

THE CAMBRIDGE ECONOMIC HISTORY OF THE GRECO-ROMAN WORLD

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Table of contents

1. Introduction (Ian Morris, Richard Saller, Walter Scheidel)
2. Ecology (Robert Sallares)
3. Demography (Walter Scheidel)
4. Households and gender (Richard Saller)
5. Technology (Helmuth Schneider)
6. Legal institutions (Bruce Frier and Dennis Kehoe)
7. The Aegean Bronze Age (John Bennet)
8. The Early Iron Age in the eastern Mediterranean (Ian Morris)
9. The Early Iron Age in the western Mediterranean (Michael Dietler)
10. Archaic Greece (Robin Osborne)
11. The Persian Near East (Peter Bedford)
12. Classical Greece: Production (John Davies)
13. Classical Greece: Distribution (Astrid Möller)
14. Classical Greece: Consumption (Sitta von Reden)
15. Ptolemaic Egypt (Joseph Manning)
16. The Seleucid empire (Bert van der Spek)
17. Hellenistic Greece (Gary Reger)
18. Early Rome and Italy (Jean-Paul Morel)
19. Late Republican Rome (William Harris)
20. The early Roman empire: Production (Dennis Kehoe)
21. The early Roman empire: Distribution (Neville Morley)
22. The early Roman empire: Consumption (Willem Jongman)
23. The early Roman empire: State and army (Elio Lo Cascio)
24. The northern and western provinces (Philippe Leveau)
25. The eastern Mediterranean (Susan Alcock)
26. Roman Egypt (Dominic Rathbone)
27. Frontier zones (David Cherry)
28. The transition to late antiquity (Andrea Giardina)

The Cambridge Economic History of the Greco-Roman World

Objective

More than sixty years after the publication of the first volume of the *Cambridge Economic History of Europe: from the decline of the Roman Empire*, our volume aims, in part, to redress the neglect of Greco-Roman antiquity in the *Cambridge Economic History* series, and at an opportune moment, we believe. Greek and Roman high culture offers little in the way of reflections on the economic mechanisms that supported the cities which in turn provided the environment for that high culture. Pausanias, in his famous list of the essential ingredients of a polis, said nothing related to economic production. Although the Greek and Latin authors' general lack of interest in economic matters beyond the household limits our investigation, recent developments in archaeology, papyrology, numismatics and epigraphy have opened new avenues to knowledge of ancient economic behavior. Beyond filling a descriptive gap, this collection is designed to explore what light Greco-Roman economic history can shed on theoretical issues of interest to economists (for example, the role of institutions in economic development) – and vice versa.

To achieve this aim requires movement beyond the current framework of polarities that weigh down the broad debates about the nature of the ancient economy. Since the publication of Moses Finley's *The Ancient Economy* in 1973, these debates have too often been framed in terms of a contest between the "primitivists" and the "modernists." The "primitivist" position, associated with Karl Polanyi and Finley, has been represented as one of a subsistence agricultural economy with autarkic households – an economy of no growth, no markets, insignificant trade, and non-rational economic actors. In supposedly polar opposition, the "modernist" view, associated with M. I. Rostovtzeff, is credited with interpreting the ancient economy in capitalist terms of significant growth, vital markets, long-distance trade, and rational actors in pursuit of profits.

This debate in bipolar terms has provoked valuable research over the past decades but has also come to be stultifying, in our view, because it encourages jousting at strawmen. Very few historians today would subscribe to a fully "primitivist" or "modernist" position, even though many more are ready to attribute one or the other to their opponents. In fact, neither Rostovtzeff nor Finley should be characterized as "modernist" or "primitivist." There is more than a little irony in the facts that Rostovtzeff, not Finley, used the words "very primitive" to describe the living conditions of the peasants, who were "an enormous majority of the population of the Roman Empire" (1957: 346), and that Finley broke with Polanyi precisely over the latter's denial of markets. If the economies of classical Greece and imperial Rome were not those of autarkic subsistence households or proto-industrial capitalism, then how should they be understood and characterized? How much did they change and over what time scale? Research over the past generation in economic theory and development economics, unavailable to Rostovtzeff and Finley, offers hope of a better formulation of the crucial issues. We believe that theory is useful and indeed necessary in order to assess economic behavior in a systematic, coherent fashion. We do not, however, wish to advocate a particular orthodoxy.

