Pluto Press

Chapter Title: 'The Emporium of the World': The Economic Impact of Empire

Book Title: The Roman Empire
Book Subtitle: Roots of Imperialism
Book Author(s): Neville Morley
Published by: Pluto Press. (2010)
Stable URL: https://www.jstor.org/stable/j.ctt183pb5x.8

3
'The Emporium of the World': The Economic Impact of Empire

Whatever is grown and made among each people cannot fail to be here at all times and in abundance. And here the merchant vessels come carrying these many products from all regions in every season and even at every equinox, so that the city appears as a kind of common emporium of the world. Cargoes from India and, if you will, even from Arabia the Blessed one can see in such numbers as to surmise that in those lands the trees will have been stripped bare, and that the inhabitants of these lands, if they need anything, must come here and beg for a share of their own.

(Aelius Aristides, *Oration 26 'To Rome'*, 11–12)

Many modern theories focus on the relationship between imperialism and economic structures and processes. Economic factors are often seen as one of the motors of modern imperialism; this may be seen in terms of 'trade before the flag' and the influence of commercial interests on persuading the imperial power to pursue a policy of annexation, or of the encounter between societies at very different levels of economic and technological development causing social upheaval and creating a situation that draws the imperial power into intervention, or of the dynamics of capitalism leading to a crisis of over-accumulation and a search for new outlets for production.[1] Other studies focus on the consequences of imperialism for economic development in colonised regions. One tradition emphasises the positive effects of the transformation of traditional (for which read 'primitive') forms of agriculture and craft production, as the result of the transfer of more advanced technology and techniques, the influx of capital, the construction of infrastructure like railways, bridges and roads and the integration of the colonised region into a wider economy.[2] Imperialism is seen to operate, deliberately or accidentally, as an agent of modernisation, providing the resources and political will to overcome impediments (whether material, institutional or cultural) to full economic development. In due course it may become an impediment itself, restricting the liberty of the colonial subjects and isolating the colonised region from the full range of market opportunities by locking it into an exclusive relationship with the imperial power; but, at least in the early stages of the process, imperialism is claimed to play an essential role in overcoming inertia and resistance to economic transformation.

More critical and sceptical perspectives generally offer two different lines of argument. The first is to question positive evaluations of the impact of the imperial power on the economy of its possessions: both the extent of disruption caused by the initial annexation, with the widespread destruction of property, people and indigenous economic structures, the seizing of land and the displacement of large numbers of families; and the continuing restriction of economic development and individual initiative, partly as a means of control and partly, it is argued, in the interests of the manufacturers and merchants of the imperial power.[3] The second is to question the idea that 'development' – invariably understood as development according to the Western model – is intrinsically desirable, because it imposes a particular set of technology, techniques and institutions that may be ill-suited to local conditions, and leaves farmers vulnerable to food crises because they are encouraged or compelled to grow cash crops for the market rather than ensuring their own subsistence.[4] Theories of 'underdevelopment' and 'dependency' draw these two strands together: the consequence of imperial control, it is argued, is that the colonised region is locked into a subordinate position within the world economy, prevented from modernising fully so that it continues to supply raw materials to the industrialised nations rather than competing with them in the production of higher-value goods.[5]

One key issue for these debates is the difficulty in distinguishing between the effects of capitalism (or, more generally, modernisation) and those of imperialism in shaping the historical development of non-Western countries. For writers who see the two as separate, albeit often closely connected, influences on colonised regions in the nineteenth and early twentieth centuries, there is a significant analytical problem in determining how far local developments may be attributed directly to imperial rule rather than to the effects of integration into the developing world economy. The process of modernisation has affected regions that were never under direct Western control, such as China, in ways that are often similar to developments in regions like India or Africa; and of course it has continued long after the formal withdrawal of imperial powers from their possessions. This is less of a problem for Marxist accounts, which regard modern imperialism precisely as a process within capitalism and are happy to talk of 'neo-imperialism' in the post-colonial world; for example, when discussing the role of global institutions such as the World Bank and International Monetary Fund, whose policies are heavily influenced by the United States, in imposing a particular model of economic development on countries and in ensuring optimum conditions for the operations of (foreign) capital there.[6]

Rome has played little role in such debates about the relationship between empire and economy, except as a point of contrast with modern developments. In the late eighteenth century, Adam Smith had argued that the relationship between Rome and its colonies should serve as a model for Britain's policy towards the Americas because it was positive and productive for both parties.[7] He and other early political economists noted the development of trade and craft production in various areas of the ancient Mediterranean, but regarded such changes as occurring despite, rather than because of, Roman imperialism. The wealth of Rome, James Steuart argued, like the wealth of Babylon and Persia, was the product of conquest and thus proved to be the ruin of those states, whereas cities like Athens, Carthage and Alexandria had enjoyed genuine industrial and commercial development.[8] Rome was dominated by slavery and despotism, with the commercial and industrial classes subordinated to the military and landowning elite, and their anti-economic ethos: 'the policy of the ancient republics of Greece, and that of Rome, though it honoured agriculture more than manufactures or foreign trade, yet seems to have rather discouraged the latter employments than to have given any direct or intentional encouragement to the former'.[9] Rome's wealth was therefore consumed unproductively, and the provinces were bled dry of resources and population to fuel the luxurious lifestyles of its rulers, rather than encouraged through the development of exchange to improve their systems of production. Imperialism was not intrinsically opposed to economic development in the view of these writers, but an imperialism of conquest and domination, under the command of a despot, would do nothing to promote an increase in prosperity in either the provinces or the imperial heartland.

The classical political economists did not see the Roman economy as qualitatively different from that of their own society; thus the limited development of trade and manufacturing in the Empire could serve as a useful lesson to contemporary society about the necessity of political liberty and a rational approach to national prosperity. Within a generation, a radical shift in attitude had occurred, as economists and historians became convinced of the uniqueness of modern economic development, and perceived a yawning gulf between the present and all previous societies.[10] Commentators eulogised modern productive power and identified a range of different characteristics of the modern economy – the application of science and technology, the development of institutions such as banking and credit, the organisation of labour, economic rationality and knowledge of the workings of the economy – that were absent, or scarcely developed, in earlier times. The Roman economy was clearly pre-industrial, primitive and limited, ignorant of the maxims of political economy and dominated by non-productive motives; it therefore ceased to be of any interest to contemporary discussions, including those focused on imperialism. Ancient historians meanwhile embarked on a lengthy debate about how far the ancient world could be considered proto-modern and how far it should be seen as utterly different.[11] If they related their studies to the present, it was generally to consider the 'failure' of antiquity to develop along modern lines, focusing on the absence of those elements identified as important for the emergence of capitalism in the early modern period. In so far as the role of Roman imperialism was considered, it was seen in negative terms, either for the failure of the Roman state to pursue rational economic policies or, more commonly, for its deadening effect on individual freedom and entrepreneurship and the development of the free market. The Empire was regarded as parasitic, creaming off the wealth of the provinces in booty and taxes and offering little or nothing in return.[12]

Although understanding of the Roman economy has been distorted by constant contrasts with modernity, so that it is more often presented in negative terms as 'not-modern' rather than being described in its own terms, the contrast between the two societies is real and significant: Rome remained a pre-industrial and pre-modern society, vastly inferior in material terms.[13] It depended on the produce of the land not only for food but for most raw materials and for most of its sources of power – wood, and the food to support human and animal muscle; in the absence of advanced technology and chemical fertilisers, there were strict limits on the extent to which the productivity of either the land or labour could be increased.[14] The vast majority of the population therefore worked on the land and lived close to subsistence level, producing a low level of surplus beyond the needs of their family and so able to support only a small level of demand for manufactured goods; the high-pressure demographic regime, with a high birth rate offset by a high death rate (especially infant mortality), meant that any increase in production would normally be counteracted by an increase in population rather than a rise in real incomes and living standards. The Mediterranean environment was capricious, characterised by alternating glut and dearth, and transport and communications were slow, expensive and unreliable; the market functioned erratically at best, so that – for entirely rational reasons, rather than being a sign of a primitive mentality – economic motivation focused on risk avoidance and the satisfaction of needs rather than maximising profit.[15]

