



London School of Economics & Political Science
WORKING PAPERS IN ECONOMIC HISTORY

**THE LATE MEDIEVAL CRISIS AS AN
'INTEGRATION CRISIS'**

S.R. Epstein

Number: 46/98

December 1998

Working Paper No. 46/99

**THE LATE MEDIEVAL CRISIS AS AN
'INTEGRATION CRISIS'**

S.R Epstein

© SR Epstein
Department of Economic History
London School of Economics

December 1998

S. R Epstein
Department of Economic History,
London School of Economics,
Houghton Street,
London.WC2A 2AE.

Telephone: +44 (0)171 955 7046
Fax: +44 (0)171 955 7730

Additional copies of this working paper are available at a cost of £2.50. Cheques should be made payable to 'Department of Economic History, LSE' and sent to the Economic History Department Secretary, LSE, Houghton Street, London.WC2A 2AE, U.K.

I

In the last few years the neo-Malthusian assumption that intensive (per caput) growth in 'traditional' societies was virtually non-existent, has been challenged from two directions. On the one hand, it is now clear that neo-Malthusianism focussed disproportionately on the agricultural sector, particularly on the production of food grains. The effect was to seriously underestimate significant instances of growth in the non-grain agricultural, service and manufacturing sectors. On the other hand, we are now aware that pre-industrial agrarian technology was capable of far higher levels of output than was previously believed. This discovery directly challenges the neo-Malthusian tenet that pre-modern societies were operating at or close to their technological frontier, and that this set insuperable constraints on available food supplies.

The recent turn towards greater technological optimism has some additional important implications. First, it answers the neo-Malthusian conundrum why, if pre-modern societies made optimal use of technology which remained basically static between the thirteenth and late eighteenth centuries, the demographic 'ceiling' nonetheless kept shifting upwards through much of the period. The simple answer is that throughout much of Europe, the technological frontier had *not* been reached by the thirteenth or even the early eighteenth centuries. The history of pre-modern European agriculture appears to be largely a story of technical diffusion from a handful of advanced regions. Second, if most pre-modern societies were not operating at the height of their technological capacity, the heretofore excluded possibility of intensive pre-modern growth (rising per caput welfare) becomes feasible. Third, it is clear that pre-modern technological capacity was fully exploited only episodically and in relatively few European regions (Allen 1995; Overton 1996; Hoffman 1996; De Vries and van der Woude 1997). This points us to the new question at the heart of the emerging consensus about pre-modern agricultural growth. Where neo-Malthusian scholars were happy to tar all pre-industrial economies with the same brush of stagnation (with England as an unexplained exception to the rule), proponents of pre-modern growth

are faced with describing and explaining far greater regional economic diversity and divergence.

Recent developments also suggest new answers to the old debate on the late medieval 'crisis' and the transition to capitalism. This paper addresses the issue in three parts. Firstly, I discuss current models of the 'feudal' economy, all of which appeal to exogenous sources of change, and propose an alternative model of endogenous development in which long-run intensive growth is one of a range of alternative outcomes or multiple equilibria. Secondly, I address the nature and causes of the demographic slowdown that took place in many parts of western Europe from the late thirteenth century. Was it a systemic crisis, as neo-Malthusians and neo-Marxists claim, or was it instead a series of short-term difficulties that could have been overcome had the catastrophe of the Black Death not struck, as recent commentators imply? In other words, have claims about a 'general crisis' been based on post hoc ergo propter hoc arguments? Lastly, I outline a model of the outcome of the crisis that emphasises its endogenous rather than exogenous nature, and I suggest an answer to the question why long-run intensive growth in early modern Europe seems to have been so rhapsodic across time and space.

II

Current understanding of conditions before the Black Death is defined by neo-Malthusian and neo-Marxist parameters. Both models claim that from the turn of the fourteenth century a general, systemic crisis was under way, which caused a significant decline in average standards of living signalled by rising mortality and a slowing down or reversal of demographic growth. Although neo-Malthusians focus on the increasing imbalance between population and resources and neo-Marxists emphasise the role of feudal appropriation of peasant surplus, they both assume that the feudal economy was incapable of significant technological innovation and are therefore pessimistic about medieval society's capacity to overcome bottlenecks in production. Technological stagnation was a consequence of the prevailing incentive structure. Feudal lords,

whose income was obtained through military and legal ('extra-economic') coercion, had few incentives to produce for, and compete in, the market. Conversely, the lack of competitive markets gave them little incentive for innovation. Lastly the lack of transparent, efficient markets compounded the peasantry's natural risk aversion and made them prefer self-sufficiency to 'dependence' on trade.

In this picture, feudalism was a one-good Ricardian economy producing grain, in which no alternative agricultural or manufacturing activities were available (Desai 1991). Economic growth could only be achieved extensively by bringing new land into cultivation, but this source of growth ran up against rapidly diminishing returns, as the land's embodied fertility could not be reconstituted because of the lack of capital and primitive technology. In the long run, the effects of declining productivity on per caput food consumption were magnified by the lords' attempt to maintain or increase their share of the social surplus in response to inflationary military expenditure. The Black Death struck a society that was already physiologically and socially debilitated. It cast a starker beam over the society's inherent weaknesses, but it was not their cause.

Recent criticisms of the model have addressed four factors: first, the forces which regulated patterns of demographic growth; second, the technological capabilities of peasant agriculture; third, the sectoral composition of the rural economy; and fourth, the nature of markets under feudalism.

1. The neo-Malthusian argument about the increasing imbalance between population and resources around 1300 arose from three distinct claims: that the marginal productivity of land was in long run decline; that lower levels of food consumption, and particularly the greater incidence of harvest crises, sharply increased levels of background and crisis mortality and reversed previous population growth; and that medieval societies were incapable of applying preventive checks to nuptiality and natality that could mitigate the pressure on resources. None of these claims has withstood closer scrutiny.

The data on Winchester yields used by Postan and Titow to demonstrate a decline in agricultural output from the late thirteenth century are in fact inconclusive (Postan & Titow 1958-9; Desai 1991), and recent findings for other parts of England and Continental Europe suggest that average yields in some regions at this time were still increasing. A neo-Malthusian explanation is equally hard to square with evidence of considerable variation in patterns of demographic change in different parts of Western Europe. English historians have documented significant demographic divergence between regions and even between neighbouring communities (Harvey 1991; Smith 1991); similar regional differences are well attested for Iberia, Italy and France.

