# 2 | Developments in the Early Imperial Italian Economy

The wealth distribution that will be reconstructed in this study is a synchronic model. It represents the 'average' wealth distribution (with respect to time) for a period of almost three centuries. The reason that such a broad chronological scope has been chosen is the availability of evidence. There is simply not enough evidence from any shorter period. Choosing this chronological scope is however not to claim that the Italian economy was static in this period. On the contrary, the economy of the empire's heartland went through several important developments in this period. This chapter assesses the development of two aspects of the Italian economy during the Early Empire: overall economic performance and the level of wealth inequality. Both of these developments affected the distribution of top wealth significantly.

Several major landmarks in the study of the Roman economy were produced over the last seventy years.[1] Only a few of these works stand out for their focus on Early Imperial Italy: Neville Morley's analysis of the economic relations between Rome and Italy, Richard Duncan-Jones' investigation of the economy of Imperial Italy on the basis of the epigraphical evidence and John Patterson's study of the development of town and countryside in Early Imperial Italy, as well as some of the chapters in Elio lo Cascio's monograph on the Roman economy.[2] It might come as a surprise that the economy of the imperial heartland has received so little attention. Possibly, this is because the abundant evidence from Pompeii has diverted a lot of scholarly attention away from the economy of Italy as a whole.[3] Other such 'distractions' include the size of the Italian population in the Augustan era and the economic boom of Italy during the last few centuries BCE.[4]

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[1] Notably Garnsey and Saller 2014, Scheidel 2012, Bowman and Wilson 2009, Finley 1985, Jones 1974, Frank 1959a, Rostovtzeff 1957, Giardina and Schiavone 1981.
[2] Morley 1996, Duncan-Jones 1982, Patterson 2006, lo Cascio 2009b.
[3] E.g., Flohr and Wilson 2017, Jongman 1988.
[4] Augustan population: Hin 2013, de Ligt 2012, Launaro 2011. Economic boom: Roselaar 2019, Kay 2014, Giardina and Schiavone 1981.

This chapter addresses two narratives of diachronic change in the Italian economy during the Early Imperial period. These narratives purport that Italy's overall economic performance declined and that the level of material inequality increased during this period. These developments are important for the present study as they both affect the top of the wealth distribution. Lower economic performance leads to a decrease in the total wealth stock and thus to fewer wealthy households. Higher wealth inequality on the other hand leads to a concentration of wealth at the top of the wealth distribution and to more wealthy households. These two developments thus affect the number of wealthy households in opposing ways and therefore (at least in part) compensate for each other. Their combined impact on the number of Italian households with wealth exceeding a certain threshold is thus limited.

Moreover, a reassessment of the available evidence undergirding these narratives shows that the magnitude of these two developments was rather modest. More importantly, the crucial insight gained from the discussion is the high level of variation across the peninsula. This insight problematises many previous 'top-down' approaches to the Italian economy and emphasises the importance of my 'bottom-up' (or 'tessellated') approach, which explicitly takes this geographical heterogeneity into account.

## 2.1  Economic Decline

One potentially negative consequence of the huge concentration of wealth in Italy that was discussed in the previous chapter was a decline in the performance of the Italian economy. The economist Hans-Ulrich von Freyberg argues that the continuous flow of capital from the provinces to Italy would ultimately have caused Italian productive capacities to have decreased.[5] Relying on the 'taxes and trade' model of Keith Hopkins, von Freyberg notes that the continuous transfer of capital to Italy caused the Italian trade balance to be (increasingly) in deficit.[6] Consequently, Italian prices rose, which led (in combination with relatively low prices in the provinces) to worsening conditions for the production and export of goods and thus to a decline of Italy's productive capacity.

The latter part of von Freyberg's theory (the competition between Italian and provincial producers causing economic decline in Early Imperial

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[5]  Von Freyberg 1988, followed by, e.g., lo Cascio 2009a: 19–70.
[6]  Hopkins 1980.

Italy) was already formulated half a century earlier by Michael Rostovtzeff.[7] Rostovtzeff observes that Italian commercial agriculture, which focused on producing exportable products such as wine and olive oil, collapsed towards the end of the first century CE due to the 'emancipation of the provinces'. The production of cheaper goods in both the western and eastern provinces led to increased competition and ultimately to the demise of more profitable types of land exploitation in Italy.

Developments in slavery have also been adduced to have contributed to the demise of Italian commercial agriculture and overall economic performance.[8] Scholars assume that Italian commercial agriculture was practised predominantly at slave-run villas, which lost in profitability over the Imperial period. One theory holds that the slave-run villas were most profitable when they were small to medium-sized. However, Italian estates had grown tremendously in size over the first century BCE and CE (into so-called *latifundia*).[9] The profitability of these *latifundia* declined due to the increased costs of slaves and the high costs for managing enslaved labour, which led to less-intensive forms of agricultural exploitation.[10] Another theory posits that once the massive flows of enslaved captives from the wars of conquests of the last centuries BCE dried up, prices of slaves (and in particular adult male slaves who would be working on the estates) went up. Eventually, these slaves became too expensive to maintain the economic viability of this mode of production.[11] Both of these theories thus imply a crisis of the 'slave mode of production' which caused Italian commercial agriculture to decline.

These are all alternative explanations for why the Italian economy would have declined during the Early Imperial period. There is no need to choose between the different theories – all these mechanisms probably contributed to a decrease in Italian economic performance. My focus is on the scale, chronology and spatial variation of the supposed decline. In this section, I will therefore delve into the evidence for two important proxies of economic performance: commercial agriculture and population size.[12]

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[7] Rostovtzeff 1957: 194–206. See, for critiques on his theory and its evidentiary basis, Tchernia 2016: 297–316, Garnsey and Saller 2014: 84–86, Morley 1996: 135–42, Patterson 1987.