However, this pessimistic picture can be exaggerated: the fact that classical antiquity entirely lacked the exponential economic growth that has characterised the modern era does not mean that growth was unknown.[16] The 'limits of the possible' in a pre-industrial economy were undoubtedly restrictive, but within those limits there was wide scope for variation in the performance of different societies, there is evidence to suggest that Rome may have performed at a higher level than many contemporary and later societies.[17] If the Roman economy did develop significantly, then it is worth considering how far and in what ways this may be connected to the establishment of the Empire. This line of thought has been encouraged by two relatively recent developments in contemporary economic theory. Firstly, there has been an upsurge of interest in the economic consequences of integration and connectivity, with globalisation seen as the essential basis for development. The Roman Empire was drawn together, however loosely, into a single political space; it seems entirely possible that this may also have become a single economic and cultural space, which would have had significant implications for the workings of economic structures and the lives of its inhabitants. Secondly, there has been a focus on the role of institutions, especially the state, in creating the conditions necessary for economic growth, in opposition to theoretical approaches that regard the state as a significant impediment to the beneficial operation of the free market.[18] The Roman state was certainly one of the most important economic actors in ancient Mediterranean, given its command of resources and the geographical extent of its influence, and so its actions must have had an impact on economic development in general – whether positive or negative. The Empire had sufficient power to overcome the 'limits of the possible' in at least some circumstances and to take actions that could ease them in the longer term for at least some of its inhabitants; it could reshape the conditions under which individual economic actors made their decisions. It was equally well placed to restrict certain developments if they appeared to threaten its own position, and for its actions to produce unintended consequences.

This was never a directed process; the Romans had no conception of 'the economy' as an analytical category, little understanding of its operations beyond a hazy grasp of such simple phenomena as the relation between supply and price, and no notion that it was part of the task of government to promote prosperity or encourage industry. Insofar as the Roman state made decisions that could be termed economic, such as managing taxation, they were taken solely in its own interest: protecting its income and the interests of its ruling class, managing state resources, ensuring that the army and the capital were properly supplied and that the army was paid. However, as far as development was concerned, the motivation for these decisions was far less important than their effects. This is the major implication of Aristides' description of the city of Rome, quoted above. Rome grew because it was the capital of the Empire, magnifying imperial power, and the centre of the activities of the political elite; it was a centre of consumption, not of production. The flows of taxes and rent on which it subsisted made it a rich and attractive market, especially as the grain supply was subsidised so that sectors of the population enjoyed a higher level of disposable income. As a consequence, it drew in supplies from the whole world, making some people very rich – the description of the fall of Babylon in the book of Revelation, generally agreed to be a fantasy of the fall of Rome, offers a similar perspective to Aristides' account:

> And the merchants of the earth weep and mourn over her, for no man buyeth their merchandise any more… The merchants of these things, who were made rich by her, shall stand afar off for fear of her torment, weeping and mourning, saying: 'Woe, woe, the great city… for in one hour so great riches is made desolate.' And every shipmaster, and every one that saileth any whither, and mariners, and as many as gain their living by sea, stood afar off, and cried out as they looked at the smoke of her burning, saying, 'What city is like the great city?' And they cast dust on their heads, and cried, weeping and mourning, saying, 'Woe, woe, the great city, wherein were made rich all that had their ships in the sea by reason of her costliness'.
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> (Revelation, 18.11–19)

In this, as in other ways, the rise of Rome had a dramatic impact on the economy of its empire. The crucial question is whether its impact was essentially parasitic, stripping the provinces and even regions beyond the Empire of their resources through its command of wealth and power, or whether its influence was sometimes more positive; whether Roman globalisation was a force for economic development, or simply a more powerful means of exploitation.

THE REWARDS OF CONQUEST

The most unmistakable consequence of Roman imperialism was the transfer of resources from the conquered provinces to the centre on an astonishing scale. Conquest, especially of the wealthy kingdoms of the east, brought booty: the defeat of Macedonia in 167 BCE collected 120 million sesterces' worth (the equivalent of 120 senatorial fortunes), while the treasury of Mithridates, captured by Pompey, contained 860 million sesterces. Especially in the west, conquest also led to the transfer of hundreds of thousands of people as slaves. Regions that were incorporated into the Empire had to pay taxes and tribute in money and goods; other regions, such as the cities of Greece and Asia in 70 BCE, were forced to pay indemnities; resources taken under state control, such as the silver mines of Spain, brought in millions every year. By the time of Augustus, Rome ruled – and appropriated a share of the produce of – 60 million people or more, its revenues having risen by at least a hundredfold in two and a half centuries. Roman taxes were relatively low, perhaps 5% of gross produce, partly because the state offered little in return and partly because it was necessary to leave a sufficiently large share of the peasants' surplus for the local elites; nevertheless, the Empire commanded enormous resources, which cemented its dominance.[19]

Not only the Roman state but also its leading members became extremely wealthy as a result. In Cicero's time, a reasonably well-to-do senator was said to need an annual income of several hundred sesterces; by Pliny the Younger's day, the average income was over 1 million sesterces, while by the fourth century some senators drew in 6–9 million sesterces every year.[20] Roman and Italian aristocrats acquired extensive estates overseas; by the time of Nero, six senators were reputed to own most of Africa – an exaggeration, but not too incredible – and the passing of successive laws to force senators to have at least some of their wealth invested in Italy shows how far the economic interests of Rome's elite had become globalised.[21] Elite families used this wealth as the basis for further accumulation, funding the political activities of their members to win more opportunities for gaining booty and glory, or simply acquiring ever larger estates and portfolios of urban properties, investing money in funding commercial ventures and so forth. The Roman elite's notorious disdain for merchants was directed against those who were directly involved in day-to-day business activities; they had no objection to making large amounts of money, even from commerce, by working through agents.[22]

The primary significance of this accumulation of wealth was that it led to far-reaching changes in the location and the nature of demand within the Empire: the ways that the Roman state and its aristocracy chose to spend the resources gathered from the provinces shaped the dynamics of the economy. As noted above, ancient peasants were unable, because of the limitations of technology and the nature of their environment, to produce more than a small surplus above what they and their families consumed. However, the aggregate surplus of 60 million people is a significant level of resource; what really matters is how and where it was consumed. Because of the uncertainties of the climate and the unreliability of market mechanisms, producers might prefer, if left to their own devices, to store their surplus rather than sell it to buy other goods; those items which they could not make themselves were generally produced locally, because of the costs of transport and because no region enjoyed a sufficiently large comparative advantage in their production. The result was that there was only limited scope for the development of large-scale inter-regional specialisation or trade, and little incentive either for the improvement of agriculture or the development of industry. Most farmers lacked the resources and, above all, sufficient land to make it worthwhile investing in improved technology or even buying an ox, because the animal would simply replace family labour which would still have to be fed, and because there was insufficient reliable demand for the produce to cover increased costs.

