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POVERTY AND DEMOGRAPHY: THE CASE OF THE GRACCHAN LAND REFORMS*

BY

L. DE LIGT

ABSTRACT

According to many ancient historians the second century BC witnessed a fast expansion of slave-staffed estates that pushed large numbers of free peasants off the land. The widespread rural impoverishment caused by this development is thought to have resulted in population decline and a shortage of military recruits. Against this view this paper argues that not only the number of Roman citizens but the free population of Italy as a whole continued to grow during the decades preceding the Gracchan land reforms. This means that Tiberius Gracchus was correct in assuming that the number of impoverished citizens was steadily increasing but wrong to interpret the census figures of the 140s and 130s BC as indicating that the citizen body had begun to shrink. In short, the widespread rural misery lying behind the Gracchan reforms should be seen as a consequence of continuing population growth rather than as a cause of demographic decline.

Introduction

It is difficult to find a textbook on Roman republican history that does not pay ample attention to the events of 133 BC. Of course the crucial event of that year was the introduction of Tiberius Gracchus' *lex Sempronia agraria*, which embodied a radical programme of agrarian reform. Although the exact contents of this law remain in many ways obscure, its rough outlines can be reconstructed from Appian and Plutarch. From these sources it appears that Tiberius' agrarian law dealt mainly with a specific category of public land, the so-called *ager occupatorius*, and that it re-affirmed the validity of an existing rule according to which no Roman citizen was to occupy more than 500 *iugera* or 125 hectares of *ager publicus populi Romani*.

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Any holdings exceeding this upper limit were to be retrieved by the state and to be distributed among impoverished Roman citizens whose number seems to have been on the increase. This, Tiberius and his supporters seem to have hoped, would provide these people with the material basis needed to support a family.¹⁾

A brief description of the economic and demographic background to the Sempronian law of 133 BC is to be found in the first book of Appian's *Bella Civilia*, a work of the second century AD. The main points of his account can be summarized as follows. As the Romans conquered Italy, the cultivated land was assigned to Roman colonists, sold or leased out; but when large tracts of land were lying uncultivated 'after the war' (meaning after the Second Punic War?), general permission was given to use the unworked land at a rent of one tenth of the produce for arable land and one fifth for orchards. According to Appian, the aim was 'to increase the numbers of the people of Italy'. What actually happened, however, was that the rich gained possession of most of the uncultivated land and began to operate slave-staffed estates and ranches. Since the poor were either bought out or driven off their holdings, the result was that 'the powerful were becoming extremely rich . . . while the Italian people were suffering from depopulation and a shortage of men, worn down as they were by poverty and taxes and military service.'²⁾ In line with this introductory sketch Appian states that Tiberius Gracchus launched his programme of agrarian reform not so much in order to increase rural prosperity (*euporia*) as to promote *euandria*, that is to say the availability of sufficient military manpower. Although this description poses some serious problems of interpretation,³⁾ the overall picture is reasonably clear: during the period preceding the Gracchan land reforms the rapid expansion of slave-staffed large estates caused the free peasantry of Italy to decline.

Essentially the same picture emerges from Plutarch's *Life of Tiberius Gracchus*. According to Plutarch, Tiberius Gracchus became concerned over the fate of the rural poor when travelling through the

1) E.g. Stockton 1979, 40-1. Cf. also De Ligt 2001 for the juridical problems raised by our sources concerning the Gracchan land reforms.

2) App. *BC* 1.7 (Penguin translation).

3) Richardson 1980; Bleicken 1990; Rathbone 2003.

coastal parts of Etruria, where 'barbarian slaves introduced from abroad' had replaced the native Italian population.⁴⁾ Interestingly, Plutarch adds colour to his brief sketch by quoting from a speech in which Tiberius Gracchus defended his proposal: 'The wild beasts that roam over Italy have their dens and holes to lurk in, but the men who fight and die for their country enjoy the common air and light and nothing else . . . They are called the masters of the world, but they do not possess a single clod of earth which is truly their own.'⁵⁾ The tenor of this description is very similar to that of Appian: during the second century BC the free peasantry of Italy was increasingly threatened by the ever-expanding slave-staffed estates of the rich.

Taking their lead from these literary sources many twentieth-century scholars have argued that the *lex Sempronia agraria* should be seen as an entirely understandable but ultimately vain attempt to re-invigorate the Roman citizenry which had started to go into numerical decline as a result of the expansion of the slave-staffed estates of the elite.⁶⁾ At first sight this interpretation would seem to be supported by the fact that the Roman census figures for the 130s BC are lower than the figure for 164/3 BC (cf. below). Moreover, according to a widely held view the last two centuries BC witnessed a spectacular expansion of slavery in the Italian countryside, a development that pushed a huge number of free peasants off the land.⁷⁾ Although a large proportion of these newly created rural proletarians found new homes in the growing cities and towns of Italy (especially in Rome), the free Italian population is generally held to have declined between 225 and 28 BC.⁸⁾ Needless to say, this decline can be explained partly as a result of the large-scale emigrations of the first century BC. With reference to the second century BC,

4) Plu. *TG* 8.7.

5) *TG* 9.4-5 (Penguin translation).

6) Toynbee 1965, Hopkins 1978, Brunt 1987, Gabba 1989, and Cornell 1996. In a well-argued article Rich (1983) questions the theory that the Gracchan land reforms were prompted by an acute shortage of military manpower but accepts the view that the free Italian population was in decline.

7) E.g. Brunt 1987, 124; Hopkins 1978, 68.

8) One of the very few to have disputed this view is Lo Cascio (1994), according to whom the free Italian population expanded at the formidable rate of 0.5 percent annually during the last two centuries of the Republic. But see below, at notes 15-7, for the unsurmountable difficulties raised by this scenario.

however, it has also been argued that the fast expansion of rural slavery made it increasingly difficult for the free Italian population to reproduce itself in sufficient numbers to prevent a slow contraction. The guiding idea behind this theory is that an increase in rural (and urban) poverty must have led many free Italians to postpone marriage either temporarily or indefinitely. In short, an increase in poverty is thought to have resulted in lower nuptiality, in lower fertility and ultimately in a slow decline of the free Italian population.⁹⁾

As may be gathered from this summary account, the standard reconstruction of the economic and demographic background to the Gracchan reforms rests on a series of theories and assumptions concerning (1) the quantitative fate of the free population of Italy as a whole, (2) the demographic history of the Roman citizen body, (3) the spread and importance of rural slavery, (4) the causal relationship between poverty and reproductive behaviour, and (5) the reliability of contemporary perceptions of demographic decline. In what follows an attempt will be made to develop and defend new interpretations concerning each of these topics. One of my aims will be to dispute the view that the growth of rural slavery caused the number of Roman citizens to stabilize or even to decline during the three decades preceding the Gracchan land reforms. Following this attempt to undermine the prevailing consensus I will also argue in favour of the alternative hypothesis that the social and military problems that Tiberius Gracchus sought to resolve were in fact caused by a continuing process of demographic expansion.

The Fate of the Free Italian Population

During the past thirty years the starting point of all attempts to elucidate the demographic history of the last two centuries BC has been Peter Brunt's *Italian Manpower*, the first edition of which appeared in 1971. Two important conclusions that emerged from Brunt's painstaking investigations were that the free population of Italy experienced a modest decline between the mid-220s BC and the early years of the Principate and that the quantitative development of the

9) Brunt 1987, 77, 79, 118 and 138-45.

subgroup that we know most about, the Roman citizenry, was in line with this general pattern.

