Introduction

The word 'market' may mean three things: first, the place at which the commercial exchange of goods takes place; secondly, the forces of supply and demand that govern the commercial distribution of goods. 'Market' in the second sense gives rise to another meaning of the word: the geographical area in which the commercial exchange of certain goods operates. This book is mainly concerned with the market of grain in the second and third senses. The reader may be expecting to find an analysis of the price formation of various grains, a survey of the short-term trends and long-term developments of prices and real wages, a study of the processes of the cereal market, and a quantitative outline of imports and exports of grain between agricultural regions and structural markets. However, the reader should be warned that the present study of the grain market in the Roman world contains little of the above. This is not by choice, but by necessity: the ancient sources simply contain insufficient data to undertake an analysis of those aspects of pre-industrial societies that most economic historians of later times regard as essential.

The reason is that most ancient sources are literary texts, which include not only works of philosophy, history, novels and letters, but also legal writings and texts inscribed on stone. Even Egypt, while offering by far the most quantitative evidence on the ancient world, does not yield sufficient documentary sources to undertake a serious attempt at statistical analysis (except maybe on demography). The evidence on much of the Mediterranean region is limited to literary writings, which usually offer a picture of how things were perceived to be or of how they should have been, not of how they were. The relevance of the writers of the agricultural handbooks to agricultural reality, for instance, is based on the assumption – probably justified, it must be stressed – that these authors had first-hand knowledge of – and thus reflected – commercial farming as it was practised in Italy in their days. Nevertheless, one should be sceptical regarding the degree to which their prescriptive accounts shed light on the farms of smallholders. Even more important is their choice of subjects to discuss – and to ignore. The marketing of produce, on which the profitability of the landed estates was ultimately based, is a subject that was left out by Cato, Varro and Columella. The picture painted by individual landowners (such as Pliny the Younger) of their estates and the marketing of their produce is even more fragmented and obviously distorted. Their information is meagre in comparison to what even a brief glimpse of their accounts would have offered. The grain supply of the city of Rome can be studied in more detail than that of any other city of the Roman world, but still is largely known from sources that merely describe what should have been – not what was. Quantitative evidence is rare even concerning Rome, which gives those few solid figures that our sources mention undue weight in the discussion. The legal writings and inscriptions containing laws and regulations on the grain market and urban food supply in the rest of the Empire are by their nature one-sided. In short, we have a very fragmented and one-sided view of a construct, and hardly any evidence of the historic reality. The contents of this book have been shaped by what the sources reveal – and do not reveal.

However, good research should be based on the questions that are asked, and not on what the sources say, although there is admittedly little point in asking questions that cannot be answered. The questions that are asked in this book concentrate on the role of the distribution of grain in the economic, social and political structure of the Roman world. In recent decades, many excellent publications have appeared on the food supply in the Graeco-Roman world, beginning with Geoffrey Rickman's *The Corn supply of ancient Rome* (1980). Soon followed Peter Garnsey's *Famine and food supply in the Graeco-Roman world* (1988) and Peter Herz' *Studien zur römischen Wirtschaftsgesetzgebung. Die Lebensmittelversorgung* (1988). Both covered much ground, and many books and articles on matters of food supply followed in their wake. Repetition of what has already been said has often been unavoidable. The reason for writing this book is that the current literature on food supply in antiquity is partly based on a few ill-founded assumptions on the production and distribution of grain. As studies of early modern Europe show, food supply is part of economics, but that aspect seems missing from most publications on food supply in antiquity, which may be due to the nature of the sources.

This book intends to put more emphasis on the economic aspects of the production and distribution of grain. The grain market may be described in two ways, by its institutions and by its functions. The emphasis will be on functions, not on institutions. The main themes derive from studies on food supply and the grain market in later times: productivity, division of labour, market relations and market integration. These studies show that the degree to which the market was able to offer security in supplying food was a crucial factor in the degree to which pre-industrial economies could lift themselves off the ground. Other authors would undoubtedly have written a different book, and the present book will probably be criticised for the subjects that are omitted. I do not deal, for instance, with famine and malnutrition, nor with cultural aspects of food and dining. One reason for these omissions is that I intended not to explore topics on which I felt I had nothing new to add. Hopefully the subjects that are discussed in this book succeed in offering a new perspective on a well-discussed subject.