There was always some trade around the Mediterranean, because certain goods (metals, for example) were not found everywhere, and because the vagaries of the climate created periodic food crises and hence a market for grain.[23] However, this trade remained for the most part small-scale, based on small boats with mixed cargoes hopping from port to port along the coast and on itinerant pedlars with a wagon or a few pack animals. More specialised trade, or trade on a larger scale, was a high-risk occupation, subject to the vagaries of the weather and the market in an environment where information was hard to come by and expensive; and so market and industrial activity remained a thin veneer over a largely agrarian, subsistence economy.[24] Roman imperialism transformed this situation by gathering the surplus produce of different regions and concentrating it at particular locations, creating centres of demand for goods that could not be supplied solely from the immediate locality. Resources that might otherwise simply have been consumed by their producers now supported an expanding infrastructure of redistribution and market activity, and provided a livelihood for a substantial class of intermediaries.

The first centre of demand was the army: the largest and most important item in the imperial budget, constituting perhaps half or more of total annual expenditure, since keeping the 300,000–400,000 soldiers properly supplied was essential both for the security of the Empire (and hence for the legitimacy of the imperial regime) and for the security of individual emperors. The total number of soldiers was small relative to the total population of the Empire – and far inferior to the level of mobilisation achieved by modern European regimes – but because the majority were stationed in sparsely populated frontier regions, often at the margins of successful cereal cultivation, feeding them was a major logistical problem.[25] Some supplies could be obtained locally – and the proportion must have increased over time, as frontier regions developed their cereal production in response to the army's presence (this certainly happened in Britain, as is clear from the archaeological record) – but a substantial quantity of grain always had to be transported from the most productive regions (Sicily, Africa and Egypt above all) to the margins of the Empire.[26] Soldiers enjoyed a relatively high standard of living, with the basic diet of grain supplemented generously with pork, cheese, vegetables, olive oil, salt, spices and sour wine; the more perishable goods had to be found locally, the rest were imported – and, as the distribution of Spanish oil amphorae and wine amphorae from Italy, Gaul and Spain shows, transported over long distances. The army also required horses and pack animals, which needed fodder; leather for most of its equipment (it has been estimated that the army in northern Britain consumed 12,000 calves per year just to repair and replace its tents) and metal for the rest (excavation of a single legionary fort in Britain has produced 20 tons of iron nails, to say nothing of armour and weapons).[27] Whether these supplies were acquired through taxation in kind and requisition, or obtained through the market by contractors, this represents a substantial and regular transfer of resources from the richer inner provinces of the Empire to the frontier regions.

The second centre of demand was the city of Rome, which grew from around 200,000 people in the second century BCE – already an impressive size for a pre-industrial city – to nearly 1 million by the time of Augustus, a figure unsurpassed in Europe until the beginning of the nineteenth century.[28] Rome's growth was based entirely on its role as imperial capital, first as the arena for competition between the aristocracy (conducted through public and private building projects, lavish entertainments for the population and conspicuous consumption in their private lives) and then as the playground of the emperors, magnifying the glory of the Empire and their own prestige through building projects and largesse. It was never an industrial or commercial city in the sense that those activities were the basis for its existence, but it supported a large population of craftsmen, employed in the service of the elite and the state and above all in their construction projects, and a large number of traders and others involved in the task of feeding this population and providing different services. Rome required at least 150,000 tonnes of grain every year, 75 million litres of wine and 20–30 million litres of olive oil, to say nothing of meat, vegetables and other produce, and firewood, demands which could never be met from the city's immediate hinterland; it also drew in marble, bricks, timber, metal, animals and slaves from across the Empire, all funded by the taxes, rents and booty drawn from the provinces. Like the army, Rome benefited both from the redistribution of goods collected as tax in kind or produced from state lands, mines and quarries, and from the purchasing power of the state and the elite in the market.

Thirdly, there were the new cities discussed in the previous chapter, supporting the power of the emerging elites in the west. It is generally agreed that there was a substantial increase in urbanisation under the Empire, in terms both of the number of urban centres and their size (including the expansion of existing cities); it is impossible to offer more than a rough order of magnitude, but perhaps 12% of the Empire's population lived in centres of several thousand people or more by the early Principate.[29] Not all of these people worked in crafts or other non-agricultural occupations, but most of them must have done, and so had to be fed from the produce of others; furthermore, one effect of the concentration of population was that resources had to be spent on transporting food from its place of production and on creating the infrastructure for its mobilisation and distribution. Like Rome, these cities were arenas for elite competition and expenditure, which supported a population of craftsmen and builders and those who provided services for them. Some, especially the major ports, became prosperous because of their location at strategic points in the supply networks of the Empire, siphoning goods out of their region towards Rome or the army; others developed an important role in the manufacture of particular goods because of their location, on the sea coast in the case of the production of fish sauce, at the edge of pastoral regions in the case of textile production.[30] Above all, however, it was the Romans' cultural and political preference for city life that brought into being a concentration of population and resources in the urban centres, and hence the need for some form of redistribution.

Fourthly, there were changes in the patterns of consumption across the Empire: new demands for different sorts of goods which could not be satisfied locally. These changes are most visible in the case of the elite, especially in the western provinces, who invested heavily in new forms of conspicuous consumption like villa-style country residences and the consumption of wine; this was part of the process of differentiating themselves from the rest of society as the basis for their dominance and identifying themselves with the ruling class of the Empire.[31] However, the archaeological evidence for the widespread distribution of wine amphorae and fine-ware pottery from Italy suggests that other sectors of the population also changed some of their habits. The Gauls, for example, had acquired a taste for Italian wine even before the Roman conquest, but the expansion of the Empire spread this habit across the western Mediterranean – partly as a consequence of the diffusion of a new preference for bread rather than porridge, which meant that people needed to drink more.[32] The dynamics of these various cultural changes, and the extent to which they should be thought of as 'Romanisation', will be considered in the next chapter. Clearly, however, the economic implications of millions of peasants choosing to spend part of their surplus produce on manufactured and imported goods – a small amount individually, perhaps a single piece of fine pottery in a year and the occasional cup of wine, but a substantial level of demand in aggregate – were far-reaching.

THE DEVELOPMENT OF CONNECTIVITY

Both directly, through its military activities, and indirectly, through its development of the imperial capital and its impact on the provinces, Rome created centres of demand for goods that could not be satisfied from local production, either in terms of volume or, frequently, in the type of goods. This demand was satisfied in a number of different ways. In the case of the army, some of these supplies were gathered as tax in kind from grain-producing provinces, or requisitioned rather than purchased. That left little scope for the 'military multiplier' to boost economic activity through incentives to producers and merchants – except that the supplies then had to be transported from the place of production to the frontiers, and Rome possessed neither a merchant marine nor a state transport corps. The state had to hire the owners of ships or pack animals (or to requisition them in return for a fee) for the purpose.[33] Other army needs were met by hiring contractors to manage the whole business of sourcing, purchasing and transporting supplies. In the case of the city of Rome, the state took responsibility for part of its grain supply, distributing some of the grain it collected as tax from Sicily, Africa and Egypt to a privileged sector of the population (eligibility was based on citizenship, not on poverty); like the grain for the army, this had to be transported by privately-owned ships.[34] In other words, state redistribution always worked of necessity in cooperation with private enterprise, rather than in opposition to it. Indeed, the state effectively subsidised private commerce, offering incentives for the construction of more and larger ships to be used for carrying state supplies (which could also be used for private enterprise) and for signing up to supply contracts, in which the owners were paid at market rates and could transport private goods alongside their official cargoes and on the return voyage.[35]

> Traders who assist in supplying provisions to the city, as well as shipowners who service the grain supply of the city, will obtain exemption from compulsory public service, so long as they are engaged in activity of this sort; for it has very properly been decided that the risks which they incur should be suitably recompensed or rather encouraged, so that those who perform such public duties outside their own country with risk and labour should be exempt from annoyances and expenses at home; as it may even be said, that they are absent on business for the state when they serve the grain supply of the city.
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> (*Digest of Roman Law*, 50.6.5.3)

The task of supplying the city of Rome with foodstuffs besides grain and with most raw materials was almost entirely in the hands of private enterprise; some wealthy landowners might transport produce from their country estates to their urban residence, as part of the Roman idealisation of rustic self-sufficiency, but the mass of the population depended on merchants and shopkeepers for their food.[36] The city was an enormous and lucrative market for almost any sort of product; the limited evidence for ancient prices suggests that those in Rome were significantly higher than elsewhere, at least in the western Mediterranean, as would be expected, reflecting both the wealth of the city and the costs of transport.[37] Above all, shipping goods to Rome was free from the usual uncertainties about demand and price; whereas trade in a single commodity usually entailed the possibility of finding on arrival in port that the market had collapsed and the cargo had to be sold at a loss (taking into account the costs of transport and of paying back any loan used to buy the cargo in the first place), Rome and other great cities offered a more or less guaranteed profit.