As is generally known, this well-argued reconstruction of demographic developments during the last two centuries of the Republic has been accepted by many ancient historians. One of these has been Keith Hopkins, who has used the detailed evidence collected by Brunt to offer a quantitative reconstruction of some important aspects of the demographic history of the late Republic. According to Hopkins, the free population of Italy declined from roughly 4.5 million in 225 BC to approximately 4.0 million in 28 BC. In the Italian countryside he perceives a considerably steeper decline. If we accept his estimates, there were some 4.1 million free rural Italians in 225 BC but only 2.9 million in 28 BC. This would be a decrease of 30 percent. Against this decline in the number of free country-dwellers we must, of course, set a rapid increase in the number of rural slaves. Of these there may have been some 500,000 in 225 BC but as many as 1.2 million in 28 BC. If these figures are to be accepted, the total population of Italy, including urban and rural slaves, would have grown from roughly 5.0 million in 225 BC to about 6.0 million in 28 BC, despite the rather dramatic decline of the free rural inhabitants (table 1).¹⁰⁾

During the twenty-five years that followed the publication of Hopkins' quantitative restatement of Brunt's theories very few attempts were made to challenge this seemingly unassailable reconstruction.¹¹⁾ The only important exception is a long series of articles in which Lo Cascio has tried to argue that the last two centuries BC were a period of rapid demographic growth and that the Italian population in the early years of Augustus must have been in the order of 15 million or 2½ times larger than Hopkins' estimate for 28 BC.¹²⁾

10) Hopkins 1978, 68-9. Brunt (1987, 124-5) and Nicolet (1989, 606) put the slave population of Italy at ca. 3.0 million (in 14 AD) and the total number of inhabitants at 7.5 million.

11) During the 1970s and 1980s material evidence for the existence of numerous late republican sites in the Italian countryside led many archaeologists to dispute the notion of an agrarian 'crisis' lying behind the Gracchan land reforms. From the mid-1980s onwards, however, a series of important methodological advances began to undermine the credibility of such revisionist claims. In fact, the realization that many 'late republican' sites may belong to the third century BC has led some to suggest that there may have been a pre-Gracchan demographic crisis after all. For further discussion see De Ligt (forthcoming).

12) Lo Cascio 1994, 1999a, 1999b, 2001.

Table 1. *Demographic developments in Italy (225-28 BC) according to Hopkins*

A – Population changes, 225-28 BC				
	Men, women and children		Adult males (aged 17+ years)	
	225 BC	28 BC	225 BC	28 BC
Free	4,500,000	4,000,000	1,350,000	1,220,000
Slave	<u>500,000</u>	<u>2,000,000</u>	<u>150,000</u>	<u>600,000</u>
Total	5,000,000	6,000,000	1,500,000	1,820,000
B – Rural/urban split				
Rural free	4,100,000	2,900,000	1,230,000	870,000
Rural slaves		1,200,000		360,000
	}?500,000		}?150,000	
Urban slaves		800,000		240,000
Italian towns				
free	250,000	500,000	75,000	150,000
City of Rome				
free	150,000	600,000	45,000	200,000
Total	5,000,000	6,000,000	1,500,000	1,820,000
C – Migration from Italy overseas		D – Decline of free rural population		
Adult males (aged 17+ years)		Adult males (aged 17+ years)		
Before 69 BC	125,000	Emigrants		
69-49 BC	25,000	overseas,		
49-28 BC	<u>165,000</u>	25-28 BC:	265,000	
Subtotal	315,000	to Italian		
Killed/counted		towns:	<u>100,000</u>	
twice over	<u>50,000</u> –			
Net migration	265,000	Total loss	365,000	

If this were true, the aim of the Gracchan land reforms cannot possibly have been to remedy any shortage of military recruits; and indeed Lo Cascio has repeatedly argued that the aim of these reforms was not to increase the number of recruitable male citizens but

merely to provide a no doubt large group of impoverished citizens with enough farm land to support their families.¹³⁾

Although this ingenious theory has impressed some ancient historians,¹⁴⁾ it would seem to suffer from a number of fatal weaknesses. One of these is that Lo Cascio's reconstruction of the background to the Gracchan land reforms involves a complete reversal of Appian's statement that Tiberius Gracchus' aim was to promote *euandria* rather than *euporia* (cf. above).¹⁵⁾ Furthermore, it has been pointed out that Lo Cascio's estimates imply a population figure of at least 13 million (including slaves) for Central and Southern Italy, whereas the peninsula numbered no more than ca. 6.3 million inhabitants in 1600. Furthermore, if only 40 percent of the land surface of Italy was cultivated in Roman times, the average population density implied by Lo Cascio's figures would have equalled that of the famously fertile Nile valley.¹⁶⁾ Finally, his 'high' scenario of demographic development can only be maintained by assuming that the Roman censuses of the second and first centuries BC were utterly unsuccessful, with less than a third of all adult males being counted in the census of 70/69 BC. This has led one critic to comment that if Lo Cascio's figures were correct, "the census of 70/69 BC would have been a joke rather than a census".¹⁷⁾ If these counterarguments are accepted, Brunt's and Hopkins' estimates remain the best starting point for any new discussion of demographic developments between 225 and 28 BC.

Of course the fact that few people have been convinced by Lo Cascio's high estimates does not mean that the prevailing orthodoxy cannot be challenged on other grounds. Before proceeding with a critical re-evaluation of Brunt's and Hopkins' estimates, however, I would like to point out an aspect of their overall reconstruction that seems to have attracted little attention so far. The feature I have in mind is that even though both scholars are of the opinion that the free population of Italy declined during the last two centuries of the Republic, their figures do not indicate that there were fewer

13) Lo Cascio 1999a, 230-1; 2003.

14) E.g. Bandinelli 1999, 208; Paterson 2001, 375-7. Cf. also Sallares 2003, 271.

15) For further discussion see De Ligt (forthcoming).

16) Scheidel 1996, 167-8. Cf. also the critical discussion of Lo Cascio's theories by Morley (2001).

17) Scheidel 1996, 168.

free people of Italian *origin* in 28 BC than there had been in 225 BC. The obvious reason why the free population of Italy cannot be equated with the free population of Italian origin is that from the final decades of the second century BC onwards tens of thousands of free Italians emigrated to southern Gaul, Spain, North Africa and other parts of the Roman empire. If Brunt's and Hopkins' estimates are accepted, some 265,000 adult males left Italy in this way. Now if these emigrant adult males are added to the 1.22 million male citizens that are estimated to have lived in Italy in 28 BC (table 1), it appears that there were some 1,485,000 adult males of Italian origin in the early years of the Principate. Interestingly, this is 10 percent higher than the corresponding figure for 225 BC. In short, even though Brunt and Hopkins detect evidence for a significant decline of the free population of Italy, their figures suggest that in one way or another the free population of Italian origin not only remained stable but even managed to become slightly larger than it had been on the eve of the Second Punic War.

Even though this small observation may not be entirely without interest, the most important question remains whether Brunt's and Hopkins' estimates of the number of free Italians in 225 and 28 BC can be accepted. My answer to the second part of this question is that I am in agreement with Brunt's view that the census figure for 28 BC should be interpreted as including all women of citizen status and all children with the possible exception of those aged under one.¹⁸⁾ If this reading of the Augustan census figures is accepted, it follows that Italy numbered approximately 4.0 million free inhabitants in 28 BC.

