CHAPTER 4

Peasants, citizens and soldiers, 201 BC–28 BC

4.1 INTRODUCTION

Investigators of demographic developments in Italy between the end of the Second Punic War and the beginning of the Social War can seek enlightenment in a variety of sources. These include the census figures reported by Livy and his epitomator, a relatively rich body of evidence relating to the sending out of virilite settlers and the foundation of Roman and Latin colonies, and a continually growing body of archaeological data. Amongst these sources, only the census figures refer solely to Roman citizens. Despite this drawback, they have attracted a disproportionate amount of attention, for the obvious reason that they appear to offer a sound basis for detailed quantitative conclusions.

As we saw in the previous chapter, it is possible to detect a growing reluctance among ancient historians to use these figures as their starting point and to force all remaining types of evidence into interpretative frameworks derived from this specific data set. Indeed, if one accepts the high-count reconstruction of Italy’s demographic history it would appear that no republican census succeeded in capturing more than 55 per cent of its target population.\(^1\) Since we must also reckon with considerable variations in the degree of efficiency with which censuses were carried out, it would then follow that the census figures are essentially worthless as a starting point for any demographic inquiry.

Once the reliability of the census figures for the second century BC is called into doubt, the possibility of anchoring any reconstruction of the economic, social, military and political history of post-Hannibal Italy within the parameters of a widely accepted demographic framework disappears. The effect of this is to undermine the validity of almost all previous attempts to establish causal relationships between various long-term developments such as the spread of agricultural slavery and the development of

\(^1\) Below, at notes 149–50.
the free rural population, and thereby also of any theory that seeks to explain the actions and decisions of some Roman politician or general as an attempt to deal with the social or military consequences of these trends.

Up to a point this is a welcome development, since at least some of the assumptions underlying the overall reconstructions of Brunt and Hopkins (and their interpretations of certain specific episodes in late-republican history) can now be shown to be problematic. At the same time, this loss of innocence makes it almost impossible to construct anything even approximating to a running narrative delineating the principal outlines of the demographic, economic and social history of Italy between the end of the Second Punic War and the early years of the Principate.

In the sections that follow, I shall make no attempt to tell a linear story on the basis of the surviving literary and archaeological evidence. Since it is my intention to call attention to the weaknesses of previous attempts to describe the history of Roman Italy in terms of more or less linear developments within a time-scale of 170 or more years, however, I have subdivided the period 201 BC–28 BC into three sub-periods. My first period starts with the end of the Second Punic War and ends in 163 BC, when the republican census figures reached a temporary high. My second period spans the 30 years between 163 BC and the beginning of the Gracchan land reforms. Finally, I shall examine certain important developments that took place between 133 BC and 28 BC, such as the military reforms introduced by...
Marius, the growth of towns and the emigration to the provinces of hundreds of thousands of free Italians.

In accordance with this book’s general approach, my main focus will be upon the assumptions that must be made about various categories of evidence in order to produce a satisfactory fit with any of the competing demographic reconstructions. One of my findings will be that the quantitative and qualitative evidence supplied by the surviving literary sources, along with the numerical trends that may be observed in rural sites dating from the late Republic, is compatible with the low-count theory. I shall, however, also argue that in opting for the low count as the most accurate guide we have to the demographic, social and economic history of Italy during the second and first centuries BC we should avoid falling into the trap of accepting the reconstructions of Beloch, Brunt and Hopkins as correct in each and every respect. I shall, in fact, try to demonstrate that their theory that the Roman citizen body began to stagnate or decline from the mid-second century BC onwards rests on weak foundations and that a more convincing reconstruction of demographic developments can be achieved if we assume that this particular sub-group of the Italian population continued to expand until the outbreak of the Social War.

4.2 Developments between 201 BC and 163 BC: Four Questions

Since the high counters reject all republican census figures as hopelessly defective, the number of *capita civium* registered by the censors of the second century BC cannot be used to put their theories to the test. This is not true of the low count. Most low counters are, of course, aware of the strange fluctuations that can be observed in the census figures for the period 203 BC–114 BC, and none of them has suggested that these figures are straightforward reflections of real demographic developments. The endless methodological reservations that have been expressed since the late nineteenth century do not, however, alter the fundamental fact that the low count logically implies that the number of adult male citizens cannot have been *much* higher than that recorded in the census figures. For this reason the low counters, unlike the high counters, cannot avoid the question of whether or not the census figure for 204/203 BC can be connected in any significant manner to the number of adult male citizens recorded in Polybius’ manpower figures.

1 The highest deficiency rate envisaged by the low counters is 33 per cent (Brunt 1971/1987, 43).
Another interesting problem concerns the astonishing pace of demographic recovery suggested by the census figures for the period 203 BC–163 BC. Taken at face value, the discrepancy between the census figure for 203 BC and that for 163 BC would seem to suggest an average annual growth rate of about 1.1 per cent. How can so steep an increase be explained?

It is also striking that the Roman government should have maintained a policy of sending out large numbers of virilans settlers and colonists during what must, if the low count is correct, have been a demographic slump, and that these state-sponsored population transfers stopped almost exactly when the census figures had climbed back up to the highest level recorded before the Hannibalic War. How can we explain this curious relationship between demographic developments and levels of state-organized migration?

Finally, we must take a closer look at the spread of agricultural slavery. As we shall see, there is considerable reason to doubt the traditional view that a rapid increase in the number of rural slaves pushed tens of thousands of free Italian peasants off the land and that this caused the social and military problems that led to the Gracchan land reforms. Nonetheless, it cannot be denied that the expansion of the urban market in Rome stimulated the creation of larger estates whose permanent workforce consisted of slaves. How can this development be fitted into the low-count and high-count reconstructions of the demographic history of Italy during the first decades of the second century BC?

4.2.1 The impact of the Hannibalic War and the census figure for 203 BC

Using the (sometimes conflicting) casualty figures reported by Polybius and Livy, Brunt calculates that between 218 BC and 215 BC some 50,000 adult male citizens had been lost on the battlefield. It should be noted that his calculations assume that Polybius was wrong to assign eight legions to the Romans at Cannae, an assumption based solely upon the questionable idea that Hannibal’s tactics at Cannae could not have worked had the Romans had an army of c. 85,000 men of whom roughly 40,000 were legionaries. This view is not shared by most specialists in ancient military history.

\[337,000:214,000 = 1.57.\] A growth rate of 1.1 per cent per annum results in 55 per cent growth after 40 years.


Ilari (1974), 154, n. 18; Lazenby (1978), 75–6; Rich (1983), 292, n. 26; Goldsworthy (2001), 64–6; Daly (2002), 25–9. Polybius’ figure for the total strength of the Roman army at Cannae makes it clear that his eight ‘armies’ (stratopeda) should be interpreted as eight legions, rather than as four legions plus four allied armies.
it, there is no good reason to set aside Livy’s statement that some 50,000 Romans and Italians were killed at Cannae alone. With this revision, the number of Romans lost by the end of 215 BC rises to about 60,000.

For the years 214 BC–203 BC, Brunt estimates the number of legionaries who fell in battle at 75,000. Although some of his assumptions, such as his idea that most or all Roman legions were operating at under full strength during this period, are debatable, this estimate does not seem unreasonable.

On top of these losses, the number of adult male citizens liable for legionary service was depleted by the defection of the Campanians in 216 BC. In a no doubt fictitious speech that Livy puts into the mouth of the Roman consul Terentius Varro, the total number of Campanian infantry and cavalry is said to have been 34,000. It is unclear whether this figure was intended to refer to all men of military age, or only to the *iuniores*. A more important problem is that it is identical to the number of fighting men which Strabo attributes to Tarentum, suggesting that we are dealing with a symbolic figure meant to convey the notion ‘an awful lot’.

Finally, any attempt to assess the reliability of Livy’s figure by calculating the average population density it implies for the Ager Campanus is bedevilled by the fact that we do not know whether Livy is referring to the number of fighting men which Strabo attributes to Tarentum, or to the adult male citizen population of the Campanian federation, or to the adult male population of Campanian territory.

If we take this last figure as our starting point and interpret the figure of 34,000 as referring to the entire adult male population, we end up with an average population density of c. 112 free inhabitants per square kilometre. This result is in line with the average population densities calculated by Beloch for the same area at the beginning of the seventeenth

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7 48,200 killed and 18,700 captured: Livy 22.49.15; 50,000 killed: Livy 22.59.5 and 60.14, 25.6.13. Polybius (3.117.4) assumes 70,000 casualties, but this figure is generally considered to be too high (e.g. Goldsworthy 2001, 135). It can be explained as a round figure for the total number of men killed or captured.

8 Brunt (1971/1987), 422.

9 Another uncertainty is whether or not there was only one battle of Herdonia. If we accept the first battle of Herdonia as genuine, some 10,000 dead legionaries must be added. For discussion and references, see e.g. Brunt (1971/1987), 652; Ilari (1974), 155, n. 19; Yardley (2006), 662.

10 Livy 23.5.5.

11 While Brunt (1971/1987), 18–19, 64–5, interprets the figure for the Campanians as referring to all adult males, many other scholars believe it to relate only to *iuniores* (e.g. Savino 1997, 176–7).


14 At this point, it should be emphasized that this convenient outcome by no means proves the figure of 34,000 to be reliable. It has been pointed out, for instance, that the Campanian prefecture was probably created after the Romans had recaptured Capua in 211 BC. On this basis, it can be argued that Livy must be referring to the military potential of Capua and a handful of neighbouring towns. If we begin from the estimate of 700 km² and assume, optimistically, that the average number of free inhabitants per square kilometre equaled the highest level observed in Campania in around AD 1600, there would have been no more than 28,850 adult male Campanians (assuming slaves to have made up only 15 per cent of the population).

Although almost any figure relating to the demographic impact of the Second Punic War (and especially that for the Campanians) can be called into question, these estimates suggest that no fewer than 170,000 adult male citizens may have been killed or otherwise lost between 218 BC and 203 BC.

Before trying to relate these estimates to the number of adult male citizens before the Second Punic War (as implied by the low count), we must consider Rome’s potential for demographic recovery. One mechanism coming under this heading is the cancelling out of natural deaths by new births. According to modern life tables relating to societies with demographic structures similar to that of republican Rome, between 27.4 and 31.6 per cent of men aged between 25 and 30 would have died of non-military causes within 15 years and 8.6 to 10 per cent within 5 years. If we assume that most legionaries were aged between 25 and 30, simplify the actual pattern of military mortality by assigning all casualties to the years 217 BC and 207 BC and posit natural mortality rates of 30 and 10 per cent for the periods 217 BC–203 BC and 207 BC–203 BC, we end up with the conclusion that of the c. 135,000 Romans killed in battle between 218 BC and 203 BC

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14 In around 1600 the Terra di Lavoro had fifty-four inhabitants per square kilometre, if we exclude the city of Naples from the calculations. In the plains around Vesuvius, however, densities were sometimes as high as 160 people/km². See Beloch (1937–61 I, 235; III, 378–80. The land distributions of 59 BC, which gave 10 or 12 iugera to a family of five (Cic. Att 2.16.1; Suet. Caes. 20.1; cf. Cic. Leg. Agr. 2.78–9, 85), imply densities of between 167 and 200 persons/km² for the areas concerned, but not all of the Ager Campanus consisted of arable land, and densities may have increased during the last two centuries of the Republic. In the light of the comparative data, the average density of between 233 and 320 inhabitants per km² calculated by Savino (1997), 186, seems too high for the time of the Second Punic War.

15 Savino (1997), 178.

16 0.85 × 700 × 160:3.3 = 28,848.

17 Coale and Demeny (1983), 43 (Model West, level 3, males).
some 25,000 men would in the normal course of events have died of natural causes during this period.\textsuperscript{18}

It is also important to bear in mind that there is nothing to suggest that ‘normal’ levels of Roman warfare ever led to population decline. It has, for instance, been calculated that more than 130,000 Romans and Italians \textit{who would not normally have died} were killed during the wars fought out in Greece, Asia Minor and Spain between 200 BC and 168 BC.\textsuperscript{19} If 40 per cent of these men were citizens, 52,000 citizens were lost. The census figures for this period, however, continue to rise rapidly. Clearly the demographic system was capable of replacing everybody who died of natural causes plus at least 1,575 additional annual casualties resulting from ‘normal’ warfare.\textsuperscript{20} At least in theory, then, the demographic system of late-third century BC Rome should have been able to produce c. 25,000 replacements in addition to absorbing the loss of the c. 25,000 men representing ordinary mortality from non-military causes.\textsuperscript{21}

The ‘net’ loss of manpower resulting from the Second Punic War may therefore have been of the order of 120,000 men, if there were really as many as 34,000 adult male Campanians at the outbreak of the war.\textsuperscript{22} If we combine this hypothetical figure with the c. 340,000 adult male citizens implied by the Polybian manpower figures,\textsuperscript{23} we end up with a rough estimate of 220,000 adult male citizens at the end of the Second Punic War. This is very close to the census figure for 204/203 BC, when 214,000 \textit{capita civium} were registered.

Unquestionably, the many uncertainties surrounding most of the figures that have been fed into my calculations make it impossible to build any far-reaching conclusions on this neat correspondence. We may, however, conclude that the low counters should have little difficulty in reconciling the census figure for 204/203 BC with the demographic picture that seems to emerge from Polybius’ survey of Roman manpower resources on the eve of the Gallic invasion of 225 BC.

\textsuperscript{18} There is no need to underline the crudeness of this calculation. Nonetheless it shows that Brunt’s much higher estimate of 70,000 for those who would have died in the normal course of events (Brunt 1971/1987, 422) cannot possibly be correct.

\textsuperscript{19} Rosenstein (2004), 136. As Rich (2007), 165, points out, the surviving sources may have exaggerated Roman casualties during the first decades of the second century BC. Since I am concerned only with very rough orders of magnitude, however, this criticism does little to undermine my general argument.

\textsuperscript{20} 52,000/33 = 1,576. Cf. my remarks in De Ligt (2007a), 120--1.

\textsuperscript{21} 16 \times 1,575 = 25,200. Of course, the extreme disruption caused by the Hannibalic War might temporarily have reduced fertility to abnormally low levels.

\textsuperscript{22} 135,000 + 35,000 - 25,000 - 25,000 = 120,000.

\textsuperscript{23} Chapter 2.
4.2.2 Demographic recovery after the Second Punic War

The census figures for the period 203 BC–163 BC also raise another difficult question that merits more attention than it has received. As we have already seen, the figures for the beginning and the end of this period, if taken at face value, seem to point to an annual rate of population growth of 1.1 per cent per annum, much higher than any of the rates reconstructed for pre-modern Europe. This staggering figure can be reduced by adopting the widely held theory that the surviving Campanians re-entered the citizen body in 189 BC as cives sine suffragio. Even if we raise the figure for 203 BC by assuming 25,000 surviving adult male Campanians, the annual rate of increase must still have been as high as 0.9 per cent per annum.

In principle, further modifications can be achieved by assuming that no republican census ever captured more than 90 per cent of its target population. Livy’s testimony, however, suggests that the census of 204/203 BC was carried out with exemplary efficiency, so that one would expect the census figure for 163 BC to have been less rather than more accurate than that for 203 BC. We would then end up with a rate of population growth among Roman citizens significantly higher than 0.9 per cent.

We could also reduce the apparent rate of natural growth by assuming large-scale naturalization of Latins and other non-Roman immigrants, or by hypothesizing a high rate of non-natural increase as a result of manumission. The sources do indeed report large-scale Latin immigration, but we also read that 12,000 Latins were sent back to their home towns in 187 BC. Even if many of them managed to escape expulsion from Rome, it seems unlikely that their inclusion can explain the extraordinary rise in the census figures. As for the hypothesis of manumission on a massive scale, this runs up against the difficulty that there were almost certainly far fewer slaves in post-Hannibalic Italy than has previously been thought. There are, moreover, strong indications that female slaves were usually manumitted towards the end of their reproductive lives. If this was the case, most of their children

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24 Cf. Chapter 3, section 3.7.2.
25 Brunt (1971/1987), 63–4; Lo Cascio (2008), 248–9. Strictly speaking, Livy 38.36.5–6 only says that the Campanians were given back the ius conubii (Humbert 1978, 352, n. 55), but the Senate’s decision that they should be registered by the censors at Rome (38.36.5) seems to presuppose that they were to be registered as citizens.
26 Livy 29.37.
27 Livy 39.3.4–6. On this episode see Brunt (1971/1987), 72; Broadhead (2008), 461; and especially Coşkun (2009), 160–8.
28 De Ligt (2004), 745–7, and below, section 4.3.3.
would not have been born as citizens.\textsuperscript{29} For both these reasons, manumitted slaves are likely to have made a relatively minor contribution to the expansion of the Roman citizen body.