In Rome, as in other major cities (and many minor ones), the authorities took further measures to encourage merchants to supply their markets – measures that were entirely in their own interests, but which nevertheless served to promote trading activity. They constructed market buildings; stalls were presumably rented out, as a contribution to civic revenue, and the concentration of activity made it easier to regulate and tax, but this benefited traders by advertising their presence to consumers.[38] They invested in harbour facilities; a port which offered merchants shelter from storms was likely to be more regularly frequented, enhancing both local revenues and the city's access to resources. In Rome, where the logistical nightmare of moving large volumes of goods from merchant vessels moored outside the sandbar at the mouth of the Tiber into barges, and of the weight of traffic up and down the river, was one of the main risks to the city's food security; this entailed the construction of a series of enclosed harbours, wharves and warehouses on the coast, and the development of an entire town, as well as procedures to keep the river properly dredged and the lines of barges flowing smoothly.[39] Other infrastructure was developed by the state for purely military purposes, to facilitate the movement of troops, army supplies and information; but roads and canals (for example, the canal built by Marius to improve access at the mouth of the Rhône) were open to all, including traders, and made it cheaper and easier to transport goods.[40] Some of these new transport arteries worked to intensify existing traffic; others created connections between previously isolated areas, and so opened up new regions of the Empire to trade and Roman influence.[41] The unification of the Mediterranean reduced the risk of a trader's cargo being seized by a foreign power in the event of war. Finally, the importance of the state grain supply and the need to assert their dominance across the Mediterranean led the Romans to conduct military operations against pirates and bandits; the long-term efficacy of these actions is in doubt, as low-level criminal activity seems to have been endemic under the Empire, but if nothing else they may have reduced the fear of attack and so encouraged trade.[42]

The risks of piracy, shipwreck and unfavourable markets were not the only impediments to the development of trade; there was also the danger of being cheated. If the costs of measuring the value of the object of exchange, protecting the rights of all those involved and policing and enforcing agreements – what are termed 'transaction costs' – were too high, then it was preferable not to attempt a transaction in the first place. The development of any exchange beyond small-scale, highly personalised deals between members of the same community depended on the development of an alternative to simple trust as the basis for deals; the cheaper and more reliable that alternative was, the easier it was for exchange to develop.[43] Here again the state and the local city administrations played a vital role, in establishing institutions that reduced uncertainty and hence reduced transaction costs. In the interests of public order, for example, they established means of resolving disputes through the courts and enforcing the court's judgement, and sought to prevent disagreements developing in the first place through the development of the law. Over the centuries, Roman law developed ever more flexible and sophisticated procedures for sales, introducing the concept of 'good faith' and supporting such complex transactions as the sale of a share in the wine to be made from the grapes currently hanging on the vine. Roman contract law covered the complexities of terms for loans and undertakings for services; the law of agency covered the issues that might arise from the preference for managing business through agents, including slaves, and the degree of responsibility retained by the master for actions carried out in his name.[44] Roman law was often reactive rather than proactive, with new concepts and precepts being developed by the magistrates in response to cases that appeared before them; the steady development of the law related to commercial transactions is evidence of the expansion of commercial activities in the Empire as much as it was one of the contributing factors to that expansion. It should be stressed that the law was not developed in order to facilitate trade, and in some respects it could be an impediment: only individuals of citizen status could make contracts that were fully binding (which might explain one of the attractions of gaining citizenship), and the more complex the law became, the greater the costs involved in trying to make use of it, either in drawing up contracts or in trying to enforce them. Because court cases were decided by magistrates, it may be suspected that members of the elite might enjoy a certain advantage in legal disputes; furthermore, the laws limiting the liability of masters for the actions of their slaves would seem to benefit those who regularly worked through such agents rather than those who had to deal with them. For dealings between equals, however, Roman law was an invaluable tool; it offered standardised procedures for conventional transactions, and the existence of the possibility of legal action must have ensured that most agreements were kept more or less honestly by those involved.

The authorities also provided standard forms of measurement, reducing the costs involved in establishing the weight or volume of the goods to be exchanged; this may have originated in order to regulate the collection of taxes, but the system was clearly useful for other purposes, and inscriptions found in the market areas of many different cities record the donation of weights and measures by local notables. Most importantly, the state issued coinage; this was a means of paying soldiers and state officials, a convenient form in which to exact fines or taxes, a means of propaganda and an assertion of state power – but it had enormous economic implications.[45] Money offered a standard and easily divisible measure of value for transactions; coined money provided a convenient means of exchange, with the value of the coins established and guaranteed by the state (so, for as long as there was sufficient faith in the state, there was no need to pay for the metal content to be assessed; it was illegal to refuse to accept coins that bore the head of the emperor). Further, coins served as a convenient way of storing wealth, which might encourage a farmer to convert his surplus into a less perishable form by entering the market. The Romans had certainly not invented coinage, but they spread its use throughout the western Mediterranean (army service seems to have been one important driver of monetisation, as soldiers spent their pay in frontier areas and those from non-monetised regions sent part of their wages back home). Most importantly, the Roman state created a single monetary area across the Empire, with centrally-produced gold and silver coins supplemented by local minting of smaller denominations; the removal of costs associated with money-changing, both the direct charges (normally around 5%) and the uncertainties about exchange rates and value, represented a further reduction in overall transaction costs. The volume of coinage in circulation across the Empire increased dramatically to unprecedented levels; there is no evidence of any significant price rises before the third century at the earliest, so this must reflect some combination of increases in the volume and value of goods in circulation and increases in the velocity of circulation, both signs of the expansion of the monetised market economy.[46] The Roman economy is sometimes assumed to have been constrained by the absence of bills of exchange, bank notes and other negotiable instruments as a means of transferring capital between regions, but there is no evidence for such constraint; on the contrary, the absence of such financial instruments may be a sign that the state's issuing of coinage was more than adequate to support the Empire's economic activity – whether or not that was ever the conscious intention of the system.

The security of the Empire depended on connectivity, the (relatively) rapid and reliable movement of goods, people, information and money across a wide area; it thus used its resources to create conditions that then enhanced the connectivity of the Mediterranean for all its inhabitants. The result of these developments and of the creation of new centres of demand was a dramatic expansion in the volume of goods being moved around the Empire from the second century BCE onwards, charted through the increase in the number of identified shipwrecks from different periods and through the vast numbers of amphorae found hundreds of miles from their place of manufacture.[47] Some merchants must have become rich from their involvement in different forms of trade; at least one is known to have gained entry to his local city council, despite the uniform attitude of disdain for trade found in the literary sources.[48] Most traders recorded in the sources or found in inscriptions were of only middling status, substantially more prosperous than the typical peasant but far inferior to the landed elite – and of course there must have been many too poor to leave any trace in the record. It is possible that the process of distribution was too fragmented, with too many intermediaries taking a share of the profits; the greatest fortunes were made by those who not only financed the most lucrative voyages but also made money from production and from the leasing of commercial properties, the traditional elite. Ancient Rome did not see the emergence of merchant princes or giant multinational companies, but it did experience a high level of trading activity across the whole of the Empire.