Scope

The scope and organization of this volume are fairly transparent. Broadly speaking, it covers the territory around the Mediterranean and the Roman Empire during the 1,500 years from the twelfth century BCE to the third century CE, with a final look at late antiquity. The first six chapters address major themes from ecology to economic thought that are relevant to economic processes across periods. There follows a series of chapters organized by standard chronological periods. Special emphasis is given to the central periods of Greek and Roman history, in which the treatment is broken into the basic components of economic behavior – that is, production,

distribution, and consumption. Our geographical coverage seeks to avoid the traditional blinkers of classical historians, which limit the view to Athens and Rome. The chapters on the pre-hellenistic Near East and several provinces of the Roman Empire are intended to ensure a broad vision of the “ancient economy,” and yet it is obvious that not all Mediterranean regions are equally well documented. Therefore, no comprehensive survey has been attempted; instead, we offer a series of case-studies of regions outside Greece and Italy that were chosen for their illustrative value. This volume ends where the first *Cambridge Economic History of Europe* began, in late antiquity.

Issues

What is economic history about? To paraphrase Douglass North’s programmatic statement (1981), it is the task of economic history to describe and explain the structure and performance of economies through time. “Performance” includes the level of production and the distribution of costs and benefits within the society. “Structure” is made up of the basic determinants of economic performance, such as political, economic and legal institutions, technology, demography, and ideology or mentality. “Through time” means that economic history should trace and explain temporal changes in structure and performance (e.g., growth).

The contributors bring different approaches, skills, and assumptions to their economic history. Although it is not possible or desirable to impose a single line of interpretation on the collection, contributors are asked to address a common set of basic issues to be laid out in the following pages, including growth and development, population, production, urbanization, institutional framework, markets and trade, and human capital, among others. While the following rubrics had to be arranged in a particular order, each of these issues is to varying degrees connected and causally related to many or all of the others. The chosen sequence is therefore to some extent arbitrary and should not necessarily be taken to reflect the relative importance of individual issues.

Growth

Growth is the central issue driving the modern discipline of economics, and yet it is a relatively recent preoccupation in the history of mankind. The topic of growth in the ancient economy has been the subject of heated debate and muddled thought. The question has been formulated in terms of whether or not there was “significant” growth, but without a definition of “significant.” Moreover, growth in aggregate production is often not distinguished from growth in per capita production, though the distinction may be essential for understanding the implications of assertions about growth. For example, whereas growth in per capita productivity would have been necessary for a general increase in living standards, growth in aggregate production (for instance, through cultivating new lands) would have increased tax revenues. The ancients did not gather data for gross domestic production or labor productivity, nor do historians today have the information necessary to reconstruct those statistics. As a result, precise growth rates are beyond our knowledge.

Nevertheless, Keith Hopkins has suggested some broad bounds for economic growth in antiquity that may be of use in specifying “significant” (Hopkins 1995/96). Given the usual estimates of levels of urbanization and the technologies of production in the early Roman Empire, generally thought to have been the economic high point in antiquity, Hopkins maintains that total production grew to a level well above bare subsistence but below the level of twice subsistence. He argues that this level of production by a population of 60 million in the Roman Empire would have produced annual revenues consonant with the best estimates of imperial expenditures. In work in progress, Ian Morris will suggest that in Greece between 800 and 300 BCE, per capita output may have roughly doubled from very close to bare subsistence to twice that level.

Whether or not Hopkins's and Morris's arguments are accepted, they give content to the phrase "significant growth" and offer a specified point of departure for debates over whether the growth in antiquity was more or less.