One of the few ancient historians who have tried to think through the problem of fast population recovery is Nathan Rosenstein. In his view, the growth rate of 1.1 per cent per annum implied by the census figures for the early second century BC must be taken very seriously. He thinks, in fact, that without heavy military mortality the annual rate of population growth might have climbed as high as 1.3 or even 1.5 per cent.\textsuperscript{30} Rosenstein believes that a completely satisfactory explanation for these high rates can be found by looking closely at the inner workings of the Roman demographic system as it had been developing since at least the third century. As he observes, the Roman conquests of the fourth and third centuries BC did not only result in a massive number of deaths among young men, but also opened up huge amounts of land for occupation by Roman citizens. In his view, these two developments must have worked to loosen the social and cultural constraints on population growth that typically operated in pre-industrial societies.\textsuperscript{31} The enormous manpower losses suffered during the Second Punic War and the colonization schemes of the early second century BC would then have pushed these tendencies even further, to the point where all constraints on population growth temporarily disappeared. In other words, if we are to believe Rosenstein, the demographic setbacks suffered between 218 BC and 201 BC had the seemingly paradoxical effect of pushing up rates of population growth to unprecedented levels during the first half of the second century BC.

Although this reconstruction is very ingenious, it also raises some difficult questions. Why did no similar population explosion occur after the Samnite Wars or the First Punic War? And why should the large-scale military losses of the early second century BC, when tens of thousands of men were lost in Spain and Greece,\textsuperscript{32} suddenly have ceased to be an effective check on demographic expansion? In a nutshell, while Rosenstein has certainly identified some of the factors that made it possible for the Roman citizen body to expand, his analysis does not really explain the extreme acceleration suggested by the census figures.

In my view, a convincing solution to this problem can be found by exploring the probable relationship between the census figures and general demographic

\textsuperscript{29} Cf. also Chapter 3, at note 203, for the likelihood that manumitted slaves tended to have smaller families than freeborn Romans.

\textsuperscript{30} Rosenstein (2004), 146; (2006), 237.

\textsuperscript{31} Rosenstein (2004), 153–4; (2006), 239.

\textsuperscript{32} Cf. Rosenstein (2004), 136.
developments. Let us begin from the simplifying assumption that the Roman population can be described with the help of modern life tables. The table most commonly used by ancient historians is Coale and Demeny’s Model West, level 3. If we use this life table as a starting point, the adult male citizen population of 225 BC would have looked more or less like this:

Table 4.2 Age structure of a population of 340,000 adult males

<table>
<thead>
<tr>
<th>Age groups</th>
<th>% of male population</th>
<th>Number of men</th>
</tr>
</thead>
<tbody>
<tr>
<td>(0–16)</td>
<td>(37.06)</td>
<td>(-)</td>
</tr>
<tr>
<td>17–19</td>
<td>5.67</td>
<td>30,629</td>
</tr>
<tr>
<td>20–4</td>
<td>8.81</td>
<td>47,591</td>
</tr>
<tr>
<td>25–9</td>
<td>8.1</td>
<td>43,756</td>
</tr>
<tr>
<td>30–4</td>
<td>7.36</td>
<td>39,759</td>
</tr>
<tr>
<td>35–9</td>
<td>6.62</td>
<td>35,610</td>
</tr>
<tr>
<td>40–4</td>
<td>5.91</td>
<td>31,926</td>
</tr>
<tr>
<td>45–9</td>
<td>5.22</td>
<td>28,198</td>
</tr>
<tr>
<td>50–4</td>
<td>4.52</td>
<td>24,417</td>
</tr>
<tr>
<td>55+</td>
<td>10.73</td>
<td>57,963</td>
</tr>
<tr>
<td>100.00</td>
<td>339,849</td>
<td></td>
</tr>
</tbody>
</table>

The next step is to look at the number of fertile women. Under Roman law girls reached adulthood at the age of 12, and this was the age at which marriage was permitted. In reality, few Roman women seem to have married before the age of 17. If we use this age as the commencement of female fertility and regard all women aged between 17 and 45 as capable of child-bearing, we end up with about 230,000 fertile women in Roman territory in around 225 BC, assuming the sex ratio to have been 1:1.

What the existing literature seems to have overlooked is that the female part of the citizen population survived the Second Punic War more or less intact. It is true that in other pre-industrial societies warfare very often led to a significant increase in mortality from non-military causes (for example, because warfare resulted in food shortages and/or because it encouraged the spread of all kinds of infectious disease). During the Second Punic War,

33 Scheidel (2001d) argues that the life tables most commonly used overestimate child mortality and underestimate adult mortality. Neither Scheidel nor anyone else seems, however, to have constructed a more realistic set of life tables for the ancient world.
34 E.g. Treggiari (1991), 399–400; Scheidel (2001c), 33.
36 E.g. Erdkamp (1998), 278.
however, the Ager Campanus was the only part of the Ager Romanus to experience prolonged warfare, and we hear nothing of deadly diseases spreading among the civilian population of central-western Italy. It would seem to follow from this that the number of fertile women of citizen status cannot have been much lower at the end of the Hannibalic War than it had been in 225 BC.

The crucial question is therefore whether enough Roman men survived the Second Punic War to make it possible for all or most fertile women to marry. At this point it must be remembered that under normal circumstances Roman men tended to marry at a considerably more advanced age than women. Although there has been some debate about the average age of Roman women at first marriage, it is generally agreed that most women married before the age of 20. Since in general men began to enter marriage only in their late twenties, they would often have been 5–10 years older than their wives.

Up to a point this pattern of marriage can be understood as a self-perpetuating system sustained by cultural factors. It does not seem far-fetched to suppose, for instance, that many Romans felt that wives ought to be younger than their husbands, although the size of the age gap deemed appropriate would presumably have been open to continual reinterpretation. It is also easy to see how a deeply rooted system in which men aged between 25 and 30 tended to marry girls aged between 17 and 22 would have made it difficult for men younger than 25 to find wives a couple of years younger than they were themselves. In this way patterns of marriage may have become deeply ingrained in Roman society.

Another important factor was the Roman system of military recruitment. As Rosenstein has demonstrated, the legions of the Roman republican army were made up largely of men who were not yet 30. As he points out, Roman patterns of recruitment seem intentionally to have minimized men’s military obligations precisely at the point in their lives when they were likely to marry. Viewed in this light, the Roman system of marriage can be seen as being partially driven or sustained by the Roman habit of mobilizing large numbers of young men for warfare. On the other hand,

37 According to Livy 29.7 (209 BC), many soldiers of Latin and allied status had been killed in the field or carried off by disease during the first 9 years of the Second Punic War. In 205 BC the Roman army in Bruttium was afflicted by disease (Livy 28.46 and 29.10). Only one epidemic appears to have struck the population of Rome, however (Livy 27.23), and this led to chronic rather than fatal illness.

38 E.g. Scheidel (2001c), 33. According to Lelis, Percy and Verstraete (2003), average age at first marriage was 14 or 15 for Roman women and under 22 for Roman men. These figures would imply an age gap of about 6 to 7 years. Their figure for Roman men is, however, almost certainly a couple of years too low. See the critical discussions in De Ligt (2005) and Scheidel (2007b).

39 Rosenstein (2004), 86.
the importance of the military factor should perhaps not be overrated. After all, under normal circumstances at least half of those men aged between 17 and 30 would not have been serving in the legions, and although there were some significant exceptions (such as the soldiers serving in Spain), most legionaries were not expected to serve in many consecutive campaigns. Instead, we must think in terms of a system under which periods of service in the legions alternated with years of agricultural or other work.\(^{40}\)

Finally, we must take into account the impact of economic considerations and of inheritance customs. It has often been observed that one of the reasons why men in traditional Mediterranean societies tended to marry late was that it took some time for young men to build up sufficient economic assets (often meaning ‘enough land’) to set up independent households.\(^{41}\) Up to a point the necessary resources could be accumulated by performing physical labour on other people’s farms (or in the city of Rome) or, in the case of republican Rome, by participating in lucrative military campaigns. While building up some resources independently, the younger generation was also waiting for landed property to become available through inheritance. Viewed in this light, the Roman tradition of late marriage for men can also be seen as an adaptive strategy attuned to the prevailing pattern of property transfer from one generation to the next.\(^{42}\)

An interesting implication of this pattern of marriage is that it suggests the existence of a large pool of adult unmarried men. For example, if men did not normally marry before the age of 24, and if about half of those men aged between 25 and 29 were married, there would have been approximately

\(^{40}\) As Ilari (1974), 93, points out, most legions of the period 200 BC–168 BC were disbanded after 1, 2 or 3 years’ service. If we ignore the Spanish legions, the average legion existed for only 2.5 years. Admittedly, the picture is somewhat blurred by the practice of immediately enrolling the youngest soldiers from disbanded legions in freshly created ones (Ilari 1974, 102–3). Nonetheless, it was clearly very unusual for young men aged between 17 and 30 to spend more than 5 or 6 years in the legions. Many of those serving in Cisalpine Gaul (and perhaps also those stationed in Sicily or Sardinia) must have been able to visit their farms and families (if they had any) when on leave. Some of the exhortative speeches that Livy puts into the mouths of Roman generals assume that a significant proportion of serving soldiers had wives and children (e.g. Livy 28.28.7; 30.32.10).

\(^{41}\) E.g. Kertzer and Bretell (1987), 95–9 (emphasizing the crucial importance of patterns of inheritance); Oppo (1990), 487. In areas dominated by large estates worked by wage labourers, men tended to marry much earlier, since they would never be able to accumulate many resources by means of inheritance and could find salaried jobs at an early age. See e.g. Rettaroli (1990), 411–12. Of course, the impact of economic factors does not mean that the age at first marriage for men always coincided with the age of economic independence. As countless studies (e.g. Rettaroli, *ibid.* 423) have pointed out, purely cultural factors were at least as important.

\(^{42}\) Judging by modern life tables, roughly half of all young men might have lost their fathers before reaching the age of 20, but we must also consider the rights of surviving wives (who might receive the usufruct of part of the land as a legacy) and the claims of brothers and sisters; see Rosenstein (2004), 83. As Hin (2009), 97, points out, Roman mortality patterns must significantly have diminished competition for inheritable assets amongst those aged between 20 and 30.
100,000 young unmarried men at the outbreak of the Second Punic War.\footnote{30,629 + 47,591 + (0.5 \times 43,756) = 100,098.}
Of course, this pool of potential husbands is likely to have been much reduced by the heavy casualties of 218 BC–209 BC. The other side of the coin is that their number was continually being replenished by young men born between 235 BC and 226 BC. Especially after 209 BC, by which time the worst of the fighting was over, natural growth might well have been sufficient to offset losses on the battlefield. This means that by the end of the war there must have been a very substantial group of unmarried men aged between 17 and 28. In the years after 201 BC, this group would have been swelled by the addition of young men born after 218 BC.\footnote{Of course, any decrease in marital fertility caused by the extremely severe casualties suffered between 218 BC and 215 BC would have slowed this trend down.}

While most of these men would normally have postponed marriage, the extreme skewing of the sex ratio brought about by the Hannibalic War and the presence of an unusually large number of unmarried women must have created unprecedented opportunities for earlier marriage. One factor pushing matters in this direction was the fact that the deaths of tens of thousands of legionaries must have made it difficult for women aged between 17 and 22 to find enough husbands aged 25 to 30. Another was that large numbers of young men had inherited substantial amounts of property from fathers who had been killed in battle. At the same time, the realignment of property rights resulting from the Hannibalic War must have increased the amount of property that guardians or surviving fathers could offer to prospective husbands. In other words, it is not difficult to imagine a situation in which the exceptional distortion of the sex ratio created by the Second Punic War resulted in a temporary lowering of the average age of men at first marriage. As we have just seen, this would have provided tens of thousands of women who would otherwise have remained unmarried with the opportunity to find husbands and start families.\footnote{It is true that between 25,000 and 33,000 men were still serving as legionaries in 199 BC (e.g. Brunt 1971/1987, 424), but, as we have seen, most of these men served for brief periods and some of them were stationed in Italy. In any case, it is simplistic to think of all legionaries as being unmarried.}

An interesting parallel is provided by demographic conditions in Tuscany in the decades following the Black Death. Here the ‘favourable’ economic prospects created by the wiping out of one-third of the population appear to have resulted in a drastic lowering of the average age at first marriage of both men and women and in a temporary reduction of the customary age gap between husbands and wives.\footnote{Note, however, that, unlike the Black Death, the Hannibalic War had killed off far more men than women. In my view, this explains the astonishing speed of the Roman recovery.} Interestingly, a return to the old pattern can
be observed during the fifteenth century, when the average age at first marriage went up again, more steeply for men than for women.  

Various other adaptive mechanisms can be envisaged. It might, for instance, be hypothesized that, with so many women on the marriage market, the number of widowed men entering second or third marriages increased. We should also consider the possibility that the huge imbalance between land and people created by the Second Punic War led many women to give birth at shorter intervals. Like my proposal of a reduced age at first marriage for men, these suggestions are speculative. They are nonetheless important because they show that, even after a net loss of some 95,000 men, the demographic system of republican Rome allowed room for rapid recovery.

In order to flesh out this scenario of a quick demographic rebound, I want to return to my schematic reconstruction of the Roman population (Table 4.2). As we have seen, the low count suggests that there should have been about 340,000 women of citizen status at the outbreak of the Second Punic War (if the sex ratio was perfectly balanced). Of these women, about 230,000 would have been aged between 17 and 45. As noted above, their number is unlikely to have been much lower at the time of the census of 204/203 BC. At this time the number of adult male citizens would have been about 225,000, if the census figure for 203 BC was only slightly defective. To these surviving adult male citizens we must add about 25,000 surviving Campanian men who were not registered by the censors. This brings the total number of adult men to about 250,000. From these bare figures it immediately appears that, if all men aged 17 or over were prepared to enter the marriage market, it would have been possible to find husbands for all of the fertile women who had survived the war.

Of course, the reality is likely to have been much fuzzier. Certainly, the starting assumption that the sex ratio was perfectly balanced may well be unrealistic in view of the fact that female children stood a greater chance of being disposed of by means of infanticide or abandonment. Another caveat is that a scenario based on the assumption of universal marriage for all women aged 17 years and over is out of line with the prevailing view that

48 For the spacing of births as a (partly unconscious) adaptive mechanism, see Hin (2009), 105–7. As Bagnall and Frier (1994), 148–51, point out, breast-feeding had the effect of lengthening the intervals between births.
49 120,000 less the 25,000 hypothetical Campanians who are thought to have re-entered the citizen body in 188 BC.
50 According to the no doubt fictitious ‘law of Romulus’ (DH 2.15.2), Roman citizens were under an obligation to raise all male children, but only the first-born of the females.
most Roman women tended to marry after reaching the age of 17 but before their twentieth birthdays. It seems reasonable to infer that my estimate of the number of fertile women looking for husbands is too high.

On the other hand, it seems likely that even with so many women on the marriage market many young men remained reluctant to marry before the age of 20, and we can also be certain that many older men remained married to women no longer capable of bearing children. This means that it is completely unrealistic to assume that all or almost all of those adult citizens and ex-citizens who had survived the war were available for marriage.

Even with these important qualifications, however, there can be no doubt that since the demographic system of republican Rome was characterized by the existence of a substantial age gap between husbands and wives, it had huge potential for recovery after such major demographic disasters as the Second Punic War.