Economic emphasis, it may be added, does not exclude social and political aspects. Previous studies have made clear that in a society where production levels of food were low and precarious, entitlement to food was a fundamental precondition of survival, as it still is in some underdeveloped parts of the world. In his analysis of twentieth-century famines in the Third World, the economist and Nobel prize winner Amartya Sen stressed the diverse nature of the entitlement to food of various segments of societies. In his view, entitlement to food can be based on direct production, on the market exchange of goods or services for food, but also on social and political rights.[1] Disturbances disrupt each of these various forms of entitlement in various ways and to different degrees. Sen makes clear that food supply is not solely an economic matter of production, distribution and transport, but should also be seen in the light of political and social relations within a particular society. The Roman Empire is no exception in this regard. The food entitlement of many segments of Roman society depended on their direct and indirect relations with the emperor and his representatives, and with the landowning aristocracy and local rulers, who controlled the towns and much of their hinterland.

The ancient sources constantly emphasise social and political aspects of food supply. Even stronger: as far as we may judge from the writings of those authors who made food supply a subject of discussion, they saw it solely as a social and political issue. Plato's *Laws* offers a clear example. Plato's ideal state is divided into three classes. The food supply of these three classes is based on non-market channels, while trade is only assigned a marginal role:

1 Sen (1981) 43.

> Take wheat or barley, for instance (though the same procedure must be followed for all the other crops too, as well as for any livestock there may be for sale in each district): each twelfth part [one part for each month] should be split proportionately into three shares, one for the citizens, one for their slaves, and the third for workmen and foreigners in general (i.e. communities of resident aliens in need of the necessities of life, and occasional visitors on some public or private business). It should be necessary to sell only this third share of all the necessities of life; there is no necessity to sell any part of the other two.[2]

Admittedly, this text does not reflect any reality, except that of the ideal state as envisioned by Plato. In his view, the main purpose of the distribution of the produce of the land was to feed the community of citizens and their households, and this was ideally done by direct and equal distribution, not involving market channels, which were – not surprisingly – only assigned a role in supplying food to those people who were outside the community.

Equally revealing is Aristotle's analysis of economic transactions in his *Nicomachean Ethics*. In the words of J.A. Schumpeter: 'Starting from the economy of self-sufficient households, he [Aristotle] then introduced division of labor, barter, and, as a means of overcoming the difficulties of direct barter, money . . . There is no theory of "distribution".'[3] Both Plato and Aristotle only had a very basic idea of distribution as an economic concept. According to both philosophers, trade and profit were 'unnatural' and ideally excluded from the social and political community of citizens. The modern arguments that trade as a means of distribution enhanced the economic value of goods by distributing them to those people who offered most in return, and that profit was a justifiable reward for this service were foreign ideas to Plato and Aristotle.

Although the modern term 'economy' derives from the Greek, it has little to do with what the ancient writers meant by such a term. The principal elements stressed in Xenophon's *Oikonomikos* are knowledge of farming practices, the sale and purchase of arable land and the proper management of one's household, which comprises not only one's workforce, but also one's family. The Greek term was limited to the functioning of a household and the relations between households. The perspective that our sources offer on this subject is that of a landowning elite. Hence, the household they discuss was that of a well-to-do family, including the workforce that worked on their farm. The emphasis of this economic unit is not on marketing and commerce (as in modern economics) but on

2 Plato, *Laws* 848a. Transl. by Saunders (1970).

3 Schumpeter (1954) 53.

production. The same attitude is shown in the Roman agricultural manuals, which cover every aspect of production on a commercial farm, but consciously ignore the marketing of the estate's produce. This is not to say that Roman landowners had no interest in marketing or profit, but it required no sophisticated ideas about the market to make profit, just as it did not require having an economic theory of interest to charge interest in daily life.