An analysis of rates of growth in per capita or aggregate production must take account of the time scale and be placed in a comparative perspective in order to give meaning to "significant." The fastest growing economy in early modern Europe was the Netherlands at a 0.2% increase in per capita productivity per year – a rate that would have been imperceptible over a single generation. In the nineteenth century, the British economy led Europe into the industrial age with an annual growth rate of 1.2%, which yielded easily detectable increases in average productivity and living standards from one generation to the next. In the twentieth century the United States was the leader in per capita growth at 2.2% per year, nearly doubling productivity with each generation. What sets off the nineteenth and twentieth centuries from previous periods is the sustained nature of the growth as productivity gains mounted at an increasing rate.

How significant was the growth in the ancient economy by comparison? If, as an hypothesis, we take twice subsistence as the upper bound at the peak of the Roman Empire, then over the millennium from the early Iron Age to 200 CE, the average rate of growth in per capita production was at most 0.1% per year. In all likelihood, twice subsistence is too generous an estimate; hence, the broad average was much less than in the Netherlands in the early modern era. But within the broad average, there must have been periods and regions of above-average growth, for instance, the Athenian Empire or late Republican Italy. Morris reckons with 0.15% annual per capita growth between 800 and 300 BCE. However, because some of this increase merely compensated for losses incurred in the Dark Ages, the average growth rate for the whole millennium from 1300 to 300 BCE was probably much lower, of the order of 0.05% per year.

Some historians would argue that the whole question is anachronistic and uninteresting, reflecting the preoccupations of the twentieth century. In a sense, that is true, but then economic history itself is an anachronism, insofar as it is a subject that no historian in the ancient world thought to address systematically. The historicization of economic production is the result of the experience of growth in the past two centuries that has sensitized historians to the potential for large-scale change in economic production and productivity. With a view to questions of economic theory, it seems legitimate to ask not only why the ancient economy grew to a limited extent, but also why it grew no faster and ultimately declined. We also need to differentiate properly between different sectors, and consider causal relationships and discrepancies between growth in primary production, manufacturing, and the various categories of trade (local, regional, and long-distance).

The experience of limited growth in antiquity should be considered in terms of some basic elements of economic theory. One might start with four or five basic causes of growth in per capita production identified by economists (Mokyr 1990). The first was emphasized by Adam Smith: trade, which in turn allows for specialization. The most obvious aspect of specialization was the fundamental split between rural and urban production. A second cause of growth is intensification of capital investment. That is, the more a society saves in order to invest in tools of production, the more productive each worker can be. But about 45 years ago, Robert Solow (1956) made the fundamental observation that additional capital investment will have diminishing returns unless the technology of the capital also improves. The logic is clear: give a farmer an ox and iron plough in place of hand tools, and his productivity will increase; but a second or third plough for the same farmer will not double or triple his output. Hence, the emphasis of Joseph Schumpeter (1934) on improved technology as the engine of sustained growth: this is a third basic cause of growth and one of central concern in much contemporary research (see below, *Stock of knowledge*). Recently economists and others have refocused their theories on a more fundamental cause than technology, and that is the human capital that invents and uses the technology (Becker, Murphy and Tamura 1990; Lucas 2000; Johnson 2000). That is to say, sustained technological improvements should not be treated as random strokes of good luck, but

as an outcome of the education and training of people (see below, *Stock of Knowledge*). In addition, improvements in institutional arrangements may also be instrumental in furthering economic growth (see below, *Institutions*).

Development economists remind us of the distinction between growth and development. Whereas growth stands for the quantitative expansion of economic variables, development is a multi-faceted process not only involving quantitative expansions but also changes in non-quantitative factors such as the institutions, organizations, and general culture under which the economy operates; growth is merely a quantitative aspect of development. For this reason, we must also pay attention to the influences of institutional and cultural factors on growth and to the impact of growth on these factors. The focus on human development or “wellbeing” in recent research on the Third World (e.g., Sen 1999) seems equally appropriate for the study of the comparatively underdeveloped societies of the ancient Mediterranean. In Morris’s scenario, the putative doubling of per capita output in archaic and classical Greece was accompanied by increases in mean body height, life expectancy, house size and public spending, resulting in perceptible improvements in living standards. In the absence of straightforward economic statistics, more readily available evidence of this kind can be useful as an indirect index of change in economic performance.

