⁶⁵ Reger (1994); (1997); see further below, chapter 5.



Figure 5: Silver denarius issued under the emperor Tiberius

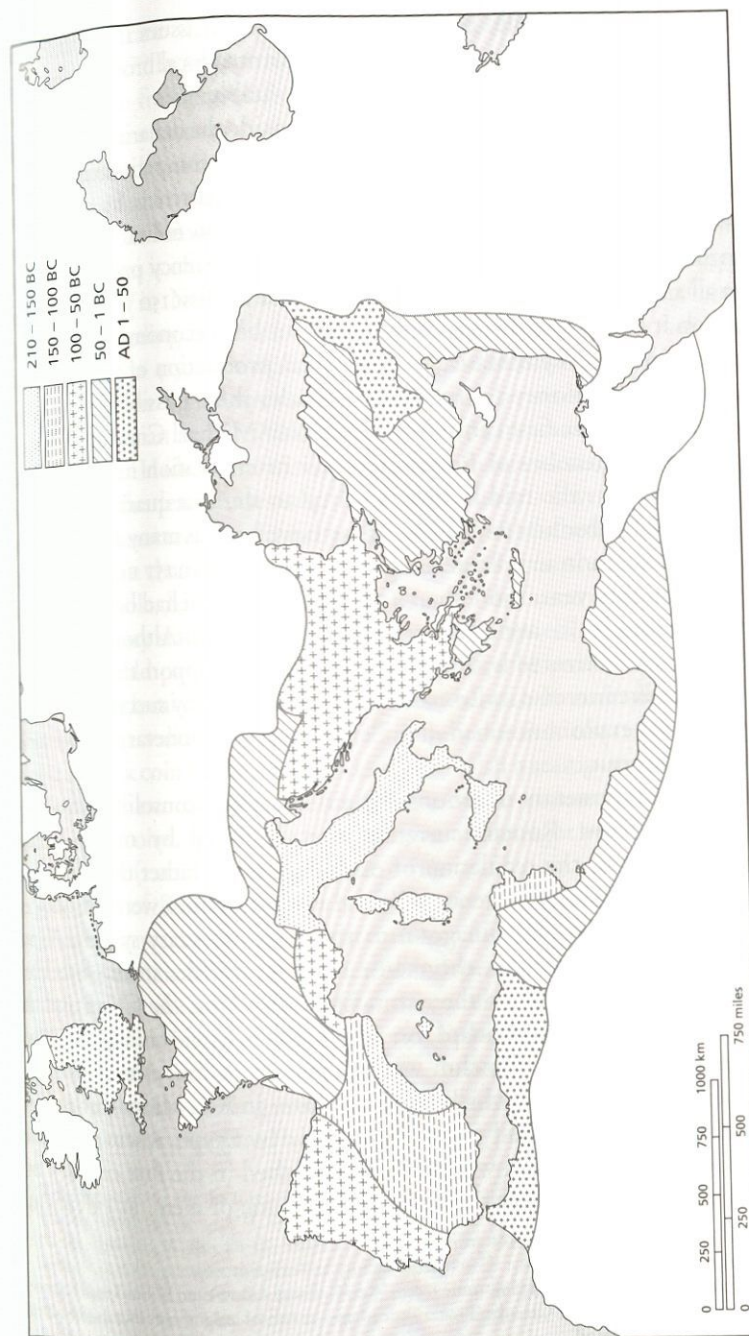
TOWARDS A SINGLE CURRENCY

The monetary consequences of the Roman conquest and annexations in the Eastern and Western Mediterranean are the best evidence for the tension between local dynamics of exchange and imperial power fostering monetary cohesion. At the time of the Severan emperors in the late second century/early third century AD, the Roman historian Cassius Dio has Maecenas advise Augustus: 'Let no one have currency and weights and measures of their own, but let them use ours instead' (Dio 52. 30). If this was an imperative of the imperial policy of Augustus (27 BC–AD 14), or that of the Severan emperors, it had not been so from the beginning of Roman expansion.⁶⁶

In Italy, Sicily, and Africa the Roman silver currency soon was the only precious metal currency after their conquest. Yet in Greece, despite the fact that the Romans became involved here from the end of the third century onwards, Roman silver coinage does not appear before the time of Sulla (80s BC). In Asia Minor, Roman denarii became current around the late first century BC and in Syria from the time of Augustus. In Egypt, the Ptolemaic tetradrachma continued to be the only valid coinage until AD 296. Down to the Julio-Claudian period the *kistophoroi* of Pergamon and Ephesus remained important in Asia Minor, the drachms and didrachms of Caesarea in Cappadocia, and tetradrachms in Antioch.