It is, however, equally important that we take a critical look at the number of free Italians in 225 BC, which Hopkins puts at 4.5 million. From the explanatory notes accompanying Hopkins' table of figures it appears that this estimate is based on two passages of Brunt's *Italian Manpower* in which the author offers separate estimates of the number of free inhabitants of Central and Southern Italy and of the free population of Gallia Cisalpina. In the first of these passages Brunt puts the free population of Central and South Italy at 3.0 million, while in the other Cisalpine Gaul is estimated

18) *Contra* Lo Cascio 1994.

to have been inhabited by some 1.4 million free persons. However, although it cannot be denied that Brunt offered these estimates, there is every reason to question the reliability of the aggregate figure of 4.5 million that has been obtained by adding the estimated populations of these areas.

To begin with, it is disquieting to discover that in other parts of his *Italian Manpower* Brunt does not go beyond the suggestion that Cisalpine Gaul is likely to have numbered between 300,000 and 500,000 adult males in 225 BC. In fact, when discussing the probable size of the North-Italian population in the early years of the Principate he even ventures the suggestion that there may have been no more than 250,000 free adult males in Cisalpina.¹⁹⁾ These alternative figures are enough to underline the highly speculative nature of the figure for 225 BC. For example, if the number of free adult males inhabiting Cisalpina in 225 BC is put at 300,000, the total free population of the area would have been no larger than approximately one million.²⁰⁾ Interestingly, this adjustment would suffice to reduce the free population of Italy as a whole to 4.0 million, which is identical to Brunt's and Hopkins' estimate for 28 BC.²¹⁾

In assessing the reliability of the aggregate figure for 225 BC we must also take a closer look at Brunt's suggestion that Central and South Italy had a free population of roughly 3.0 million on the eve

19) Brunt 1987, 189-90 and 201.

20) According to Bandinelli (1999), Cisalpina numbered between 1.2 and 1.6 million inhabitants in 225 BC. It should, however, be pointed out that this estimate is based on highly unreliable data concerning the number of adult men that various Gallic tribes were able to field. Cf. Brunt's critical note on the Gallic manpower figures given by Polybius (2.23.4): "He drew on Fabius Pictor, who is unlikely to have set it [i.e. the number of Gauls that invaded Italy in 225 BC, LdL] too low" (Brunt 1987, 185).

21) According to Brunt (1987, 118), the number of Gauls living between the Po and the Alps in 69 BC can be estimated at ca. 715,000. If we follow Brunt in putting the number of North-Italian Gauls at ca. 1.4 million in 225 BC, the estimate for 69 BC implies that some 700,000 Gauls were killed or expelled from Italy during the Roman conquest of the early second century BC (cf. Brunt 1987, 711). If Cisalpine Gaul numbered no more than ca. 1.0 million inhabitants on the eve of the Hannibalic war, it follows that far fewer Gauls were slaughtered or chased from their homes. It is also strange that Brunt ignores the possibility that many Gauls continued to live south of the Po after the Roman conquest. Cf. Williams 2001, 96-7, for the view that the Romans made no attempt to exterminate the indigenous population of this area.

of the Second Punic War. Let me begin by pointing out that this second estimate is based on a single passage from the second book of Polybius' *Histories*.²²⁾ In this passage Polybius purports to present a full survey of the manpower resources of the Romans and their Italian allies. In doing so he provides detailed information about the number of men that various groups of Italians were theoretically able to put in the field. It appears, for instance, that the Romans and their fellow-citizens in Campania were able to field 250,000 foot soldiers and 23,000 horsemen, that the Latin allies were capable of contributing 80,000 foot soldiers and 5,000 horsemen, that 70,000 foot soldiers and 7,000 horsemen could be mobilized from Samnium, etc. (table 2).²³⁾

Table 2. *The Romans and their allies in 225 BC (based on Plb. 2.24)*

	Infantry	Cavalry
Romans and Campanians	250,000	23,000
Allies		
Latins	80,000	5,000
Samnites	70,000	7,000
Apulians	50,000	6,000 (?)
Lucanians	30,000	3,000
Abruzzi peoples	30,000 (?)	4,000
Etruscans	50,000+	4,000 (?)
Umbrians	20,000	2,000 (?)
Totals	580,000+	54,000

The crucial question is how these figures are to be interpreted. In his discussion of this problem Brunt noted that Polybius' manpower figure for the Romans and Campanians, 273,000 men in all,

22) Plb. 2.24.
23) Polybius' survey is based on a distinction between those foot soldiers and horsemen who were actually called up for military service in 225 BC and those men who had been registered as qualifying for military service. I am in agreement with Brunt's view that the registers that the allies were asked to submit must have included the names of those who were mobilized. This means that Polybius (or Fabius Pictor) was wrong to add up the figures pertaining to these two categories and that his overall figure for the number of men that the Romans and their allies could field is too high. For the opposite view see Shochat 1980, 25-35, and, more recently, Lo Cascio 1999b, 166-8.

was close to the census figure for 234 BC, when slightly more than 270,000 citizens were counted. This is surely a powerful argument in favour of Brunt's view—which I share—that the figure of 273,000 represents all male citizens aged 17 years and over, including all men over 45. Somewhat curiously, however, Brunt went on to argue that the figures for the Latin and remaining Italian allies should be interpreted in a different manner. In his view, all Polybian figures relating to those Italians who lacked the citizenship should be taken as referring to the so-called *iuniores*, that is to say to adult males aged under 46. If this interpretation were correct, we would have to increase all figures relating to the allies by some 30 percent in order to make them comparable with the figures for the *cives*. Having made this adjustment, Brunt went on to argue that all figures for the allies should be increased by a further 20 percent because the Polybian figures must have been based on returns that were seriously defective.²⁴) Finally, he added some 65,000 adult Greeks and Bruttians and arrived at his grand estimate of 3.0 million free Italians outside Cisalpina by extrapolating the size of the free population of Central and South Italy from the estimated number of adult males (table 3).²⁵)

Instead of offering a detailed re-examination of these calculations it seems more profitable to focus on the underlying assumption that the figures for the allies are to be interpreted differently from those relating to the *cives Romani*. Of course the main problem is that it is difficult to think of any convincing reason for taking the figures for the *cives* as covering both *iuniores* and *seniores* but those relating to the allies as comprising *iuniores* only. It is precisely this anomaly that has enabled Lo Cascio to argue in a recent article that if the

24) Cf. Brunt 1987, 33, 79 and *passim*, for the view (which I share) that *all* Roman census figures must be increased by at least 10 percent because the task of registering the entire adult male population must have been beyond the powers of the censors.

25) According to Hopkins (1978, 69) adult males made up ca. 29 percent of the Italian population. When interpreting the Polybian manpower figures Brunt assigns this group a share of 31.8 percent (although adult males are assumed to have made up 35 percent of the Italian population during the first century BC; see e.g. Brunt 1987, 117).

allied returns were not meant to cover men aged over 45, there is every reason to assume that the censors of Rome itself were also expected to ignore all *seniores* when drawing up their lists of able-bodied citizens.²⁶⁾ The only weakness of this alternative interpretation is that it is equally possible that all Polybian figures, including those relating to the allies, are to be interpreted as comprising both *iuniores* and *seniores*.²⁷⁾ The best argument in favour of the latter interpretation is that there is strong evidence to suggest that the Roman censors tried to register all adult male citizens, regardless of their age, and that it is difficult to think of any reason why their colleagues in the allied communities should have been expected to register *iuniores* only.