Population

Until the technological advances of the industrial age, the level of aggregate economic production was tied closely to the size of the population. The total growth in the ancient economy was arguably more the result of larger numbers of workers than of increased productivity per worker – hence the importance of demographic conditions for our understanding of ancient economic development.

On the macro-economic level, population change and its interaction with economic performance and development are the central issues. According to Malthusian theory, population equilibrates at some level mediated by technology and a conventional standard of living; in the Boserupian view, technological change is itself spurred by demographic growth. These views are complementary in that they share the assumption of diminishing returns to labor for a fixed technological level. Per capita economic growth only occurs if economic growth overtakes demographic growth, and can be sustained only if population growth continues to fall short of increases in output. The location of the population equilibrium is a function of conventional living standards that are to some extent culturally determined: if the equilibrium level is close to carrying capacity and physiological subsistence, the population is exposed to positive Malthusian checks and constrained in its ability to escape this subsistence income level through increases in investment. In order to achieve sustainable intensive growth, significant investment has to push the economy forward, whereas more modest increases in investment and the savings rate are more likely to be absorbed by attendant demographic growth. According to the model of the ‘low-equilibrium trap’, a jump in the mobilization of saving and investment constitutes a critical minimum effort for low-income economies to accomplish, an observation that may be of relevance to our understanding of growth in ancient economies.

Adding further complexity, population change is partly determined by exogenous factors such as mortality crises caused by shifts in pathogen incidence and prevalence, or climatic and other environmental change. These exogenous forces may cause significant short- and medium-term fluctuations in the equilibrium of population size and productive capacity. Therefore, information about ecological conditions is of vital importance for any assessment of economic performance.

Micro-economic features are critical determinants of economic productivity. The number of workers is a matter not only of population size but also of the proportion of the population that engaged in productive work, which is in turn related to the age structure and gender conventions of a society. The Demographic Transition brought dramatically longer life expectancies and a

major shift in the ratio of children to working adults. The length of life in the ancient world had a direct bearing on how long any skills acquired could be put to use, on their transmission to subsequent generations, and thus on the shape of legal institutions and the creation of human capital in general (see below, *Stock of knowledge*).

Urbanization

A broad index of economic development is the level of urbanization in a society, because it is a measure of the proportion of the population producing non-agricultural goods. The most basic division of labor, though not sharp and clear-cut, was between urban and rural. Urbanization is commonly thought to be positively correlated with economic development: towns aid economic development by providing cheap labor, fostering economic rationality, and create a forum for cultural and intellectual change that is conducive to institutional and technological innovation. Yet while this was true of late medieval and early modern cities in parts of Europe, was it also true of Greek and Roman cities, and if so, to what extent? What, if any, was the distinctly urban contribution to economic development, and how should we approach this question?

The economic nature of ancient cities has been the subject of much of the most heated debate. Max Weber characterized the ancient city as a “consumer city,” which was supported by taxes and rents from the countryside. Whether the model of the consumer city is close enough to the realities of the ancient world to be of heuristic value is a question under continuing discussion. High rates of rent extraction by state and/or landlords may create substantial surpluses enabling urbanization but would also depress conventional living standards, thereby inhibiting intensive growth. Conversely, a more egalitarian society with high normative living standards could increase surpluses without forcible extraction, by spending surpluses on non-agrarian goods and services, encouraging technological progress. Consequently, different socio-political regimes may correspond to different types of urbanization and may experience different economic benefits from an expansion of the urban sector.

For this and other reasons, urbanization is a development to be traced region by region. In the eastern Mediterranean, cities had roots going back in time well before the period of this volume. In the west, Greek colonization and later the political environment of the Roman Empire encouraged the spread of cities and, consequently, economic growth. Regional levels of urbanization appear to have been unusually high by pre-modern standards, for instance in Roman Italy and Egypt. What does this tell us about the scale of economic growth in the Roman world? The great capital of Rome was the voracious consuming center of the empire. How this megalopolis, the largest city in Europe until 1800 CE, affected production, distribution and consumption throughout the empire will be a major question in the second half of the volume. Did the Roman Empire bring about the economic integration of the Mediterranean, and was any such development preceded by regional integration, e.g., in the Aegean? What is meant by “economic integration,” and how can it be measured with the available evidence, especially archaeological finds?