There is little sign of a truly economic policy regarding food supply in antiquity. This is not to say that the central government or local rulers disregarded matters of food supply. On the contrary: the sources clearly indicate the importance that rulers attached to the supply of grain to cities and armies. Xenophon for instance urged statesmen to pay attention to matters of food supply,[4] but this did not imply an economic policy in the modern sense. Likewise, Pliny the Younger praised Trajan's policy of building roads and improving harbours, but he did so in the context of Rome's grain supply.[5] Commerce, infrastructure, exports and imports were seen as direct means to a limited end, not as the subject of economic policy.[6] The landowning elite dominated their communities economically, socially and politically, but there is no evidence of a policy that took the agricultural interests of landowners to heart. There were no export bonuses or import barriers, like there were in early modern Europe. This is as true of Classical Greece or the Hellenistic kingdoms as of the Roman Empire: 'If a Greek city took into account the economic interests of its members, it was solely as consumers and not as producers. . . . What they practised was solely an import not an export policy.'[7] In one sense at least the Roman world was significantly different from early modern Europe: there were no nation-states. Hence, there were no national policies concerning the international grain market. Roman customs duties worked both ways: the same percentage had to be paid, whichever way one was crossing the boundary. To the Roman government, customs duties were merely a source of income, not a way to enhance the grain market or to protect the internal profitability of agriculture.[8]

4 Xenophon, *Mem.* 3.6.13.
5 Pliny, *Pan.* 29. Cf. Rathbone (2000) 52, who points out that even the Ptolemaic reclamation of the Fayyum was in the end primarily an 'immortal memorial' for the new dynasty.
6 Likewise Schneider (2000) 62: the infrastructure was created not to serve the needs of traders, but to facilitate the supply of the cities.
7 Austin and Vidal-Naquet (1973) 113. Cf. Bleicken (1988) 99.
8 In contrast to early modern Europe. See for instance Outhwaite (1981) 398ff concerning England. On *portoria*, see for instance Von Freyberg (1989) 56ff, who argues that only the higher custom

The only example of governmental involvement in trade that has the appearances of mercantilistic policy is the vine-edict of the emperor Domitian, who ordered the destruction of provincial vines, while forbidding their planting in Italy.[9] However, Suetonius shows that the vine-edict (which was, moreover, never implemented) was conceived during a shortage of grain. Hence, Domitian did not intend to protect the interests of Italy's vineyards, but to enhance the supply of grain. If anything, the vine-edict demonstrates the predominance of the consumers' interests, even if nothing much came of it. Suetonius informs us furthermore that Augustus had considered abolishing the *frumentationes*, 'because through dependence on them agriculture was neglected'.[10] He decided against the idea, believing that the corn dole would eventually be restored to please the masses. In the end, Suetonius writes, Augustus devised a system that kept the interests of farmers and merchants as well as those of the people in mind. Balancing the interests of producers and traders with those of consumers is the best evidence of an economic policy that the ancient sources have to offer. Despite their political influence, the landowners' pursuit of profit never turned to protectionism.

To the rulers as much as to the writers of the Roman world, the food supply was a social and political issue, which is also seen in the urban bias of the measures that were taken or conceived. The attention of the Roman authorities and local rulers towards food supply was largely based on the social status of the consumers. Rome surpassed any other city in the Roman world in social status and political importance, which is reflected in the extraordinary measures that were taken to provision the capital with grain and bread. The administrative channels that supplied the city of Rome with grain largely by-passed the market. Also the grain supply of the other cities of the Roman world cannot be studied without keeping in mind social and political aspects. However, the grain supply of these cities was largely determined by the economic realities of production and trade and should be seen in the context of the economic factors that determined the workings of the grain market. Even stronger, the intervention of central authorities and local rulers in the grain supply of the towns and

duties on the outer boundaries of the empire can be seen as part of a 'trade-policy'. Similarly, Van der Spek (2000a) 34 concludes regarding the Seleucid Empire that 'the fiscal policy was not intended to protect industries, but only to secure income'.