The claim that levels and instances of background and crisis mortality increased from the late thirteenth century is also problematic. In the first place, the positive correlation between heriots and grain prices, which Postan and Titow took as evidence of crisis mortality, is better viewed as a measure of distress sales of land in response to a failure in market entitlements (Harvey 1991; Smith 1991). Second, a growing body of epidemiological and economic research has cast doubt on the postulated link between food intake or direct entitlement failure and crisis mortality. Short-term mortality crises seem to have been far more a function of the social disruption and increased mobility of populations at risk that was associated with inefficient systems of distribution and unbalanced entitlements (Sen 1981; Ravallion 1987; Cotts Watkins and Menken 1985; Livi Bacci 1990; Walter and Schofield 1989). Third, there are reasons to doubt that the price volatility of grain reflects harvest output (see e.g. Labrousse 1933), rather than expectations about supply that in turn are a function of transactions costs. In the latter case, price volatility should be taken as a measure of efficiency in distributing current and past stocks of food, and increases in volatility reflect rising uncertainty and barriers to trade (Fogel 1992; Persson 1996; Nielssen 1997; Epstein 1998d).

The neo-Malthusian synthesis assumes that medieval peasants were incapable of adapting their reproductive strategy to changing economic circumstances, in the short term because they lacked the knowledge of basic contraceptive and abortifacient

techniques, and in the longer term because they were incapable of calibrating levels of nuptiality to the availability of economic opportunities. Against this, however, there is evidence that both contraceptives and abortifacients were well known by the thirteenth century (when the relevant sources become more numerous), and that they were deliberately used -- particularly by the poorer sections of the population -- to reduce birth rates (Biller 1980).¹ The well-known positive correlation between peasant wealth and family size further supports the view that voluntary forms of birth control, including the longer term 'West European' strategy of delaying the age of first marriage, were commonly practised in medieval western Europe (Razi 1980; Herlihy 1982; Leverotti 1989).²

2. The particular difficulties with measuring productivity in cereal production and the past reliance on crude measures of yield per unit of seed has helped perpetuate a conservative view of the feudal economy. Recent improvements in methods of measurement have substantially raised earlier estimates of pre-modern agricultural productivity, and have suggested that population density was positively rather than negatively correlated with agricultural productivity (see Boserup 1965). As might be expected given the high cost of transporting bulk foods, the highest densities in rural population were found in regions like north-central Italy, Flanders, Ile-de-France, Artois, and Norfolk that also displayed the highest rates of medieval agricultural productivity.

It has also become clear that the absence of significant new technological hardware (machines and crops) between the thirteenth and the eighteenth century was less of a

¹ Evidence of preventive checks among the peasantry is clearly far from conclusive. However, if we are to take seriously the claim that they were responding in economically rational ways to price signals, we must also assume that they would have been aware of the consequences of excess natality.

² Whereas it is possible that the correlation reflects the lower probability of child survival in poorer families owing to malnutrition, worse heating and lodging conditions etc., poor peasants could have overcome this disadvantage by increasing their crude birth rate.

constraint on agricultural productivity than had been believed. Substantial productivity gains could be made through simple organisational changes in production, on the basis of practical knowledge that was available from at least the thirteenth century. Thus, by the 1320s Norfolk peasants had achieved levels of land productivity that were only achieved again by the eighteenth century (Campbell & Overton 1993). In thirteenth-century Tuscany, average agricultural productivity may have increased about 0.25 per cent per annum without much evidence of major technological improvements; this level, which is comparable to early modern data, was associated with a rough doubling of the total population and a tripling of the proportion of urban inhabitants. Alain Derville, Eric Thoen and others have identified similar performances for Artois and Flanders. For the early modern period (when the prevailing technology was still by and large unchanged), Robert Allen has suggested that the introduction by early modern peasant landowners of small-scale improvements to drainage in the heavy Midland clays fuelled a 'yeoman' revolution in agricultural productivity; Philip Hoffman has documented comparable patterns of growth in central and northern France; and George Grantham has estimated that pre-modern levels of urbanisation were generally far lower than the land's carrying capacity at prevailing technologies allowed (Persson 1991; Derville 1987; Thoen **; Allen 1995; Hoffmann 1996; Grantham 1993 and 1997).

The most critical determining factor in the peasants' decision to innovate was the opportunity cost of trade defined by the prevailing transaction costs. Thus, for example, English smallholders who faced higher average rents than large peasants, substituted horses for oxen more rapidly than large-scale tenant farmers and feudal landlords. The need for a higher proportion of total income in cash led them to engage heavily in short-range trading activities, for which faster horse transport constituted a clear advantage (Langdon 1986). Conversely, periodic setbacks in pre-modern agricultural productivity seem to have occurred because of sharp increases in the cost of trade, mainly due to warfare. By implication, the significant reduction in transactions costs during the later Middle Ages, to be discussed below, must have lowered the risk threshold of agricultural innovation and raised the potential gains from

innovation.

3. The view of the feudal economy as a one good economy put forward by Le Roy Ladurie (1966), Postan (1973), Bois (1984) and Brenner (1985) ignores the substantial occupational alternatives for rural producers. These included wool production (which accounted for up to a third of rural GNP in early fourteenth-century England), Mediterranean tree crops, livestock meat, dairy and leather production, and most crucially, various forms of by-employment or 'Z-goods' in the manufacturing and service sectors (Hymer & Resnick 1969). The old, simplified model therefore also overestimated the welfare effects of harvest crises in the decades before the Black Death because it took no account of other activities that raised disposable incomes and stimulated agrarian specialisation. Increases in rural by-employment in some regions during the half to three-quarter century before the Black Death imply, contrary to received wisdom, that the relative price of basic foods compared to manufactures was either stable or declining. On the other hand, an over-simple economic model caused the economic improvements and diversification after the Black Death to be underestimated.

4. Although the fact that product markets (and to a lesser extent land, labour and credit markets) were ubiquitous had long been known about the more urbanised and less overtly feudal regions of Europe such as Flanders, parts of Iberia, southern France and Italy, similar patterns are now also been established for less developed countries like England. Miller's and Hatcher's recent overview describes the period c.1086 to 1348 as one of rising commercialisation, during which England's rate of urbanisation tripled and per caput circulating coinage grew perhaps tenfold (Miller & Hatcher 1995; see also Britnell 1993). This was not a society that could only expand through colonisation and was unable to raise living standards substantially. Intensive growth was clearly being achieved.