Production and exchange

The efficiency of food production helps determine population size and the level of surplus, and is itself a function of various factors including ecological resources (e.g., the choice of productive plant and animal species), social-organizational variables (see below, *Institutions*), technological capacity and the application of capital (see below, *Stock of knowledge*). Non-agrarian output is a function of available food surpluses, of demand, and of the opportunities to meet demand by means of formal exchange mechanisms. In much the same way as the degree of urbanization, the relative share of (the value of) traded goods in total consumption is traditionally regarded as an index of economic development, and students of ancient economies have paid considerable attention to the nature of markets and the scale of trade. In this, the failure clearly to

define generalizing concepts such as the “significance” of trade and the “interdependence” of markets has repeatedly resulted in an unhelpful polarization of supposedly incompatible interpretations of the ancient economy. At the same time, several issues that are crucial to the study of markets and exchange have been largely neglected. These include the nature of market efficiencies and imperfections, the availability and flow of information that mediates exchange, and the likely determinants of transactions costs (see below, *Institutions*).

Institutions

If ancient historians have few usable numbers to quantify economic behavior, they are better served by written texts in efforts to describe the institutional framework of the ancient economies of the Mediterranean. Douglass North and other theorists have brought institutions to the center of the discussion about growth. One might argue that the reason it is legitimate to ask why the ancient economies did not grow more than they did is precisely the fact that political, cultural, and legal institutions were so sophisticated in ultimately uniting so large a population as to make the limited economic development appear rudimentary by comparison.

An economic system is an institutional framework coordinating competition for the use of resources. “Institutions” have been defined as “rules in society,” whereas “organizations” are functional bodies or groups formed for specific purposes in accordance with institutional constraints. Institutions, as the framework within which human interaction takes place, include both formal rules (such as laws) and informal codes of conduct that underlie and supplement formal rules. Organizations include political bodies (that cumulatively make up states), economic bodies (such as family farms or firms) and other types of groups. Their creation and development are fundamentally influenced by the institutional framework while they in turn influence how the latter evolves. In practice, both are inseparable.

Although institutions are cultural creations, they suggest repertoires of, and impose pervasive constraints on, individual choices and economic behavior. Institutions affect the performance of the economy by their effect on the costs of exchange and production. Together with the technology employed, they determine the production and transaction costs (see below) that make up total costs, and affect the total volume of exchange (and indirectly levels of productivity and hence real growth).

Among formal rules, property rights are of pivotal importance, and need to be considered in their different manifestations: as user rights, which define the potential legitimate uses of an asset; as the right to earn income from an asset; and as the right to transfer ownership rights to another party. The enforcement of property rights aims to exclude others from the use of scarce resources, and the value of exclusive ownership depends in part on the cost of enforcement. While the enforcement of property rights is usually undertaken by both individual owners and the state, predictable enforcement by the state increases the value of privately owned assets and facilitates market exchange. The cost of enforcing exclusive rights is reduced when general social norms coincide with the basic structure of rights the state seeks to uphold. With regard to ancient societies, the extent to which the state could be relied on to aid in the enforcement of property rights and the extent to which formal legal rules corresponded to local social norms and expectations should be regarded as powerful predictors of economic development and merit serious consideration.