[8] Giardina 1997: 233–64, Carandini 1989, Giardina and Schiavone 1981.

[9] For the historiographical context of this theory, see Harper 2015: 44–46.

[10] Štaerman and Trofimova 1975: 28–71.

[11] Giardina 1997: 233–64. See, for a reassessment of slave labour and gender, Roth 2007.

[12] *CF.*, e.g., Pasieka 2023, with a discussion of the problems of using proxies on pp. 59–65.

### 2.1.1 Commercial Agriculture

The profits of commercial agriculture were much higher (but also riskier) than those of more extensive forms of land exploitation (e.g., the leasing of the land to peasants).[13] A decline in the prevalence of commercial agriculture in a region would therefore diminish its overall economic output. This type of agriculture moreover required considerable capital investments and was therefore only practised by richer landowners.[14] A decline in commercial agriculture would therefore particularly affect the top of the wealth distribution, which makes it an even more pertinent indicator for this study.

There are two sets of archaeological evidence which can shed light on the development of the prevalence of commercial agriculture in Early Imperial Italy. The first of these comprise the large extra-urban sites which are also known as 'villas'.[15] As the largest sites in the rural landscape of Roman Italy, they are often understood as the main sites where the cultivation of cash crops (e.g., vines or olives) for the market took place.[16] Annalisa Marzano has recently catalogued the villas in three Italian regions (modern Lazio, Toscana and Umbria).[17] The average number of occupied villas per century (as a percentage of all attested occupied villas between the second century BCE and the fifth century CE) are presented in Figure 2.1.[18] In all three regions, the number of occupied villas peaks during the first century CE, after which it starts declining from the second century. These trends thus suggest that commercial agriculture was probably still expanding at the start of the first century CE, but started to decline at some point during the second century CE.[19]

The decline in commercial agriculture might however have been more modest than the number of occupied villas would suggest. First, Roman villas were not exclusively centres of production; they also functioned as a form of elite conspicuous consumption.[20] This means that some of the villas might not or only to a certain extent have been involved in commercial agriculture.[21] Second, smaller rural sites were also involved in commercial agriculture. Marzano, for example, elsewhere notes that 'a considerable

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[13]  Morley 1996: 135–42. Columella fervently argues for the profitability of viticulture in his *De re rustica*. The advantage of tenancy was a lower risk for the landowner, Kehoe 1988.
[14]  Duncan-Jones 1982: 33–59, Yeo 1951: 462–63, Marzano 2013: 92–93, lo Cascio 2015: 64.
[15]  For a recent discussion, see Marzano 2007. For an archaeological site interpreted as the *villa perfecta*, see Carandini 1989, 1988, 1985, Carandini and Settis 1979.
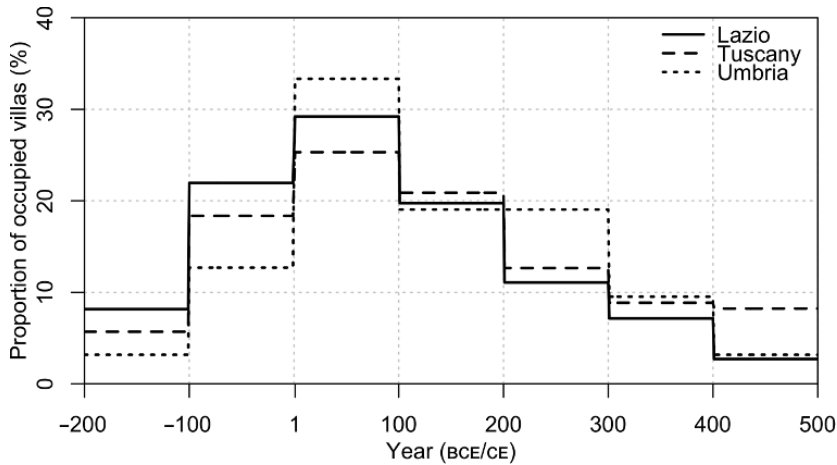[16]  Launaro 2011: 98–100, Carandini 1989.
[17]  Marzano 2007.
[18]  For problems of dating of these villas, see Tchernia 2016: 302.
[19]  *Cf.* Tchernia 2016: 311–16, Carandini 1989.
[20]  Terrenato 2001.
[21]  Marzano 2007: 1–5, Launaro 2011: 157–58, lo Cascio 2015: 64.

**Figure 2.1** Proportion of occupied villas in three modern Italian regions: Lazio, Tuscany and Umbria (data from Marzano 2007).

number' of large oil and wine presses attested in Roman Italy are located not on villa sites but on medium-sized farms.[22] Third, the abandonment of a villa (i.e., the falling into disuse of the physical building) does not necessarily mean abandonment of the land or a change in the type of its agricultural exploitation. The joining of adjacent estates could, for example, have led to the abandonment of a villa building, while the land would still have been exploited in the same way as before.[23]

The villa data also emphasise that there was significant variation in the development of agricultural practices across the peninsula. Although the overall pattern in the three regions investigated by Marzano is similar, the data presented in Figure 2.1 nonetheless show significant variation between the different regions. For example, the increase in the number of occupied villas in Umbria between the first centuries BCE and CE is notably larger than in the other two regions.

The second body of evidence which can shed light on the development of commercial agriculture in Italy is the remains of wine amphorae.[24] The proportion of sherds of Italian wine amphorae found at Rome and Ostia (the two main centres of consumption) sharply decreases during the Early Imperial period while the proportion of amphorae sherds of provincial provenance increases (see Figure 2.2). The replacement of Italian wine by provincial imports is thought to be due to a decrease in the commercial production of wine in Italy.