Table 3. *The free Italian population in 225 BC according to Brunt*

	1 <i>Iuniores</i> (uncorrected)	2 Adult males (uncorrected)	3 Adult males (corrected)	4 All free persons
Romans	205,000	273,000	300,000	923,000
Latins	85,000	111,000	134,000	431,000
'Samnites'	77,000	103,000	123,200	390,000
Apulians	56,000	75,000	89,600	284,000
Abruzzi peoples	34,000	45,000	54,400	172,000
Etruscans	54,000	72,000	86,400	274,000
Umbrians	22,000	29,000	35,200	111,000
Lucanians	33,000	44,000	52,800	167,000
Subtotal	566,000	752,000	875,600	2,752,000
Bruttians and Greeks			66,000	210,000
Total			941,600	2,962,000

26) Lo Cascio 1999a, 235-6.

27) To be fair, it must be conceded that Brunt backed up his interpretation with an ingenious argument, which can be summarized as follows: if some 85,000 men were listed on the registers submitted by the Latin allies in 225 BC (Plb. 2.24), there would have been some 2,300 adult males in each Latin town (assuming that there were 36 Latin towns in 225 BC); judging from scattered data in Livy, however, those Latin towns which were established before the First Punic War received some 3,800 adult male colonists on average; hence the figure of 85,000 must represent *iuniores* only (Brunt 1987, 56-7). Part of the solution to this

If this reading of the figures for the allies is accepted, it follows that Brunt's estimates relating to the military potential of the allied communities must be lowered by 25 percent. If this correction is carried out, it appears that Central and South Italy had roughly 2.5 million inhabitants in 225 BC, half a million less than Brunt's estimate. This means that even if we accept the highest of Brunt's estimates for Gallia Cisalpina, Italy as a whole numbered no more than 3.9 million free inhabitants in 225 BC, roughly the same number as in 28 BC. In short, if the Polybian figures for the allies are to be read as comprising all adult males, the traditional theory that the free population of Italy declined during the last two centuries of the Republic must be abandoned. And if the estimate for Cisalpine Gaul is lowered from 1.4 to 1.0 million, it even follows that despite the combined effects of the Hannibalic War and the civil wars of the first century BC and despite the large-scale emigration of the first century BC Italy's free population was substantially larger in 28 BC than it had been in 225 BC.²⁸⁾

A totally different question concerns the distribution of the free Italian population between town and country. If Hopkins' estimates

problem is that the Polybian figure for the Latins must be increased by at least 20 percent, just like the figures for the other allies (Brunt, 57-8). In addition to this there are good grounds for thinking that there were fewer Latins in 225 BC than during the early decades of the third century BC. To begin with, we must take into account the negative impact of the First Punic War (note that the Roman census figure for 234/3 BC is ca. 7 percent lower than that for 265/4 BC). Secondly, it should not be forgotten that many Latin colonies (such as Cosa) were founded in swampy districts where the incidence of malaria must have made it difficult for the colonists to reproduce themselves at replacement level (Sallares 2003, 250-1). Finally, Latin towns are known to have lost a substantial number of inhabitants as a result of migration not only to Rome (an attractive option because of the *ius migrationis*) but also to other Latin colonies of more recent date. As Brunt himself explains in a footnote (57 n. 1), the fact that a significant proportion of the population of new Latin colonies originated from existing ones helps to explain why the *oldest* Latin colonies found themselves unable to fulfil their military obligations towards Rome in 209 BC (Livy 27.9.7-14).

28) Note that Brunt, 118, puts the size of the free Italian population at ca. 3.65 million in 69 BC. If Italy really numbered some 4.4 million free inhabitants in 225 BC, we would have to assume that the free population decreased by some 750,000 between 225 and 69 BC but increased to ca. 4.0 million in the decades that followed (Brunt, *ibid.*), despite the combined effects of the civil wars and large-scale emigration to Spain, southern Gaul and other parts of the Mediterranean. I submit that this is a highly implausible scenario of demographic development.

concerning the evolution of the urban population of Italy are to be believed, the cities and towns of Italy, including the city of Rome, numbered some 400,000 free inhabitants in 225 BC. From the early second century BC onwards the number of free town-dwellers began to rise, a development which seems to have accelerated in the first century BC. Although this expansion cannot be followed in any detail, it does not seem unreasonable to assume with Hopkins that the number of free town-dwellers had risen to some 1.1 million in 28 BC. Unlike Hopkins, however, I find it difficult to believe that this steep increase in the size of the free urban population was accompanied by an equally steep decline in the number of free country-dwellers. Thus, if Italy as a whole numbered 3.9 rather than 4.5 million free inhabitants in 225 BC (and as we have seen an even lower figure can easily be defended), the free rural population declined by some 600,000, which is 50 percent lower than Hopkins' estimate.

The Roman Citizen Body: Decline or Growth?

The theory that Tiberius Gracchus sought to deal with a demographic crisis is based not only on the disputable view that the last two centuries of the Republic witnessed a decline of the free population of Italy as a whole but also and especially on the assumption that the late 160s BC marked the beginning of a period of demographic stagnation or even decline for the Roman citizen body. As is well known, all reconstructions of the demographic history of this Italian subgroup are based on interpretations of the republican and Augustan census figures (table 4) and my account will be no exception to that rule. I would therefore like to begin by making it clear that I accept Brunt's view that all republican census figures are to be interpreted as comprising all male citizens aged 17 and over, including those aged over 45.²⁹⁾

29) Although Brunt's interpretation has found wide acceptance, the debate concerning the correct interpretation of this important set of data has not come entirely to an end. Thus Shochat (1980, 9-45) has tried to argue that the figures reported by Livy (or his epitomator) comprise neither the *capite censi* nor the *cives sine suffragio*. More recently, Lo Cascio (1999a, 235-6; 1999b, 168) has advanced the theory that both the Polybian figures for the allies and the Roman census figures refer solely to adult males aged between 17 and 45 (cf. above, at note 26). Needless to

Table 4. *Roman census figures (265 BC-AD 14)*

Year	Census figure	Source
265/4 BC	292,234	Eutrop. 2.18
252/1 BC	297,797	<i>Per. Liv.</i> 18
247/6 BC	241,712	<i>Per. Liv.</i> 19
241/0 BC	260,000	Hieronym. Ol. 134.1
234/3 BC	270,713	<i>Per. Liv.</i> 20
209/8 BC	137,108	<i>Liv.</i> 27.36
204/3 BC	214,000	<i>Liv.</i> 29.37
194/3 BC	143,704	<i>Liv.</i> 35.9
189/8 BC	258,318	<i>Liv.</i> 38.36
179/8 BC	258,794	<i>Per. Liv.</i> 41
174/3 BC	269,015	<i>Liv.</i> 42.10
169/8 BC	312,805	<i>Per. Liv.</i> 45
164/3 BC	337,022	<i>Per. Liv.</i> 46
159/8 BC	328,316	<i>Per. Liv.</i> 47
154/3 BC	324,000	<i>Per. Liv.</i> 48
147/6 BC	322,000	Euseb. Armen. Ol. 158.3
142/1 BC	327,442	<i>Per. Liv.</i> 54
136/5 BC	317,933	<i>Per. Liv.</i> 56
131/0 BC	318,823	<i>Per. Liv.</i> 59
125/4 BC	394,736	<i>Per. Liv.</i> 60
115/4 BC	394,336	<i>Per. Liv.</i> 63
86/5 BC	463,000	Hieronym. Ol. 173.4
70/69 BC	910,000	Phlegon fr. 12.6
28 BC	4,063,000	<i>Res Gestae</i> 8.2
8 BC	4,233,000	<i>Res Gestae</i> 8.3
AD14	4,937,000	<i>Res Gestae</i> 8.4

This is not to suggest that this reading enables us to resolve all of the many problems posed by the census figures for the second century BC. A glance at the figures for the period between 203 and 168 BC is enough to reveal some curious fluctuations, not all of which are easily explained.³⁰⁾ Although it may be possible to

say, the latter re-interpretation is a vital part of Lo Cascio's attempt to maximize the size of Italy's free population during the last two centuries of the Republic.