* * * * *

In sum, post-war economic models underestimated the productive potential and the actual performance of medieval and early modern agriculture. Agrarian practices that had been developed for the most part before the mid-fourteenth century crisis could raise output and productivity considerably above the demographic 'ceiling' reached around 1300 and again towards 1650. Many of these gains had still to be exhausted by the eighteenth century. The major influence on the rate of innovation was the cost of trade broadly defined. Ease of access to structured and competitive markets was a prerequisite for growth. Both neo-Malthusians and neo-Marxists underestimated the capacity of medieval and *a fortiori* early modern populations to limit birth rates in response to economic pressure. The available evidence suggests that medieval societies regulated their size in terms of economic opportunities, and that the main reason why their technological potential was not fully exploited before the Black Death was for lack of adequate incentives. In most cases, the opportunity costs of innovation were simply too high.

These conclusions appear to follow in the tracks of recent 'commercialisation' or neo-Smithian revisionism, which has been particularly active among Anglo-American medievalists. This group of scholars tends to maximise the cumulative impact of commercial change, to suggest that welfare levels were not severely eroded by 1300, and to imply that the early fourteenth-century mortality crises were temporary and reversible setbacks (Bailey 1998). However, the commercialisation thesis has two weaknesses. First, the assumption that medieval peasants behaved like modern Kansas farmers loses sight of the historically contingent features of pre-modern economies; in other words, it tells us nothing about how incentive structures changed over time. Second, a strictly Smithian model of growth sidesteps the question why some areas were more commercialised and technologically advanced than others. It is perhaps significant that attempts to address these differences within the 'commercialisation' framework appeal to institutional factors like the extent of seigniorial control over trade that are exogenous to trade in itself (Campbell and Overton 1993). The commercialisation model describes growth; it does not explain it. The recent reformulation of Pirenne's thesis that growth was driven by urbanisation and access to

water transport (Grantham 1997) raises the question of what drove urbanisation in the first place. There are enough examples of successful towns that did not have direct access to water transport and conversely of coastal areas that did not develop strong commercial emporia, to suggest that the simple opportunity for engaging in trade was hardly enough to determine its emergence and success.

III

A coherent model of the feudal economy must incorporate the recent findings I have just summarised; it must avoid the tautological appeal to trade as a source of trade; and it must be capable of explaining parsimoniously different regional growth rates. Here I briefly sketch what this model might look like.

In the feudal or tributary mode of production, most rural producers owned their means of production and sold a proportion of their produce on the market.³ Surplus extraction was based upon a decentralised system of legal compulsion backed by the threat of military coercion. Feudal income came directly through rent (in cash, kind or labour) and indirectly by means of levies on trade and on the provision of justice. Although the relative share of income from each source varied across time and space, the share from rights of jurisdiction (including compulsory labour services) was always substantial. Therefore, the principal threat to feudalism did not come from trade; up to a point feudalism thrived on trade.⁴ The principal obstacle to growth in the feudal

³ The definition of the peasantry as a class producing jointly for subsistence and for the market is preferable to essentially arbitrary definitions based on farm size, tenurial relations, imputed behavioural patterns etc.

⁴ The main long-term threats to the feudal mode of surplus extraction lay elsewhere. Firstly, the development of a class of wage labourers that was no longer tied to its means of production undermined feudal coercion because it could credibly threaten to migrate, and forced lords to compete on the market for labour rather than rely on compulsory labour services. Second, state centralisation – the transfer of sovereignty over feudal means of coercion from subordinate lords to higher territorial authorities – transformed feudal rights of jurisdiction (which sanctioned

economy was the cost of trade, which was defined mainly by institutional factors and to a lesser extent by developments in transport technology. Feudalism did not exclude markets; it regulated them. Within the boundaries of a lord's or city's jurisdiction, markets were by and large competitive; up to a point, therefore, feudal decentralisation could support both extensive and intensive growth.⁵ However, the lords' and towns' main purpose in stimulating trade was to maximise the rent streams from their rights of jurisdiction. Consequently, agricultural innovation was generally inversely correlated with the intensity of seigniorial jurisdiction (Overton 1996), and rural industrial growth was inversely correlated with the jurisdictional powers of towns (Epstein 1999).

In the absence of any countervailing forces, the tendency to raise jurisdictional barriers to trade would clearly have driven the feudal economy to a low level or sub-optimal equilibrium. That is indeed what occurred to the Polish Commonwealth after the collapse of the state in the seventeenth century. Elsewhere, the equilibrium was broken by what turned out to be the more powerful drive towards territorial integration, which was the second principal source of revenue for feudal lords. The purpose of feudal expansion was to expand the lord's political and fiscal base by subejcting and integrating the conquered lands to his jurisdiction. Jurisdictional integration (Olson 1982) lowered transactions costs by reducing pre-existing seigniorial dues, by overcoming co-ordination failures (prisoner's dilemmas) between rival feudal and urban monopolies, by systematising legal codes, weights and measures, and by

the decentralised feudal mode of coercion) into fiscal rights over commercial transactions (which sanctioned the state's jurisdiction over trade). The transformation of decentralised 'ownership' of feudal rights into state-sanctioned and redeemable claims to fiscal rights changed the legal base of the feudal class into a commodity that could be bought and sold to the highest bidder. Financial capital rather than social status became the former feudal lord's new coin of exchange. For the state, the issue whether to sell these income streams to the highest bidder or to get rid of them altogether was increasingly based on a primarily financial (fiscal) rather than a political calculus.

⁵ Capitalism is defined as a system in which the majority of producers work for a wage, which is set competitively through markets, and the owners of capital stock compete on the market for profits based on marginal cost rather than for politically sanctioned redistribution. On this definition, the economy of pre-modern Europe at least up to the seventeenth century was largely feudal-tributary and not capitalist.

increasing the ruler's responsiveness to political pressure and reducing his incentives to act autocratically as a 'stationary bandit'.

State formation was therefore a major cause of market integration and Smithian growth. Economic change in the system was the result of two opposite forces, the one pressing for military and jurisdictional decentralisation, the other pushing for increased political and jurisdictional centralisation. In the long run, feudal military competition and political centralisation won out, lowering transactions costs and stimulating commercialisation and specialisation. The 'prime mover' and 'contradiction' within the feudal mode of production lay in the relations between lords, peasants and the market (Abrams 1978).

IV

If one accepts that population growth provides a crude measure of economic growth, as recent reappraisals imply, the evidence of an economic slowdown in many parts of early fourteenth-century western Europe are hard to gainsay. The disagreements arise over its causes. Was the demographic turn the result of positive or of preventive checks? And if the latter, what caused the late thirteenth-century economy to slow down?