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[22] Marzano 2013: 92–93. *Cf.* Launaro 2011: 157–58.
[23] Marzano 2007: 210–11. *Cf.* Plin. *Ep.* 3.19.
[24] Tchernia 2016: 302–16.
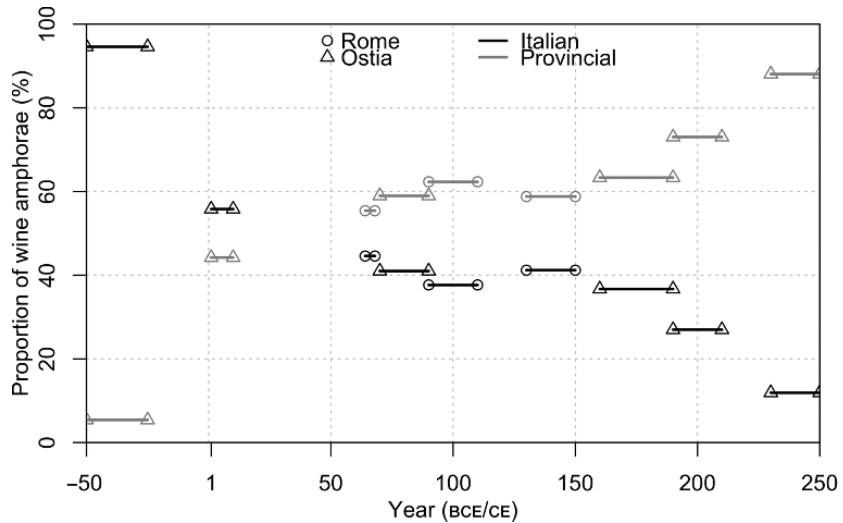
**Figure 2.2** Proportions of Italian and provincial wine amphorae found at several sites in Ostia and Rome (data from Panella and Tchernia 1994).

There are again several caveats for a straightforward interpretation of the decline in the proportion of Italian amphorae sherds as reflecting a commensurate decline in Italian commercial agriculture.[25] In the first place, it is possible that Italian wine became less visible in the archaeological record because it was increasingly transported in ephemeral containers (such as wooden casks or skins).[26] Second, these slightly decreasing *proportions* of Italian amphorae do not necessarily imply a commensurate decrease in its *absolute quantities*, for example, if the aggregate consumption of wine increased.[27] For Rome and Ostia, there are indeed indications that wine consumption increased significantly over the first centuries CE. This was in part due to the growth of the population of both Ostia and Rome in this period.[28] But changing consumption preferences probably also led to an increased *per-capita* wine consumption.[29] In the hypothetical case this new additional demand would have been completely satisfied by provincial wines, the proportion of Italian wines would have dropped while its absolute

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[25]  See also Panella and Tchernia 1994: 152–55, Vera 2020: 223–25.
[26]  Marzano 2013: 88, Panella and Tchernia 1994: 159–60.
[27]  Panella and Tchernia 1994: 152–55.
[28]  Ostia: the Sullan walls enclosed 69 ha (Meiggs 1973: 532–34; de Ligt 2016: 61 estimates the area that was inhabited at 50 ha for the Augustan era), while in the middle of the second century CE the town probably covered a much larger area and the population density was much higher (Keay 2022, Heinzelmann 2002). For the (less spectacular) population growth at Rome, see, e.g., Morley 2013.
[29]  Purcell 1985: 13–15.

quantity would not have changed.[30] A decline in the proportions of Italian wine consumed at Rome and Ostia can therefore not be interpreted as a commensurate decline in its absolute amounts.

It is further noteworthy that the proportions of Italian wine amphorae drop sharply in the last half of the last century BCE, while they remain fairly stable during most of the first and second centuries CE. Only towards the end of the second century CE does the share of Italian wine amphorae drop again significantly. It is possible though that changes in the capacities of the amphorae might distort these trends to some extent.[31]

The amphorae data finally also emphasise the regional variation in the development of wine production and marketing. The wine amphorae found at Rome can illustrate this.[32] While the aggregate share of Italian wine amphorae in the capital remained fairly stable between Nero's reign and the end of the Flavian era, there is a distinct shift away from wines from the Tyrrhenian coast to wines from the Tiber Valley. The vineyards destroyed by the eruption of Vesuvius in 79 CE must have played a role in this transition between local suppliers. This evidence thus again points to significant regional variation.

In conclusion, the number of occupied villas and the proportions of Italian wine amphorae found at Ostia and Rome suggest that Italian commercial agriculture probably declined during the first two centuries CE. However, scrutiny of the evidence suggests that this decline was more modest than appears at face value. Furthermore, it seems that this decline only really set off in the second century. Finally, all the evidence unequivocally stresses the high level of variation in the economic development of different regions of the peninsula.

This regional variation is confirmed by other evidence as well. John Patterson, for example, astutely notes that the worries Pliny the Younger expresses in his letters about the productivity of his estates specifically relate to his estates around Tifernum, and much less to those around Comum, which points to regional differences in productive capacities.[33] Neville Morley furthermore emphasises how Rome (and urban centres more generally) would have influenced the agricultural practices in their hinterlands.[34] Variations in the connectivity to these urban markets, together with variations in micro-climate and soil, resulted in a geographically and chronologically varied pattern of agricultural strategies. Last, variation in

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[30] *Cf.* Panella and Tchernia 1994: 155.
[31] Panella and Tchernia 1994: 153–58.
[32] Tchernia 2016: 310–13, Panella and Tchernia 1994: 148–63.
[33] Patterson 1987: 118–23.
[34] Morley 1996: 55–82. See also Garnsey 1974: 241.

production strategies is to be expected for the largest estates in particular. Peregrine Horden and Nicholas Purcell argue that Mediterranean agriculture is characterised by constantly recurring patterns of intensification and abatement.[35] Centrally managed landscapes (i.e., estates of absentee landlords) typically go through these cycles because intensification or abatement of agricultural production is at the whim of the landowner, who makes decisions based on a complex of personal considerations (such as available information, opportunities for marketing, labour availability, failure of interest or nerve). These idiosyncratic decisions thus further contribute to a variegated pattern of agricultural exploitation of the Italian countryside.