30) The figure for 203 BC reflects not only the enormous manpower losses suffered during the Second Punic War but also the punishment of the former *cives sine suffragio* of Capua, who were deprived of the Roman citizenship. Conversely, the re-integration of the *Campani* into the citizen body goes some way to explaining why the censors of 189/8 BC were able to register many more adult male citizens than their predecessors (Brunt 1987, 63-4). Another important factor was

achieve some progress on this front, I have few problems with the prevailing consensus that the census figures for the first three decades of the second century BC permit countless speculations but few reliable conclusions.³¹⁾ On the other hand, there are grounds for believing that the figure for 168 BC may be more or less reliable. One clue that seems to point in this direction is that the censors of 169/8 BC took the unusual step of registering soldiers on leave from Macedonia.³²⁾ This suggests that they made a greater effort to arrive at a reliable registration than many of their predecessors. What is more important, however, is that none of the later census figures is below 300,000. This makes it difficult to maintain that the figure for 168 BC is unrealistically high, despite the fact that it is 16 per cent higher than that for 173 BC.

For our purposes the most interesting period is that between 168 and 114 BC. If we restrict ourselves to the first seven census figures that have been preserved for this period, we are left with the impression that the late 160s BC marked the beginning of a long period of slow but steady decline in the number of adult male citizens. Of course, it is tempting to follow Brunt and many others in interpreting this downward trend as the demographic background to the Gracchan land reforms of 133 BC.

There are, however, some serious problems with this superficially attractive theory. To begin with, there is the basic 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 were able to register ca. 395,000 adult male citizens, some 75,000 more than their predecessors six years earlier. Needless to say, these data are incompatible with the theory that the Roman citizen body was in continual decline from the late 160s BC onwards. This explains why Beloch and Toynbee took the drastic and methodologically dubious step of lowering the census figures for these years by eliminating one of the initial Cs. In other words, the theory of a gradual contraction of the

the migration of a large number of Latins to Roman territory. Nevertheless the rise in the census figures for the period 203-168 BC remains surprisingly steep.

31) Brunt 1987, 74, followed by Erdkamp (1998, 290).

32) Livy 43.14.7-8.

citizen body can only be maintained by manipulating the surviving evidence.³³⁾

The view that the figure for 124 BC is more reliable than the lower figures that precede it can be corroborated by extending the scope of our inquiry to include the early decades of the first century BC. The most important pieces of evidence concerning the demographic make-up of Roman Italy during this period are the census figure for 69 BC and scattered data on the number of troops that the Romans and their Latin allies were able to put in the field during the Social War. With the help of these data Brunt was able to demonstrate that there were some 400,000 Roman citizens of the old stock at the time of the census of 70/69 BC. Now if we take into account the probability that some 35,000 Roman citizens were killed during the Cimbrian wars and a further 50,000 during the Social War, it becomes immediately apparent that there must have been more than 400,000 adult male citizens during the final decades of the second century BC.³⁴⁾ In short, the theory that the Roman citizen body started to contract from the late 160s BC onwards makes it impossible to make sense not only of the census figures for 124 and 114 BC but also of the census of 70/69 BC.

In order to obtain a realistic picture of the demographic background to the Gracchan land reforms we must also take into account the growth of the urban population, especially that of Rome.³⁵⁾ Needless to say, I am fully aware that the few indications that we have, such as the gradual expansion of the built-up area or the number of aqueducts, do not permit any safe conclusion as to the

33) Beloch 1886, 351; Toynbee 1965, 471. But cf. Nicolet 1989, 606, for the view that the figure for 115/4 BC is reliable.

34) If there were some 395,000 adult male citizens in 124 BC as against ca. 337,000 in 163 BC, the citizen body would have grown by approximately 17 per cent in the course of four decades. Note that this rough estimate retains its validity if the two basic figures are considered to be slightly defective.

35) Of course I am aware that many Roman citizens lived in Italian cities other than Rome. It seems, however, to be generally agreed that most Italian cities did not expand rapidly during the second century BC. See e.g. Gabba 1972 and Gros 1990. Although there are some notable exceptions to this general pattern (such as Pompeii: Schoonhoven 2003, 236-8), there seems to be insufficient ground for challenging the view that the fast expansion of urban populations throughout Italy started after the conclusion of the Social War.

size of the population of Rome in, say, 133 BC. This explains why the few estimates that have been made vary from 200,000 to 400,000.³⁶⁾ For the purposes of my argument, however, it is enough that even if the highest of these estimates could be proved to be correct, it would be difficult to maintain that the population of pre-Gracchan Rome included more than 300,000 men, women and children of citizen status. Since adult males are unlikely to have made up more than one third of the citizen population as a whole, it follows that no more than 100,000 adult male citizens are likely to have been resident in Rome in the late 130s BC. If this estimate is combined with our finding that there must have been at least 400,000 adult male citizens on the eve of the Gracchan land reforms, it emerges that the number of recruitable citizens outside Rome was larger in 133 BC than it had been at the outbreak of the Hannibalic War.

How then do we account for the fact that the census figures for the 130s BC are lower than those for 168 and 163 BC? In my view the most plausible answer to this question remains that the relatively low census figures for the period 160-130 BC reflect the growing reluctance of many Roman citizens to serve in the army.³⁷⁾ Of course, it is true that there can be no question of *all* country-dwelling citizens becoming unwilling to take part in *any* military campaign. Thus ancient historians are becoming increasingly aware that attitudes to military service were affected by many variables, such as the amount of land held in private ownership, access to additional resources (including leaseholds) and the varying size of peasant households.³⁸⁾ Furthermore, there are indications in the sources that many people were eager to take part in at least some campaigns, such as the one undertaken against Carthage in 149 BC.³⁹⁾ However, despite these important qualifications the traditional view that an increasing number of citizens became less willing to

36) Brunt 1987, followed by Morley (1996, 39): ca. 375,000 inhabitants around 130 BC. Cf. Viriouv 1994, 20: between 200,000 and 400,000. In a brief discussion of the lex Terentia Cassia of 73 BC, Garnsey (1988, 212) suggests that the population of Rome may have stood at ca. 600,000 in the late 70s BC.

37) E.g. Evans 1988, esp. 128-9. Cf. also Brunt 1987, 33-4.

38) Evans 1991.

39) Rich 1983, 317.

serve in the army during the second century BC retains much of its original plausibility. As early as 169 BC we hear about consuls trying to avoid unpopularity by not enlisting citizens who were reluctant to serve.⁴⁰⁾ No reading of the evidence, moreover, can leave us in any doubt that the protracted and unrewarding wars fought in Spain from 154 to 133 BC evoked much discontent.⁴¹⁾ Furthermore, Sallustius' description of the background to the levy of 107 BC points in the same direction: according to him the optimates reckoned that even the recruitment of a few thousand legionaries would make Marius unpopular because the Roman *plebs* were reluctant to serve as legionaries.⁴²⁾ Taken together these snippets of information make it difficult to deny that there was considerable antipathy to military service, especially at the time of the Spanish wars.