An important advantage of this reconstruction is that it enables us to get round the problem posed by the extremely high growth rate of 1.1 per cent per annum suggested by the census figures for 203 BC and 163 BC. If my general model of demographic recovery is correct, we can argue that the first decades following the end of the Second Punic War witnessed a fast recovery in the number of adult male Romans and Campanians, but not an equally fast recovery of the citizen population as a whole. The central message of my model is that instead of looking at male numbers we should focus upon the capacity of the c. 340,000 adult women who are likely to have survived the war to reproduce their own gender. If most women aged between 17 and 45 managed to find husbands and if the female population reproduced itself only at replacement level (for example, because husbands were in short supply), the number of adult male citizens would have approached 340,000 after 40 years. If we compare this figure with the roughly 250,000 adult Romans and Campanians who can be hypothesized for 203 BC, we end up with a growth rate for males of about 0.8 per cent per annum.

51 Above, at note 34.
52 The customary age gap of 5–10 years between Roman spouses implies, however, that many women older than 55 are likely to have been widows.
53 The difficulties that (the fathers of) young women must have experienced in finding husbands could go a long way towards explaining why it took about three decades for the number of adult males to recover to pre-war levels.
54 The same mechanism must have been at work in some other Mediterranean societies. We are told, for instance, that it took only twenty-six years for the kingdom of Macedonia to recover from the acute shortage of iuniores that existed in 197 BC (Livy 33.3.2–4; 42.11.6; 42.52.1–2). Admittedly, the Macedonian recovery was speeded up by the forced settlement of large numbers of Thracians in the mid-180s BC (Livy 39.24.4).
annum. If we look at the size of the adult population as a whole, however, this rate drops to 0.4 per cent, and if we focus exclusively on the number of adult women, we end up with a growth rate of zero.

These considerations suggest to me that the impression of very strong population growth in the early decades of the second century BC may well be an illusion created by the highly selective mortality that had taken place during the Second Punic War and by the simple fact that the republican census figures relate exclusively to the numerical fate of the adult male citizen population. If we correct this bias by concentrating on the number of adult women of citizen status, a far more realistic picture emerges. For instance, if we assume that the census figure for 163 BC was 10 per cent defective (implying the existence of about 370,000 adult males) and that the sex ratio had completely balanced out by the mid-160s BC, the discrepancy with our hypothetical starting population of 340,000 adult women in 203 BC would imply an average annual growth rate for adult women of only 0.2 per cent, this percentage including all forms of natural and non-natural population growth.\footnote{If we assume that the number of adult women remained stable between 225 BC and 203 BC, the average annual growth rate for the period 225 BC–163 BC drops to about 0.15 per cent.}

It appears, therefore, that if we accept the low count the anomalous growth rate suggested by the census figures for the first decades of the second century BC can easily be explained. The pattern suggested by these figures cannot therefore be used as an argument against the reliability of the republican census figures or against the general plausibility of a low-count reconstruction of the demographic history of Italy during the last two centuries BC.

### 4.2.3 The rationale behind viritane distributions and colonization

After the end of the Second Punic War, large-scale viritane distributions were carried out in southern Italy. In Livy’s account of the year 201 BC, we read that *ager publicus* in Samnium and Apulia was distributed among the African veterans of Scipio Africanus.\footnote{Livy 31.4.1 and 31.49.5. Within Samnium and Apulia, the districts of Hirpinia, the territory of the Caudini and the Salento have been identified as areas settled by some of Scipio’s veterans. See e.g. Silvestrini (2001) and Grelle (2009), 320–3. Unfortunately, the indications commonly used to trace pockets of Scipionic veterans are less than completely reliable. See below, note 58.} We are also told that other legionsaries who had seen long service in Spain, Sardinia and Africa received allotments of *ager publicus* in 199 BC.\footnote{Livy 32.1.6.} This time no information is given...
about the areas in which these distributions were made.\textsuperscript{58} Kromayer and Brunt argue that as many as 40,000 adult male citizens may have been entitled to receive allotments under these schemes. The number of those who actually benefited from them has been estimated at 30,000 or more.\textsuperscript{59}

Although these viritane assignations have often been noted in the existing literature, they have rarely been discussed from a demographical point of view. Some kind of explanation is, however, surely required, particularly of those favouring a low-count interpretation of the agrarian and social history of Italy. After all, if the number of adult male citizens stood at c. 340,000 in 225 BC and had dropped to about 225,000 in 203 BC (or to 250,000, if the Campanians are included), it follows that the Hannibalic War must significantly have increased the amount of land available to the free rural population of central-western Italy. With so many new opportunities opening up in the pre-Hannibalic Ager Romanus, why should the Roman government have decided to send out tens of thousands of viritane settlers to some of the newly confiscated districts of Apulia and Samnium?

Before suggesting a possible answer to this question, I should like to draw attention to the fact that, as far as we can tell, the viritane distributions of 201 BC and 199 BC targeted exclusively men who had been on legionary service outside Italy. As Rosenstein has recently argued, there is good reason to believe that the recruitment of large numbers of soldiers did little long-lasting harm to the farms from which these men had been withdrawn. In most cases enough family members stayed behind to carry out all necessary agricultural labour, and even if farms did suffer from neglect, returning soldiers often brought home enough cash to support themselves until new crops could be harvested.\textsuperscript{60}

Even if this reconstruction seems eminently likely for long periods of republican history, the veterans of Sicily, Sardinia, Africa and Spain were clearly a special category. The legionaries who had fought with Scipio at

\textsuperscript{58} Sisani (2007), 59–60, 135–9 and 218–21, suggests that some Umbrian land was confiscated in 206 BC and that this land was assigned to veterans of the Hannibalic War in 199 BC. His main argument is that in the northern parts of Umbria some communities belonged to the \textit{tribus Cornelia} or the \textit{tribus Aemilia} and that these tribes are anomalous. He also suggests that these tribes were controlled by the Scipiones and their friends. Against this theory, it may be pointed out that exactly the same claim has been made regarding the \textit{tribus Galeria} (Silvestrini 2001) in the case of Hirpinia and for the \textit{tribus Cornelia} and \textit{tribus Claudia} in that of Apulia (Grelle 2009, 322–3; but see the cautionary remarks in Grelle 2001, 24). The fact that as many as four different tribes have been identified as ‘Scipionic’ casts considerable doubt on the use of ‘anomalous’ tribes to trace Scipionic veterans and their descendants.


\textsuperscript{60} Rosenstein (2004), 101–2.
Zama included the survivors of the *legiones Cannenses* recruited in 217 BC and 216 BC. By 201 BC these men had seen at least 16 years’ service. Similarly, many veterans of the Spanish legions had served for 15 consecutive years, while those stationed in Sardinia had done 13 years’ service. These periods of active service are longer than those of most of the legionaries who served in Campania, Etruria, Apulia and Cisalpine Gaul. It must also be borne in mind that even during the Second Punic War soldiers stationed in Italy had greater opportunities to stay in touch with their farms and families. It is true that the legions stationed in Italy during the Second Punic War are likely to have spent the winter season in camp, and there are indications that most Roman armies of the third century BC served all year round, but many soldiers stationed in Italy are likely to have been able to obtain leave to attend to pressing personal business. This would have enabled them to prevent their holdings being taken over by other people and to do at least some of the work required to keep their farms going. For the soldiers serving in Spain, Sicily and Africa between 218 BC and 201 BC, it must have been impossible to make even occasional visits.

It seems reasonable to suppose that the prolonged absence of these men would have caused a significant number of their farms to deteriorate, and in at least some cases their properties may have been usurped by other people who could not easily be expelled after cultivating the land for many years. Another problem facing many veterans after 13 to 16 years’ service must have been that they had had little opportunity to accumulate resources by means of labour or marriage. If they had lost a lot of relatives during the Second Punic War the prospect of taking over inherited properties might certainly have attracted them back to central-western Italy, but even in 201 BC there must have been many veterans whose return was complicated by the survival of too many fathers, brothers or sisters. In this context, it must be remembered that even before the reduction of the property qualification for military service thought to have taken place in 212 BC, the ownership of 7 *iugera* (1.75 ha) of land seems to have been enough to make a citizen liable

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62 Some examples: Legions 30 and 31 (disbanded 205 BC) existed for 7 years, Legions 21 and 22 (disbanded 203 BC) for 12 years, Legions 28 and 29 (also disbanded 203 BC) for 10 years, Legions 32 and 33 (disbanded 202 BC) for 9 years.
64 Ibid. 103.
65 This problem would have been particularly pressing for those peasants whose holdings included plots of public land held on the basis of *occupatio*. As Rathbone (2003), 149–50, and Roselaar (2010), 208, point out, however, few peasants living in central-western Italy are likely to have had access to tracts of state-owned arable land.
for service in the legions. After 212 BC, fewer than 5 iugera seem to have been required. These figures suggest that even after the thinning out of the adult male citizen population many returning legionaries are likely to have welcomed the prospect of receiving farms much larger than those they had owned before the war.

Of course, there must have been many veterans whose families had already owned sizeable farms before the war and whose farms had not deteriorated much. With so many variables, it is impossible to estimate the number of veterans likely to have taken up the offer of a viritane plot in Samnium or Apulia. As we have seen, some scholars have estimated their number at between 30,000 and 40,000. In my view, these estimates are far too high. Most importantly, the number of veterans qualifying for viritane allotments appears to have been no higher than 28,000, even if we take no account of casualties and natural deaths. Moreover, for the reasons already given, it seems extremely unlikely that none of these potential beneficiaries would have wanted to return to their ancestral holdings in central-western Italy, very possibly augmented by plots inherited from relatives who had died during the war.

All in all, the viritane distributions of 201 BC and 199 BC are best understood as offering the opportunity for a fresh start to all those citizens for whom the prospect of a return to central-western Italy held little appeal. As we have seen, two obvious target groups would have been those whose land could not easily be brought back under cultivation and those whose families had owned little land even before the war. Of course, poor citizens could also gain access to additional land by renting from wealthier neighbours. For reasons that will be explained in a later section of this chapter, however, tenancy is likely to have had few attractions for wealthy landowners during this period, and many poor peasants are likely to have welcomed the prospect of acquiring a substantial amount of privately owned land for free. From the point of view of the Roman government too this would have been a most welcome development, since it would have increased the likelihood that the recipients and their descendants would remain assidui. It seems likely that this was seen

66 One thinks here of Atilius Regulus, the consul of 256 BC who was allegedly called away from his seven-iugera plot (Val. Max. 4.4.6). Further references in Rosenstein (2004), 234, n. 68. Cf. also Roselaar (2010), 205–6.
67 Cf. Chapter 3, at note 96.
68 It has often been pointed out that many of those eligible might not have received or wished to receive allotments. For this reason, Toynbee (1963), ii, 240, n. 7, estimated the number of recipients at between 10,000 and 15,000, while Camodeca (1991), 20, suggests that some 15,000 veterans received land in Apulia and some 5,000 in Samnium. Cf. also Gargola (1995), 108.
69 Cf. De Ligt (2009), 266–7: 8,000 veterans from Africa plus at most 20,000 potential recipients from Spain, Sicily and Sardinia.
as an urgent priority at a time when so few potential legionaries were available for service. The decision to use large tracts of state-owned land for viritane settlement thus makes perfect sense in the context of a temporary shortage of adult male citizens.

The foundation of at least eight maritime colonies between 199 BC and 184 BC and of between three and six larger *coloniae civium Romanorum* between 184 BC and 181 BC can be seen in the same light. At least some of the colonists sent out to these settlements are likely to have been proletarians, while many others may have been (the sons of) *assidui* who owned small plots of land or had large families. Although the allotments assigned to the colonists were sometimes no larger than 5 *igera*, they must have been large enough to make the recipients liable for legionary service. In the case of the four or five Latin colonies founded between 193 BC and 177 BC the outcome would have been slightly different, since men of Latin status would have served in the allied contingents. Since those sent out to Latin colonies included many men of allied status, however, even these colonies would not have drained away much manpower from the legions, and again these schemes are likely to have helped to prevent downward social mobility amongst Roman and allied *assidui*.

### 4.2.4 The low count and the spread of agricultural slavery

If the low count is correct, it is impossible to avoid the conclusion that the thinning out of the (adult male) Roman population by the Second Punic War and the viritane distributions and colonization schemes of the period 201 BC–173 BC must have resulted in a population whose proportion of proletarian citizens was low.

For a proper understanding of this development, it is of vital importance not to lose sight of the lowering of the property qualification for legionary service that seems to have taken place during the Second Punic War. As we saw in the previous chapter, the threshold for membership of the fifth class seems to have been reduced to 4,000 sextantal *asses* in 212 BC, and the size of the allotments given to Roman citizens sent out to Roman colonies in the

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70 For these colonies see e.g. Toynbee (1965), ii, 145–6; Salmon (1969), 96–106; Laffi (2001/2007), 39–41. While Toynbee classifies Pisaurum, Potentia and Graviscae as small maritime colonies of the old type and posits another maritime colony at Castrum Hannibalis (cf. Livy 32.7.1–3), Salmon argues that all citizen colonies founded after 194 BC received 2,000 settlers apiece and identifies Castrum (Livy 32.7.3) with the maritime colony of Salernum. Another *colonia civium Romanorum* was founded at Luna in 177 BC.

71 Livy 39.55.7–9 (Mutina) and 40.29.1–2 (Graviscae).

72 Chapter 3, note 211.
190s and 180s BC suggests that this sum corresponded to the value of 5 or 6 *iugera* of colonial land. Immediately after the end of the Second Punic War most rural citizens must have owned enough land to fall into this category. As we have just seen, moreover, the further wave of land distributions must have helped to keep down the number of rural proletarians.

It may be no coincidence that references to freedmen being used as rowers in Roman fleets begin to appear in Livy’s account of the years 201 BC–167 BC. The steady rise in the census figures makes it impossible to maintain that freedmen were being used for this purpose because freeborn citizens were in short supply. Instead, it seems reasonable to suppose that the favourable economic conditions that existed after the Second Punic War and the lowering of the threshold for legionary service had resulted in an unprecedented shortage of freeborn proletarians. As we saw in the previous chapter, Polybius’ statement that Rome was no longer able to man very large fleets could be interpreted in the same way.

An important advantage of this reconstruction is that it makes it easier to understand the advance of slavery in the Roman countryside in the decades following the end of the Second Punic War. Most accounts of the agrarian history of Italy during the second century BC account for the spread of slavery by pointing out the various advantages to be gained by using non-free labourers. It has been stated, for instance, that slave-ownership conferred status and that slaves could be made to work longer hours than wage labourers. Moreover, unlike free labourers, slaves could be made to work in gangs. Finally, the flow of booty generated by the successful wars of the early second century BC boosted elite incomes and thus made slaves more affordable.

While all these observations are valuable, I feel that too little attention has been paid to the bargaining position of free labourers. Even if we know almost nothing about rent levels and wages during the second century, the fact remains that the Second Punic War had severely reduced the number of adult male Romans and Campanians. If the low count is correct, in fact, the number of adult male citizens and ex-citizens had dropped by about 30 per cent. Some of the probable economic effects of this demographic downturn can be reconstructed with the help of comparative evidence. One obvious parallel is the demographic void created by the Black Death across large

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73 Brunt (1971/1987), 423, 669–70. The Roman government’s decision to compel the citizens of the *coloniae maritimae* to serve as rowers in the fleet (Livy 36.3.4–6, 191 BC) points in the same direction. During the Second Punic War slaves had been used for this purpose (Livy 24.11.7–9).

parts of Europe in the second half of the fourteenth century. As many studies have shown, the dramatic population decline that took place in this period resulted not only in lower grain prices and higher real wages, but also in lower land rents. The obvious reason for this is that the collapse of the rural population put serfs and tenants in a strong bargaining position in relation to their landlords. It does not seem far-fetched to suppose that this was also the case in Roman Italy after the Second Punic War. In short, even without good evidence concerning rent levels and grain prices, it remains plausible that the use of tenants and wage labourers was an unattractive option during the first decades of the second century BC. At the same time, there are good grounds for thinking that slaves were relatively cheap during this period. In my view, the interplay between these two factors goes a long way towards explaining the rapid expansion of rural slavery in the early second century BC.

Admittedly, we must not lose sight of some other important factors. It is, for instance, important to keep in mind Appian’s claim that wealthy landowners preferred slaves because they could not be called up for military service. In principle the practical disadvantages of using free men as labourers could have been avoided by leasing out plots of land to rural citizens whose assets fell short of the property qualification for military service. As we have just seen, however, the reduction in the property qualification for legionary service to only 4,000 sextantal asses had artificially reduced the number of rural proletarians who would have made ‘safe’ tenants. The relative dearth of rural proletarians not liable for legionary service can therefore be identified as another factor that must have made the use of free labourers unattractive, especially during the first decades of the second century BC.