The costs that arise when individuals exchange ownerships rights, known as transaction costs, are particularly sensitive to the dependability of enforcement mechanisms. Transaction costs are in part a function of the costs of gathering information about the value and price of commodities and the characteristics of contractual partners but also include the costs of the enforcement of contracts and the collection of damages in the event of a breach of contractual obligations, as well as the cost of protecting property rights against encroachment by third parties, including violent predators (e.g., pirates). In ancient societies, transaction and information costs must have varied considerably region by region and over time. At the local level, localized small-

scale exchange characterized by personal relationships between contractual partners, repeat dealing, cultural homogeneity, and the lack of third-party enforcement probably resulted in low transaction costs. On the other hand, inter-polity trade (e.g., in the Greek world) or long-distance trade within a politically unified multi-ethnic sphere (such as the Roman Empire) increased the need for the protection of dealers and contracts by the state. However, while states may lower transaction costs by combating overt lawlessness (e.g., by suppressing piracy), establishing standards of measurement and introducing stable money, they may also offset these benefits by increasing insecurity through corruption and other predatory behavior.

This ambiguous role of the pre-modern state in affecting transaction costs accounts for the importance of communities in regulating economic behavior. Within a given community, defined as a group of people tied together by mutual trust based on intense personal interactions (e.g., a village or clan), fear of social sanction tends to strengthen the convention of honoring contracts with members of the community. Although large savings in transaction costs are the result, trust remains a local good limited to a particular community. The creation of supra-community markets requires different institutional constructs, such as merchant codes of conduct or religious precepts that aim to create artificial communities of dealers. To what extent ancient states were capable of supplementing such arrangements with formal enforcement mechanisms remains an open question. At the same time, imperial powers may have interfered with community codes by integrating local elites into larger networks, enabling elites to rely on privileged access to the institutions of a remote center rather than on local trust and reciprocity.

Three organizations coordinate the division of labor in a society – the market by means of competition, the state by means of coercion, and the community by means of cooperation. The question is how the interaction of market, state and community shaped economic development. In brief, we would expect the transition from city-states and other categories of small polities to large imperial structures in the Hellenistic and especially the Roman periods to have had a considerable impact on production, distribution and consumption. According to rational choice theory, actors optimize based on their fixed preferences, various constraints, and a set of choices. Institutional change alters the constraints on optimizing choices that will affect the general character or format of economic interactions. However, the potential for change in ancient societies must not be overrated. In low-performance economies, economic development is contingent on institutional change. Yet for new institutions to function effectively, they must be consistent with existing value systems. Underdeveloped societies may be trapped in economic stagnation and poverty under a dysfunctional system bound by strong inertia for the preservation of established institutions. Incremental change in one institution can be prohibitively costly as this particular institution is inseparably intertwined with others. As a result, even obviously inefficient institutions can be difficult to change, since the institutional equilibrium of a society largely depends on its historical path. We will have to consider to what extent political change in antiquity would translate to significant changes in established institutional frameworks. In archaic Greece, for example, conflicts over scarce resources in the face of population growth appear to have led to institutional and ideological innovations rather than a Malthusian crisis. Ideas about male egalitarianism, the freedom of the citizen, and citizens' control over the mechanisms of the state arguably created an incentive structure, legal-political order, and system of property rights that brought social and private rates of economic return closer to parity than was normal in antiquity. This may have stimulated unusually high levels of investment in human capital, but also the large-scale development of the institution of chattel slavery. Yet even this development was ultimately limited in time and scope.

The enforcement of property rights and contracts are merely the most conspicuous instances of institutional arrangements. Other important features include the rules of agency, labor relations, banking, coercive public measures concerning money or taxation, and informal socio-cultural codes of conduct. The institution of slavery plays an important role in principal-agent relationships and the nature of the labor market in general. The changing properties of

contractual relationships such as tenancy agreements or wage labor affect production and agency costs. Finally, informal norms, often subsumed under the label of “mentality,” have traditionally received due attention by ancient historians. The idea of the “embeddedness” of ancient economic behavior in social and cultural values and aspirations is perhaps the best-known example. In this context, it deserves notice that the emphasis on the cultural determinants of human (economic) behavior are fully compatible with the conceptual framework of neo-institutional economics. In our appraisal of economic performance it is, however, essential to weigh the importance of formal institutional constraints against the influence of informal codes of conduct without overrating or ignoring either on a priori grounds. The reconciliation of economic and culturalist approaches will help bridge the conventional divide between “formalist” and “substantivist” perspectives and re-define the terms of the debate over the “rationality” of economic actors in antiquity. In addition, we need to distinguish between cause and effect: the finding that the state’s introduction of money commonly has the effect of lowering transaction costs (at least in exchanges beyond the community-level or tight personalized networks), thereby – *ceteris paribus* – stimulating trade and economic development, is not invalidated by culturalist speculations about non-economic motivations behind the creation of coinage.