TECHNOLOGY AND INNOVATION

The Roman Empire was characterised by an unprecedented scale and level of efficiency in the redistribution of resources, through a combination of direct state action and private incentives. The results were manifest in the extension of political and military power, the expansion of cities, the scale of public building and the lavish lifestyles of the elite. The key question is how far this represented no more than a concentration of the existing level of surplus production in the hands of the state and the political elite, with a share going to those who collected and transported this surplus on their behalf, and how far there may have been an increase in productivity and hence in the level of surplus – in other words, whether the cake grew larger so that the increased consumption of the ruling powers was not necessarily at the expense of the masses. Some of the goods being moved across the Empire were collected as taxes or rents in kind, usually as a proportion of the total harvest, which offered no incentive to producers to change their methods to increase productivity. However, many goods were mobilised through the market, with merchants buying up supplies in urban and rural markets or directly from the producer. Farmers and manufacturers were therefore made aware of the existence of an increased demand for their products and of the possible profits from increasing production; conventional development economics argues that, all other things being equal, they should have responded by seeking to increase production through additional inputs of labour and capital, especially the use of new technology.

Clearly, these new economic conditions did not bring about a Roman industrial revolution; the Roman Empire remained agrarian, dependent on organic sources of energy and thus severely restricted in its capacity for growth. However, a strong case can be made that the unprecedented transformation of the modern economy is what really requires explanation, rather seeing it as a natural development and hence regarding earlier societies as failures because they did not undergo the same radical changes. Furthermore, we need to consider all evidence for changes in different areas of production, rather than concentrating on those associated with later developments.[49] For example, there is no evidence of the mechanisation of harvesting grain in Mediterranean agriculture; there was no pressing need for it because it would be incompatible with the frequent practice of inter-cultivating crops, labour was for the most part not commoditised and the climate meant that generally the harvest could be carried out in a leisurely manner. However, one literary source refers to a reaping machine in Gaul, where the threat of storms made it practical to invest in devices to save time and labour; there is, unfortunately, no evidence as to how widely the machine was adopted.[50] There was, on the other hand, significant technical innovation and substantial investment in equipment for processing crops, with the development of the screw-based wine press, the oil press, and grain mills operated first by animal power and later by water wheels.[51] This includes some exceptionally large constructions, like the Barbegal grain milling complex in southern France and substantial oil processing installations in Africa.[52] The Romans were not hostile or indifferent to the possibilities of productive technology, but employed it where it would be useful and profitable; mechanisation was ill-suited to Mediterranean agriculture, but it could make a significant impact on the costs and efficiency of processing crops, and so repay the investment. Industrial production similarly remained unmechanised – with the exception of bread-making; to judge from the carvings on the tomb of a prosperous baker from Rome, some establishments made use of a form of kneading machine, which would represent a substantial saving in labour.[53] Most strikingly, there was extensive technical development in mining in Spain, with human-powered bucket wheels to remove water from the shafts (as far as 30 metres, in some cases), the construction of reservoirs above the workings from which water was released to wash away the spoil from the ore, and mechanised ore-crushing; Roman engineering expertise enabled the exploitation of much deeper seams than had previously been possible, and made the process much more efficient on a grand scale.[54]

For the most part, however, technical innovation was incremental, based largely on the extension and refinement of existing techniques. Production was intensified through the application of fertiliser: from animals, at least on those farms large enough to support them, from humans (the inhabitants of the farm and, in the neighbourhood of urban centres, external supplies) and from growing and ploughing in ‘green manures’, rather than simply allowing land to remain fallow. Techniques of grafting, transplanting and training tree crops, olives and vines were widely diffused, not least through the agricultural handbooks published by Roman authors, drawing on Greek and Carthaginian works and their own experience. New varieties of crops were developed, to maximise yield or suit particular conditions; comparison of the lists in manuals from the first century CE with those in earlier works shows that farmers had an increasing choice, and were urged to select varieties according to the local environment.[55] Iron tools were familiar enough, but archaeological evidence suggests that they became more widely diffused through Italy and the western provinces. Inscriptions and archaeological evidence from Italy and north Africa reveal the systems used to manage the key resource of water; not only the aqueducts that brought in urban supplies (and were, to judge from the complaints of one official in the capital, frequently targeted by farmers seeking to appropriate a share of the water) but channels, dykes and mechanisms for diverting water to different fields, and social and political institutions (including the law) for managing the conflicts that would inevitably arise in times of shortage.[56]

Even within the existing technical limits of Roman agriculture, there was scope for significant expansion of production. Archaeological survey evidence shows how previously marginal land was brought into cultivation; in some areas, that must simply reflect an increase in population – but in the vicinity of major cities like Rome, and in regions that are known to have exported products in substantial quantities, it must also reflect the influence of the market, either because producers were seeking to maximise production, or, equally plausibly, because the most fertile land was being taken over by cash crops for the market. This process is most visible in the *suburbium* of Rome, which was characterised by the intensive production of fruit, vegetables and other perishable luxuries for the urban market – in fierce competition with the demands of other users, especially the political elite who also profited from catering to the city's demands (the so-called *pastio villatica*, from capons and honey to dormice and game) but who were primarily interested in leisure and comfort.[57] Other urban centres saw a similar intensification of settlement, presumably in conjunction with intensification and specialisation of production, in their immediate hinterlands.[58] Other regions of Italy saw an increase in wine and olive oil cultivation in the later centuries of the Republic, and the agricultural manuals – although of course we have no idea how widely they were read or how often their advice was followed – placed increasing emphasis on production for the market and on the profits to be made from farming.[59]

Beyond the suburban market gardens, this did not amount to full specialisation; even the market-orientated villas of the agronomists were to produce the full range of different crops, aiming to supply most of the needs of their workforce without having to rely on external supplies, and the practice of growing a range of crops as a defence against harvest failure must have remained ubiquitous amongst the peasantry. However, there were changes in the choice of crops and the balance between them, most significantly a shift from barley to wheat as the main grain crop; barley was much less susceptible to drought, and hence a better choice for the self-sufficient peasant, but wheat made better bread, and so it is difficult not to see this change, and later the adoption of naked rather than hulled wheats, as a response to market demand.[60] In the western provinces, meanwhile, the Roman period was characterised by the diffusion of the set of crops associated with Italian agriculture, to the limits of their ecological niches: the expansion of grain cultivation in Britain and frontier provinces, driven by the demands of the army; the introduction of viticulture into Gaul and Spain, so that over time locally-produced wine replaced most Italian imports and was exported to Rome in substantial quantities; and the dramatic expansion of olive oil cultivation in Spain and Africa, again not only coming to replace imports but also taking a substantial share of the imperial market.[61] A similar pattern can be charted in industrial production in Gaul, as imported fine-ware pottery was progressively replaced by local imitations as they came to be of sufficiently high quality – and, arguably, as the level of demand increased.[62]

There were still strict limits to regional specialisation; it remained the case that most goods could be produced anywhere in the Empire, certainly within every region if not in every part of it. The major channels of movement of goods were therefore either to the main centres of demand, or to regions still in the process of developing their cultivation or production; true inter-regional trade, once the western provinces had caught up with the rest of the Empire, was found primarily in specialised items like fish sauce, incense or spices that could be produced in only a few places. At the same time, there is no evidence for underdevelopment in the modern sense, no restrictions placed on development or any compulsion on the provinces to produce only raw materials for the industrialised centre – because, obviously, the centre itself was barely industrialised. In the absence of any comparative advantages, Roman economic development tended to level out as each province developed its own means of producing the goods it had previously had to import.