It was pointed out previously that evidence for positive checks (namely a decline in food availability that raised average background mortality) is tenuous, and that neither the demographic slowdown nor the increasing incidence of famines prove that the population was outstripping available resources (Abel 1980). Evidence of increased price volatility of cereals, of socially unequal exposure to famine, and of highly variable and localised patterns of demographic change, are arguably better explained as the effect of growing institutional bottlenecks to specialisation through trade, bottlenecks whose strength and effects varied between localities and regions. In areas where opportunities for agricultural intensification and specialisation were being foreclosed and the costs of transporting grain to meet local shortages rose, the

incidence of famines and price volatility increased (Bailey 1998) and decisions to marry and procreate were deferred. Arguably the economic slowdown was due neither to primitive technology or to peasant conservatism, but to rising competition between feudal lords – including towns that possessed significant jurisdictional rights over the countryside, as in parts of Italy, Flanders and possibly Catalonia – for the profits of trade, for stable food supplies, and for territorial enlargement. The slow build-up of seigniorial and urban levies during the thirteenth century, and the increased incidence of feudal and inter-urban warfare from the 1290s onwards, reduced incentives for agricultural innovation by lowering the rate of return and by raising the risk threshold of specialisation. Where and when an economic slowdown did occur, it was arguably less a technologically determined 'agrarian crisis' than an institutionally induced 'crisis of distribution'.

Despite considerable disagreements about the effects of the 'crisis' and of the pandemic shock caused by the Black Death, most historians agree that it brought about a decisive move towards capitalism⁶. For Brenner (1985), 'agrarian' capitalism could only develop after the self-sufficient peasantry had been expelled from the land, but this occurred only in England; elsewhere, the 'crisis' actually reinforced the feudal mode of production based on an independent peasantry or on serfdom. For Wallerstein (1974) and, more ambiguously, for Braudel (1982) the crisis instead triggered a more diffuse transition to merchant capitalism and to a 'capitalist world system' with western Europe at its core. These interpretations presuppose that the 'transition' to capitalism was set in motion by factors external to feudalism itself – as indeed follows logically from the assumption that feudalism possessed no internal growth dynamic. For Brenner, the *deus ex machina* was the balance of class power determined by historically contingent national characteristics; for Braudel and Wallerstein, the overseas discoveries provided the requisite external markets to pull the medieval economy out of stagnation. The most frequently heard answer to Maurice Dobb's old question whether there was a 'prime mover within feudalism bringing about the

⁶ The views of Le Roy Ladurie (1966), who observes no fundamental, structural difference between the economy of 1250 and that of 1550, are in a clear minority.

transition to the capitalist mode of production', is a clear and resounding 'no' (Dobb 1946).

In contrast with these views, it was argued previously that economic dynamism under feudalism was the outcome of two endogenous forces, market production and political centralisation. The argument must now be tested against the long-term consequences of the 'crisis' and the Black Death. It is of course clear from the preceding argument that the Black Death did not create dynamism and change where none existed before. Even in the absence of the bubonic plague of 1347-50, powerful political and economic forces that had been building up during the thirteenth century were pressing for major political and jurisdictional simplification: the two Hundred Years wars (between England and France and between Catalonia-Aragon, Sicily and Naples) are merely their most salient manifestations. Even without the shock of the plague, inbuilt pressures for political centralisation would, in the long run, have lowered transaction costs and improved incentives for trade and specialisation, slowly raising the economy to a higher growth path.

The fourteenth-century pandemic accelerated this process of Schumpeterian 'creative destruction', by undermining the powers of lords and greater towns and by facilitating the development of more powerful states. Supported by social groups whose bargaining powers were strengthened by the shortage of labour and which stood to gain from lower feudal levies and weaker jurisdictional monopolies, aspiring rulers increased the jurisdictional integration of their territories and began incorporating new ones, made markets more competitive, stimulated commercialisation and set the stage for the long sixteenth-century boom. However, the degree and effectiveness of jurisdictional integration were influenced by institutional and political differences between states, which also established the framework for further integration. Insofar as jurisdictional integration defined the basic incentive structures within a region, the late medieval crisis both caused greater integration within politically bounded regions and defined the institutional parameters for subsequent economic divergence between

regions.⁷

Much of the debate on the economy of the later Middle Ages has centred on the demand side, specifically on the extent to which shifts in bargaining power improved the average standard of living of the poorer peasants and wage-earners. It is generally agreed that individual welfare increased, although the degree of improvement and patterns of consumption differed between regions⁸. Rising consumption is well attested for meat, cheese, butter, beer and, in Mediterranean countries, wine, olive oil, fruit and vegetables. Probate inventories, dowries, and archaeological excavations indicate that consumption of cheap manufactures (cloth, crockery, wooden utensils) also increased significantly. The late Middle Ages were thus the 'golden age of the peasant and labourer' (Dyer 1989).

Changes on the supply side, which led to both deeper and wider markets, have attracted less attention. Market deepening – an increase in the volume, number and quality of commodities exchanged on the market – was the effect of income redistribution⁹ and increased labour productivity, which raised the disposable income

⁷ See Allen (1998), who argues that the roots of economic divergence between European countries go back to 1500.

⁸ This view contrasts with Postan's model, according to which the shift in factor prices and bargaining power from land to labour after the Black Death caused peasants and labourers to decrease their work effort rather than increase consumption of marketed goods (Postan 1973). This assumption also underlies Wallerstein's thesis that the only way out of the crisis was by opening up new external markets, and Brenner's argument that peasants would not wilfully engage in production for markets and had to be expropriated to get capitalism on its feet. Evidence for a backward bending supply curve of labour comes from two rather ambiguous sources. Firstly, although the number of religious holidays may have increased in some cities during the late fourteenth century, indicating an increase in work leisure, it is not clear how far such changes could be enforced both within and outside the cities. Secondly, the complaint by English landlords that wage-earners were unwilling to stay long in a job, which might also be taken as evidence of unwillingness to work, is more easily explained as due to a stronger bargaining position (Penn & Dyer 1990).

⁹ Given the highly skewed distribution of income in feudal society, even a small redistribution had significant consequences. Thus, if the feudal class (say 5 per cent of

of peasants and labourers, and of improvements in the operation of markets; market widening – an increase in the geographical size of markets – was a consequence of political centralisation and lower transaction costs. These structural supply-side changes induced by the 'crisis' can be grouped under five headings.