Although this overall reconstruction of economic and social developments in post-Hannibalic Italy is ultimately speculative, it highlights some advantages of the low count. As we have seen, the low count implies a shortage of proletarian citizens during the early decades of the second century BC that makes it possible to explain certain military developments such as the increasing use of freedmen as rowers in Roman fleets. More importantly, the low count helps to explain the spread of the slave-run villa

76 For a quick orientation, see the valuable collection of essays in Aston and Philpin (1985). In late-medieval and early-modern eastern Europe, landlords managed to avoid giving their tenants a better deal by gradually reducing large parts of the rural population to serfdom. In my view, the Roman elite of the early second century BC solved the ‘problem’ posed by the low profitability of tenancy after the Second Punic War by setting up slave-run villae.
78 App. BC 1.7.
79 Although proletarians could be made to serve as rowers in the fleet.
in the period immediately following the end of the Second Punic War. If the Roman and Italian population was as large as the high counters have suggested, free labour should have been relatively cheap, while the chance of free tenants being dragged off to the legions would have been minimal. If we accept this view we will be forced to attribute the spread of rural slavery to purely cultural factors, such as a deeply felt reluctance on the part of free citizens to accept employment as permanent wage labourers or to work other people’s land as tenants. If pressure on the land was really as intense as the high count implies, however, it would soon have become impossible for many citizens to act on such cultural preferences. It seems more plausible that attitudes of this sort remained the norm because they were economically realistic.

Since our evidence regarding the agrarian and social history of Italy during the second century BC is extremely meagre, it would be foolish to claim that any of the foregoing arguments proves the high-count theory to be incorrect. What can be demonstrated is that the low counters have an easier job in explaining certain developments that are relatively uncontroversial, such as the spread of rural slavery. It is only in this limited sense that the low count may be called superior in terms of its capacity to make sense of some of the general economic and social trends that can be observed during the first forty years of the second century BC.

4.3 DEVELOPMENTS BETWEEN 163 BC AND 133 BC: THE BACKGROUND TO THE GRACCHAN LAND REFORMS

All existing reconstructions of the demographic history of the free Italian population, especially that of the Roman citizen body, during the second and third quarters of the second century BC are intimately linked to competing attempts to explain the social tensions that seem to have lain behind the Gracchan land reforms, universally seen as a decisive episode in the history of the Roman republic. It is evident, for instance, that the particular version of the low count championed by Brunt and Hopkins cannot be separated from their view that Tiberius Gracchus introduced his programme of agrarian reform with the aim of halting a perceived decline in the free rural population.

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80 Regarding the Gracchan period, Lo Cascio (2004) even detects signs of the onset of a Malthusian crisis. Cf. below, section 4.3.7.
81 For a detailed reconstruction of the juridical, economic and social background to the Gracchan land reforms, see Roselaar (2010).
It will immediately be clear that this theory cannot be maintained if we accept the high-count view that the Ager Romanus of the mid-second century BC was much more densely populated than has previously been thought and that the last two centuries of the Republic were characterized by strong and continuous population growth. This explains why some adherents of the high count have developed the strikingly novel theory that, rather than being prompted by a downturn in the free rural population, the Gracchan reforms were an attempt to deal with the social consequences of a Malthusian overpopulation crisis.

These completely divergent interpretations provide us with an opportunity to assess the explanatory power of the low and high counts by looking at their capacity to make sense of the literary tradition concerning the background to the *lex Sempronia agraria* of 133 BC.

### 4.3.1 The Gracchan land reforms in the literary tradition

Since the nineteenth century, most attempts to elucidate the social history of the Roman citizen body during the three or four decades before 133 BC have taken their lead from the first book of Appian’s *The Civil Wars* and from Plutarch’s *Life of Tiberius Gracchus*.

The fullest account is that of Appian, who traces the social and demographic problems encountered by the Gracchi all the way back to the time when the Romans were conquering Italy. As he explains, the cultivated land captured by the Romans was either assigned to colonists or sold or leased out. When large tracts of land remained uncultivated after the war, however, general permission was given to use it at a rent of one-tenth of the produce from arable land and one-fifth of the crops harvested from vineyards and olive groves. According to Appian, the original aim of this policy was ‘to increase the population of Italy’. In fact it had the opposite effect, since most of the uncultivated land was seized by the rich, who used it to set up large estates and ranches whose workforce consisted of slaves. The next step was that many poor peasants were bought out or simply driven off their holdings. As a result of these developments, ‘the Italian people began to suffer from depopulation and a shortage of men (*oligotēs kai dysandria*), worn down as they were by taxes and military service’.

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83 App. BC 1.7–8. For a penetrating analysis of Appian’s tendency to represent earlier conflicts and policies as leading ‘naturally’ to the Gracchan land reforms, and of the distortions that are likely to have resulted from this tendency, see Gargola (2008).
In order to remedy this situation, a tribunician law was passed that laid down a maximum of 500 iugera (125 ha) for holdings of ager publicus. Unfortunately, this law soon began to be evaded or even completely ignored, so that the displacement of the free Italian population by slaves continued. Appian claims that it was for this reason that Tiberius Gracchus decided to launch his programme of agrarian reform, his aim being not so much to increase rural prosperity (euporia) as to promote the availability of sufficient military manpower (euandria).

Essentially the same picture emerges from Plutarch’s Life of Tiberius Gracchus. Plutarch says that Tiberius Gracchus became concerned about the fate of the rural poor when travelling through the coastal parts of Etruria, where ‘barbarian slaves introduced from abroad’ had replaced the native Italian population. In other words, slave-staffed estates were pushing the free Italian peasantry off the land.

Although many adherents of the low count have stressed the fact that we are dealing here with rhetorical simplifications of a no doubt very complex reality, the downward trend in the census figures after 163 BC seems to confirm the general picture of demographic stagnation or decline as broadly reliable. At the same time, twentieth-century scholarship has remained divided as to the causes of this negative demographic trend.

4.3.2 Theories of demographic decline: poverty and its consequences

In his Italian Manpower, Brunt identifies the progressive impoverishment of a growing proportion of the free rural population as one of the main factors behind the picture of demographic decline or stagnation that seems to emerge from the literary tradition and from the census figures for the period 163 BC–133 BC. In his view, Appian’s assertion that an increase in rural poverty made it more and more difficult for rural citizens to reproduce their kind at replacement level is well supported by comparative data. He points out, for instance, that the peasants of medieval England did not normally marry until they had acquired a farm of their own. The same picture seems to emerge from data relating to eighteenth-century Sweden and Iceland and to late nineteenth-century Russia. In all these societies there appears to have been a strong link between material well-being and marriage rates, with men belonging to the lowest income groups marrying at much later ages than the better-off members of society. In Brunt’s view, these comparative data suggest that poor people tended to postpone marriage and to have fewer

84 Plut. TG 8.7.
children.\textsuperscript{85} Partly on this basis, he concludes that from about the mid-second century BC the citizens ‘of the old stock’ (that is, those of free birth) began to decline, although he modifies this conclusion by pointing out the positive demographic effects of the large-scale manumission of slaves.\textsuperscript{86} In Brunt’s view, the net outcome of these processes might have been demographic stagnation rather than population decline.

This superficially attractive theory has several serious problems. Foremost amongst these is the fact that the relatively low census figure for 130 BC is followed by much higher figures for the years 124 and 114 BC. If we are to believe these figures, the censors of 124 BC managed to register c. 395,000 adult male citizens, some 75,000 more than their predecessors of 6 years before (above, Table 4.1). Needless to say, these data are incompatible with the theory that the Roman citizen body was in continual decline from the late 1st century onwards. This explains why some of Brunt’s predecessors who also believed in demographic decline took the drastic step of lowering the census figures for these years by eliminating one of the initial Cs. In other words, the traditional low-count interpretation of the Gracchan land reforms can be made to work only if two out of the fourteen census figures preserved for the second century are discarded.\textsuperscript{87}

The view that the low census figure for 130 BC is more reliable than the higher figures for 125/124 BC and 115/114 BC sits very uneasily with Brunt’s own interpretation of the census figure for 70/69 BC, when some 900,000 adult male citizens were registered. Building on scattered data relating to the number of troops fielded by the Romans and their Latin allies during the Social War, he argues that about 412,500 of those registered in the census of 70/69 BC (or their fathers) must already have possessed citizenship in 91 BC.\textsuperscript{88} In comparing this hypothetical figure with the census figure for 130 BC, we must bear in mind that some 85,000 adult male citizens ‘of the old stock’ are likely to have been killed during the Cimbrian Wars and the Social War.\textsuperscript{89} Even if we assume that these losses had been made good by 70 BC, the inescapable conclusion remains that there must have been at least 400,000 adult male citizens during the final decades of the second century BC. In short, if one accepts Brunt’s arguments concerning the numerical balance between ‘old’ and ‘new’ citizens in around

\textsuperscript{85} Brunt (1971/1987), 138–40. \textsuperscript{86} Ibid. 76–7, 81.

\textsuperscript{87} Beloch (1886), 351; Toynbee (1965), 11, 471. The figure for 115/114 BC is accepted as reliable by Nicolet (1989), 606, De Ligt (2004), 740–1, Rosenstein (2004), 145–6, and Lo Cascio (2008), 252–3. Brunt (1971/1987), 82–3, contemplates the possibility that the census figures for 125/124 BC and 115/114 BC may have been transmitted correctly, but glosses over the fact that acceptance of this possibility would undermine his overall scenario of demographic stagnation.

\textsuperscript{88} Brunt (1971/1987), 97. \textsuperscript{89} Ibid. 685, 697.
70 BC, it becomes very difficult to set aside the high census figures for 125/124 BC and 115/114 BC.

Another weakness in Brunt’s theory is that almost all of his comparative evidence comes from countries and areas whose populations were growing despite the fact that many people were living in poverty. This observation applies not only to large parts of late-medieval England, but also to eighteenth-century Sweden and pre-revolutionary Russia.\(^9\) The only exception is eighteenth-century Iceland, where a combination of economic oppression and legal restrictions on marriage caused the population to decline.\(^8\) Since the Icelandic anti-marriage laws are, however, without parallel in mid- or late-republican Italy, this curious case does little to illuminate the demographic developments allegedly lying behind the Gracchan land reforms.

Finally, and perhaps most importantly, Brunt’s thesis is based on preconceived ideas about a ‘natural’ link between poverty and population decline that are highly debatable in the light of modern demographic theory.\(^9\) For obvious reasons, most of the recent literature on this topic centres on the Third World, where widespread poverty has not prevented populations from expanding rapidly. Various competing explanations for this have been offered. One of these is Caldwell’s theory that it is economically advantageous for poor people to have a lot of children because the costs of bringing up an additional child are low compared to the additional income that can be obtained by putting him or her to work, often at an early age.\(^9\) Another popular theory is that having a lot of children can be seen as a form of old-age security, especially in countries with limited capital markets and few opportunities to accumulate resources by means of saving or insurance schemes. As some recent publications have pointed out, this form of old-age security is often particularly important to women, for instance in cultures where women tend to marry older men and in societies where job opportunities for older women are limited. Interestingly, some studies have found that fertility is highest in those parts of the Third World where the fate of a widow without a mature son is worst.\(^9\)

Up to a point, the relevance of these theories to second-century-bc Italy is open to dispute. It has been pointed out, for instance, that Caldwell’s theory has little relevance to economies dominated by smallholder agriculture. The main reasons for this are that in such economies it is often difficult

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90 For fast population growth in eighteenth-century Sweden and pre-revolutionary Russia, see e.g. Livi-Bacci (2000) 10, 132–3.
91 Brunt (1971/1987), 139.
92 For more extensive discussions of this topic, see De Ligt (2004), 749–51; Hin (2009), 110–24.
to gain access to additional land and that the additional income that can be obtained by working existing holdings more intensively is negligible.\textsuperscript{95} Under these circumstances, it is virtually impossible for young children to make a significant contribution to household incomes.

Serious reservations have also been expressed concerning the idea that having a lot of children can be seen as the Roman equivalent of a modern pension scheme. It has been observed that considerations of this kind are likely to have been of limited importance in a society characterized by low life expectancies, in which older people seem to have continued to work for as long as their physical condition allowed.\textsuperscript{96} The other side of the coin is that there are clear indications that in both Greek and Roman society children were expected to look after their parents in case of need.\textsuperscript{97} For those who survived into old age, then, children may indeed have been an important source of support, although it cannot be determined how many people adopted reproduction as a strategy to cope with this eventuality.

Recent literature concerning levels of fertility in Third World countries puts increasing emphasis on the relevance of purely cultural factors, such as the wish to ensure the continuity of some family cult or simply of the family name.\textsuperscript{98} This sort of approach is certainly relevant to the Graeco-Roman world, in which having many children was a source of social prestige and perpetuation of the family name was widely acknowledged as an important social goal.\textsuperscript{99}

At the most general level, it can be said that all known pre-industrial societies are characterized by high levels of fertility and that there is no empirical evidence to back up the theory that poor people are either reluctant or unable to reproduce at replacement level. This fact is enough to shed considerable doubt on Brunt’s theory that the second half of the second century BC witnessed an increase in rural poverty that pushed up the average age at first marriage of both men and women and ultimately reduced levels of fertility to such an extent as to bring about a decline in the number of freeborn citizens.

\textit{4.3.3 More slaves = fewer rural citizens?}

In his \textit{Conquerors and Slaves}, Hopkins accepts Brunt’s general reconstruction of the demographic development of the Roman citizen body, but pays almost no attention to rural poverty as a driving force behind the negative

trend suggested by the census figures for the mid-second century BC. This shift in emphasis has to do with the fact that Hopkins’ account of developments during the second and first centuries BC centres on the economic and social effects of Roman imperialism. One of his central observations is that the lucrative wars of the early second century BC boosted the income of the Roman elite. Since there were few alternative opportunities for investment, a large proportion of this newly acquired wealth was invested in Italian land, especially land within easy reach of the growing market in Rome. Up to a point such acquisitions were made possible, or at least facilitated, by the fact that so many Roman soldiers were serving abroad. Simultaneously, the crucial importance of the free rural population as a source of recruits made it impossible for the elite to rely on wage labour, which was moreover very unpopular in Roman society. Partly for this reason, wealthy landowners preferred to use slaves, many of whom seem to have been prisoners of war enslaved during the Roman wars in the East.

Another important building block of Hopkins’ reconstruction is his claim that there was an important difference between the wars of the fourth and early third centuries BC and those of the second and first centuries. His main argument is that while the Romans and their allies were fighting on Italian soil it remained possible for most peasant soldiers to return to their farms at the end of the fighting season. When the theatre of war moved to Greece, Asia Minor, Africa and Spain, this was no longer a realistic option. Unlike the peasant soldiers of the fourth and third centuries BC, many of those recruited for service in these areas returned after spending many years in the legions only to find that their families had fallen into debt or that their farms had been taken over by creditors. For many of these men and their families, migration to Rome was the only realistic option left. Here these migrants joined the urban proletariat that constituted the most important market for the wine and olive oil produced on the slave-operated estates of the rich. In this way, the deracination of the free rural population stimulated the spread of slavery in the countryside. When the number of displaced peasants continued to grow during the first century BC, a new solution was found: mass migration to newly established colonies in the provinces.

Interestingly, this general theory appears to have guided not only Hopkins’ reconstruction of the numerical fate of Italy’s free population during the last two centuries of the Republic, but also his interpretation of the Gracchan ‘crisis’. If we are to believe Hopkins, the free Italian rural population collapsed from about 4.1 million in 225 BC to about 2.9 million

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in 28 BC, a drop of 30 per cent.\textsuperscript{103} Hopkins recognizes, of course, that these estimates refer to developments over a period far longer than the three or four decades preceding the Gracchan land reforms, and to population trends in a geographical area much larger than the Ager Romanus of the mid-second century BC. This chronological and geographical mismatch does not, however, stop him from characterizing the second century BC as the period during which slaves began to push large numbers of free peasants off the land.\textsuperscript{104} In view of Hopkins’ scepticism concerning the reliability of the literary sources, it is striking that his overall reconstruction of developments in the Roman and Italian countryside remains very close to Appian’s and Plutarch’s accounts.