FORMS OF EXPLOITATION

The most significant structural changes as a consequence of Roman imperialism were in the organisation and exploitation of labour.

In the course of the Roman conquests, and subsequent actions to pacify provinces and suppress revolts, millions of captives – men, women and children – were sold into slavery: reduced to the status of property, uprooted from their homes and transported to Italy and Sicily, where they were subjected to the complete dominance of their new owners and the constant threat or reality of violence, usually for the rest of their lives. The continuing demand for slaves also fuelled a substantial peace-time trade that continued long after the Empire had ceased to expand, drawing in fresh supplies from across the frontier and encouraging slave-owners to breed their own replacements.[63] There is no reliable basis for determining total numbers, but even the most minimal estimates, based not only on the figures quoted for war captives but on study of the demography of slavery and the level of replacement necessary to keep the numbers steady, suggest a figure in the region of 2–3 million, at least a quarter of the total population of Italy.[64] In the last two centuries of the Republic, Italy was transformed into a slave economy. That does not mean that slaves did all the work – most of those working the land were still free peasants, and the cities would not have expanded to the extent they did if the migrants had no prospect of employment – but rather that slavery was an essential part of the economic structure, above all because of its importance for the wealth accumulation of the land-owning elite. Even before this, Rome can be classed as a slave society, organised around structures of dominance and control, whose ideology was built around the distinction between freedom and slavery and highly sensitive to – if not thoroughly obsessed with – issues of power and status.[65]

Modern discussions of Roman slavery since the eighteenth century have tended to focus on their employment in agriculture, and above all in the villa, the intensive market-orientated estate worked by slaves under the supervision of a slave overseer. This area of activity has yielded the most detailed discussions of the operation of slavery, in the agronomists' handbooks (though slavery is taken entirely for granted by these authors, and the slave workers receive little more attention than any of the other animals on the estate; the main focus is on the problematic role of the *vilicus*, the slave entrusted with the supervision and control of other slaves).[66] Equally importantly, the emergence of this form of economic organisation in central Italy in the second century BCE is ascribed a major role by both ancient sources and modern historians in the crisis of the Roman peasantry and hence in the political conflicts of the late Republic; the alleged displacement of peasants to make way for slaves has been compared with the English enclosure movement as an overt example of class warfare.[67] Furthermore, the villa has offered a test case for seeking to understand the ancient institution of slavery; there have been long debates about whether the Romans employed slaves because they conferred status or because they had to do something with their war captives, because there were insufficient free workers (either because of the crisis of the Italian peasantry, this time attributed to the effects of Rome's constant military campaigns, or because free men regarded wage labour as slavish) or because slaves were more profitable or productive.[68]

Some of these arguments are easily answered: the Romans could have ransomed their prisoners, and sometimes did; the decision to sell them into slavery implies the existence of substantial demand, offering higher prices than the captives' families could offer. The countryside was not emptied of peasants, despite the claims of certain populist Roman politicians, as seen both from archaeological survey and from the fact that the villas relied on employing casual labour from the locality at harvest time, as a means of keeping the size of their permanent workforce to a minimum. The idea that wage labour was slavish and to be avoided at all costs comes from elite sources, and it is questionable how far it may have penetrated through the mass of the population; certainly this contempt for honest work was the dominant ideology in Rome, but equally clearly there were plenty of wage-earners in the cities, some of whom were proud enough of their activities to advertise it on their tombstones.[69] The importance of slave-owning as a source of status is undeniable, but that does not exclude the existence of economic motivations as well; it is the nature of a slave-owning culture that slavery influences and is determined by all areas of life. What is undeniable is that the Roman agricultural writers do not ever question the place of slaves at the heart of their enterprises; they do not even discuss alternative forms of labour, except for poor land in unhealthy areas or more distant estates, where tenants might be preferred – emphasising that slaves were an investment, to be employed where they would be most profitable, and not to be exposed to excessive risks of premature death.

There are clear indications that the villa mode of cultivation was intended to be highly profitable, and the nature of the labour force was a crucial part of this. Managing a medium-sized estate directly through slaves was certainly more profitable than letting the estate to a number of tenant farmers; all surplus production was profit for the owner, whereas the level of rent would be much lower because of the farmers' need to feed their families. The villa was large enough to permit some division of labour, aiding efficiency, and for some workers to develop specialised skills like vine-dressing; there was no risk of a slave worker moving elsewhere after his training in search of higher wages. Slaves could be compelled in a number of ways – force or the threat of force, the issuing and withholding of privileges – to work harder and longer, and to work under conditions of close supervision – even as part of a chain gang – that might have been intolerable to free men.[70] The limited evidence for prices suggests that slaves were generally expensive, except in the immediate aftermath of a military campaign, and it is clear that the intensive management of the villa was costly, with the master expected to visit regularly to monitor the performance of his overseer; for this to represent a practical investment, the returns must have been considerable, through the reduced costs of maintenance compared with wages, and perhaps through productivity gains as a result of employing 'thinking tools'.

The intensive slave villa was a limited phenomenon in geographical terms; the costs and risks were balanced by the profits to be made from supplying the city of Rome and the western provinces, but only for those with easy access to the sea, so that transport costs remained low. Archaeological survey reveals striking differences in the patterns of settlement between regions immediately along the Etruscan coast and those further inland; the former areas underwent far-reaching changes in the last two centuries BCE, with the displacement of smaller sites (generally identified as peasant farms) by larger, richer sites controlling more extensive estates, whereas inland regions were far less affected.[71] Of course, legal status is archaeologically invisible, so that 'villa' sites elsewhere in Italy (identified by their size and the quality of the remains) may well have been worked by slaves, but the logic of cost and distance implies that it would rarely have been economical to manage them intensively in the manner recommended by the agronomists. Slaves might instead have been allowed more freedom of action in managing extensive grain cultivation, or even employed rather like tenants, given responsibility for running a small farm and granted the privilege of having a family (something reserved for the overseer on the intensive villa) – but with the whole of the surplus taken by the owner, rather than just a portion. On smaller estates, a few slaves would work as assistants alongside the owner or tenant; the increased production from the additional labour inputs, on a farm large enough to support the extra workers, placed such farms in a class above the humble peasant holding worked by the family alone.

Agriculture was not the only area in which slaves were employed; they were found in all fields of economic activity, from herding (the groups of slave shepherds in the mountains, overseeing vast flocks owned by the wealthy, were notorious for their alleged criminal tendencies) to building, porterage, transport, crafts, entertainment, banking, teaching and administration, not to mention the various personal services provided for their owners.[72] Some of these jobs might not have been enthusiastically taken on by free men, but every city had a large reservoir of the unemployed – even in Rome, it was impossible to subsist on the corn dole alone – so the use of slaves must be a positive preference on the part of the owners. The same arguments apply as in the case of agriculture: slave-owning was a source of status, slaves could be forced to work harder or employed in an unusual manner without audible complaint (the tomb of the baker Eurysaces shows the different stages of bread-making and may imply a factory-like division and regulation of labour) and of course the owner took a larger profit, presumably enough to offset the original purchase price. The use of trusted slaves as agents in banking and other business, given considerable freedom of action and access to resources and offered the opportunity to accumulate wealth on their own behalf in the hope of eventually buying their freedom, suggests that the Romans preferred to rely on those who were dependent on them, both legally and personally, rather than on someone hired. One consequence of this preference was to limit the possibilities open to free men, who might get menial jobs but had little prospect of making good by working their way up in service of the rich. It was rather former slaves, freed either through purchase or through the gift of the master (most often in his will), who sometimes were able to build up their own businesses on the basis of their contacts and access to elite resources, and who left inscriptions recording both their achievements and their continuing connections to the families (and the extended *familia*) into which they had been sold. One of the great successes of the Roman slave economy was the way that it persuaded so many slaves to collaborate with their masters, including supervising and disciplining other slaves, in return for minor privileges and the hope of eventual freedom.