1. Market deepening entailed three distinct but related phenomena: first, an increase in *per caput* consumption of already commercialised goods with higher elasticity of demand; second, an increase in the proportion of total output that was traded through the market (increased 'commercialisation'); and third, an increase in the range of goods produced and traded on the market (product innovation). Evidence of increased commercialisation can be found in the growth across late medieval Europe of rural manufacture, particularly of cloth but also of crockery, glassware and pewter. Evidence of product invention and innovation is harder to come by and has attracted less attention. Examples include the mass diffusion of linen underwear (whose effects for public health should not be underestimated) (Heers 1976), the invention of transportable hard cheese (caciocavallo and parmesan) in Italy (Epstein 1992), the development of herring and pilchard preservation in north-western Europe (de Vries & van der Woude 1997; Kowaleski 1998), the selection of higher quality wines identified by their place of origin (Melis 1984), and the widespread diffusion of plants of Islamic origin (indigo, rice, spinach, sugar, artichokes, probably eggplants) that had been little more than garden curiosities before the Black Death (Watson 1983).

These phenomena were akin in structure though clearly not in extent to the 'industrious revolution' of the seventeenth century, when labour inputs may have increased in response to a growing range of consumer goods (de Vries 1994). In a similar way, late medieval commercialisation could increase if the already employed (mainly adult males) worked longer or more productively thanks to greater specialisation and an improved nutritional status, or if previously unemployed or under-employed labour

the population) laid claim to 50 per cent of GNP before the Black Death (Postan), a decline of that share to 40 per cent would raise per caput income by 20 per cent among the rest of the population.

was used for new, non grain-producing activities (Bridbury 1973). Regarding the latter, Goldberg and Poos have indeed argued that unmarried female employment rose after the Black Death, although most of their evidence comes from the urban trades or from services. Pending further research we can only speculate that the increase in rural manufacture referred to previously is likely to have required greater labour inputs by children and women (Goldberg 1992; Poos 1991; Knotter 1994).

2. If the average per caput volume and value of trade increased, as the preceding argument implies, transactions costs at the margin would rise also, and more efficient systems of distribution would be required to capture the benefits of trade. Several institutional changes took place that aimed to lower transaction costs along such lines.

Firstly, there was a sharp rise in the number of annual or seasonal fairs specialising to regional and inter-regional trade, particularly in livestock and livestock products but also in rural manufactures (Epstein 1994). This development was probably associated with the emergence of a trans-regional network of petty traders based in and around the Alps (Fontaine 1996).

Secondly, regional grain markets became more integrated (in Holland, England and Italy) and the price volatility of grain declined (Unger 1983; Poehlmann 1993; Epstein 1998d). Market integration increased because jurisdictional integration within states lowered direct and indirect barriers to trade and gave rise to better co-ordinated systems of road maintenance. Political centralisation also helped reduce price volatility by weakening the traditionally autarkic supply policies of towns, which exacerbated price volatility by restricting compensatory trade flows across regions, by impeding the diffusion of accurate information about available stocks, and by upholding a policy of over-stocking by individual towns. In brief, the rise of larger, more powerful states helped overcome the market failures and prisoner's dilemmas associated with competition between protected food markets (Epstein 1998d).

Thirdly, localised demographic shocks stimulated more integrated regional and supra-

regional labour markets. This process affected unskilled, particularly agricultural labour engaged in seasonal migration between highlands and lowlands (Viazzo 1989) and between lowland regions with different agrarian specialisms (Epstein 1998c), and it is likely that rural hiring fairs either emerged or developed further to co-ordinate these labour flows (Penn and Dyer 1990). However, the period also witnessed the rise in Europe of regional circuits of specialised craft-trained labour and the development of supra-local journeymen associations (Epstein 1998b; Reininghaus 1981).

Changes in interest rates and in rates of urbanisation can be used to measure the degree of international economic convergence and the reductions in transaction costs that were taking place. On the one hand, the Europe-wide decline in the interest rates paid by the larger monarchies from c. 15-20 per cent before the Black Death to an average 5-10 per cent in the sixteenth century (Italian city-states saw rates decline from 7 to 4 per cent over the same period) points to substantial gains in market efficiency and to reduced commercial and institutional risk (Blanchard 1992; Epstein 1999). In England, expected rates of return to capital as measured by life annuities and perpetual rents also dropped from c.11 per cent around 1300 to 6 per cent around 1515-30 (Keene & Harding 1983). On the other hand, urbanisation in the most developed pre-plague economies like Flanders, Tuscany, Sicily and Catalonia stagnated or declined, but urbanisation in the less advanced regions (southern and north-western Italy, Castile, Holland, southern Germany and England) increased to the level of the economically more advanced (Epstein 1998a; Stabel 1997). The cumulative effect was to increase the average European rate of urbanisation (de Vries 1984). In this case, the rising urban ratio arguably reflects efficiency gains in distribution rather than increased agricultural productivity: more people lived in towns because they could be supplied more easily with food, and thanks to more efficient labour markets, town dwellers could transfer more easily to the countryside during the seasonal peaks in demand for agricultural labour (Grantham 1993).

3. *Ceteris paribus*, increased commercialisation should have stimulated Ricardian specialisation based on absolute and comparative advantage. A clear example of this

is the development after 1400 of a pan-European cattle trade (Blanchard 1986); similar albeit less far-flung networks developed around European trade in metals (copper, iron, tin and silver), salt and grain (Kellenbenz 1986). Nonetheless, pervasive fiscal, monetary, and cultural (linguistic) barriers to trade and factor mobility meant that specialisation occurred more easily within politically defined boundaries than across them. Those barriers were only partially weakened by access to cheap water transport: maritime regions like Holland and Sicily were highly unusual examples of strong overseas export-orientation (Blockmans 1993; Epstein 1992). This explains why, notwithstanding the rise of late medieval 'national' states in Castile, Burgundy, and France, the economic landscape in most of Renaissance Europe remained obstinately regional: differences between north Italian territorial states were probably less significant than those between politically unified Spanish or French regions.

The development of more stable regional (and in the case of England, possibly proto-national) urban hierarchies reflected both pressure for stronger regional integration and institutional constraints on inter-regional trade. Although urban hierarchies at the beginning of the sixteenth century appear strictly regional and 'medieval' from the vantage point of later developments (de Vries 1984), they were in actual fact the outcome of the late medieval crisis. Just as with the development of 'national' urban hierarchies in the seventeenth century, the rise of regional hierarchies during the late fourteenth and fifteenth centuries was a function of political centralisation, which weakened traditional urban economic prerogatives, reduced barriers to trade between towns, and established the first true capital cities (Chittolini 1987; Chevalier 1982). Sharper urban hierarchies emerged because urban competition increased and external economies of scale or of agglomeration could be exploited. Economies of scale can be observed, for example, in the tendency for more highly specialised industries like wool and silk cloth to concentrate in fewer urban centres and in the correlate trend for urban craft associations to become more specialised (Persson 1988).