At this point a few words must be said about the recent theory that many impoverished citizens were keen to serve in the army because this would provide them with supplementary income.⁴³⁾ It is true that there are good grounds for believing that long before the days of Marius it had become customary for legionaries to be equipped with weapons by the state, apparently free of charge.⁴⁴⁾ The existence of this practice does, however, not alter the fundamental fact that throughout the second century BC Roman soldiers received a very small *stipendium* that was barely sufficient to cover subsistence and a few additional items. Moreover, it appears from Polybius that deductions were made for food, clothing and replacement arms.⁴⁵⁾ This surely means that only a small part of the money theoretically due was actually paid over. It is these considerations that led Nicolet to assert that booty must have been the chief allure-ment of military service.⁴⁶⁾

It may therefore be suggested that the meagreness of military pay during the second century BC helps to explain the general lack of enthusiasm for the campaigns in Spain, where no easy victory and

40) Livy 43.14.2-6 and 15.1.

41) Rich 1983, 317. Cf. Goldsworthy 2003, 123.

42) Sall. *Iug.* 84.3. In my view it is arbitrary to dismiss Sallustius' analysis as a later invention (as suggested by Rich (1983, 325)).

43) Erdkamp 1998, 264-5 and 267.

44) Plb. 6.21.6-7, on which see Rich 1983, 287 n. 1, and Brunt 1987, 405.

45) Plb. 6.39.15.

46) Nicolet 1980, 117.

rich booty could be expected. At the same time the foregoing observations provide us with a plausible background for Gaius Gracchus' *lex militaris*, which provided that legionaries were to be supplied with clothing free of charge. Although it would certainly be wrong to interpret this law as an attempt to alleviate an acute shortage of military manpower, its contents do suggest that service in the army was widely regarded as unattractive.⁴⁷⁾ Interestingly, Plutarch notes that 'the poor, when they found themselves forced off the land, became more and more unwilling to offer themselves for military service'.⁴⁸⁾ Even if this generalizing passage cannot be accepted at face value, it remains plausible that impoverished peasants were often as eager to avoid military service as many of their better-off neighbours.

In short, while the high census figures for 124 and 114 BC are entirely incompatible with theories of population decline, the relatively low figures for the period 160-130 BC can be explained by assuming that a significant number of country-dwelling citizens became increasingly reluctant to serve in the legions and correspondingly eager to avoid registration by the censors.⁴⁹⁾

47) On the Gracchan *lex militaris* and its background see Stockton 1979, 137; Rich 1983, 318-9.

48) Plu. *TG* 8.3. Cf. Gabba 1976, 16-7, for the observation that even after the levy of 107 BC the number of proletarian volunteers remained limited until it became clear that the veterans of Marius' African army were going to be rewarded with large plots of provincial land.

49) Admittedly, my scenario of steady demographic expansion raises the question why and how the censors of 125/4 and 115/4 BC managed to register far more citizens than their predecessors. Unfortunately, our knowledge concerning the censuses carried out in these years is confined to the numbers of citizens registered. It has, however, been suggested that the partial implementation of the Gracchan land reforms led to many (former) proletarians being counted (cf. Brunt 1987, 78-80), although this hypothesis sits uneasily with the low census figure for 131/0 BC (Stockton 1979, 49-50). Alternatively, it may be speculated that the fact that only Roman citizens were allowed to benefit from the Gracchan distribution scheme (*pace* Richardson 1980) and other recent events, such as the temporary expulsion of all non-citizens from Rome in 126 BC (e.g. Stockton 1979, 94), had highlighted the tangible benefits of being a Roman citizen. From 123 BC onwards only citizens benefited from the *lex Sempronia frumentaria*.

How Many Slaves?

Although slave-staffed *villae* do not seem to become prominent in the archaeological record before the early first century BC, there can be no doubt that agricultural slavery began to expand much earlier.⁵⁰⁾ If such an expansion did not take place, it becomes impossible to account for the three large slave revolts that took place in Italy and Sicily between 136 and 71 BC (alongside smaller revolts that are known to have occurred in Campania and Apulia).⁵¹⁾ Additional confirmation is provided by Cato's *De Agricultura* (written ca. 160 BC), which contains detailed prescriptions concerning the operation of slave-staffed farms (*villae*) for the commercial production of wine and olive oil. The two model estates described in this treatise comprise 25 and 60 hectares and are staffed with 16 and 13 slaves respectively.

It should, however, be emphasized that these clues, important though they are, do not permit us to make detailed statements concerning the quantitative expansion of rural slavery. Despite this difficulty Hopkins has ventured the suggestion that early imperial Italy was inhabited by some 6.0 million people, 2.0 million of whom were slaves. Of these 2.0 million slaves 1.2 million are assigned to the Italian countryside (table 1). If this last figure could be proved to be correct, we would be more or less forced to conclude that enormous numbers of free country-dwellers had to migrate to Rome, to other Italian cities or to areas outside the Italian peninsula because their farms were being absorbed by the expanding slave-staffed estates of the elite. It is this view that lies behind Hopkins' beautifully succinct statement that "Roman peasants were fighting for their own displacement".⁵²⁾

In reality, however, the estimate of 2.0 million slaves in 28 BC is no more than an unfounded guess that does not reflect anything except for the preconceived view that Roman Italy was a genuine slave society in which one third of the population was of unfree

50) Cf. De Ligt (forthcoming) for the view that rural slavery started to spread from the late fourth century onwards, and Rathbone 1993 for the suggestion that some pre-Gracchan *villae* may have been misclassified as 'small sites'.

51) Bradley 1989.

52) Hopkins 1978, 30.

status. It is, of course, no accident that in Hopkins' reconstruction slaves account for exactly the same proportion of the population as the slaves of the southern part of the United States before the outbreak of the American Civil War.⁵³⁾

This is not to deny that in late republican and early imperial Italy large numbers of slaves were employed on the estates of the rich, especially on those set up to produce wine or olive oil for the urban market. However, even if many such slave-staffed farms existed, it does not follow that more than 1.0 million slaves were employed in the Italian countryside. In fact, it is not difficult to construct an argument that sheds serious doubts on the validity of this orthodox view. A useful starting point is Jongman's recent 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 population of all the Italian cities, including Rome.⁵⁴⁾ It appears from the writings of Varro and Columella that one slave was needed to work some 7 *iugera* or 1.75 hectares of vineyard, while labour input per hectare was even lower in oleoculture.⁵⁵⁾ It does not appear unrealistic, then, to assume a ratio of one slave per two hectares in Italian arboriculture. If this estimate is combined with Jongman's figure for the amount of land needed to grow grapes and olives, it appears that only 100,000 slaves were needed to work the vineyards and olive groves in question. And even if these 100,000 slaves were assisted and supervised by a further 100,000 slaves and if 50,000 slaves were needed to grow the cereals consumed on *villae* for the production of wine and olive oil, the total number of slaves would not have been higher than 250,000. This means that the theory that late republican and early imperial Italy numbered some 1.2 million rural slaves can only be maintained by assuming that some 80 percent of the rural slave work force was used to grow grain. Although slaves are known to have been used in grain farming,⁵⁶⁾ it seems

53) Cf. Scheidel 1999.

54) Jongman 1990, 50-1, restated in Jongman 2003, 113-4.

55) For labour input per hectare in winegrowing, see Col. 3.3.8: one slave per 7 *iugera*, and Plin. *Nat.* 17.215: one slave per 10 *iugera*. For the lower labour input required in oleoculture see Duncan Jones 1982, 327, and Gallant 1991, 75-6.

56) Spurr 1986 and Scheidel 1994. According to De Neeve (1984a, 94, 107,

doubtful whether any ancient historian would be prepared to defend this extreme hypothesis. The only other way to push up the number of rural slaves would be to assume that hundreds of thousands of slaves were employed not on slave-staffed *villae* but on small family farms. To the best of my knowledge there is no evidence to support this theory.