Since the expansion of rural slavery plays such a large part in both ancient and modern reconstructions, it is of the utmost importance to obtain some idea, however vague, of how many rural slaves there actually were in the mid-second century BC. A useful starting point for such an inquiry is Jongman’s demonstration that at the time of Augustus fewer than 200,000 hectares of Italian land were needed to produce all the wine and all the olive oil consumed annually by the joint populations of all the Italian cities, including Rome.\textsuperscript{105} If this estimate is combined with a labour-to-land ratio of one slave per two hectares (and this is higher than the ratios reported by Columella and Pliny the Elder), we obtain a rough estimate of only 100,000 rural slaves directly engaged in the cultivation of grapes and olives during the early years of the Principate.\textsuperscript{106} This basic figure can, of course, be pushed up by adding assistants, supervisors, female slaves and children. Moreover, several hundred thousand slaves could well have been employed on estates whose principal cash crop was grain.\textsuperscript{107} Another important caveat is that slave ownership seems to have been widespread across Roman society, so that large numbers of slaves are likely to have been employed on family farms of modest size.\textsuperscript{108} If we take all these considerations into account, an estimate of about 800,000 rural slaves can be defended for 28 BC.\textsuperscript{109}

In considering the implications of these findings for developments in the Italian countryside during the first two-thirds of the second century BC, it

\textsuperscript{103} Cf. Chapter 1, Table 1.1. \textsuperscript{104} \textit{Ibid.} 56–64. \textsuperscript{105} Jongman (1990), 50–1, restated in Jongman (2003), 113–14. \textsuperscript{106} Labour ratios in Roman agriculture: Col. \textit{RR} 3.3.8; Plin. \textit{NH} 17.215. Cf. Duncan Jones (1982), 327. \textsuperscript{107} As Carrié and Rousselle (1999), 541, point out, the Dutch ancient historian De Neeve was the first to draw attention to the widespread use of slaves in grain farming. See De Neeve (1984), 94, 107, 113, 130 and especially 215–16 (on the use of slaves in cereal farming in Sicily). Cf. also Spurr (1986); Scheidel (1994). \textsuperscript{108} Rosenstein (2008), 5–7. In an earlier discussion of rural slavery (De Ligt 2004), I paid insufficient attention to the use of slaves by many moderately well-off farmers. \textsuperscript{109} For further discussion see Appendix IV.
must be remembered that the population of Rome roughly doubled between 133 BC and 28 BC. This can only mean that the urban market for wine and olive oil was much smaller in the second century BC than it was to become during the last years of the Republic and the early years of the Principate. For this reason alone, the number of slaves employed in the countryside of central-western Italy before the time of the Gracchi should not be exaggerated.

The archaeological record suggests that even in central-western Italy there were few large slave-staffed estates before the early decades of the first century BC. It is possible that most of the earlier villae were small and that some of them have therefore been misclassified as small sites belonging to free farmers, but even those taking this view accept that the first century BC witnessed a very significant acceleration in the spread of slave-run estates. Even if we accept the existence of a causal connection between the spread of rural slavery and the decline in the free rural population, then, we must reckon with the possibility that this development did not really get under way until the first quarter of the first century BC.

Taken in conjunction, these observations make it difficult to maintain that the spread of rural slavery had already pushed a large proportion of the free rural population of central-western Italy off the land by the time of the lex Sempronius Agraria.

### 4.3.4 Recruitment and losses on the battlefield

A third theory, first developed by Rathbone, postulates that the decline of the free peasantry can be explained largely as the inevitable result of the high levels of mortality associated with the large-scale wars of the third and second centuries BC. Rathbone’s central observation is that the Latin colony of Cosa, which may have had about 4,000 adult male colonists at its foundation in 273 BC, had to be reinforced with 1,000 new colonists in 197 BC, suggesting that its population had declined by about 25 per cent. Rathbone claims that a decline of this order can be explained by looking at average call-up and mortality rates. For instance, we could account for a...
decline from 4,000 to 3,000 colonists by supposing that some 700 men from Cosa were on military service at any given moment, that about 7 per cent of serving soldiers were killed and that the death of a soldier resulted in the abandonment of his farm in one in four cases.\textsuperscript{114}

One weakness in the theory that conscription pushed many rural families over the edge is that it assumes that most legionaries were already married. As Rosenstein has shown, the Roman legions of the third and second centuries BC were made up largely of young men, only 14 per cent of legionaries being over 30.\textsuperscript{115} If we accept the widely held view that most Roman men did not get married until their late twenties, it follows that a very large proportion of those serving in the legions had no wives or children to leave behind. If such men died while on active service, therefore, the only households liable to disruption would have been those of their parents (if still alive).

A second problem arises when we consider the possible effects of the prolonged absence or death of a legionary who had already started a family. In evaluating the impact of military mortality on surviving spouses and relatives, we must bear it in mind that many rural households are likely to have consisted of an extended multi-generational family, or possibly two co-resident nuclear families. Such households would have been in a better position to cope with the absence or death of a male family member than a single-nuclear-family household.\textsuperscript{116}

Finally, we must remember Hopkins’ observation that many rural households controlled limited amounts of land and therefore suffered from a structural labour overcapacity. From a narrowly economic point of view, the effects of conscription and even of military mortality could thus have been largely positive.\textsuperscript{117}

Since Rathbone’s analysis is based on the low count, which assumes that most republican censors managed to register between 75 and 90 per cent of their target population, its viability can also be assessed by looking at the census figures for the second century BC. A good starting point for this exercise is Rich’s observation that Rome’s military commitments were far heavier between 201 BC and 163 BC than they were between 163 BC and 133 BC.\textsuperscript{118} Yet the census figures for the second century BC, however we choose

\textsuperscript{116} Cf. De Ligt (2007a), 121. As so often, the only area regarding which we have a large amount of solid evidence is Roman Egypt. Here c. 43 per cent of all rural households were of the extended or multiple type. See Bagnall, Frier (1994), 67. In the case of mid- and late-republican Italy, it does not seem far-fetched to suppose that the high military participation rates characterizing these societies stimulated the formation of extended and multiple households.
to interpret them, strongly suggest that the number of adult male citizens somehow managed to increase during the 40 years following the end of the Second Punic War. Why, therefore, should the number of free rural citizens have begun to decline after 163 BC, when levels of military mortality are likely to have been considerably less?

All in all, the arguments in favour of the traditional low-count reconstruction of demographic developments between 163 BC and 133 BC are weak. First and foremost, the theory that an increase in poverty resulted in lower levels of fertility and eventually in population decline is not supported by comparative data. Secondly, there can be little doubt that the quantitative importance of rural slavery during this period has been greatly exaggerated, so that there can be no question of huge numbers of peasants being pushed off the land by the advance of slave-run estates before 133 BC. Thirdly, the surviving evidence, however fragmentary, would seem to contradict the notion that conscription and a heavy military mortality rate prompted a demographic downturn. In the light of these arguments, those favouring a low-count interpretation of mid- and late-republican history ought to take seriously the census figures for 125/124 BC and 115/114 BC, which strongly suggest that the citizen body continued to grow at least until the final decades of the second century BC.

4.3.5 An alternative low-count reconstruction

If we accept the census figures for 125/124 BC and 115/114 BC as more or less reliable,\(^{119}\) we must conclude that the demographic expansion that can be observed during the first third of the second century BC continued until 125/124 BC and probably extended into the final quarter of the second century BC.\(^ {120}\) How, then, do we explain Appian’s and Plutarch’s claim that Tiberius launched his programme of agrarian reform in order to halt a decline in the number of free citizens eligible for legionary service brought about by a steady expansion in rural slavery? It should be noted that this question is all the more urgent because the common source used by Appian and Plutarch seems to have drawn on various speeches made by Tiberius

\(^{119}\) That is to say, as being no more than 10 per cent defective.

\(^{120}\) Cf. De Ligt (2003) and (2004). Rosenstein (2004) also believes that the population continued to grow, but (for the reasons given in an earlier section of this chapter) I cannot accept his conclusion ([2004], 146) that the census figures for the period 203 BC–124 BC suggest an average annual growth rate of 0.75 per cent. A closely related problem is that Rosenstein follows Brunt in accepting the census figures for the second century BC as more or less reliable while also expressing sympathy with the high-count interpretation of the Augustan census figures (e.g. [2004], 13). See my remarks in De Ligt (2007d).
Gracchus and on a pamphlet written by his brother.\textsuperscript{121} All of these contemporary sources seem to have focused on the demographic and military rationale of the agrarian law of 133 BC.

In my view, a plausible explanation compatible with the low count can be found by looking at the balance between population and agrarian resources in central-western Italy, which was home to the vast majority of the citizen population throughout the second century BC.\textsuperscript{122} If the low count is correct, the census figures for the early second century BC can be interpreted as indicating that the citizen body recovered from the losses suffered during the Hannibalic War within 30 or 35 years.\textsuperscript{123} For reasons that have already been explained, the number of rural slaves employed on estates in central-western Italy is also likely to have risen, even though this expansion has often been exaggerated. With both the free and the non-free rural population growing, one would expect pressure on agrarian resources to have increased. In this context, it must be remembered that several tens of thousands of viri tane settlers and colonists were sent out to southern and northern Italy between 201 BC and 173 BC. The effect of this must have been to reduce competition for arable land in the pre-Hannibalic Ager Romanus and to prevent large numbers of rural citizens from falling into poverty.\textsuperscript{124}

Between 173 BC and 133 BC we hear nothing of any new viri tane assignation and have little evidence for the foundation of new colonies.\textsuperscript{125} If we accept the census figure for 125/124 BC as roughly correct, however, the number of adult male citizens was considerably higher at that time than in 169 BC or 163 BC. Since the continuing expansion of the urban market in central-western Italy is likely to have resulted in a further expansion of rural slavery after 163 BC, there are good grounds to believe that at least some sections of the free rural population were becoming progressively poorer during this period.\textsuperscript{126}

\begin{enumerate}
\item For the sources used by Appian and Plutarch, see e.g. Stockton (1979), 6, 40; Bringmann (1985), 10; Roselaar (2008), 7–9.
\item For the geographical distribution of the citizen population during the mid-second century BC, see De Ligt (2009).
\item Cf. above for the suggestion that the number of adult male citizens must have grown much faster than the citizen body as a whole.
\item Above, section 4.2.3.
\item The only possible exception is Auximum, if indeed, as Velleius Paterculus (1.15.2) reports, this colony was founded in 157 BC. See, however, Salmon (1982), 112–15, for the suggestion that it was in fact founded in 128 BC.
\item This reconstruction assumes that throughout the second century BC state-organized migration was the principal form of permanent migration and that spontaneous migration by individuals or families was limited. As Osborne (1991) says, pre-modern populations were sometimes very mobile, but his comparison with early-modern England is vitiated by the fact that most English migrants were landless tenants and labourers.
\end{enumerate}
In order to refine this picture, we must also take into account the probable effects of the scaling-down of the Roman war effort that can be observed after 167 BC. As we have seen, some ancient historians have interpreted military recruitment as a disruptive force in the agrarian economy. Against this I have argued that many of the poorer rural families are likely to have welcomed the opportunity to send one or two young adults to the legions, since this would have meant a temporary reduction in the number of mouths to feed and perhaps additional income in the form of booty and donatives. If these arguments are accepted, the scaling down of military commitments after 167 BC can be seen as a negative development, in the sense that it reduced access to additional sources of income and increased population pressure in the Ager Romanus by reversing the temporary emigration of many thousands of legionaries. For some households this must have meant a further reduction in per capita resources and, in the event of the death of the pater familias, a further fragmentation of holdings.

A promising feature of this hypothetical reconstruction is that it provides us with a convincing explanation for the decline in the number of assidui that seems to have worried Tiberius Gracchus and at least some of his contemporaries. As we have seen, ownership of just 4 or 5 iugera (1 or 1.25 hectares) of land seems to have been enough to meet the property qualification for legionary service at the time at which Polybius wrote the sixth book of his Histories (c. 160 BC). While the citizen body was still recovering from the setbacks of the Hannibalic War and while land distribution schemes were still active, the number of rural citizens whose assets fell short of this threshold must have remained limited. If, however, the three decades between 163 BC and 133 BC witnessed a simultaneous expansion of the free rural population and of the number of rural slaves in central-western Italy, it is easy to imagine how the holdings of an increasing number of peasants could have shrunk to fewer than 4 or 5 iugera. In other words, if the number of free country-dwellers continued to grow, this could have had the seemingly paradoxical effect of reducing the number of citizens eligible for legionary service.

The upshot of my argument is that a low-count model that takes on board the idea of population growth makes it possible to take seriously Tiberius Gracchus’ claim that large numbers of rural citizens were declining into poverty and that this development was undermining Rome’s military potential by reducing the number of available assidui. This is not to say that Tiberius’ analysis was entirely accurate in each and every respect. According to Appian and Plutarch, he seems to have claimed that the number of Roman citizens had begun to decline in absolute terms.127 This could be explained as

127 App. BC 1.9; Plut. TG 8.3, 8.7, 9.4–5.
a rhetorical exaggeration. Alternatively, it might be conjectured that Tiberius interpreted the steady decline in the census figures after 163 BC as indicating the beginning of a slow demographic downturn. If this is indeed what he thought, his understanding of recent demographic developments was flawed. Nevertheless, it must be remembered that, unlike modern ancient historians, Tiberius did not have the census figure for 125/4 BC, which was the first to reveal that the number of adult male citizens had not in fact declined. In any case, even if Tiberius’ understanding of the reasons for the decline in the number of registered citizens was wrong, his programme of agrarian reform would in fact have achieved his primary goals, namely a considerable reduction in the number of poor citizens and a corresponding increase in the number of those eligible for service in the legions.

Up to a point, the tense situation implied by this reconstruction can be described as a Malthusian overpopulation crisis. It must, however, be emphasized that in the case of central-western Italy this ‘crisis’ developed not just as the inevitable result of endogenous population growth, but also at least partly as a result of the expansion of rural slavery.

A more important qualification is perhaps that we cannot be sure that the simultaneous expansion of the free and non-free rural population really created circumstances under which the food requirements of the free rural population began to outstrip available resources. What we read in the sources is simply that many peasants were trying to maintain themselves on inadequate plots and that access to public land was largely monopolized by the elite. Although these snippets of information suggest that the amounts of privately owned land held by many rural citizens fell short of what was needed to cover the subsistence needs of their families, there is absolutely nothing to contradict the view that the free rural population of central-western Italy could easily have been supported if poor peasants had been given access to additional plots of land owned or controlled by other people. In particular, we must seriously consider the possibility that most of the tensions created by continuing population growth in the countryside could have been diffused by employing freeborn citizens as tenants on the holdings of wealthy landowners.

From a strictly economic point of view, tenancy ought to have become a more attractive proposition as population growth gradually undermined the

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129 Against the idea of a purely Malthusian crisis, see De Ligt (2007c), 177.
130 As we shall see in Chapter 6, the rural survey evidence strongly suggests that the rural population of the suburbium of Rome increased significantly during the first century AD.
A complicating factor in all this is that throughout the second century BC tenants would have been liable for legionary service if they owned sufficient property to qualify for membership of the fifth class. One interesting feature of a model of continuing population growth is that it implies a significant increase in the number of rural proletarians, who would by definition not have been liable for service in the legions. Ceteris paribus, this should have removed what was perhaps the most important obstacle to widespread tenant farming.

As we shall see presently, however, there is some evidence (most of it, admittedly, open to alternative interpretation) to suggest that the property qualification for military service was significantly reduced either in around 140 BC or shortly after the census of 131/130 BC. If such a reduction did indeed take place, it would artificially have reduced the number of proletarians at exactly the time when taking on impoverished citizens as tenants was becoming an increasingly attractive option for rich landowners.

In other words, it is possible to defend the view that, rather than being purely Malthusian, the ‘crisis’ behind the Gracchan land reforms was created, or at least exacerbated, by the Roman system of recruitment, which made it difficult even for very poor peasants to gain access to additional land as leaseholders.