In other areas, denarii were the dominant currency, but coexisted with local issues. In Spain, Iberian denarii, which had been minted in a large number of local mints from the second century BC onwards, continued to be in use until the time of Augustus. In Western Macedonia, the denarius began to spread slowly, but was supplemented by silver coins of Dyrrhachium and Apollonia. In Gaul, natively produced silver coinages

⁶⁶ For a summary of the following, see the introduction in *RPC*: 2 ff.



Map 6: The spread of the Roman denarius

continued to play a role, as did surviving British issues in Norfolk and Southern Britain. In addition, many cities minted local bronze coinages, a practice which was both prestigious and profitable.⁶⁷

Although other currencies circulated alongside the denarius, by the middle of the first century BC there was no real currency competition any longer. The Roman denarius began to constitute a top currency. Its exceptional role was due to the monetizing dynamics of Roman military movements, tax regulation, increasing imperial control over currency production, and above all a new degree of mining.⁶⁸ Whereas in the first 150 years of Roman expansion it seems to have been impossible for both economic and political reasons to interfere systematically with local production of coins, or centrally to produce money on an imperial scale, these possibilities emerged gradually during the first centuries BC and AD. Michael Crawford has estimated that the number of Roman denarii in circulation increased more than tenfold from the mid-second century to the first quarter of the first century BC.⁶⁹ In absolute terms, there may have been as many as 450 million denarii in circulation in c. 80 BC as against 40 million in 157 BC. This means that within eighty years more than 400 million denarii had been produced at irregular intervals, averaging 50 million per year. Although absolute numbers must be treated with caution, the figures support the impression that the massive increase in Roman wealth generated by successful warfare and provincial exploitation had direct effects on the monetary economy in the Mediterranean.

Where local monetary traditions remained strong, consolidation alongside the dominant Roman currency was achieved by monetary coordination, that is, the regulation of exchange rates, rather than the total suppression of the local currency. Official exchange rates were introduced in order to integrate old coinages into the new monetary system. As we saw in the previous section, the major silver currencies in the late Hellenistic period were based on three standards: the Attic, the Chian and the Ptolemaic. On the Attic standard, on which the Seleucid coinages in Syria were still based, one tetradrachm was equivalent to four denarii. On the lighter Chian standard, to which the *kistophoroi* in Asia Minor came close, a tetradrachm was equalled to three denarii. In Egypt, where the silver content of the tetradrachm was much diminished in the first century BC, 4 drachmas were reckoned at 1.5, and by the time of Nero, at 1 denarius.

⁶⁷ Burnett in Burnett *et al.* (1991).

⁶⁸ Hollander (2005); Katsari (2008).

⁶⁹ Crawford (1969); cf. Hopkins (1980); more recently de Callatay (2005a) and Wilson (2002); (2007), emphasizing the increase in Greenland ice core lead as a result of a significant increase in mining activity during this period.

Whether these rates were applied in practice, or officially prescribed, is not entirely certain.⁷⁰ In the course of the empire, however, these relationships were subject to frequent change and led to a great degree of uncertainty about the value of money in transactions.⁷¹

In payments by and to the state, the denarius was usually the official accounting standard even when payments were made in other currencies.⁷² In some areas we know that reckoning in Roman units (rather than using Roman coins, as is often argued) was enforced by law. Thus an inscription from Thessaly in Northern Greece refers to a directive (*diorthoma*) of Augustus according to which customs and taxes had to be reckoned in denarii (*IG IX.2 415*, ll.52–60).⁷³ Similarly, Germanicus laid down for the customs stations in Palmyra that taxes must be reckoned *pros Italikon assarion* (in Italian asses, *OGIS II 629*, 16 ff.). In a subsequent reissue of that law under Hadrian, however, only larger dues were to be collected *eis denarion* (on the denarius standard), whereas those below the denarius were allowed to be exacted in local *kerma* (*ibid.* ll.153–8). Scholars tend to believe that this meant that local coins were unacceptable in the former case. But it is also possible that *eis denarion* and *pros Italikon assarion* simply referred to the monetary standard on which the tax was levied, whereas in practice tax payers could pay in any coinage, provided they paid an agio on top.⁷⁴ In some areas local coins were countermarked with Roman denominations in order to be valid for payment. This practice is known from Caesarea where a Greek coin has been found marked with a stamp stating its Roman equivalent of two quadrantes. In Chios, where at one time value marks were put on coins, pieces of the same size and weight were inscribed with either obolos (1 obol) or hemiassarion (1/2 as).⁷⁵

The need of Roman emperors to incorporate, rather than extinguish, local monetary systems into their system, can also be inferred from the *kistophoroi* in Asia Minor. At times of independence, this coinage showed on the obverse the sacred chest (*kista*) encircled by a laurel wreath. In the early decades of Augustan rule, however, Ephesus and Pergamon produced *kistophoroi* with imperial iconography. Instead of the chest, coins now showed a portrait of Augustus and the Roman Pax on the reverse. The change may not even have been prompted by imperial directive but could

⁷⁰ Wolters (1999): 373, for the former; Harl (1996): 98, for the latter.