9 Suetonius, *Dom.* 7.2. Commentary: Wiemer (1997) 212ff. Measures taken by Hadrian that restricted the planting of vines on arable land on imperial domains in Egypt and Africa may offer a limited parallel to Domitian's edict. BGU 11.2060; CIL 8.25943; 26416.

10 Suetonius, *Aug.* 42.3.

cities was a response to the limitations of the grain market on which the sustenance of their inhabitants depended. This response had to reckon with the economic realities of the grain market, but that does not make their policy an economic policy. Governmental measures either regulated the workings of the market or supplemented it by actions that made use of non-market channels. It was precisely the weakness of market channels that increased the importance of non-market mechanisms of distribution. Although the main subject of this book is the grain 'market' in the Roman world, much attention will necessarily be given to non-commercial distribution of grain.

The main themes of this book derive from studies on the food supply and grain market in later times, in particular in pre-industrial Europe. The reason for the emphasis on pre-industrial Europe is twofold. First, the geographical and climatic conditions in which the economy of the Roman world took shape are most closely paralleled in the Mediterranean countries of the early modern era. The physical setting of the Mediterranean region was a very important factor in shaping the economy of the societies that developed in the region. Climate, vegetation and geographical features placed constraints on the way that people made their livelihood. However, I do not propose a kind of geographical determinism in explaining economic structures. In past decades, many publications on the ancient world stressed the adverse conditions of agriculture. Nineteenth-century publications on the economy of such regions as Spain and southern Italy did the same. At the end of that century, Spanish agriculture was among the lowest in productivity in Europe. In 1890, Lucas Mallada published his *Los males de la patria*, in which he blamed the low level of productivity on the adverse conditions of topography, climate and soil. His book was popular and influential, because it offered an apologia for Spanish backwardness. Such a deterministic approach, however, has been rejected in more recent studies. James Simpson, for instance, points out that 'a prosperous agriculture is the result not so much of favourable soil fertility or climate, but rather a function of the intensity in which labour, capital and technology is applied, and the nature of society's demands on the soil.'[11] Although knowledge of the soil, climate and topography in the Mediterranean lands of antiquity is necessary to understand the environmental restraints under which farming, husbandry and transport functioned, Simpson's statement emphasises the importance of

11 Simpson (1995) 34.

economic structures in understanding agriculture and food supply in the Roman world.

Secondly, the aim of using comparisons in historical research is to go beyond the limited scope of one's sources. The use of comparisons in studying the economy of the ancient world would advance us little further if comparisons were made with societies, the sources on which are as scarce, fragmented, one-sided and biased as those regarding antiquity. Economic research in early modern Europe is based on sources of sufficient quality and quantity to allow the construction of more refined models and the formulation of more precise concepts than the sources on the ancient world will ever allow. Hence, the analytical tools that are used in this book are those that are applied by economic historians to the societies of late medieval and early modern Europe. The point of comparison is not always to stress similarities. Differences in certain aspects may be just as illuminating, when the causes of these differences are explored.

This study treats the Roman world as a pre-industrial society that was not fundamentally different from early modern Europe. The question may be asked whether the themes, concepts and analytical tools that are useful in economic studies of societies from the late Middle Ages onwards are applicable to antiquity. The fact that the ancient authors did not develop an economic theory does not of course need to be an objection. Economic behaviour did not depend on having a theory about it. Moreover, the models and concepts used in economic research are not just applicable in studies of modern societies. If capitalism is defined as an economy in which goods are produced for the market with the aim of making a profit, this definition can surely be applied to the Roman world, provided one realises that making a profit was not the only – or even the most important – aspect of the economy.