For the purposes of this article it is important not to lose sight of the fact that the production figures underlying my calculations relate to the early years of the empire, when the towns and cities of Italy may have numbered some 1.9 million inhabitants.⁵⁷⁾ If Italy was much less urbanized in 133 BC than in, say, 28 BC (as it surely was), the number of slaves used to grow grapes and olives can only have been correspondingly lower. Moreover, if the early imperial figures may have to be increased because substantial amounts of Italian wine were exported, there would appear to be no need for any such upward adjustments where the period 201-133 BC is concerned.⁵⁸⁾ It may therefore be suggested that even if slaves were widely used to grow grain during this period, the total number of rural slaves is likely to have been much smaller than is usually thought. Needless to say, this finding is compatible with the idea that slave-staffed estates reduced the amount of land cultivated by free peasants in *certain parts of Italy*. It seems, however, far-fetched to suppose that such regional developments brought about a decline in the number of free country-dwellers in Italy as a whole.

113 and 130), the use of slaves on estates where grain was grown intensively (i.e. not in a two-year rotation system) does not alter the fact that unfree labour was more or less indispensable only in plantation farming. Cf. Scheidel 1994, 164, for the suggestion that "one might have preferred to use the servile workforce in specialized arboriculture".

57) Hopkins 1978, 68.

58) Even during the last century of the Republic, when large amounts of Italian wine were exported to southern Gaul, most of the wine produced on the slave-staffed estates of Central Italy is likely to have been drunk by consumers living in Rome or in other Italian towns. It is instructive to compare Tchernia's (1986, 85-6) suggestion that during the last century of the Republic Gaul may have imported between 120,000 and 150,000 hectolitres of Italian wine annually with his finding that the inhabitants of early imperial Rome, who may have made up roughly half of Italy's urban population, are likely to have drunk some 1.0 million hectolitres of wine every year (*ibid.* 26).

Poverty and Demography

In the eight chapters he devoted to the Roman census figures Brunt argued that the Roman citizen body fully recovered from the blows of the Second Punic War in less than 35 years but also that the number of citizens remained more or less stable during the decades that followed. As we have seen, one weakness of this reconstruction is that it makes it very difficult to account for the census figures of 124 and 114 BC. For this reason alone it seems necessary to take a closer look at some of the factors that allegedly halted the rapid demographic expansion that took place during the first three or four decades following the conclusion of the Second Punic War.

According to Brunt the principal reason why the Roman citizen body stopped growing from the mid-160s BC onwards was that a steady increase in rural and urban poverty led a growing number of Roman citizens to postpone marriage. In support of this theory he cited an impressive amount of evidence that pointed to the existence of a negative connection between poverty and nuptiality.⁵⁹⁾ Thus he alerted his readers not only to the fact that the peasants of medieval England could not marry before they had acquired farms of their own, but also to the existence of a negative correlation between economic hardship and the frequency of marriage in 18th-century Sweden and to the fact that the poorest members of the working class of pre-revolutionary St. Petersburg were generally unmarried. Building on these and other comparative data Brunt went on to argue that lower nuptiality was likely to have resulted in lower fertility and ultimately in population decline. The only reason why an actual contraction of the Roman citizen body did not take place was that the ranks of the *cives* were continually being replenished with ex-slaves who had been manumitted by their Roman masters. In short, by assuming that an increasing proportion of the Roman citizen body consisted of freedmen Brunt found a way to reconcile his theory of fertility decline with his conclusion that the number of Roman citizens remained roughly stable throughout the second half of the second century BC.

59) Brunt 1987, 138-40.

Although this theory may seem attractive at first sight, a re-examination of the underlying data and assumptions is enough to reveal some serious difficulties. Thus it is somewhat curious to find that most of the comparative evidence marshalled by Brunt refers to countries that experienced demographic growth despite the fact that many of their inhabitants lived in poverty.⁶⁰⁾ The only exception is eighteenth-century Iceland where a combination of economic oppression and legal restrictions on marriage caused the population of the island to decline. The relevance of this anomalous case to late republican Italy is extremely doubtful, if only because there are no Roman parallels for the Icelandic anti-marriage regulations.

Another problem is that Brunt's comparative data refer to marriage being deferred by men. As Brunt himself admits, this type of postponement has little effect on reproductivity unless it raises the mean age at which women marry.⁶¹⁾ Since there is no evidence that this happened amongst the Roman citizen body, we are left with the possibility that the fertility rate may have declined because many impoverished men never married at all, thus forcing a large group of citizen women to remain unmarried. The difficulty with this theory is that it runs counter to the prevailing view that Roman women of all classes tended to marry early and that it was extremely uncommon for a Roman woman to remain lifelong celibate.⁶²⁾

More generally, since the days of Malthus historians, sociologists and demographers have been in substantial agreement that in the absence of a major epidemiological or ecological crisis poor people are fully capable of reproducing themselves.⁶³⁾ Of course this has

60) See e.g. Livi Bacci 2000, 10 and 132-3: strong population growth in eighteenth-century Sweden, nineteenth-century Britain and pre-revolutionary Russia. In the case of modern underdeveloped countries there is some evidence to suggest that very poor people tend to have slightly smaller families than the 'ordinary poor', but none that supports the idea that such people are unable to reproduce themselves physically or socially. See e.g. the valuable discussion by Lipton (1983, 19-20) and cf. Irfan 1989, 83 and 117 (pointing to higher infant mortality as a possible cause for smaller family size among the poor), and García 2000, 6.

61) Brunt 1987, 140.

62) E.g. Shaw 1987; Treggiari 1991, 83; Lewis, Percy & Verstraete 2003, *passim*. Cf. Gallant 1991, 17-9, for classical Greece, and Bagnall & Frier 1994, 114-5, for Egypt during the first three centuries AD.

63) Bintliff (1997) has argued that very intensive farming of many parts of classical

been a central theme in the study of Third World countries from the early 1960s onwards. After decades of research the exact reasons why poor people tend to have large numbers of children are still being debated. According to one theory it is rational for the rural poor to have many children because additional family members can either be used to work additional land or be hired out as farm labourers at an early age, so that a larger family means a greater income during the busy season.⁶⁴⁾ Another popular theory is that in underdeveloped countries couples have many children because their investment in rearing children is small relative to the income that the child can generate for the parents. This theory is particularly relevant to those societies in which sons or daughters are expected to provide for their parents in old age.⁶⁵⁾ According to a recent variant of this approach the key to the problem is the vulnerable position of widows. Thus it has been argued that fertility is highest in those areas where the fate of a widow without a mature son is worst.⁶⁶⁾

The common denominator of all these theories is that they start from the assumption that economic rationality is central in fertility behaviour. Against this it has been pointed out that many poor people do not adopt a calculating approach to the benefits and costs of large and small families because they feel that too many important variables (such as the number of boys and girls that will be born or the number of children that will survive to maturity) are beyond their control.⁶⁷⁾ Finally, a recent wave of studies calls attention to the importance of purely cultural factors, such as the impor-

Greece reduced the fertility of the soil to such an extent as to cause a dramatic population decline. Regardless of the merits of this hypothesis, there is no evidence of anything similar happening in late republican Italy.

64) Mamdani 1972, referring to the Punjab. Against Mamdani's theory Dyson (1991, 81-100) argues that although poor couples respond to having large families by putting their children to work, this is not the reason why they have large families in the first place. As Chayanov (1966) pointed out, large peasant households can escape poverty by leasing or buying additional land. But this may be an unworkable solution for peasants living in densely settled areas where the price of land is high.

65) Caldwell 1982.

66) Cain 1981; 1988.