4. The strong growth of rural manufacture, particularly of textiles (linen, wool, fustian) after the mid-fourteenth century in Italy, Catalonia, Germany, Flanders,

England and France shows a striking similarity to seventeenth-century 'proto-industrialisation' (Kellenbenz 1963). Hohenberg and Lees have explained the analogy in terms of changing patterns of demand driven by demographic pressures. Thus, contracting population and rising rural living standards in the fifteenth and late seventeenth centuries stimulated demand for proto-industrial products, while rising population and declining living standards from the early sixteenth to the mid-seventeenth century caused proto-industrial contraction (Hohenberg and Lees 1985).

An explanation along the lines previously traced would put greater emphasis on changes in the supply structure. Given the strength of urban territorial jurisdictions in Europe, especially outside England, and of manorialism in late medieval England, south-west Germany and Catalonia, rural proto-industries required a form of 'infant industry protection' from urban craft monopolies (where such were dominant) and from manorial lords (where such prevailed). Both periods of proto-industrial expansion witnessed similar institutional changes that lowered barriers to entry for rural manufacture, through the attack by centralising states on parcellised jurisdictional prerogatives and the decline of manorialism and serfdom. Thus, the two waves of 'proto-industrial' growth in the late Middle Ages and the seventeenth century coincided with the two most important phases of state centralisation in the pre-modern era, when traditional urban and feudal jurisdictions came under strong attack and the institutional framework for rural industry accordingly improved (Epstein 1993 and 1998c).¹⁰

5. Finally, increased regional trade and labour market integration intensified technological diffusion, both because the rate of investment would have increased in response to rising demand and sharply lower interest rates and because technical knowledge was largely diffused through mobile skilled labour. It seems likely that during the late Middle Ages the new pattern of journeyman tramping intensified the diffusion of best practice and micro-improvements (Epstein 1998). For obvious

¹⁰ Note that where urban powers were very extensive, feudal jurisdictions could act as protective barriers to urban encroachment, and vice versa.

reasons technical innovation through diffusion was achieved more quickly in manufacture and trade than in agriculture. Among the most important inventions and innovations were the three-masted carrack and the diffusion of carvel construction in ships (Unger 1980), the diffusion of the compass (Kreutz 1973), the 'cartographic revolution' that brought together the distinct traditions of portulan charts, 'imaginary' world maps, and 'empirical' local and regional maps (Harvey 1991), the rediscovery of the astrolabe (Taylor 1957), the series of innovations leading to the invention of the blast furnace in the late fifteenth century, the creation of movable type as a result of technical cross-fertilisation between metallurgy, goldsmithing and engraving, and the invention of spring-driven clocks and watches, the Saxony wheel for spinning (Mokyr 1990: 48-55), gunpowder, portable guns and movable cannon. However, agricultural innovation through diffusion is also testified, for example by the adoption in North Germany of agricultural technology from the Low Countries (Epstein 1998b; Hoffman 1996) and the previously mentioned diffusion of Islamic crops.

VI

I have suggested that the late medieval crisis is best understood as an exogenous demographic shock which triggered a process of 'creative destruction' that lifted the west European economy to a higher growth path. On the demand side, income redistribution from landlords to peasants and wage earners increased demand for low-value goods. Aggregate demand was also raised by increased state taxation to fund expansionary warfare (Ormrod 1995). On the supply side, the demographic shock accelerated processes of state centralisation inherent to the feudal-tributary mode of production. Centralisation lowered domestic transactions costs, intensified economic competition between towns and strengthened urban hierarchies, weakened urban monopolies over the countryside, and stimulated labour mobility and technological diffusion. However, the extent and depth of territorial integration was affected by the balance of power between the four main political forces in the field: central rulers, feudal lords, and urban and rural elites. Therein – in the political economy of markets – lies the key to differences in economic performance between early modern regions.

Although maritime trade and the overseas discoveries have often loomed large in explanations of the late medieval recovery, their effects appear all in all to be rather marginal. The European discoveries played virtually no role in bringing the demographic crisis to an end. Not only were there significant differences in the timing of the demographic recovery, ranging from Italy in the 1450s to England in the 1490s (evidence also of a lack of European integration around 1500), but the recovery mostly began several decades *before* the great maritime expansion. Moreover, the secular decline in interest rates before 1500 is evidence that capital was not scarce, as proponents of a fifteenth-century 'bullion famine' have suggested (Day 1978), and implies in addition that American bullion (which significantly affected metallic supplies only from the 1530s) was neither necessary nor sufficient to support Europe's economic recovery.

Similar comments apply to the effects of maritime trade within Europe. During the 'crisis' long-distance maritime trade seems to have contracted relatively to trade overland or by sea within individual regions, and only began to pick up again significantly *after* the demographic recovery had begun.¹¹ The decline has been explained as a consequence of increasing levels of risk because of endemic warfare (van der Wee & Peters 1970; Munro 1991), but it was probably just as much a result of widespread import substitution at the hands of rural cloth industries, which forced established urban industries to specialise to higher value-added products that had narrower overseas markets. The relative buoyancy of mid-range shipping between 1350 and 1450 was due to the development of larger transport ships and of insurance based on value rather than weight, which lowered transport costs for cheap agricultural goods (Unger 1980; Melis 1964). However, even these major technical developments cannot disguise the minuscule size of the maritime trade compared with trade overland in this period. To take the extreme case of fifteenth and sixteenth-century Sicily,

¹¹ This was the significance of the debate between Lopez, Miskimin and Cipolla (1964) on the late medieval 'crisis'. The former were concerned with long distance trade and were therefore more pessimistic; the latter observed rising shorter range trade and was therefore moderately optimistic.

which exported large quantities of grain, silk, sugar and many lesser agricultural products and had one of the most open economies of pre-modern Europe, foreign trade accounted for no more than 15 per cent of GNP (Epstein 1992).