### 2.1.2  Demography

The second indicator of economic performance that I will consider is the size of the Italian population. Population size is an important determinant of the total performance of an agricultural economy. People were the main source of labour, which together with capital (mainly land), constituted the main 'factors of production'. More people thus means more production (and over time also more wealth).[36]

Recent scholarship on the demography of Early Imperial Italy has devoted the bulk of its energy to the Augustan era.[37] The issue revolves around the interpretation of the census figures recorded in Augustus' *Res Gestae*.[38] The so-called 'low-counters' interpret these figures as referring to all citizens, including women and orphans, leading to an estimated total population (including slaves) of around 6–8 million for peninsular Italy under Augustus.[39] Adherents of the 'high count' on the other hand assume that the Augustan census figures refer to adult males only (as did the Republican figures) which would translate to an Italian population of around 15–16 million.[40] A 'middle count' has also been proposed, which assumes that only persons *sui iuris* were included in the Augustan census figures.[41] The majority of ancient historians currently adhere (explicitly or implicitly) to the low-count interpretation.

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[35]  Horden and Purcell 2000: 263–70.
[36]  For the relationship between population growth/decline and elite income, see also Zuiderhoek 2009a.
[37]  For recent summaries, see, e.g., de Ligt 2012: 1–33 and Launaro 2011: 11–24.
[38]  Aug. *Anc.* 8.
[39]  Prominent proponents include de Ligt 2012, Scheidel 2004, Brunt 1987, Hopkins 1978 and Beloch 1886. But see Launaro 2011.
[40]  Notably lo Cascio and Malanima 2005: 7–12, Kron 2005, lo Cascio 1994b, Frank 1924. See also Morley 2001 for the implications of this model.
[41]  Hin 2013.

Less attention has been paid to the development of the Italian population after the Augustan era. Existing studies of the demographic development during the first two centuries of the Imperial period are surprisingly inconclusive. For example, Bruce Frier states that 'the population of Italy apparently remained stagnant' after 14 CE.[42] However, in the same chapter he presents a demographic model in which he assumes an annual growth rate of 0.15 per cent for Italy (i.e., the same as for most other parts of the empire). His model thus predicts a cumulative population growth in Italy of almost 10 per cent for the period between Augustus and the Antonine Plague.

Elio lo Cascio discusses the demographic development of Imperial Italy in more detail.[43] In his reconstruction, there was significant demographic growth during the first decades of the Imperial period. The Italian population would have increased by more than a third between 14 and 48 CE.[44] Further growth after the middle of the first century CE would have been hampered by the demise of the Italian economy.

Lo Cascio substantiates his reconstruction of demographic developments with the census figures known from the reigns of Augustus and Claudius and with rural sites densities derived from field survey studies.[45] The census figures however refer to Roman citizens, who could also live outside Italy and can therefore not be taken as a straightforward indication of the Italian population. The site densities from field surveys are also fraught with methodological problems. As a result, their usefulness as a reliable source for demographic studies remains highly questionable.[46]

More reliable data come from excavated rural sites. Tamara Lewit has calculated 'occupation levels' (the proportion of sites occupied in different time periods between the first century BCE and the fifth century CE) of thirty excavated rural sites spread over the entire Italian peninsula (see Figure 2.3).[47] Her dataset implies a peak in the number of occupied sites in the first century CE with decline starting in the second century. Note that this pattern is very similar to that of the Italian villas (compare Figure 2.1).

The usefulness of both site densities and occupation levels as a proxy for total population is further limited as they represent the rural

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[42]   Frier 2000: 811–16, citation from p. 813.

[43]   Lo Cascio 1994a, framing it more inconclusively in lo Cascio and Malanima 2005. *Cf.* the opinion expressed in D'Arms 1990: 382–83.

[44]   Lo Cascio, a proponent of the high-count interpretation of the census figures, estimates population sizes of 14.5 and 20 million Italians in 14 and 48 CE, respectively.

[45]   Lo Cascio 1994a: 112–14.

[46]   Patterson 2006: 5–88, Launaro 2011, and the chapters of Jongman, Fentress and Mattingly in Bowman and Wilson 2009.

[47]   Lewit 1991, Turchin and Nefedov 2009: 213–15.
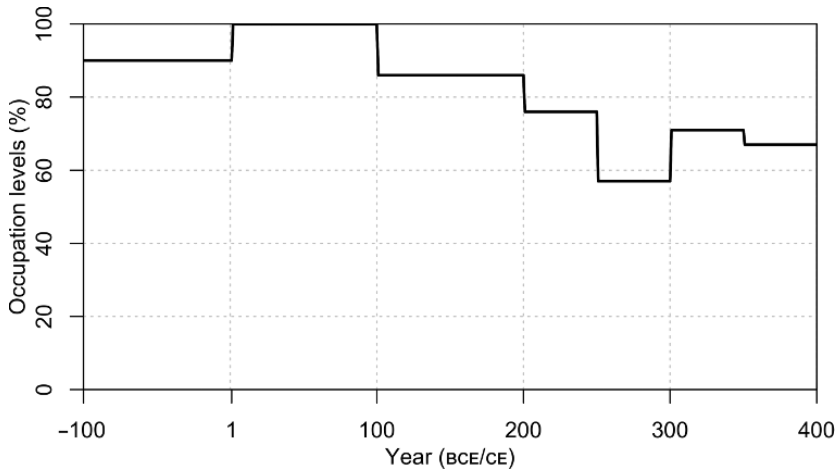
**Figure 2.3** Occupation levels expressed as percentage of maximum number of excavated Italian rural sites occupied in different time periods (data from Lewit 1991).

population only. Decreasing rural site numbers or occupation levels do not proxy overall demographic decline in case the occupants did not die but, for example, migrated to the towns.[48] For a more complete picture of the development of the entire population, developments of urban populations should also be taken into account.