⁷¹ Wolters (1999): 371–4. ⁷² Christiansen (1984).

⁷³ Burnett (2005): 176, also for discussion of the following example. The Ephesian Customs Law, sections 25–6 (Engelmann and Knibbe (1989), AD 62), may refer to a practice of taxing the transportation of coined money across provincial borders, but the evidence is inconclusive.

⁷⁴ Maresch (1996): 121–7; Gara (1976) for agios in Roman Egypt.

⁷⁵ Burnett (1987): 46, for both examples.

represent some kind of voluntary acknowledgement of Roman rule. For the next 150 years, Roman-style *kistophoroi* continued to be minted locally while many other provinces used denarii imported from the Roman mints.

In Egypt, too, local currency was maintained. Since the introduction of the closed currency system under Ptolemy I, the Egyptian tetradrachm had been lighter than the Attic, although a high degree of fineness had been maintained well into the first century despite a perennial shortage of silver.⁷⁶ Ptolemy XIII (73–51 BC), however, took the step of reducing the silver content of the Egyptian coins. By the time of Cleopatra VII (51–30 BC), the tetradrachm contained less than 50 per cent silver. These coins continued to be used in provincial Egypt during the Augustan period. Under Tiberius minting of precious metal tetradrachms was resumed, but their silver content was further reduced and a distinctly imperial design adopted. Egypt occupied an exceptional position in the Roman economy, producing much grain for the capital as well as other parts of the empire but not receiving much of its monetary rewards. The economic exploitation of Egypt had worked for centuries on the basis of a currency that was regulated not by circulation but administrative control. There was no reason for the Romans to change this. On the contrary, they expanded exploitation by maintaining the local currency yet reducing its precious-metal content. Augustus is said to have stripped the capital and temples of their silver resources and prohibited any import of precious metal. By the time of Nero, the Egyptian tetradrachm contained a little more than 50 per cent of the silver of a denarius, but continued to be exchanged at the rate of 1:1.⁷⁷

Coin circulation reached an unprecedented scale as an ever-increasing portion of the Mediterranean came under the control of the Romans and their coinage. But the degree of monetary consolidation that was achieved under the Roman empire cannot lead to the conclusion that the economy of the Roman empire was integrated in terms of market prices and production.⁷⁸ There has been much debate about the question of what economic integration might mean.⁷⁹ There is no unequivocal evidence that there were inter-regional markets for goods, labour, or credit. Even at the level of monetary circulation, the cash flow was interrupted by the limited degree of monetization of some regions where many taxes continued to be collected in kind.⁸⁰ The difficulty of policing an imperial currency across the geographical reach of the empire added further problems for a unified monetary system. The Roman government continually legislated against

⁷⁶ Hazzard (1984). ⁷⁷ Christiansen (1984): 292–6.

⁷⁸ Bang (2008): 93–110; unconvincingly, Kessler and Temin (2008).

⁷⁹ Woolf (1992); Howgego (1994); Wolters (1999). ⁸⁰ Duncan-Jones (1990); Rathbone (1996a).

Monetary networks

counterfeit and adulterated coins produced both privately and officially by local mints.⁸¹ On the one hand, official local counterfeiting shows the demand for Roman coins over and above their supply. On the other, it calls to mind that a tremendous amount of administrative energy and regulation is required to maintain a trustworthy currency.

A unified currency facilitated the collection of taxes and, in principle, benefited the flow of coins between Rome and the provinces. But arguably, imperial finance remained decentralized, with most taxes being spent where they were raised.⁸² Moreover, local economies were to a large degree based on bronze coinages which were locally produced and accepted only in the area of their production. It has proved difficult to derive a general pattern of coin circulation from the composition of surviving hoards, but some consensus is emerging that, despite the existence of an imperial currency, the predominant circulation pattern of bronze and silver coins was regional rather than inter-regional. The monetary network that was created by the denarius in the first 250 years of Roman rule will have had effects on the economy of the Roman government itself, and on the 'private' economy of those who benefited from public infrastructures and communication lines. Yet it remains open to further discussion whether the Roman currency network was able to transform the Roman economy into a market economy with an empire-wide consolidation of prices affecting local patterns of production and consumption.⁸³

⁸¹ *Dig.* 48, 13, 1; Wolters (1999): 365–7.

⁸² Rathbone (1996a); Wolters (1999): 233 f.; against Hopkins (1980).

⁸³ Thus most recently Kessler and Temin (2008); see further, chapter 6.