Finally, one may question Braudel and Wallerstein's opinion that merchant capitalism associated with long-distance trade and urban entrepôts was an independent source of growth. The point can be illustrated with two late medieval examples, Tuscany and Holland. Before the Black Death, Tuscany had one of the most developed economies in Europe, which included a population density of 60 inhabitants/km², a rate of urbanisation of c.40 per cent, and an industrial, commercial and financial metropolis of more than 100'000 inhabitants. By comparison, Holland was an under-populated and under-urbanised backwater. By 1450, the economy of Tuscany was stagnating and Florence was slipping rapidly down the urban ranks, whereas Holland was being transformed into an advanced, highly urbanised and commercialised economy (Epstein 1993; Blockmans 1993).

As with Tuscany, the relative decline during the late Middle Ages of other advanced maritime economies like Catalonia and Flanders goes to show that easy access to maritime trade and well-established mercantile and industrial communities did not provide a permanent comparative advantage. Late medieval Holland successfully exploited the new opportunities provided by the 'crisis' thanks to its weak seigniorial and urban power structures, which gave it great commercial flexibility, and to its position at the cross-roads of the North European overland and maritime trade and fishing industry. In Tuscany, by contrast, the Florentine elites deployed unrivalled political authority to divert rent streams from their subjects; despite the fact that the conquest of Pisa in 1406 gave Florence direct access to the sea for the first time, the regional economy never regained its medieval primacy.

This comparison raises the broader question of the causes of economic divergence between pre-modern regions. The pessimistic answer is that the long-run stability in per caput cereal consumption everywhere in Europe outside England is proof that

economic stagnation was the norm, and that early modern England is the exception that proves the rule. The pessimists presume that pre-modern European economies outside England were fundamentally similar and imply that historical (political, social and institutional) differences had little effect on regional performance – leaving the English 'exception' an unexplained mystery (van Zanden 1997). The more optimistic line pursued here is that measures of economic growth based strictly on cereal consumption underestimate per caput and GNP growth, for two reasons. First, the pessimistic case makes insufficient allowance for increased consumer utility through greater diversity and improved quality of food and because of the long-run decline in price volatility caused by market integration. Significant improvements to both sources of welfare can be traced back to the rise of more integrated markets during the later Middle Ages. Secondly, the pessimists' case ignores that pre-modern growth occurred for the most part in the manufacturing and service sectors rather than in cereal production, even though it will probably never be possible to measure these changes very accurately.

The optimists therefore take evidence of some pre-modern growth to ask why there was not any more. They emphasise regional diversity and consider its causes a puzzle to be explained. While the preceding argument has dwelt mainly on the shared features of the late medieval crisis, it has also been shown how the political economy of the crisis could set regional market structures on divergent economic trajectories. The demographic shock set off social, economic and political struggles between sovereigns, feudal lords, cities and rural communities. The prevailing balance of class and group power, which varied across regions, determined the extent to which income was redistributed, domestic transactions costs were reduced, gains from specialisation could be claimed, low cost rural industries had room to develop, and the prices of food supplies could be stabilised. Although inter-regional trade and migration stimulated some regional economic convergence, domestic market structures played a more important role in defining economic performance in the long term.

Bibliography

- Abel, W. 1980. *Agricultural Fluctuations in Europe. From the Thirteenth to the Twentieth Centuries*, Eng.transl., London.
- Abrams, P. 1978. 'Towns and Economic Growth: Some Theories and Problems', in P.Abrams and E.A.Wrigley eds. *Towns in Societies. Essays in Economic History and Historical Sociology*, Cambridge, pp. 9-33.
- Allen, R. 1995. *Enclosure and the Yeoman*, Oxford.
- Bailey, M. 1998. 'Peasant Welfare in England, 1290-1348', *Economic History Review*, 2nd ser. 51, pp. 223-51.
- Billr, P.P.A. 1980. 'Birth-Control in the West in the Thirteenth and Early Fourteenth Centuries', *Past and Present*, 94, pp.3-26.
- Blanchard, I.S.W. 1986. 'The Continental European Cattle Trades, 1400-1600', *Economic History Review*, 2nd ser. 39, pp. 427-60.
- Blanchard. 1992. 'Introduction', in I. Blanchard, A. Goodman and J. Newman eds. *Industry and Finance in Early Modern History. Essays Presented to George Hammersley to the Occasion of His 74th Birthday*, Stuttgart, pp.13-25.
- Blockmans, W. 1993. 'The Economic Expansion of Holland and Zeeland in the Fourteenth-Sixteenth Centuries', in E.Aerts, B.Henau, P.Janssens and R. van Uytven eds. *Studia Historica Oeconomica. Liber Amicorum Herman Van der Wee*, Leuven, pp.41-58.
- Bois, G. 1984. *The Crisis of Feudalism: Economy and Society in Eastern Normandy*, Engl.trans., Cambridge.
- Boserup, E. 1965. *The Conditions of Agricultural Growth*, London.
- Braudel, F. 1982. *Civilization and Capitalism, 15th-18th Century*. New York.
- Brenner, R. 1985. 'The Agrarian Roots of European Capitalism', in T.H.Aston and C.H.E.Philpin eds. *The Brenner Debate. Agrarian Class Structure and Economic Development in Pre-Industrial Europe*, Cambridge, pp.213-327.
- Bridbury, A. 1973. 'The Black Death', *Economic History Review* 2nd ser. 26, pp.557-92.
- Britnell, R. 1993. *The Commercialisation of English Society 1000-1350*, Cambridge.
- Campbell, B.M.S. and M. Overton. 1993. 'A New Perspective on Medieval and Early Modern Agriculture: Six Centuries of Norfolk Farming c.1250-c.1850', *Past and Present* 141, pp.38-105.