The field survey studies referred to by lo Cascio unequivocally demonstrate one key point: significant variation existed in rural demographic developments across the Italian peninsula.[49] Developments of urban populations probably varied to a similar extent. For example, the population of Ostia increased severalfold over the course of the Early Empire, while that of Cosa declined dramatically in the same period.[50] In sum, regional variation in demographic development in the first two centuries CE seems to be the most important conclusion to draw from these data.

According to the reconstruction of lo Cascio, serious depopulation of Italy started only with the onset of a major pandemic that took place towards the end of the second century CE.[51] Epidemics were a major cause of population decline in the premodern world.[52] The fact that the ancient literary sources refer only sporadically to population decline as a result of epidemics is probably a result of epidemic diseases being endemic to the

[48]  Patterson 2006: 5–88.
[49]  Patterson 1987: 134–44, Patterson 2006: 5–88, Launaro 2011: 149–64, Morley 1996: 95–103 and 129–35, Lewit 1991: 27–28.
[50]  Ostia: see fn. 28 in this chapter. Cosa: Patterson 2006: 92–101, Fentress 1994.
[51]  Lo Cascio 1994a.
[52]  Scheidel 2017: 291–342, Harper 2017: 72–98.

Roman world, which made the literary sources pay little attention to them.[53] The potentially disastrous impact of a premodern pandemic is best illustrated by the much better documented Black Death in the Middle Ages.[54]

The Antonine Plague, an outbreak probably of smallpox, raged through the Roman Empire in subsequent waves between 165 and the early 190s.[55] This pandemic affected many (if not most) parts of the empire. The extent of its demographic and economic impact remains debated. Recent scholarship tends to attenuate earlier ideas of a catastrophic effect on the empire's demography and economy (consensus exists that it was at least less catastrophic than its medieval cousin).[56] The mortality caused by the pandemic has recently been estimated using a detailed epidemiological model at between 7 and 10 per cent.[57] But the uncertainties remain very high. Myles Lavan, for example, assumes a very wide range of possible overall demographic contraction (between 1 and 30 per cent) for the years of the pandemic in the framework of his probabilistic model of the Roman citizen population.[58]

This high uncertainty is in part due to a lack of quality evidence. Most of the evidence for the demographic and economic impact of the Antonine Plague is indirect. For example, there are fragmentary time series of rents, wages and wheat prices. from Egypt These data imply a considerable impact on the local economy, possibly even including a significant drop in local wealth inequality.[59] For Italy specifically, the evidence is even less forthcoming. There are only a few indirect indications of disruption (e.g., drops in the number of statue and building inscriptions, stamped bricks, minted coins). These datasets imply some discontinuities in economic activity after 165 CE, which might be related to the pandemic.[60]

All studies on the impact of the Antonine Plague do however emphasise one key point: this 'pandemic' did not affect all regions and provinces of the empire to a similar degree.[61] The proxy evidence suggests that a hiatus appears in the number of statue and building inscriptions set up in Italy in the second half of the second century, but no such gap appears in the African

[53] Harper 2017: 87–91, Frier 2000: 793–94, Duncan-Jones 1996: 108–15.
[54] Alfani and Ammannati 2017: 1088–92, Alfani 2017: 330–31.
[55] Harper 2017: 98–115.
[56] See the papers in lo Cascio 2012 and Erdkamp 2016: 7–8.
[57] Vlach 2022, *cf.* Littman and Littman 1973.
[58] Lavan 2016: 36.
[59] Harper 2016, Scheidel 2017: 326–30, Rathbone 1997: 215–16.
[60] Duncan-Jones 1996: 125–33, updated in Duncan-Jones 2018. But see the critique of Greenberg 2003 and Bruun 2007.
[61] Harper 2017: 98–115, Duncan-Jones 1996, Ehmig 1998.

evidence.[62] Regional variation is also what would be expected, as many different factors play a role in how lethal an epidemic disease would have been in a certain place.[63] The local level of connectivity, population density and climate, among many other things, would have affected its impact.

In conclusion, the evidence draws a picture of initial growth, followed by stagnation and decline for the population of Italy during the first two centuries CE. The Italian economy might have gone through a similar cycle. Serious decline started only in the late second century, possibly initiated by a widespread pandemic. This Italy-wide summary should however not obscure the high variation in local developments.

It is worth noting that there are several sets of proxy data implying a similar trajectory (in particular with decline starting in the second century CE) for the Roman Imperial economy as a whole.[64] For example, the number of dated shipwrecks in the Mediterranean Sea suggests that interregional trade started to decrease from the second century CE onwards.[65] Similarly, the lead deposits in the ice cores of Greenland imply a decline in silver mining in Western Europe from roughly the same period or even earlier.[66] Much can be said about the reliability and representativeness of these (and other) proxy datasets for the performance of the Imperial economy. It is nonetheless noteworthy that all these datasets suggest a roughly similar timeline for the start of modest economic decline.