### 4.3.6 Competing low-count readings of the census figures for the period 163 BC–124 BC

Of course, the theory just outlined raises the question of how we can explain the decline in the census figures that can be observed after 163 BC (Table 4.1). One attractive possibility is the idea that this trend reflected the growing reluctance of many Roman citizens to serve in the army. The little evidence we have does not support the view that during this period a large proportion of Roman citizens became reluctant to fight in any war. There are clear indications that many were eager to enlist for the war against Carthage in 149 BC. On the other hand, we are told that between 173 BC and 169 BC many citizens successfully avoided enlistment for the Third Macedonian War, a campaign generally regarded as difficult. Similarly, there can be no doubt that the protracted and unrewarding wars fought in Spain between 154 BC and 133 BC aroused little enthusiasm amongst

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131 Cf. above, section 4.2.4.
132 The possibility of taking on proletarians as tenants is overlooked by Rosenstein (2004), 181–2.
133 Thus, correctly, Rich (1983), 317.
134 Livy 43.14.2–6; 15.1.
potential legionaries. It therefore seems reasonable to suppose that at least some adult male citizens tried to avoid military service by dodging the censors and that this had a negative effect on the efficiency of the census.\textsuperscript{135} It is striking, however, that no significant rise in registrations can be observed after the end of the Spanish Wars, when legionary service might be thought to have become a more attractive prospect.\textsuperscript{136} This suggests that a more structural explanation may be required.

Did certain sections of the rural population perhaps grow unwilling to serve in the legions for reasons that had little to do with the rewards offered by military service? In my discussion of the impact of warfare upon the rural economy, I referred to Hopkins’ observation that Roman agriculture was characterized by a high degree of under-employment and that this feature of the Roman economy made it possible for the Roman government to mobilize a considerable proportion of the working population without doing much economic damage. Building on this idea, Erdkamp has recently argued that the expansion of the city of Rome must have encouraged many moderately well-off peasants to engage in the cultivation of cash crops for the urban market. Since such people would have had to work their land more intensively, a side effect of this development might well have been to reduce the attraction of other forms of employment, such as legionary service. Erdkamp argues that this helps to explain the two reductions in the census requirement for membership of the fifth class that seem to have taken place in around 212 BC and shortly after 140 BC. He argues that the aim of these reductions must have been to expand the pool of potential military recruits by targeting an existing group of very poor peasants. Since the size of the smallholdings owned by these peasants would have made it impossible for them to use much of their land for cash-crop production, the prospect of serving as legionaries would presumably have been more attractive to them. In other words, both Tiberius Gracchus’ worries about military manpower and the decision to lower the property qualification for military service can be explained without recourse to the traditional view that the mid-second century BC witnessed an increase in rural poverty.\textsuperscript{137}

The main drawback of this attractive theory is that it combines a dynamic reconstruction of the fate of the more prosperous segments of the rural population with an essentially static view of the rural poor, the latter being

\textsuperscript{136} Here one thinks of the war against Aristonicus, which was potentially very remunerative.
\textsuperscript{137} Erdkamp (2006).
seen as a pre-existing group whose fate requires no further analysis. If, however, we accept that Livy’s epitomator transmitted the census figures for 125/124 BC and 115/114 BC correctly, and also take into account the spread of slavery, it seems impossible to avoid the conclusion that pressure on the land increased significantly after 163 BC, especially in central-western Italy. Regardless of the fate of those peasants who took advantage of the new opportunities offered by commercial farming, this change in the balance between land and population must on average have made Roman peasants poorer.

Moreover, for all its obvious shortcomings, the literary tradition explicitly identifies an increase in rural poverty as one of the reasons that prompted Tiberius Gracchus to create his reform programme. It is, of course, always tempting to brush aside every literary account as utterly unreliable, but since this can only create a void that can be filled with an infinite variety of untestable theories, this approach should be avoided unless there are compelling reasons for discarding the few pieces of literary ‘evidence’ that happen to have survived.

How, then, do we explain the slow decline in the census figures and the spectacular rise that can be observed after 130 BC? In my view, a satisfactory answer can be found by taking a closer look at some of the factors likely to have affected the efficiency of the census between 163 BC and 114 BC. The starting point of this explanation is the observation (by no means new) that the most important aim of the census was to register as many as possible of those adult male citizens owning sufficient property to be liable for military service. Amongst the censors’ assigned objectives, this goal must surely have gained yet more in relative importance when the suspension of tributum in 167 BC dispensed with the need to create an up-to-date record of those upon whom war taxes could be imposed. Be that as it may, it seems reasonable to suppose that (at least before the levy of 107 BC) assidui were always a more important target group than proletarians. If this insight is combined with a low-count reading of the census figures for the period 163 BC–133 BC, it becomes tempting to hypothesize that the number of assidui slowly shrank during these years.

Many older publications assume that the number of assidui did indeed diminish, but explain this downward trend as part of a general decline in the overall number of freeborn citizens. If, however, we accept that the high census figures for 125/124 BC and 115/114 BC were transmitted correctly, it becomes difficult to avoid the conclusion that the said

138 Cf. Chapter 3. 139 For the background to the levy of 107 BC, see section 4.4.1. 140 On this point I am in complete agreement with Rich (1983), 299, 304.
diminution must have resulted from a combination of population growth and increased rural poverty. In other words, the census figures for the period 163 BC–130 BC make perfect sense if we assume that continuing population growth pushed an increasing number of citizens below the property threshold for legionary service and that this led to fewer adult male citizens being registered.

If this hypothesis is correct, we are left only with the question of how to account for the steep rise in the census figures after 130 BC. The most attractive theory is perhaps that the partial implementation of the Gracchan land reforms between 131 BC and 129 BC persuaded tens of thousands of proletarian citizens to register themselves with the censors, for the obvious reason that they wanted to benefit from this scheme. According to those who support this reading of the census figures, the objection that no significant rise can be observed in 131/130 BC, when the Gracchan land committee had already been at work for some time, can be countered with the argument that the commissioners’ implementation of the reform programme took 3 years, so that its (partial) success did not begin to become apparent until 130 BC.141

Another possibility is that the jump in the census figures is to be connected with a further lowering of the threshold for military service. The main evidence for this hypothesis consists of Polybius’ statement that the threshold for legionary service stood at 400 drachmai (corresponding to 4,000 asses of the mid-second century) and two passages from Gellius and Nonius, both of whom define proletarii as people whose property is worth less than 1,500 asses.142 Somewhat curiously, Gellius also distinguishes between proletarians and capite censi, claiming that the latter term denotes citizens with property worth no more than 375 asses. It is generally agreed that this distinction is attributable to a mistake and that the terms proletarii and capite censi referred to the same group of people.143

An important argument against interpreting these snippets of information as evidence for a second reduction is that none of them unambiguously refers to the second century BC.144 One clue does, however, point to this

142 Gell. NA 16.10.10, Nonius 228 L. Some scholars claim that the figure of 1,500 asses also appears in the second book of Cicero’s De Re Publica (2.40). It is, however, generally agreed that 1,100 asses was the original reading, and if a late-antique corrector changed this to 1,500 asses (which is by no means certain), there is no guarantee that this is what Cicero actually wrote. For good discussions of this notorious conundrum, see Lo Cascio (1988), 286–9; Rathbone (1993a), 140.
period. If we accept the prevailing view that the terms *proletarii* and *capite censi* referred to the same class of person, it becomes possible to speculate that Gellius misread an account stating that the threshold for admission to the fifth class was 375 *sestertii*, the exact equivalent of 1,500 *asses*. If he did indeed do so, it would follow that the census rating of 1,500 *asses* must have been introduced in or after 141/140 BC, when the Roman state adopted the *sestertius* as the normal official unit of reckoning. If we also accept Rathbone’s suggestion that the hypothetical threshold of 375 sesterces may have represented the notional value of one *iugerum* of arable land during the mid-second century BC, we end up with the spectacular conclusion that during the final decades of the second century BC ownership of just one quarter of a hectare of arable land would have been enough to make a Roman peasant liable for military service.  

Rathbone believes that the new rating is likely to have been introduced simultaneously with the numismatic reform of 141/140 BC, and there can be no doubt that this is the most economical theory. Its only weakness is that a lowering of the census rating of the fifth class by more than 60 per cent would certainly have expanded the number of *assidui* to an extent that one would expect to see reflected in the census figures. Nonetheless, no significant increase in these figures is seen before 125/124 BC.  

In an influential study published in 1949, Emilio Gabba interprets the sudden jump in the census figures after 130 BC as an indication that the threshold for military service had been lowered during the early 120s BC. In formulating this theory, he begins from the assumption that the Roman census figures are to be interpreted as including only those Roman citizens with sufficient property to qualify for military service. In other words, Gabba holds that these figures do not include proletarians. As we saw in the previous chapter, this theory is unlikely to be correct. This explains why Gabba’s date for the hypothetical second lowering of the census rating of the fifth class is now widely rejected.  

Even if we can be certain that in theory the censors were expected to register all adult male citizens, it remains entirely credible that the names of many proletarians might not have been recorded. It is therefore still possible to defend the view that the discrepancy between the census figure for 131/130

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145 Rathbone (1993a), 146, n. 20. I agree with Rich (1983), 313–16, that there is no solid proof of the theory that a reduction in the property qualification for legionary service from 4,000 * asses* to 1,500 * asses* took place. The other side of the coin is that Rathbone’s theory is compatible with the evidence and that there is nothing to contradict it.  
146 Rathbone (1993a), 144.  
BC and that for 125/124 BC could reflect a lowering of the property qualification for legionary service.

I conclude that two theories offer us some plausible explanation of the sudden rise in the census figures. The first makes excellent sense from a numismatic point of view, but must rely on the secondary assumption that the Gracchan land reforms prompted some 75,000 formerly unregistered citizens to present themselves for registration at the census of 125/124 BC. The second is purely hypothetical, but dispenses with the need to explain away the low census figure for 131/130 BC by assuming that it took some 3 years for the implementation of the Gracchan reforms to get under way.

For the purposes of this chapter, it is not important which of these theories is more likely to be correct. What is more interesting is that any theory positing a considerable reduction in the census rating of the fifth class during the third quarter of the second century BC is compatible with a scenario of continuing population growth. After all, if the citizen population continued to expand after 163 BC and if this led to Roman citizens becoming on average poorer, it would have made excellent sense for the Roman government to broaden the basis for legionary recruitment by lowering the property requirement for military service.

I should like to end this section by stressing the limitations of the foregoing reconstruction. As we have seen, the interpretation of almost all snippets of literary evidence is beset by deep uncertainties. Moreover, in developing an alternative model I have started from the low-count assumption that even the most unreliable censuses of the second century BC were defective by no more than 33 per cent. The moment this premise is rejected, all speculations based on a scenario of moderate population growth become entirely meaningless. For this reason alone, it is impossible to entertain the illusion that it will ever be possible to prove this scenario (or any other scenario) to be correct. What can, however, be demonstrated is that a low-count reconstruction that takes on board the notion of moderate population growth in central-western Italy allows us to make sense of most of our fragmentary literary evidence. My next step will be to determine whether the same can be said of the high count.

Carcopino (1929), 14, suggests that unusually extensive manumissions of slaves and registrations of Latins and Italians on the census lists pushed up the number of citizens between 130 BC and 125 BC. Vanderspoel (1985) argues that tens of thousands of formerly unregistered citizens came forward at the census of 125/124 BC because they wanted to vote in the tribunician elections of 124 BC. While the two theories discussed in the main text attempt to connect the rise in the census figures with developments for which there is at least some evidence, however, none of the alternative explanations that have been advanced seems to have any support in the sources.
4.3.7 The high count and the Gracchan land reforms

As we saw in Chapter 2, Lo Cascio’s interpretation of the Polybian manpower figures implies that by 225 BC there were approximately 475,000 adult male Italians of citizen status.\(^{149}\) If we compare this estimate with the census figure for 234 BC (c. 270,000), his interpretation suggests that the censors succeeded in registering only 55 per cent of the adult male citizen population. Similar calculations can be made for 130 BC and 124 BC. As we saw in an earlier chapter, Lo Cascio believes that in 225 BC Italy as a whole (including Cisalpina) had between 6 and 8 million free inhabitants. Since his highest estimate is based on the unrealistic assumption that in 225 BC population densities in Cisalpine Gaul already equalled those in peninsular Italy, it seems fair to start from the figure of 6 million. We have also seen that the high-count reading of the Augustan census figures implies a free Italian population of about 13.5 million in 28 BC.\(^{150}\) The average annual growth rate implied by these figures is about 0.4 per cent. Since the citizen body is unlikely to have expanded at a lower rate than the free Italian population as a whole, it may be inferred that the number of adult male citizens stood at approximately 730,000 in 124 BC. Since only 395,000 citizens were registered by the censors of 125/124 BC, again we end up with the conclusion that some 45 per cent of the adult male population somehow escaped registration by the censors.

Although these calculations are necessarily imprecise, they clearly imply that the census figures for the second century BC cannot be used to reconstruct the demographic and social background to the Gracchan land reforms.\(^{151}\) Even if the high counters are inclined to dismiss the republican census figures as completely unreliable, their overall interpretation of the demographic history of Italy does in fact lead directly to a strikingly novel reconstruction of the circumstances that prompted Tiberius Gracchus to propose his agrarian law. The obvious reason for this is that the high starting population posited by the high counters, in conjunction with the relatively high annual growth rate of 0.4 per cent, implies a very large citizen population for the mid-130s BC and correspondingly high population densities for the Ager Romanus. In fact, if we accept the high count, the only possible conclusion is that by the end of the 130s BC central-western Italy was facing the beginning of what can only be called a full-blown Malthusian crisis.\(^{152}\)

\(^{149}\) Chapter 2, at note 27. \(^{150}\) Chapter 1. \(^{151}\) Lo Cascio (2008). \(^{152}\) For a clear statement of this view see Lo Cascio (2004).
In an attempt to back up this theory with some sort of evidence, Lo Cascio has offered an intriguing new interpretation of Appian’s statement that Tiberius Gracchus was worried by a lack of men (dysandria), presumably meaning ‘a lack of recruits’. His starting point is the philological observation that, since the Greek term dysandria often has qualitative overtones, Appian would surely have used the unambiguous expression oligandria had he intended to refer to a purely demographic phenomenon. This suggests to Lo Cascio that Appian’s description of the background to the Gracchan reforms should be interpreted as referring to a lack of healthy adult men endowed with the kind of physique required for military service, rather than to an absolute shortage of adult men eligible for call-up.\textsuperscript{153} The passage in question consequently appears to refer to what Lo Cascio calls ‘a situation of clear and structural population pressure in the Italian countryside’.\textsuperscript{154}

The main weakness of this theory lies in the fact that, contrary to Lo Cascio’s assertion, Appian is in fact using purely demographical language. A particularly telling example is to be found in his summary of one of Tiberius’ speeches in defence of his proposal. According to Appian, Tiberius claimed that the free Italian population was being reduced to aporia (poverty) and to oligandria, while the number of agricultural slaves was constantly increasing (êuxêmenôn).\textsuperscript{155} In this context, the term oligandria can only mean ‘a lack of men’\textsuperscript{156}. In any case, as John Rich has recently observed, the ambiguity of some of Appian’s language is dispelled by the rest of his exposition, which makes it clear that Tiberius’ fear was that the free population had begun to decline because there were too many poor people who were no longer capable of rearing children.\textsuperscript{157}

The most important conclusion to emerge from this discussion is that Appian’s description of the background to the Gracchan land reforms cannot really be fitted into a high-count interpretation of Italy’s demographic history. As always, this difficulty can be resolved by dismissing the accounts of Appian and Plutarch as distorted rhetorical representations reflecting the propaganda of the Gracchan age and/or the views of later writers eager to demonstrate the noble aims of politicians belonging to the ranks of the populares and the beneficial aspects of land distribution schemes. With every piece of ‘evidence’ discarded, however, the value of the high count as a narrative framework that can be used to make sense of

\begin{itemize}
\item \textsuperscript{153} Ibid.
\item \textsuperscript{154} Lo Cascio (2008), 241.
\item \textsuperscript{155} App. BC 1.9.
\item \textsuperscript{156} While Silvestrini (2004) is inclined to interpret the term dysandria as referring primarily to the dismal quality of life of the free rural population, she takes oligandria as a ‘chiaro accenno al calo demografico’ (2004, 79).
\item \textsuperscript{157} Rich (2007), 162.
\end{itemize}
the few snippets of (no doubt tendentious) information that have been preserved is undermined. At least in the case of the Gracchan land reforms and their background, there can be no doubt that a low-count interpretation incorporating the idea of modest population growth in central-western Italy scores more highly in this context.