67) Jeffery, Jeffery & Lyon 1989. Cf. Jeffery & Jeffery 1997, 79-80, 115-6 (emphasizing the inability of women to act on their wish to have fewer children).

tance attached to marrying off daughters while they are virgins or the idea that a family should produce at least one adult son capable of fulfilling certain ritual roles.⁶⁸⁾

The usual dearth of evidence makes it difficult to establish which, if any, of these economic and non-economic factors played some part in the reproductive behaviour of the poorer sections of the Roman citizenry in the second century BC. For our purposes, however, it is enough that none of the many studies that have been carried out in Third World countries supports the idea that widespread poverty may lower the fertility rate to such a degree as to bring about an overall population decline. In fact, there is much better evidence for the contrary view that demographic growth can be maintained even when large sections of the population come to live or continue to live in utter poverty. That is surely a very good reason for calling into question Brunt's theory that the number of Roman citizens declined because an ever-growing proportion of the citizen body entered the ranks of the urban or rural proletarians.

Contemporary Perceptions of Population Decline

Even if the high census figures for 124 and 114 BC support a scenario of steady population growth, it remains the case that the surviving literary sources present the agrarian law of 133 BC as an attempt to deal with a perceived *decline* in the free Italian population. As we saw right at the beginning of this article, those who believe that the late 160s BC marked the beginning of a period of demographic stagnation or decline for the free Italian population are able to point to Appian's statement that Tiberius Gracchus was concerned about the future of 'the people of Italy' who 'were declining slowly into poverty and depopulation'. Similarly, Plutarch presents Tiberius as deploring the steady replacement of the free rural population by slaves and as trying to deal with the widespread rural misery caused by this development. Although some ancient historians have tried to shed doubt on the reliability of these ancient witnesses,⁶⁹⁾ I think we should accept that Tiberius Gracchus acted

68) E.g. Mukhopadhyay & Savithri 1998.

69) Lo Cascio 2003. Cf. above, at note 15.

on the assumption that the number of country-dwelling citizens and perhaps the free peasantry of Italy as a whole were in decline.

It is, however, an entirely different matter whether Tiberius' understanding of recent demographic developments was adequate. If the census figures for 124 and 114 BC are more or less reliable, it follows that the census returns for 141 and 135 BC were defective by some 30 percent. There is good comparative evidence to show that under such circumstances assessments of demographic trends are often guided by stereotypes.⁷⁰⁾ A particularly apt illustration of this phenomenon is provided by the intense debate concerning contemporary demographic developments that raged in England during the second half of the eighteenth century. An important issue in this controversy was the demographic effects of the so-called 'enclosure movement' as a result of which many of the common fields⁷¹⁾ of early modern England ended up under the exclusively private control of rich farmers and landowners. For an ancient historian many of the arguments used by the opponents of enclosure are uncannily similar to Plutarch's and Appian's descriptions of the background to the Gracchan land reforms. Thus while many participants in the eighteenth-century debate deplored the liquidation of common rights as a way of enriching a few farmers at the expense of many, enclosure was also widely regarded as leading to a decline in the number of small farmers that would weaken England's military strength.⁷²⁾

What is even more intriguing is that many of those who opposed enclosure on these and other grounds took the view that the impoverishment of a growing number of people, to which the liquidation of common rights had greatly contributed, was causing the English population to decline. In fact, one of the proponents of this view went so far as to argue that "in this kingdom it appears that, amidst

70) Cf. Hopkins & Burton 1983, 96.

71) In contrast to the *agri publici* of republican Italy the common fields of early modern England included the uncultivated parts of privately owned arable land (e.g. fallow fields) alongside uncultivated common wastes. Despite this important difference both the economic functions of the public and semi-public fields of Italy and England and the processes by which they were gradually privatized may fruitfully be compared.

72) Neeson 1993, 19-25.

all our splendour, we are decreasing so fast as to have lost, in about 70 years, near a quarter of our people", a theory that the author went on to back up with seemingly sound statistical evidence.⁷³⁾ A quick perusal of some recent publications on English population history is enough to reveal that this pessimistic assessment was totally unwarranted. Thus the authors of a recent volume on the demographic history of early modern England conclude that between 1701 and 1801 the English population grew from approximately 5.2 million to roughly 8.7 million, that is by some 66 percent.⁷⁴⁾

For the purposes of this article the main lesson to be learned from this is that in the absence of reliable synoptic statistics it is extremely difficult even for the most intelligent contemporary observers to obtain an accurate picture of overall demographic trends. For this reason alone the probability that Tiberius Gracchus *believed* the number of country-dwelling citizens to be in decline must not be allowed to weigh heavier than the census figures for 124 and 114 BC.

The Background to the Gracchan Land Reforms: A Re-interpretation

If the foregoing deliberations are broadly correct, the background to the agrarian law of 133 BC can be reconstructed as follows. During the first decades of the second century BC the Roman citizen body recovered quickly from the enormous manpower losses that had been suffered during the Second Punic War. As we have seen, this rapid recovery is reflected by the census figure for 168 BC. After 168 BC the census figures became increasingly unreliable because a growing number of adult male citizens sought to evade military service by avoiding registration by the censors. There are, however, no good reasons for doubting the validity of the

73) Glass 1973, 55, quoting from the second edition of Richard Price's *Observations on Revisionary Payments* (London 1772). For Price's role as a defender of common rights see Neeson 1993, 24-5. Cf. also Glass 1973, 47-65, for the fact that contemporary estimates of the size of the English population ranged from 4.5 to 9.0 million (!).

74) Wrigley *et al.* 1997, 614. Between 1701 and 1771 (one year before Price formulated his theory of a 25 percent decline) the English population increased from ca. 5.2 million to ca. 6.6 million.

census figures for 125/4 and 115/4 BC, which demonstrate that the number of Roman citizens continued to grow throughout the second century BC. Since there are no indications that this increase was accompanied by a corresponding expansion of the amount of agricultural land available for cultivation by this Italian subgroup (especially after the large-scale assignments of the early second century BC had come to an end),⁷⁵) it follows that a growing number of country-dwelling citizens were reduced to poverty during the decades preceding the Gracchan land reforms.

If these suggestions are accepted, Tiberius Gracchus was correct in assuming that the number of impoverished *cives Romani* was steadily increasing. At the same time he observed a startling increase in the number of rurally employed slaves, especially in Central Italy. Finally, he was worried by the downward trend in the census returns. On the basis of these three facts he concluded that the free population of Italy had begun to decline as a result of the expansion of agricultural slavery. If this is what Tiberius thought, we can only say that his impressionistic interpretation of the causal relationship between demographic developments and poverty was incorrect. But then he did not have the census figure of 124 BC, which was the first to reveal that no contraction of the citizen body had taken place.

To conclude this article I would like to point out that the foregoing re-analysis of the demographic history of late republican Italy sheds some new light not only on the background to the Gracchan land reforms but also on the push factors lying behind the large-scale emigrations of the first century BC. According to many ancient historians the principal reason why more than 250,000 adult male citizens had to leave Italy was that their places had been taken over by agricultural slaves. Although this view is not entirely incorrect, it may well be too limited. In my view, it is much more natural to assume that the large-scale emigrations of the last century BC were caused at least partly by the continuous demographic growth that

75) For the large-scale assignments of the early second century BC, see Livy 31.4.1-2 and 32.1.6 (Samnium and Apulia, 201 and 199 BC) and 42.4.3-4 (Cisalpine, 173 BC). Cf. also Salmon 1969 for the citizen colonies founded between 194 and 177 BC. For the expansion of large estates in Central Italy, see e.g. De Neeve 1984b.

seems to have reduced large numbers of Italians to poverty during the last 130 years of the Roman Republic.

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