How far did the Romans export their model of a slave economy to the rest of the Empire? In the Greek east there was a long tradition of slave-holding, with slaves involved in personal service, craft activity, trading and mining. There was little, besides the specifics of the central-Italian villa system, that the Romans could teach the Greeks about slavery. In Egypt, approximately 11% of those recorded in census returns were slaves, a figure that is often used – in the absence of alternative evidence – as the basis for an estimate of the slave population of the Empire as a whole; they were more common in towns than in villages, and assumed to have been still more prevalent in Alexandria.[73] About one household in six listed slaves on its census return, usually just one or two; they appear in the papyri as scribes, cooks, barbers, other kinds of personal servants, craftsmen and 'slaves without a trade', men-of-all-work (e.g. *P.Oxy.* 3197; *P.Oxy.* 3510). In contrast with Italy, few seem to have been employed as business managers or agents for their owners, while the large estates of the wealthy, who could have afforded to invest in the human and material capital involved in the Roman villa system, preferred to rely on peasant labour; tied to the land and dependent on the landowner to different degrees but clearly distinguishable from chattel slaves.[74] When rural slaves appear in ancient novels, they are generally working as independent farmers rather than as part of a highly organised labour force.[75] In this respect, at least, the demands of Rome had no obvious impact on the organisation of production.

In the west, on the other hand, slavery was marginal before the Roman conquest; war captives might either be kept in the household for personal service or compelled to practice some craft, but increasingly in the last two centuries BCE they were sold to slave traders or merchants to fuel the slave system of Italy.[76] There clearly was an increase in their numbers thereafter, with large numbers known from wealthy estates in Gaul and Africa, and the mine workers in Spain and Lusitania – an obvious case where slaves, usually the cheapest available, could be forced to undertake back-breaking, dirty and dangerous work.[77] Because slavery is archaeologically invisible, leaving aside occasional finds of iron fetters, here too there have been long debates about its prevalence and the mode of employment in the provinces.[78] There are only a few relevant inscriptions from the countryside recording slave overseers, but there are few rural inscriptions of any kind, and the overseers were the only ones likely to have an opportunity to accumulate the money for a funeral monument.[79] The appearance of large, well-appointed rural sites, labelled 'villas' by archaeologists, might indeed be the end-product of several decades of successful exploitation of slave labour in the way described by the Roman agronomists, but it is equally possible that such estates might be worked by slaves in a less extensive manner, or might have been funded by the proceeds of some other business – representing a new form of consumption rather than of production.[80]

The strongest case can be made for southern Gaul and the coast of Spain, where traditional land-holding patterns were severely disrupted and where there is clear evidence for investment in market-orientated production of wine and olive oil; it is clear from some excavated sites, where the presence of slave quarters is almost unmistakable, that at least a minority of landowners also made extensive use of slave labour.[81] On the other hand, the passing comments of one Italian agronomist about provincial methods of training vines, which were less labour-intensive and required less specialised skills, might suggest reliance on a workforce of peasants and hired labourers rather than highly-trained slaves.[82] As suggested above, intensive exploitation of slaves was profitable in regions with easy access to a lucrative market, which would include the Mediterranean coast but not further inland, and even then it always co-existed with other forms of labour. However, even if the Romans did not export the villa mode of production to any great degree, they did export their beliefs, habits, practices and anxieties, and establish new rules of social interaction in which the display of one's dominance over others took on a particular importance. It is debatable how far the rest of the Empire became a slave economy, even if, as in Egypt, as much as 10% of the population were slaves, but it was undoubtedly a slave society and a slave culture.

INEQUALITY AND RISK

The political integration of the Roman Empire depended on connectivity, the ability to mobilise and transfer resources, and people and information; the Empire was founded on the surplus production of millions of peasant farmers, and the existing structures of trade and transport which could be used to collect and redistribute that surplus. At the same time, political integration and the various measures which the Roman state took to safeguard its dominance promoted further connectivity; so, too, did the way that the political elite spent the wealth accumulated from conquest. Imperialism created new centres of demand, which relied on the market for supplies and had the money to pay for them; it subsidised, through the construction of transport infrastructure and the lowering of transaction costs, the networks of traders and shipowners who responded to those demands; it offered incentives to producers to change their products and increase their production in order to keep the army and the cities supplied. In comparison to modern globalisation, the level of economic integration was limited by the slowness of communication and the ballast of the subsistence economy, which, even in the most monetised and market-orientated regions of the Empire, still represented the bulk of production. A city like Rome was of course heavily dependent on the products of particular regions, and news of harvest failure in Africa or Egypt affected prices and provoked panicked searches for alternative sources of supply – but the reverse was not true; Rome and Egypt were not *inter*-dependent, and there is no evidence for a political crisis in Rome, say, having any effect on Egyptian grain prices.[83] Rome remained, in Wallerstein's terms, a world-empire rather than a world-economy.[84] Nevertheless, compared with earlier periods and with comparable empires, the market sector of Rome's economy was considerable, sent into motion by the dynamics of what Michael Mann has termed the 'legionary economy' but taking on a life of its own.[85]

The result was, at the least, a dramatic increase in the volume of goods being exchanged and distributed across the Empire, and significant growth in production, as new lands were brought into cultivation or cultivated more intensively, new techniques, technology and crop varieties were diffused through the western provinces, and industrial output expanded – one of the most striking pieces of evidence for Roman economic growth is the level of atmospheric pollution, including copper residues, during this period, identified in Greenland ice cores.[86] The productivity of the land certainly increased, at least in the previously under-exploited western provinces, but it is considerably less certain whether the productivity of labour increased significantly as well. Technology was only sporadically applied in certain areas of activity, and would have had at best an incremental effect on production; the same was true of changes in the organisation of labour. Roman economic growth was extensive rather than intensive. It is equally uncertain whether the increase in total gross domestic product represented a rise in real income per head, or whether – as in other pre-industrial societies before the demographic transition – increases in production were in due course matched or exceeded by increases in population, pulling Roman society back towards the steady state.[87] The Roman elite and their collaborators commanded greater resources than ever before, but that could equally well represent greater efficiency in appropriating surplus production from its producers (not least through the use of slave labour) rather than an actual increase in the size of the Empire's overall surplus.