If the pre-industrial economy is sufficiently uniform to mark an era that can be said to have started in the Mediterranean region at some time during the Graeco-Roman period and to have lasted until the nineteenth century, it needs to be differentiated on the one hand from less developed economies, and on the other from the industrialised, capitalistic global economy of modern days. A few of its distinguishing features may be sketched thus:

First, agriculture was by far the predominant sector within the economy, and in both the Roman world and early modern Europe, agriculture was dominated by the cultivation of grain. Braudel used a simple, but effective calculation to express the economic importance of grain. Assuming a population in the Mediterranean region of some 60 million people, who each consumed approximately 200kg of corn annually, and taking a 'normal' grain price in Venice to express its monetary value, he estimated that the value of corn consumed each year was about 480–600 million ducats. Compared to this, he said, the famous import of gold from the Americas to Seville – estimated at 6 million annually – was insignificant.[12] A similar calculation could easily be made regarding the Roman world. This agricultural dominance does not imply an undifferentiated autarkic economy. Although the largest part of the grain that was produced was consumed by those who produced it, a large proportion was not.

Secondly, a characteristic feature is the nature of the division of labour. The Roman economy is distinguished from less-developed economies primarily through a significant increase in the division of labour and the emergence of markets on which this division of labour was economically based. As a result, the population did not consist almost exclusively of farmers. It will be argued that the engagement of the largest part of the population in agriculture does not exclude a significant involvement in non-agricultural activities. Hence, the figure that is usually given for the Roman world concerning the division of labour of 80 or 90 per cent of the population engaged in agriculture is deceptive in that it plays down the importance of the non-agricultural sectors of the economy.

Thirdly, the nature of the market. Farmers were not autarkic cultivators of the soil, but they functioned in a context of markets. These markets not only included product markets, i.e. markets of the crops and goods they produced, but also factor markets, that is markets of land, capital and labour. The markets of land, capital, labour and products were inflexible and weak, and thus had to be supplemented by non-market channels. The response of urban authorities to the weakness of the food markets in early modern Europe was remarkably similar to that of urban rulers in the Roman world. Coercion played an important role in the Roman world, and much of the economic growth that can be seen in the first centuries AD can be ascribed to a 'command economy', but there was a significant difference from the distributive economies of the cultures of the Near East. Despite the importance of taxes and rent in distributing capital and goods, the Roman economy was a market economy, although that is not to say that the Roman world ever developed an integrated 'world economy'. Much of the complexity of Roman society, and of its spectacular

12 Braudel (1966) 420f.

achievements (such as having given rise to the largest city in Europe until nineteenth-century London) was built on the use for specific purposes of coercive, non-market channels within a market context.

Fourthly, transportation over land depended on the energy provided by humans and animals, transportation by water largely on wind and current. Bulk goods, including food, could not be transported long distances overland before the introduction of railways. This imposed a powerful constraint on the degree to which people could participate in the market exchange of goods and on the extent of the geographical area in which the exchange of certain goods operated. Communication and information depended on travel, which severely limited its range and speed. This was also a limiting factor in the commercial exchange of goods. Because of the risks and costs involved, large-scale and long-distance distribution of bulky commodities was often based on coercive, one-way flows of goods.

The present study puts the grain market in the wider perspective that is sketched above. The discussion will start with an investigation of the input of production factors in cereal farming in the Roman world and the degree of surplus production. An overview of the means of production – land, capital and labour – and an analysis of agricultural practice will show that agricultural productivity was not so much determined by a low technical level of agriculture, as is often assumed, but by the variation in the balance between production factors on the farms of smallholders and commercial estates, which resulted in a low labour productivity in peasant farming. Chapter two explores the context of the employment of labour in peasant households. The main conclusion is that the limitations of the non-agricultural economy forced the households of smallholders to concentrate their labour on agriculture, resulting in low labour productivity.

The next two chapters deal with the involvement of the various groups of producers in the commercial exchange of grain. Chapter three discusses the market relations of commercial, large-scale farmers and of the peasantry. The farms and estates of the wealthy landowners were orientated towards the market. Discussion of marketing considerations will not be limited to grain, but also include wine and olive oil. Chapter four gives an assessment of the extent of market integration in the Roman world. Market integration refers to the extent to which the market was able to connect supply and demand in space and in time. This chapter will first discuss market integration in time (i.e. carry-over) and show that the extent of integration between harvest years was low. The second part of the chapter will analyse the factors that determined market integration in space. It will be argued that the costs of transportation, the limitations of