4.3.8 Survey archaeology and the Gracchan ‘crisis’

Since the early 1970s, survey archaeology has begun to play an increasingly important part in discussions of the demographic history of republican and early-imperial Italy. Initially it was claimed that the systematic collection of traces of human habitation by teams of field-walkers was an essentially scientific operation that could potentially shed radically new light on the fate of the free peasantry of Roman Italy and on the relative importance of peasant farms and slave-staffed estates during successive periods of republican and imperial history.

In the final chapter of this book I shall examine the enormous methodological difficulties surrounding any attempt to use the results of rural survey campaigns as a basis for demographic conclusions. This later discussion will focus upon the capacity of competing models of demographic development to account for trends in rural sites numbers throughout Italy between c. 300 BC and c. AD 100. Here my aim is to say a few words about various attempts which have been made to use the survey data from one particular area, South Etruria, as a starting point for a reassessment of the demographic realities behind the Gracchan ‘crisis’. In what follows I shall briefly examine the degree of fit between the South Etrurian data and competing reconstructions of the demographic background to the Gracchan land reforms, whilst attempting not to anticipate all of the methodological reservations that will be expressed in my general discussion of the capacity of survey archaeology to contribute to the debate between low and high counters.

As is generally known, the South Etruria Survey of the British School at Rome was the first project to attempt to illuminate the historical evolution of habitation patterns and levels of population across a large region of mainland Italy. Its principal aim was to reconstruct the history of settlement in large parts of the territories of Veii, Capena and Sutrium by collecting and registering all traces left by various categories of rural inhabitant (mainly pottery) and by assigning these traces to a number of chronological periods. Sherds of grey bucchero were thus interpreted as evidence for occupation during the fifth and fourth centuries BC, while Italian black-gloss and sigillata were used to assign sites to the last three centuries of the Republic.
(300 BC–30 BC) or to the early Empire (30 BC–AD 100) respectively. When this method was applied to the Ager Veientanus, it was found that the number of third-to-first century sites (242) was far higher than the number of late-Etruscan ones (127) and that the number of early-imperial sites (327) was higher still.\(^{158}\) Although some of the archaeologists who participated in the South Etruria project were wary of drawing any far-reaching demographic conclusions, it seemed difficult to avoid the impression that, at least in South Etruria, the rural population had ‘exploded’ rather than declined during the final centuries of the Republic.

In the field of ancient history, the keenest supporter of this interpretation was Martin Frederiksen, who argued that the data from South Etruria proved the traditional picture of an agrarian and demographic ‘crisis’ caused by the spread of slavery and by heavy military recruitment to be completely false.\(^{159}\) Initially this challenging claim fell onto fertile ground, not only among archaeologists eager to free their discipline from interpretative templates derived from the literary sources, but also among ancient historians looking for new perspectives on Roman demographic history and on the Gracchan land reforms in particular.

Unfortunately for those favouring a radical reinterpretation of late-republican history on the basis of the survey data, it soon became clear that the archaeological evidence collected in South Etruria and in other parts of the peninsula posed far more problems than had initially been realized. In particular, it was felt that a better understanding of developments during the second century BC could be achieved only by breaking up the long period running from 300 BC to 30 BC into sub-periods. Once Morel had refined the chronology of republican black-gloss,\(^{160}\) the Italian archaeologist Liverani was able to carry out a pilot study on some of the material from South Etruria. His startling finding was that about 80 per cent of the black-gloss pottery collected in this area belonged to the fourth-to-second centuries BC and only 20 per cent to the second and first centuries.\(^{161}\)

Inspired by this result, a group of British and Italian archaeologists decided to set up a new project aiming to re-study no fewer than 90,000 sherds of pottery from South Etruria. In order to bring developments within the republican period into sharper focus, a new chronological framework was developed, based on a distinction between mid-Republican pottery (350–250 BC) and two categories of late-Republican pottery that were dubbed Late Republican 1 (250–150 BC) and Late Republican 2 (150–30 BC). When this new typology was applied to the data from the middle Tiber

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\(^{158}\) Potter (1979).  
\(^{161}\) Liverani (1984).
valley, it turned out that 513 sites could be dated to the period 350–250 BC, 199 to the period 250–150 BC and 561 to the last 120 years of the Republic.\textsuperscript{162}

At first sight this new pattern suggests a drastic decline in site numbers between 250 BC and 150 BC, and it would be tempting to connect this with the negative picture painted by Appian and Plutarch. There are, however, compelling reasons not to jump to any far-reaching conclusions. It has, for instance, been suggested that the scarcity of sites containing Late Republican pottery may be attributable to the fact that this particular category of black-gloss was less widely circulated than some earlier and later types.\textsuperscript{163} If this hypothesis is correct, the apparent drop in site numbers must be regarded as an illusion.

As Witcher has pointed out, this problem is all the more acute because the average number of black-gloss sherds at each southern Etrurian site was only six. If Late Republican pottery was indeed distributed in smaller quantities than earlier and later types, so small a sample would not permit the conclusion that a given site ceased to be occupied between 250 BC and 150 BC. This suspicion is to some extent confirmed by the fact that about a third of those sites that were supposedly ‘abandoned’ after 250 BC appear to have been ‘reoccupied’ between 150 BC and 30 BC.\textsuperscript{164}

Another way of looking at this problem is to check whether abandoned sites tend to be clustered in marginal areas, as might be expected if the rural population had really gone into decline. Viewed in this light, it is striking that continuing and abandoned sites are interspersed across the area investigated, again suggesting that the apparent downturn of the late-third and early-second centuries BC could be a purely archaeological artefact not corresponding to any genuine demographic development.\textsuperscript{165}

While these methodological caveats make it impossible to translate the large fluctuations in site numbers that can be observed in southern Etruria into demographic trends, it is still possible to draw some interesting conclusions. One of these concerns the claim of some proponents of the high-count theory that the mid-republican and late-republican data from southern Etruria support their scenario of rapid population growth.\textsuperscript{166} Of course, if we accept the highly problematic premise that trends in site numbers reflect demographic developments, the apparent increase in site occupation after 150 BC can still be interpreted as fully compatible with a

\textsuperscript{162} Witcher (2008a), 275.
\textsuperscript{163} Witcher (2008a), 276–7. Cf. also Rathbone (2008), 328, for the suggestion that the rural population of the late third and early second centuries BC may have preferred to use glass and metalware.
\textsuperscript{164} Witcher (2008a), 279. \textsuperscript{165} Ibid. \textsuperscript{166} E.g. Lo Cascio (2008), 240.
scenario of relatively fast demographic recovery after the Second Punic War. Furthermore, if we prefer to emphasize the importance of distorting factors, it is possible to interpret the archaeological record as pointing to a large degree of occupational and demographic continuity. The rub is that it is extremely difficult to see how the fluctuations in the visible sites that can be observed within the republican period can be made to support Lo Cascio’s view that the Gracchan land reforms were prompted by a Malthusian over-population crisis. In fact, the only archaeological ‘fact’ that can realistically be claimed to support the high count is the spectacular rise in site numbers after 30 BC, a phenomenon far too late to be of any relevance to Lo Cascio’s reinterpretation of the social and demographic background to the Gracchan land reforms.

4.4 DEVELOPMENTS BETWEEN 133 BC AND 28 BC

Six census figures have been preserved for the period 133 BC–28 BC: those for 131/130 BC, 125/124 BC, 115/114 BC, 86/85 BC, 70/69 BC and 28 BC. Since the first three figures have a direct bearing on our understanding of the demographic background to the Gracchan land reforms, they have already been dealt with in the previous sections. The assumptions that must be made in order to fit the last three figures into the general frameworks provided by the low and high counts have been examined in my chapter on the meaning of the census figures.

This leaves us with the task of examining the capacity of the low and high counts to make sense of three developments that feature prominently in almost all accounts of the final century of the Republic.

The first of these is Marius’ decision to disregard the property qualification for legionary service during the levy of 107 BC. Although many recent publications play down the short-term and long-term effects of this episode, the question of how it can be fitted into the competing demographic theories remains an interesting one.

The second and third topics to be examined are emigration from Italy and urbanization. It will immediately be apparent that the high-count theory can easily accommodate the settlement of tens of thousands of veterans in provincial colonies and the growth of towns. At first sight, it is less easy to see how large-scale migration from rural areas to towns and from Italy to the provinces can be reconciled with a model that assigns only about 6 million inhabitants to late-republican Italy. Why, for instance, should so many people have left mainland Italy if the population of this area was only half as large as it would become in the early fourteenth
and late sixteenth centuries AD? Moreover, does not a low-count model that incorporates urban growth and large-scale emigration necessarily imply a considerable imbalance of the Italian population between rural and urban areas?

4.4.1 Marius and the proletarianization of the legions

Traditional accounts that begin from the assumption that the second and first centuries BC witnessed a steady decline in the number of free country-dwellers have identified this hypothetical downward trend as the main reason behind Marius’ decision to disregard the property qualification for military service when he needed to enlist soldiers for his campaign against Jugurtha. The idea underlying such accounts is that the impoverishment of large sections of the free rural population and the replacement of free peasants by slaves had eroded Roman manpower resources by diminishing the number of asidui available for military service. Marius’ decision to enrol proletarians apparently resolved this problem, but also created a new one, since poor legionaries expected to be rewarded with land following their term of service.

In recent years, this overall interpretation has been undermined in several ways. It has been pointed out, for instance, that Marius’ approach to the levy was not immediately copied and that the large-scale recruitment of proletarians is unlikely to have become common before the Social War. In other words, between 107 BC and 91 BC the property qualification remained important. A highly relevant point is that the surviving evidence clearly demonstrates that throughout the final decades of the Republic large numbers of men were enlisted as conscripts rather than as volunteers. Finally, and perhaps most importantly, the theory that Marius’ action was prompted by a shortage of asidui founders on the fact that the property qualification for legionary service was already very low during the final decades of the second century, perhaps even as low as the notional value of a garden plot and a hut. It would seem to follow from this that many impoverished peasants were asidui and that the abandonment of the property qualification did not greatly affect the social composition of the legions.

171 Cf. Keaveney (2007), 25, for the observation that in the armies of the first century BC proletarian soldiers appear to have formed no discernible interest group or lobby with aspirations different from those of their fellow legionaries.
Given the many weaknesses surrounding the traditional interpretation of the military ‘reform’ of 107 BC, it is tempting to conclude from Sallust’s statement that the Senate reckoned that the conscription of even a few thousand legionaries would undermine Marius’ popularity, that Marius saw this danger a mile off and successfully avoided it by enlisting every man who was willing to serve.\(^\text{172}\) Alternatively, we could adopt Rich’s suggestion that Marius disregarded the property qualification because his proposed campaign against Jugurtha had aroused general enthusiasm, so that he did not want to disappoint any of those who were eager to serve under his command.\(^\text{173}\)

Regardless of these interpretational problems, the fact that the surviving sources contain no reliable information about the demographic and social background of the \textit{dilectus} of 107 BC means that Marius’ action is compatible with a variety of demographic scenarios. These include the orthodox theory of demographic decline, a revised low count assuming slow but steady population growth in central-western Italy, and also the Malthusian model of widespread rural impoverishment implied by the high count. This makes it difficult to use the levy of 107 BC as an argument in favour of any particular reconstruction of the demographic fate of the free population of the Ager Romanus, or, for that matter, of any other part of Italy.

\textbf{4.4.2 Emigration from Italy}

At the time of the census of 28 BC many hundreds of thousands of Roman citizens lived in the provinces, most of them in Spain, southern Gaul and northern Africa. Before we examine the possible demographic implications of this phenomenon, it must be emphasized that the backgrounds of these provincial citizens varied enormously. It is clear, for instance, that Sertorius, Pompey, Caesar and Octavian bestowed Roman citizenship on large numbers of supporters of provincial extraction.\(^\text{174}\) Unfortunately, the surviving evidence does not allow us to estimate the number of non-Italians who became citizens in this way. Despite this difficulty, the majority view is that most citizens living in the provinces in 28 BC were people of Italian origin or their descendants.\(^\text{175}\) It is also thought that the 70,000 or 80,000 civilian colonists sent out by Caesar and the tens of thousands of veterans who

\(^{172}\) Sall. \textit{Iug.} 8.4.3.

\(^{173}\) Rich (1983), 326. Yet another interpretation in Evans (1994), 75. In his view, the primary motive for enlisting proletarians was simply that Marius was in a hurry and the usual method of levying troops would have taken too much time.

\(^{174}\) The best recent discussion is that of Crawford (2008).

\(^{175}\) For some tentative figures, see Appendix iv.
received provincial allotments between 49 BC and 28 BC accounted for a large proportion of all provincial citizens with Italian roots.  

Although the high counters do not seem to have paid much attention to the matter of migration from Italy, there can be no doubt that their favoured reconstruction provides them with a plausible explanation for it. If late-republican Italy was really as crowded as they think, it makes sense to suppose that intense competition for land and other resources would have persuaded large numbers of Italians to try their luck elsewhere, as traders, as investors in the Spanish mines, and especially as recipients of allotments of fertile land in civilian or veteran colonies.

At first sight, large-scale emigration from Italy makes less sense from a low-count point of view. The obvious reason for this is that the Italy of the low count is strikingly under-populated compared to Italy in the early fourteenth or the late sixteenth century AD. Even if we ignore the enormous problems posed by the concept of ‘carrying capacity’, there can be no doubt that mainland Italy could easily have supported a population much larger than the 6 million that the low counters assign to this area during the final decades of the Republic. How, then, do we explain the fact that Caesar felt compelled to settle tens of thousands of proletarians in the provinces, and why did neither he nor any of those involved in the power struggles of the period 44 BC–31 BC manage to settle all of their veteran soldiers on unused land in Italy?

In my view, a satisfactory answer to these questions can be found by looking at the amount of state-owned land available for distribution in Italy. In 81 BC Sulla managed to settle between 80,000 and 120,000 men on Italian soil. According to Appian, ‘he allotted to the twenty-three legions which had fought for him a large quantity of land belonging to the towns, some of which had never been distributed for cultivation and some of which was taken from them as penalty’. The said ‘land belonging to the towns’ may have been ager publicus populi Romani regarding which these towns had received the ‘right of enjoyment’ (ius fruendi). Alternatively, it may have been municipal land to which the Roman state had no vestigial rights. In any case, we are told that some cultivated land was also taken away, and it appears from other sources that the amount of land available for allocation was augmented by the confiscated properties of Sulla’s political enemies.

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176 According to Suet. Cæs. 42.1, Caesar settled 80,000 citizens in the provinces. This figure may, however, have included veterans (Brunt 1971/1987, 257). For settlement of veterans, Keppie (1983) remains fundamental.