To sum up, the combined body of proxy evidence for commercial agriculture and population size mainly paints a picture of decline for the development of the Italian economy in the Early Imperial period. It is however important to recapitulate the qualifications of this economic 'crisis'. First, decline was not as dramatic as a straightforward interpretation of the proxy evidence suggests. Second, it was only towards the late second century CE that the evidence unequivocally points to significant decline. Third, and last, local trajectories varied enormously between different parts of the peninsula.[67]

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[62]  Duncan-Jones 1996: 125–29.
[63]  Vlach 2022 takes several of these factors into account in his model.
[64]  See, e.g., Jongman 2019. For a discussion of the use of proxies to determine economic performance, see, e.g., Bowman and Wilson 2009; Verboven 2018.
[65]  Hopkins 1980: 105–6.
[66]  McConnell et al. 2018, with a reinterpretation of the data by Pavlyshyn et al. 2020.
[67]  *Cf.* the conclusions of Pasieka 2023 based on a series of proxies from southern Etruria.

## 2.2  Increasing Inequality

The second narrative of the Italian economy in the first centuries CE that needs to be discussed here is that of increasing wealth inequality. This narrative has a long scholarly history and deserves reappraisal.[68] While the evidence and theories undergirding this narrative point to increasing inequality, the overall magnitude of this development was probably modest. Moreover, all the evidence (again) points to a high level of local variation in wealth inequality and its development.

At the start of the Imperial period, wealth inequality in Italy was probably at a low ebb.[69] The civil upheavals in the century preceding the Imperial period probably led to significant levelling. The most important direct causes were mass mobilisation and institutional arrangements which put the costs of this mobilisation disproportionly on the rich.[70] For example, state expenditure on the military was exceptionally high in Italy during the 40s BCE; base stipends of the soldiers were not only increased significantly (estimated as twenty-two times the pay of 61 BCE), but the value and frequency of major military bonuses also peaked. The aggregate of military expenses in this period is estimated to have constituted around ten times the regular annual income of the Roman state.[71] Moreover, these expenses were for a substantial part paid by the Italian elite. The triumviral period is well known for the many proscriptions of members of the elite and the concomitant confiscations of their properties.[72] Furthermore, the elite was also heavily taxed in this period; one year's income from real estate and a 2-per-cent wealth tax were levied in Italy in 43 BCE, while a special tax on slaveholding was imposed the subsequent year.[73]

While the levelling effects of the first century BCE caused wealth inequality to be at a low ebb at the start of the Imperial period, it rose again quickly under the first emperors. The triumviral policies leading to the levelling were not upheld after peace was restored after 31 BCE and Augustus and his direct successors actively restored the Italian elite by subventing impoverished members.[74]

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[68]  Following the work of Harper 2015.
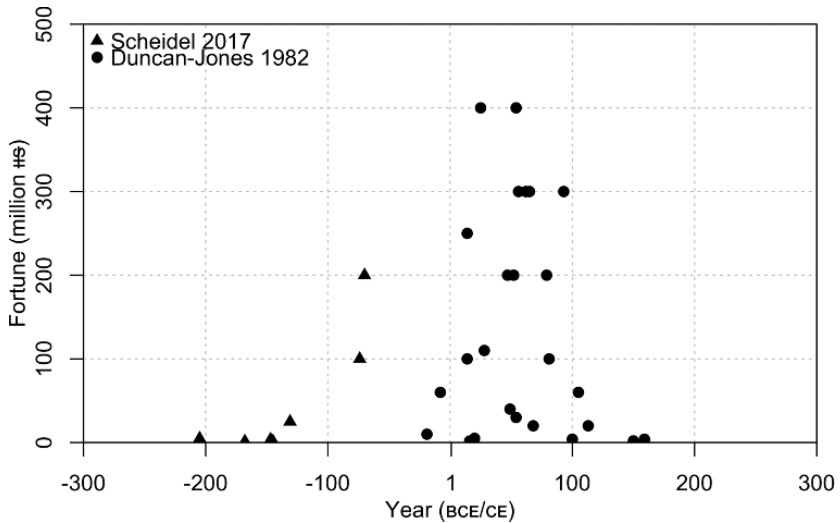[69]  *Cf.* Maiuro 2012: 133.
[70]  For this combination as a levelling agent, see Scheidel 2017: 130–209.
[71]  Scheidel 2017: 207; 2007: 330–32.
[72]  Duncan-Jones 2016: 97, Scheidel 2017: 206.
[73]  Scheidel 2007: 332.
[74]  Maiuro 2019: 88–90, Scheidel 2017: 207. Subventions: e.g., Suet. *Aug.* 40. *Cf.* Cass. Dio 55. 13.6–7.

**Figure 2.4** Top fortunes in million ʜꜱ (data from Scheidel 2017 and Duncan-Jones 1982).

The development of Italian wealth inequality during the rest of the Early Empire remains more uncertain. The classic narrative is that of increasing inequality over the subsequent centuries.[75] The evidence basis of this narrative is however very tenuous.

The largest fortunes known via literary sources have been used as an indicator of the level of wealth inequality (see Figure 2.4). Walter Scheidel, for example, argues that wealth inequality rose during the last two centuries ʙᴄᴇ based on the observation that the largest known fortunes increase over this period.[76] Top fortunes in the first two centuries ᴄᴇ however show a different trend. The fortunes catalogued by Richard Duncan-Jones do not increase after the beginning of the first century ᴄᴇ and even slightly decrease during the second century.[77] Myles Lavan and John Weisweiler moreover persuasively argue that the very large fortunes of the Julio-Claudian era were the products of political, not economic, processes, which means they probably are less representative of the overall level of inequality.[78] In sum, the scattered and methodologically problematic evidence on top fortunes does not support a narrative of continued concentration of property over the first two centuries ᴄᴇ.