Stock of knowledge

Land and other natural resources constitute the tangible capital stock of economic systems. Economic growth requires an expansion of the resource base or an increase in the efficiency of its exploitation. Prior to the Industrial Revolution, the limits of technological progress imposed severe constraints on these growth-inducing developments, and diminishing returns to natural resources inhibited economic growth. Accumulated capital per se cannot be an effective basis of sustainable economic development unless it is combined with appropriate technology and manpower under appropriate organization. In ancient economies, limited improvements in land yields (e.g., through the introduction of new plant and animal species), the development and diffusion of improved agricultural or mechanical technology (e.g., crop rotation or labor-saving devices), and efficiency gains in the organization of human labor (e.g., slavery) offered limited scope for an expansion of a given resource base. Higher rates of net growth or continued economic expansion (e.g., in the late Roman period) would have required more significant improvements in technology and more generally in the stock of knowledge.

A combination of factors militated against more substantial or accelerating gains in economically applicable knowledge. First of all, the lack of property rights over ideas and the resultant divergence of private from social benefits (i.e., the specific benefits for the inventor as opposed to the cumulative benefits for the community and their contribution to the common good) created disincentives to inventive activity. Secondly, because technological developments are interrelated, innovation in one area cannot be realized without complementary progress in others: for example, engineering, physics and chemistry tend to move in tandem. Thirdly, the development of new techniques will yield diminishing returns unless the stock of basic, general knowledge expands, a process which depends on the development of the natural and physical sciences. Until recently, the growth of these disciplines was rather independent of the development of new technologies. Fourthly, and more fundamentally, high mortality and morbidity and low life expectancy pose a strong disincentive to (parental or public) investment in more than the most basic education. This creates a vicious circle: when human capital is scarce, rates of return on human capital are low (i.e., investment in education yields poor returns) relative to the return on children; under these circumstances, parents will choose large families and low investment in human capital over small families and high investment (Becker, Murphy and Tamura 1990). Without improved investment in human capital, technological development will tend to stagnate, and mortality levels are likely to remain high, discouraging substantial changes in parental investment strategies. This scenario is merely another facet of the low-equilibrium trap described above (see above, *Population*).

It is imperative for ancient historians to appreciate the full weight of the constraints on technological progress imposed by the demographic regime and educational ambience of ancient societies. Just like assertions about economic growth (see above, *Growth*), claims about the “significance” of technological progress (e.g., Greene 2000) must be assessed in quantitative terms over time and judged from a comparative perspective: it is the rate of innovation that is crucial, not scattered inventions. At the same time, we need to consider the extent of variation in space and time of the various preconditions of increases in the stock of knowledge, and of the practical consequences of such improvements. Levels of literacy, gender relations, differences in the accumulation and transmission of skills between free and unfree workers, and the relationship between pure scientific knowledge and practical innovation are some of the most important determinants of change in the stock of knowledge. In principle, the stock of knowledge and the stock of technology set upper bounds to human wellbeing but do not by themselves determine the level of accomplishment within these bounds. Rather, the development and the economic utility of human capital are intertwined with the ecological and demographic background and the institutional and organizational structure of a given economic system. It is the combination of all these variables that determines economic performance.

The complexity of the various relationships between these significant factors may seem daunting, and it is much easier to acknowledge this complexity in principle than to do it justice in practice, in one’s own research. On the other hand, an enhanced awareness of the nature and interconnectedness of the principal determinants of economic structure and performance may help move our engagement with the economic history of the Greco-Roman world beyond conventional positions and increasingly stale debates, and to situate ancient economic history more firmly within the broader framework of contemporary economic thinking and theorizing.

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