177 E.g. Santangelo (2007a), 147.

178 App. BC 1.100.

It has plausibly been inferred from this information that the amount of arable land owned by the state was much reduced as a result of this very ambitious programme of colonization.¹⁸⁰

It is true that some arable *ager publicus* was still available in the late 60s BC, when Rullus proposed his agrarian law, and during his consulate Caesar pushed through a law prescribing the division of the Ager Campanus, large parts of which were held by long-lease tenants. Even in the mid-40s BC Caesar seems to have managed to find some tracts of undistributed public land in Italy that were suitable for farming.¹⁸¹

By the time of the *triumviri*, however, very little state-owned land was left for distribution to would-be farmers. In theory, this problem could have been solved by buying up tracts of land in thinly populated parts of Italy. As various ancient historians have pointed out, however, the large number of expectant recipients, the size of the plots promised and the price of Italian land meant that this was not a realistic option. In 43 BC Antony, Octavian and Lepidus found a simple solution. To spur on their armies, they selected eighteen Italian towns famous for their fine land and houses and promised to give this land to their men after the successful conclusion of their campaign against Brutus and Cassius.¹⁸² When this ruthless scheme was implemented in 42 BC and 41 BC, however, the huge political costs became apparent. Fearing that the strategically located towns of Vibo and Rhegium would go over to Sextus Pompeius, Octavian promised the inhabitants that he would remove their towns from the list. Soon afterwards, the remaining sixteen towns and a large number of other towns that feared like treatment pledged their support to Lucius Antonius, drove out those who were borrowing money from the temples for Octavian and manned the walls. In the end, a new civil war was only barely avoided.¹⁸³ This sequence of events recalls that of the early 70s BC, when many of those dispossessed by Sulla joined Lepidus’ revolt.¹⁸⁴

In short, during the final decades of the Republic the previous liquidation of almost all of the arable land previously owned by the Roman state had left the state in a position from which it could obtain suitable land in Italy only by means of purchase or confiscation.¹⁸⁵ The former option entailed costs that were economically prohibitive; the latter course was politically dangerous. Settlement in thinly populated areas provided a partial solution

¹⁸⁰ Ibid. 276–7.
¹⁸¹ Keppie (1983), 49.
¹⁸² App. BC 4.3.
¹⁸³ BC 4.86; 5.19; 5.27.
¹⁸⁴ BC 1.107.
¹⁸⁵ Arable land belonging to Italian towns could also be acquired by exchanging it for provincial land or for land in other parts in Italy (e.g. Keppie 1983, 70–1; Biundo 2004; Roselaar 2010, 143), but this does not seem to have been done very often.
at best, since the disappearance of the arable *ager publicus* logically implied that all remaining farmland was either under private ownership or controlled by some town.\(^{186}\) Moreover, the promises made by the *triumviri* in 43 BC suggest that most veterans would not have accepted allotments in marginal areas. What they wanted was large plots of high-quality land in attractive locations.\(^{187}\)

Given all of this, the decision to settle tens of thousands of civilian colonists and veterans outside Italy makes excellent sense. Large amounts of fertile land could easily be taken away from provincial communities at a very low political cost.\(^{188}\) Moreover, since provincial land was much cheaper than Italian land, large tracts of it could be snapped up at bargain prices.\(^{189}\)

It can therefore be argued that, rather than pointing to high population pressure in Italy, the large-scale emigrations of the first century BC simply reflect a growing shortage of public land in Italy and the huge political and economic costs of any attempt to interfere with the property rights of Italian landowners.

### 4.4.3 Emigration, urbanization and the decline of the free population

In an article published in 1994, Lo Cascio calls attention to an important weakness in the low-count models put forward by Brunt and Hopkins. Focusing on the convenient synopsis in the first chapter of Hopkins’ *Conquerors and Slaves*, he notes that Hopkins is asking his readers to believe that between 225 BC and 28 BC the free rural population of mainland Italy declined from \(c.\ 4.1\) million to \(c.\ 2.9\) million, while its free urban population went up from \(c.\ 400,000\) to \(c.\ 1.1\) million.\(^{190}\) In Lo Cascio’s view, this model of population development sits very uneasily with Esther Boserup’s finding that in pre-industrial societies no significant urbanization of any particular territory is possible unless it is accompanied by sustained growth in the rural population.\(^{191}\) This suggests that the low count implies a long-term change

\(^{186}\) In theory, it should have been possible for the *triumviri* and later for Octavian as sole ruler to buy up unused land (e.g. in marshy areas) at a low price and to make this land suitable for cultivation. Possible examples of this approach include the Piana delle Cento Fattorie near Lucca (Marzano 2007, 177) and the reclamation programme carried out in the Valli di Comacchio (Kron 2005, 480; cf. perhaps Tac. *Ann*. 1.17). Marshy land could not, however, be reclaimed overnight, and the veterans of the 40s and 30s BC were not prepared to wait.

\(^{187}\) It is striking that no Caesarian or triumviral settlements are recorded in Apulia, despite the fact that this was the thinly populated part of Italy (Cic. *Att*. 8.3.4).

\(^{188}\) For confiscations of provincial land, see e.g. Fear (1996), 74–5, 79–80; Osgood (2006), 144.

\(^{189}\) MacMullen (2000), 132. \(^{190}\) Lo Cascio (1994), 38–9. Cf. Chapter 1, Table 1.1.

\(^{191}\) See, however, my remarks in note 201.
in the balance between rural and urban populations that is deeply implausible from a comparative point of view.

When we take a closer look at Hopkins’ reconstruction, we discover that he regards this apparent decline in the free rural population as having been almost completely offset by a simultaneous expansion of rural slavery. At the same time, his model posits a rapid increase in the number of urban slaves. Taking all of this into account, we end up with a scenario in which the free and slave population of the Italian countryside declines from c. 4.35 million to c. 4.1 million, rather than from c. 4.1 million to c. 2.9 million. Lo Cascio’s claim that the low-count theory implies a ‘collapse’ of Italy’s rural population is therefore certainly exaggerated. On the other hand, it remains the case that the particular version of the low count championed by Hopkins posits a somewhat curious combination of strong urban growth and modest rural population decline.

Although Hopkins does not explicitly confront this difficulty, he does identify a number of economic developments that made it possible for the urban population to expand at a much faster rate than its rural counterpart. One of these developments was an enormous increase in the amounts of grain imported from the provinces. Hopkins also made the interesting observation that the displacement of free peasants by slaves seems to have had the effect of increasing productivity. He supports this assertion by pointing out that according to the Roman agronomists the amount of land needed to support twenty peasant families could effectively be worked by only eight adult male slaves, the main reason for this striking discrepancy being that while free Roman peasants were under-employed, slaves could be forced to work long hours throughout the year. In short, the spread of rural slavery made it possible to produce a larger surplus with a much smaller workforce.

Even if we take these important observations into account, the combination of fast urban growth and considerable rural decline indicated by

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192 The figure of 4.35 million for 225 BC is based on the assumption that about half of the 500,000 slaves posited by Hopkins worked in the countryside.

193 Hopkins (1978) 38–9, 73. In a recent article, Lo Cascio suggests that c. 700,000 consumers in Rome may have been fed on provincial grain during the time of Augustus (Lo Cascio 2009, 103). Elsewhere (Lo Cascio 1999b, 239–40) he claims that many of the towns on the Tyrrhenian coast also depended on imports. If these ideas are accepted, the problem of the seemingly excessive urbanization rate implied by Hopkins’ estimates largely disappears.

194 Hopkins (1978), 24, 106–9, followed by Scheidel (2005a), 71. Hopkins’ arguments show that he is thinking in terms of an increase in per capita output rather than an increase in output per hour worked. Cf. Rathbone (1981) for the observation that the availability of a large pool of free peasants who could be hired during the harvest season made it possible to run slave-operated estates with a smaller permanent workforce.
Hopkins’ calculations remains at least a little awkward. It is, however, of the utmost importance to remember that the model that Lo Cascio sets out to attack is only one of many possible low-count reconstructions. At this point, I want to call attention to three basic uncertainties that have led me to propose an alternative version of the low count positing an increase of about 8.5 per cent in the number of free and non-free Italian country-dwellers between 225 BC and 28 BC.195

Let me begin by pointing out that the basis for Hopkins’ estimate of 4.5 million for the free Italian population in 225 BC is very fragile. As we saw in Chapter 2, there may well have been no more than 3.9 million free Italians on the eve of the Second Punic War.196 Since more than 90 per cent of the free population of pre-Hannibalic Italy is thought to have been engaged primarily in agricultural occupations, this downward adjustment translates into a much smaller decline in the free rural population.

A second uncertainty stems from the fact that it is extremely difficult to estimate the total number of town-dwellers in late-republican and early-imperial Italy, or the number of people primarily engaged in ‘urban’ occupations. In Chapter 5 it will be suggested that Hopkins’ estimate for the urban population of Italy in 28 BC may be a bit on the high side.197 A smaller number of townspeople translates into a larger rural population and also into a more balanced distribution of the Italian population between town and country (or between urban and rural occupations).

Thirdly, and finally, Hopkins’ calculations are based on Brunt’s theory that in 28 BC there were about 5 million people of citizen status, of whom about 1 million lived in the provinces. At least some of the complicated arguments on which the latter figure is based can, however, be challenged. For instance, while it seems certain that many free Italians settled in the provinces during the last century of the Republic, Brunt’s suggestion that their number stood at c. 150,000 in 49 BC cannot be verified.198 Similarly, both the sizes of the provincial colonies founded between 49 BC and 28 BC and the numbers of enfranchised non-Italians in these colonies are disputed.199 Furthermore, there is no reliable evidence for the widely held theory that the wives and children of all those Roman citizens who happened to live in peregrine
communities rather than in provincial *coloniae* or *municipia* had been given citizenship by the time of the census of 28 BC.\(^{200}\)

In view of these uncertainties, it can easily be maintained that no more than 800,000 citizens lived in the provinces in 28 BC and that the free population of mainland Italy (excluding foreigners) stood at 4.2 million rather than at 4 million. This makes it possible to assign a further 200,000 free inhabitants to the Italian countryside, if all other variables are left unchanged.

If these critical observations are combined, we end up with an alternative low-count model that looks like this:

<table>
<thead>
<tr>
<th>Table 4.3 Alternative low-count model for the late Republic</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A – Population changes, 225 BC–28 BC</strong></td>
</tr>
<tr>
<td>Men, women and children</td>
</tr>
<tr>
<td>225 BC</td>
</tr>
<tr>
<td>Free</td>
</tr>
<tr>
<td>Slave</td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td>Adult males (aged 17+ years)</td>
</tr>
<tr>
<td>225 BC</td>
</tr>
<tr>
<td>Free</td>
</tr>
<tr>
<td>Slave</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>B – Rural/urban split</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural free</td>
</tr>
<tr>
<td>225 BC</td>
</tr>
<tr>
<td>3,500,000</td>
</tr>
<tr>
<td>Rural slaves</td>
</tr>
<tr>
<td>150,000</td>
</tr>
<tr>
<td>Urban slaves</td>
</tr>
<tr>
<td>150,000</td>
</tr>
<tr>
<td>Italian towns free</td>
</tr>
<tr>
<td>250,000</td>
</tr>
<tr>
<td>City of Rome free</td>
</tr>
<tr>
<td>150,000</td>
</tr>
<tr>
<td>Italian towns free</td>
</tr>
<tr>
<td>150,000</td>
</tr>
<tr>
<td>Italian towns free</td>
</tr>
<tr>
<td>900,000</td>
</tr>
<tr>
<td>Italian towns free</td>
</tr>
<tr>
<td>120,000</td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td>4,200,000</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>C – Migration from Italy overseas</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult males (aged 17+ years)</td>
</tr>
<tr>
<td>Before 69 BC</td>
</tr>
<tr>
<td>85,000</td>
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<tr>
<td>69–49 BC</td>
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<tr>
<td>15,000</td>
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<tr>
<td>49–28 BC</td>
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<tr>
<td>120,000</td>
</tr>
<tr>
<td>Sub-total</td>
</tr>
<tr>
<td>220,000</td>
</tr>
<tr>
<td>Killed/quartered twice over</td>
</tr>
<tr>
<td>40,000</td>
</tr>
<tr>
<td>Net migration</td>
</tr>
<tr>
<td>180,000</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>D – Decline of free rural population</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult males (aged 17+ years)</td>
</tr>
<tr>
<td>Natural growth</td>
</tr>
<tr>
<td>160,000</td>
</tr>
<tr>
<td>Migrants 225–28 BC</td>
</tr>
<tr>
<td>180,000</td>
</tr>
<tr>
<td>to provinces:</td>
</tr>
<tr>
<td>180,000</td>
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<tr>
<td>to Italian towns:</td>
</tr>
<tr>
<td>100,000</td>
</tr>
<tr>
<td>Sub-total:</td>
</tr>
<tr>
<td>280,000</td>
</tr>
<tr>
<td>Total loss:</td>
</tr>
<tr>
<td>120,000</td>
</tr>
</tbody>
</table>

\(^{200}\) Brunt’s arguments concerning the enfranchisement of the wives and children of Roman citizens sent out to provincial colonies and those of provincials incorporated into provincial *municipia* (1971/1987, 263–5) do not apply to citizens in peregrine communities.
Perhaps the most striking feature of this alternative reconstruction is that it implies a significant increase in the size of Italy’s rural population, which now rises from about 3.65 million in 225 BC to 3.9 million in 28 BC.\footnote{The rural growth rate of c. 6.8 per cent implied by these figures falls dramatically short of the urban growth rate of c. 227 per cent indicated by my estimates for the urban population, but since a large proportion of the urban population of 28 BC can be presumed to have been sustained by imported grain (Chapter 5, at note 174), this discrepancy is unproblematic. Cf. Scheidel (2005a), 71, n. 51, and (2008), 33, for the observation that between 1600 and 1750 the urban population of England increased by 260 per cent, compared to 20 per cent rural growth. Cf. Wrigley (1987), 162.} If we take into account the increase in the number of rural slaves, we shall still end up with a decline in the free rural population. While the older model suggests a decline of about 30 per cent in this group, the new version implies a reduction of only 11.4 per cent. Although a decline of this order may still seem significant, it can easily be accounted for if we consider the rapid expansion of the city of Rome and the settlement of about 120,000 adult male Italians in provincial colonies between 49 BC and 28 BC.

I do not, of course, claim that this alternative model can be proved to be a more reliable guide to the demographic history of Italy than the estimates of Brunt and Hopkins. My point is merely that while every version of the low count necessarily implies some measure of demographic decline in the free rural population of republican Italy, it is impossible to make any firm statement about the quantitative importance of this trend. We must at all times remain alert to the possibility that the fate of the free rural population varied geographically, from region to region, and also chronologically, from period to period. It could be suggested, for instance, that precisely because migration from rural areas to towns and from Italy to the provinces accelerated during the final decades of the Republic, this was the only period ever to witness a significant decline in the free rural population of Italy as a whole.

4.5 Conclusions

As we saw at the very beginning of this chapter, the emergence of the high count as an alternative interpretative framework for late-republican history makes it impossible to accept the census figures for the second and third centuries BC as a solid basis for inductive conclusions. It is nonetheless important that any adherent of either of the mutually exclusive reconstructions of Italian population history should examine the assumptions about the surviving ‘evidence’ required by his or her preferred interpretation.

In my view, at least some of the problems raised by the traditional low-count reconstruction of the demographic, social and economic history of central-western Italy during the last two centuries of the Republic cannot be
resolved unless we accept that the Roman citizen body continued to expand throughout the second century BC. Once this idea is taken on board, all of the surviving evidence can be accounted for without resorting either to arbitrary textual emendations or to contrived interpretations.

We have observed that, unlike the low count, the high count sits uneasily with the republican census figures, which suggest that there were no more than 400,000–435,000 adult male citizens during the final decades of the second century BC. This problem can, however, be circumvented by assuming these data to be hopelessly unreliable. We have also seen that the expansion of Rome and the growth of many smaller towns during the final decades of the Republic, as well as the settlement of at least 100,000 adult male Italians in provincial colonies, are compatible with the high count, but can also be fitted into a low-count reconstruction of the demographic history of mainland Italy.

If we ignore the census figures and focus on what the literary sources have to say about the demographic and social history of Italy between 201 BC and 28 BC, it seems fair to conclude that the high counters have failed to come up with a reconstruction of the background to the Gracchan land reforms that does justice to the tradition represented by Appian and Plutarch. As we have seen, this tradition could indeed provide us with a distorted picture of conditions in the Italian countryside. Nonetheless, it seems certain that Tiberius Gracchus thought he could convince most of his fellow citizens that the free population had begun to decline. While Tiberius’ understanding of the relationship between poverty and demographic developments may have been imperfect, it would surely have been easy for his opponents to dismantle his arguments had the number of adult male citizens indeed risen from c. 485,000 in 225 BC to c. 730,000 in 133 BC.

In the case of the archaeological data, the only safe conclusion is perhaps that, precisely because the interpretation of the republican material from southern Etruria is far more complicated than was realized until the early 1980s, this particular data set cannot be used to set aside the census figures and to discard the literary tradition concerning the Gracchan land reforms in favour of a model of fast population growth in which the only real problem was a lack of men with the right physique to qualify for service in the legions. At the same time, it remains possible to interpret the dramatic increase in site numbers after 30 BC as supporting the view that, at least during early-imperial times, population densities in southern Etruria may perhaps have reached the sort of level predicted by the high count. This topic will be examined in the final chapter of this book, which will look at a much larger set of rural survey data from the perspective of the Augustan census figures.