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[75]　For example, Pleket 1998, Zuiderhoek 2009b, Harper 2015.
[76]　Scheidel 2017: 71–73, with a more elaborated version in Scheidel 2016: 10–11.
[77]　Duncan-Jones 1982: 343–44.
[78]　Lavan and Weisweiler 2022: 228–33. See also Bang 2008: 99–100.

Another dataset that has been used to argue for a process of increased concentration of property over the first century of the Imperial period is the estate names listed on the Trajanic alimentary inscriptions. Two Italian *alimenta* inscriptions survive, one from Ligures Baebiani and one from Veleia.[79] These inscriptions contain lists of local landholders who received a one-off cash payment from the imperial treasury, in exchange for which an obligation to pay an annual interest (probably in perpetuity) was installed on one or more of their landed estates.

John Patterson suggests that the names of the pledged estates in the Baebian scheme points to considerable estate amalgamation (and thus concentration of property).[80] His theory is based on the assumption that Italian estates were systematically named after the *gentilicium* of their owner at some point during the reign of Augustus.[81] Patterson then observes that some of the estates listed on the early second-century-CE Baebian *alimenta* inscription have compound names, such as the *fundus Apuleianius et Cassianius et Arellianius*.[82] These compound names, consisting of multiple *gentilicia*, would point to the amalgamation of multiple Augustan estates in the intermediary century.[83] Patterson notes that estate amalgamation is also know from other sources; Pliny the Younger famously mentions in one of his letters that he is interested in buying an estate adjacent to one he already owns because that would allow him to conjoin the two.[84]

The main problem with Patterson's theory is that the more detailed alimentary inscription from Veleia not only mentions compound estate names (suggesting estate amalgamation) but also co-ownership and the ownership of fractions of estates (implying estate fragmentation).[85] The joint pledge by Volumnius Memor and Volumnia Alce is an example of co-ownership (probably through inheritance).[86] An example of the ownership of fractions of a single estate is the *fundus sive saltus Narianus Catucianus*, fractions of which are pledged by two different men, Marcus Virius Nepos and Caius Dellius Proculus.[87] It is reasonably certain that these are two fractions of a previously single estate. Both fractions are located in the *pagus Iunonius*

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[79]   *TALB* (*CIL* 9.1455) and *TAV* (*CIL* 11.1149). See also Appendix B for more details.
[80]   Patterson 2006: 52; 1987: 141–42. *Cf.* Maiuro 2012: 139–42, Champlin 1981: 245–51.
[81]   Patterson 1987: 141–42, Champlin 1981: 245–46, Veyne 1958: 182, De Pachtere 1920: 59.
[82]   *TALB* 2.62, Patterson 2006: 52.
[83]   Champlin 1980b: 16 floats an alternative explanation, *viz* that the compound names refer to succeeding owners.
[84]   Plin. *Ep.* 3.19. Patterson 2006: 50 for possible archaeological examples.
[85]   *Cf.* similar conclusions of Thonemann 2007 based on Late Roman tax registers from the diocese of Asia. For the legal aspects of co-ownership and ownership of fragments of properties, see Riggsby 2010: 150–51.
[86]   *TAV* 1.
[87]   *TAV* 2 and 15.

(a district of Veleia) and the two owners are mentioned as each others' neighbours. Moreover, Nepos owns three-quarters of the estate, while Proculus possesses only a quarter and the valuations of their parts of the estate mirror these fractions precisely. This example thus emphasises that while estates amalgamated, they also fragmented over time.[88] The fact that the Baebian inscription does not mention any estate fractions is probably best explained as a stylistic choice considering the overall more condensed style of this text.[89]

How do these opposing processes compare quantitatively? In the Veleian scheme, almost half of all estates bear more than one *gentilicium*. In comparison, about a third of the Veleian estates are pledged for only a part. And this is probably an underestimation, as it seems that fractions were not always recorded. Some estates, which feature multiple times in the scheme, are arguably fractions of a formerly single estate, although they are not systematically recorded as such.[90] In sum, the two processes were seemingly of a similar order of magnitude, which makes it impossible to conclude whether either of these two processes was quantitatively dominant.[91]

Archaeological evidence cannot help either to determine the development of wealth inequality over the Early Imperial period (although it has great potential). Robert Stephan has, for example, catalogued the sizes of a large number of houses in Roman Italy to estimate the inequality in different time periods.[92] His data suggest that inequality in Italy fell from the first to the second century CE. Although house size is a reasonable proxy for economic inequality, the statistical interpretation of Stephan's data is problematic (e.g., how to account for the disproportional number of Pompeian, Herculanean and Ostian houses in his sample).[93] Therefore, not a lot of weight can be put on his conclusions.[94]

Arjan Zuiderhoek asserts on theoretical grounds that wealth inequality must have risen in Roman Asia Minor during the first two centuries CE.[95] He uses a neo-Ricardian model, in which a growing population, in combination with a limited amount of arable land, implies an advantage for those owning land over those supplying labour. This advantage resulted in lower wages

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[88]  For the fragmentation of house ownership in Roman Egypt, see Alston 2002: 67–68. *Cf.* Dig. 50.15.5 regarding multiple owners of an estate.
[89]  Champlin 1981: 240–46, Veyne 1958: 202–4.
[90]  E.g., the *fundus G[li]tianus Roudelius* pledged by both C(aius) Coelius Verus (*TAV* 16) and the Annii brothers (*TAV* 17). *Cf.* Criniti 1991: 206 and De Pachtere 1920: 66.
[91]  *Cf.* Champlin 1981: 250–51, Veyne 1958: 181–82.
[92]  Stephan 2013: 127–88, esp. 178–87.
[93]  For a discussion on this assumption, see Appendix A.
[94]  Scheidel 2017: 267–69.
[95]  Zuiderhoek 2009b: 63–65. *Cf.* Maiuro 2012: 133–35.

and higher rents and thus larger income shares for capital owners. This in turn led to further concentration of wealth in the hands of the landholding elite, thus increasing wealth inequality.