This raises an important point: considering economic development and growth at a global level and focusing on examples of innovation and ingenuity ignores the extent to which different sectors of society may experience such changes quite differently; globalisation and connectivity are not, contrary to the claims of their promoters, uniform in their effects, or uniformly beneficial. There was considerable regional variation, revealed above all by the archaeology of rural settlement. In Gaul, for example, the south was heavily disrupted in the late first century BCE by the confiscation and redistribution of land by Roman autocrats, whereas the north was undisturbed. Within a century, both areas had a dispersed pattern of settlement with plenty of small farms and villa sites; the south was exporting wine to Italy, and even the more isolated north was enjoying growth and prosperity.[88] In Greece, in contrast, the appearance of a few luxurious villas coincided with an overall decline in the number of rural sites; both contemporary accounts and the decline in the level of 'off-site' finds (seen as evidence for a decline in manuring) indicate that the effects of the conquest persisted long after pacification, with poverty and debt leading the poorer farmers to adopt less intensive methods of cultivation and to farm only the best land. A few well-off families seized the opportunity to build up extensive holdings, and the country began to export grain, olive oil, flax and other goods, but there is little evidence for market-orientated specialisation and none for investment in new forms of agriculture.[89] Spain suffered centuries of war, so that the coastal regions with their economic resources and easy access to markets developed well in advance of the interior.[90] Within Italy, there was wide variation in regional development, with extensive disruption and reorganisation in areas close to Rome and comparatively little change in more isolated regions. Across the Empire, as already noted, there is no sign of under-development in the modern sense, since there was no comparative advantage on which it could be based; the relationship between the centre (which in the case of Rome included the frontier provinces) and the periphery was between agrarian regions at marginally different levels of development, not between industrialised and agrarian regions.[91] However, different regions did enjoy very different fortunes, determined by a combination of the experience of Roman conquest and its aftermath, the natural resources of the region and its location in relation to major centres of demand, and networks of exchange and communication.

This variation could be characterised as the distinction between the winners and losers in Roman development – the regions that were well connected and able to take advantage of the new economic opportunities versus those that were left isolated and stagnant. Considering the level of disruption entailed by that development – the changes in rural settlement patterns in central Italy, Gaul or Greece were at least in part the product of dispossession, poverty, debt and the forcible movement of people – the value judgements could be reversed; some regions were insulated from the insidious effects of Roman globalisation, left to pursue the traditional goals of food security and satisfaction of needs rather than ever-increased profit. It is notable that those regions of Italy that were largely untouched by the emergence of the market-orientated slave villa were also less affected by a decline in rural settlement in the late first and early second century CE, apparently linked to a crisis in the market sector.[92] Isolation meant fewer opportunities for selling surplus produce, less access to the developing global culture and higher costs in importing goods; it also meant there was less risk of going hungry because local grain supplies had been bought up by merchants for export, and less exposure to the diseases that Roman connectivity could now efficiently distribute across the Mediterranean world. The bubonic plague of the sixth century CE began in ports and followed the lines of the Roman roads, and if the course of earlier epidemics like the devastating Antonine plague of the second century CE could be charted it is likely that they would have been similar.[93]

The crucial question is whether the mass of the population in less isolated regions benefited from economic development; the difficulty is, as ever, that the sources have little to say about the lives of the majority. It is clear that the idea of the entirely self-sufficient peasant family is a myth, developed in part by the Roman elite themselves; farmers always needed to dispose of some produce in order to obtain goods they could not produce themselves, and as the use of coinage became commonplace, especially in the cities, they are likely to have sold rather than bartered their surplus.[94] They would therefore be at least distantly aware of changes in demand through the impact on the prices they received for their goods, and were therefore presented with incentives to change their farming practices. They might also be compelled to do so by superior powers. Some rents and taxes continued to be collected in kind, as a portion of the total harvest, which gave no incentive to change farming practices. Where they were collected in coin, however – as they increasingly were in many regions of the Empire – producers were forced to enter the market to obtain money with which to pay, and had a clear incentive to increase their marketable surplus.[95] A wish to participate in urban social life, or to obtain the 'mass luxuries' that were becoming markers of status and necessities of everyday existence, offered a further incentive.[96] However, the capacity of many peasants to increase their production significantly was limited by the size of their holdings and the level of their resources; they could increase labour inputs, but lacked access to capital.

There is clear evidence for wealth distinctions amongst the mass of the population; some peasants, certainly, were in a position to seize market opportunities and improve their condition, above all by acquiring land holdings large enough for animals to be a worthwhile investment, so that they so benefited from both increased labour power and improved fertility.[97] A recent study of Roman Egypt suggests that the majority of its inhabitants could reasonably be described as 'sleek', basically healthy, well-nourished and prosperous, and analysis of some skeletons from Italy shows that Romans could be at the upper end of both height and nutritional status compared with other pre-industrial populations.[98] Other evidence from the same region, however, indicates the presence of a wide range of nutritional deficiencies, and supports the impression that many Romans were poorly-fed and unhealthy – which in turn would reduce their capacity to work and improve their lot.[99] The relative proportions of the prosperous and the poor in Roman society are unknown, and it must be said that there is no evidence for any overall increase in absolute poverty during the Roman period – relative poverty, and the feelings of shame and exclusion in the face of the prosperous lifestyles of others, was a different matter.[100] Equally, however, there are no grounds for supposing that the whole of the Empire benefited significantly from its economic development.

The bulk of the evidence of changes in production relates to the estates of the elite. It is perhaps only the Roman idealisation of traditional peasant values, so that an agronomist like Varro chose to present the innovations of the villa mode of cultivation as a continuation of the sort of farming practised by the Romans for centuries, that makes this seem anything other than inevitable. The Roman elite always had need of cash, to fund its political and social activities, and was willing to exploit any number of different sources of profit. They had access to capital to invest in such developments, and large enough estates to make such investment worthwhile; they could draw upon technical and scientific literature on farming, rather than relying on traditional practices, and could afford to try new methods without any risk of endangering their food security. They often controlled more than one stage of the production process, investing in processing equipment and even manufacturing storage containers like amphorae on their estates; the ideology of self-sufficiency in this case is less a matter of irrational tradition than of profit maximisation through an integrated business model, keeping direct control of costs and avoiding reliance on other suppliers. In the sale of produce, too, they enjoyed significant advantages over the peasantry: they had the capacity to store their surplus until the price was favourable, whereas smaller farms might have to sell immediately whatever the state of the market. Furthermore, they were sometimes able to transfer the costs of transport to the merchants who came to their estates to buy their produce, whereas peasant farmers had to carry their small surpluses to the market.

The rich were even able to transfer some of the risks of an uncertain climate, by selling the rights to a share of the future harvest.[101] The speculators had no legal redress if the harvest was disappointing; Pliny described how in such a situation he devised a compensation scheme, rewarding those who had invested the most in gambling on his produce and those who had paid up promptly, but it is clear that he was under no obligation to do so:

> This seemed a suitable way both of expressing my gratitude to each individual according to his past merits, and of encouraging them not only to buy from me in future but also to pay their debts… The whole district is praising the novelty of my rebate and the way in which it was carried out, and the people I classified and graded instead of measuring all with the same rod, so to speak, have departed feeling obliged to me in proportion to their honest worth.
>
> (*Letters*, 8.2.6–7)

Pliny thus personalised his relationship with regular business partners and placed them under obligation to him, which might pay off in future dealings, at the same time as enhancing his reputation in the local community; the incident stresses the disparity in the social and economic positions of landowner and merchant, which regularly gave the former an economic advantage.

At all stages in the production, distribution and consumption of goods, therefore, the landowning elite held significant advantages and claimed the bulk of the profits to be gained from supplying the new demands of Roman imperialism. Their greatest advantage was, of course, sheer scale: the large estates that would bring a steady income whether or not they invested in new approaches. This gave them the economic power to buy up the most fertile land and push peasant farms towards the margins (a process that can be seen in archaeological surveys from Greece to Italy and Gaul). However, the main source of that economic clout was the political and military power that allowed many of them to accumulate extensive properties in the provinces through seizure and dispossession, to acquire large dependent workforces, and to call upon the power of the state and the law to dominate their tenants and protect their position against other economic actors. The dynamics of Roman imperialism created economic growth, and a share of that was enjoyed by the more energetic and (probably more importantly) lucky peasants and merchants; but, intentionally or not, its main economic consequence was to give the landowning elite ever greater control of the surplus production of the Empire.