It remains unclear whether such a model would work for Early Imperial Italy as well.[96] First, the Italian population grew only very modestly over the first two centuries CE (typical estimates are around 0.1–0.15 per cent per year; see Section 2.1.1). Moreover, it is also uncertain to what extent land was the limiting factor of production in Roman Italy. Peregrine Horden and Nicholas Purcell argue that labour was the limiting factor in ancient Mediterranean agriculture.[97] The intensity with which land was used was continuously changing, with labourers moving through the landscape accordingly. Some literary evidence seems to corroborate their idea for Italy in particular. Suetonius, for instance, thought that Domitian published his edict curbing the plantation of new vines in Italy because too much attention (i.e., labour) went to viticulture with the result that grain fields were being neglected.[98] A letter of Pliny the Younger, in which he considers buying an estate adjacent to his properties in Tifernum Tiberinum but fears that he will struggle to find new (suitable) tenants, might also point at a shortage of (adequate) labour.[99]

Zuiderhoek's model seems also to be contradicted by the theoretical framework of Thomas Piketty. The French economist assumes that the difference between the rate of return on property ($r$) and economic growth ($g$) determines an equilibrium inequality towards which a society develops.[100] The more $r$ exceeds $g$, the more unequal this equilibrium inequality is. As the size of the population is an important determinant of economic performance in ancient agricultural societies, demographic change is strongly correlated with economic growth ($g$). Substantial population growth thus implies a higher value of $g$, a smaller gap between $r$ and $g$ (assuming $r$ is relatively constant) and consequently a lower equilibrium inequality. In other words, according to Piketty's theory demographic growth would result in a society moving towards a *lower* equilibrium level of wealth inequality. Piketty explains this mechanism as follows. Increasing population means an increase of the average number of children (and thus heirs) per family. Larger numbers of heirs reduce the size of average inheritances and thus

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[96]  *Cf.* Maiuro 2012: 133–39.
[97]  Horden and Purcell 2000: 263–70.
[98]  Suet. *Dom*. 7.
[99]  Plin. *Ep.* 3.19.
[100]  Piketty 2017: 442–65.

increase the importance of income through labour over income through inheritance.[101]

It is worth noting here that the series of wealth proxies datasets analysed in Chapter 8 shows that local wealth inequality varied considerably between Italian *civitates*. Although these proxies are far from sufficient to reveal any conclusive local or regional diachronic developments, they firmly attest to significant differences between *civitates*. The large difference in wealth inequality implied by the two Trajanic alimentary schemes of Veleia and Ligures Baebiani, both relatively small inland towns, is a case in point. The corollary of this variation in local wealth inequality is that the development of these inequalities probably also varied significantly.

In conclusion, Italian wealth inequality started at a relative low under Augustus, but probably rose quickly once peace was restored. It remains unclear whether or to what extent wealth inequality further rose during the remainder of the Early Imperial period. The available evidence does not point to a dramatic concentration of wealth in the hands of a few extremely wealthy households in this period. What is clear though is that wealth inequality (and probably also its diachronic development) varied considerably between the different Italian *civitates*.

## 2.3  Conclusions

In this chapter, two narratives of the development of the Italian Early Imperial economy have been revisited. The first is the decline in economic performance. Proxy evidence suggests that both commercial agriculture and the Italian population decreased modestly in this period. To speak of an 'economic crisis' might be an overstatement. Moreover, decline only took off in the later second century CE, potentially initiated or aggravated by the Antonine Plague. Finally, decline was far from universal. The evidence unequivocally points to a high degree of regional variation across the Italian peninsula. In some localities, the economy might even have grown in this period.

The second narrative is that of increasing wealth accumulation and inequality in the same period. The available evidence however points to very limited wealth accumulation, if any. Local datasets (analysed in Chapter 8) moreover emphasise that there was a high level of regional variation in wealth inequality as well.

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[101]   Piketty 2017: 105–8.

It is worth mentioning here again that declining economic performance and increasing wealth inequality would have had opposite effects on the number of households at the top of the wealth distribution. If the economy was shrinking, less surplus would be available for appropriation, which would result in a decline in elite incomes and thus in fewer households being able to amass enough wealth to surpass the census thresholds for political office. If inequality was rising, wealth would have become more concentrated at the top of the wealth distribution, which in most cases means that more households would have exceeded the census thresholds. The fact that the two discussed developments of the Italian Early Imperial economy have opposite effects on the number of wealthy households reduces their individual impact. This provides some reassurance for the usefulness of the average Italian wealth distribution over a period of almost three centuries.

The most important conclusion of this chapter is however the high level of regional and local variation. All the evidence suggests that the economies of the different *civitates* varied considerably. The Italian economy is therefore best seen as a mosaic of (loosely) interconnected local economies, each of which followed its own particular trajectory of development.[102] This conclusion calls for radically new methodological approaches when studying 'the' Italian economy. This is what I will do in this book. I will use a 'tessellated' approach to reconstruct the top of the Italian wealth distribution. This means that I will first reconstruct the top of the wealth distribution of each Italian *civitas* separately before conjoining them into an Italy-wide model. The economic model that I will use to reconstruct the top of the wealth distribution in each *civitas* will be introduced in the next chapter.

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[102]  *Cf.* Woolf 1992, Finley 1985.