- Chevalier, B. 1982. *Les bonnes villes de France du XIVe au XVIe siècle*, Paris.
- Chittolini, G. 1987. 'La città europea tra Medioevo e Rinascimento', in P.Rossi ed. *Modelli di città. Strutture e funzioni politiche*, Turin, pp. 371-92.
- Cipolla C.M., R.S. Lopez and H.A. Miskimin. 1964. 'Economic depression of the Renaissance?', *Economic History Review* 2nd ser., 16, pp.519-29.
- Cotts Watkins, S. and J. Menken. 1985. 'Famines in Historical Perspective'. *Population and Development Review* 11, pp.647-75.
- Day, J. 1978. 'The Great Bullion Famine of the Fifteenth Century', *Past and Present*, 79, pp.3-54.
- Derville, A. 1987. 'Dîmes, rendements du blé et "révolution agricole" dans le Nord de la France au moyen âge', *Annales ESC* 42, 6, pp.1411-32.
- Desai, M. 1991. 'The Agrarian Crisis in Medieval England: A Malthusian Tragedy or a Failure of Entitlements?', *Bulletin of Economic Research* 43, 3, pp.223-58.
- Dobb, M. 1946. *Studies in the Development of Capitalism*, London.
- Dyer, C. 1989. *Standards of Living in the Later Middle Ages. Social Change in England, c.1200-1520*, Cambridge.
- Epstein, S.R. 1992. *An Island for Itself. Economic Development and Social Transformation in Late Medieval Sicily*, Cambridge.
- . 1993. 'Town and Country in Late Medieval Italy: Economic and Institutional Aspects', *Economic History Review*, 2nd ser. 46, pp. 453-77.
- . 1994. 'Regional Fairs, Institutional Innovation and Economic Growth in Late Medieval Europe', *Economic History Review*, 2nd ser. 47, pp. 459-82.
- . 1998a. 'Nuevas aproximaciones a la historia urbana de Italia: el Renacimiento temprano', *Hispania* 58, 2, 417-38.
- . 1998b. 'Craft Guilds, Apprenticeship and Technological Change in Pre-Modern Europe', *The Journal of Economic History*, 53, 3.
- . 1998c. 'Italy', in T.Scott ed. *The Peasantries of Europe from the Fourteenth to the Eighteenth Century*. London.
- . 1998d. 'Market Structures', in W.Connell and A.Zorzi eds. *Florentine Tuscany: Structures and Practices of Power*. Cambridge.
- . 1999. 'Constitutions, Liberties, and Growth in Pre-Modern Europe', in P.Koslowski ed., *Cultural Factors and Economic Growth*, Munich-New York, 1999.

- Fogel, R. 1992. 'Second Thoughts on the European Escape from Hunger: Famines, Chronic Malnutrition, and Mortality', in S.R.Osmani ed. *Nutrition and Poverty*, Oxford, pp.243-86.
- Fontaine, L. 1996. *History of Pedlars in Europe*, Engl. transl., Oxford.
- Goldberg, P.J.P. 1992. *Women, Work, and Life Cycle in a Medieval Economy. Women in York and Yorkshire c.1300-1520*, Oxford.
- Grantham, G.W. 1993. 'Divisions of Labour: Agricultural Productivity and Occupational Specialization in Pre-Industrial France', *Economic History Review* 2nd ser. 46, 3, pp.478-502.
- Grantham, G.W. 1997. 'Espaces privilégiés. Productivité agraire et zones d'approvisionnement des villes dans l'Europe préindustrielle', *Annales HSS*, (3), pp. 695-725.
- Harvey, B. F. 1991. 'Introduction: The 'Crisis' of the Early Fourteenth Century', in B.M.S.Campbell, ed. *Before the Black Death. Studies in the 'Crisis' of the Early Fourteenth Century*. Manchester, pp.1-24.
- Harvey, P.D.A. 1991. *Medieval Maps*. Toronto.
- Heers, J. 1976. 'La mode et les marchés des draps de laine: Gênes et la montagne à la fin du Moyen Age', in M.Spallanzani ed. *Produzione commercio e consumo dei panni di lana (nei secoli XII-XVIII)*, Florence, pp.199-220.
- Herlihy, D. 1982. 'Demography', in J.R.Strayer ed. *Dictionary of the Middle Ages*, New York, iv, pp.136-48.
- Hoffman, P. 1996. *Growth in a Traditional Society: The French Countryside, 1450-1815*, Princeton.
- Hohenberg, P.M. and L.H.Lees. 1985. *The Making of Urban Europe, 1000-1950*, Cambridge, MA. and London.
- Hymers, S. and S.Resnick. 1969. 'A Model of an Agrarian Economy with Nonagricultural Activities', *American Economic Review*, 59, pp.493-506.
- Keene, D. and V.Harding. 1987. *Historical Gazetteer of London before the Great Fire, I. Cheapside*. Cambridge.
- Kellenbenz, H. 1973. 'Industries rurales en Occident de la fin du Moyen Age au XVIIIe siècle', *Annales E.S.C.* 18: 832-82.
- . 1986. 'Wirtschaft und Gesellschaft Europas 1350-1650', in W. Fischer et al., eds. *Handbuch der Europäischen Wirtschafts- und Sozialgeschichte*, 3, Stuttgart (Klett-Cotta) 1986, pp. 1-386.

- Knotter, A. 1994. 'Problems of the Family Economy: Peasant Economy, Domestic Production and Labour Markets in Pre-Industrial Europe', *Economic and Social History in the Netherlands* 6.
- Kreutz, B.M. 1973. 'Mediterranean Contributions to the Medieval Mariner's Compass', *Technology and Culture* 14, pp. 367-83.
- Labrousse, E. 1933. *Esquisse du mouvement des prix et des revenus en France au XVIIIe siècle*, 2 vols., Paris.
- Langdon, J. 1986. *Horses, Oxen and Technological Innovation. The Use of Draught Animals in English Farming from 1066-1500*, Cambridge.
- Le Roy Ladurie, E. 1966. *Les paysans de Languedoc*, Paris.
- Leverotti, F. 1989. 'Dalla famiglia stretta alla famiglia larga. Linee di evoluzione e tendenze della famiglia rurale lucchese (secoli XIV-XV)', *Studi storici*, 30, pp. 171-202.
- Livi Bacci, M. 1990. *Population and Nutrition. An Essay on European Demographic History*, Engl. transl. of 2nd Italian ed., Cambridge.
- Melis, F. 1984. *I vini italiani nel Medioevo*, ed.A.Affortunati Parrini, Florence.
- . 1964. 'Werner Sombart e i problemi della navigazione nel Medio Evo', in G.Barbieri *et al. L'opera di Werner Sombart nel centenario della nascita*, Milan, pp.85-149.
- Miller, E. and J.Hatcher. 1995. *Medieval England. Towns, Commerce and Crafts 1086-1348*, London and New York.
- Mokyr, J. 1990. *The Lever of Riches. Technological Creativity and Economic Progress*, Oxford and New York.
- Munro, J.H. 1991. 'Industrial Transformations in the North-West European Textile Trades, c.1290-c.1340: Economic Progress or Economic Crisis?', in B.M.S.Campbell, ed. *Before the Black Death. Studies in the 'Crisis' of the Early Fourteenth Century*. Manchester, pp.110-48.
- Nielsen, R. 1997. 'Storage and English Government Intervention in Early Modern Grain Markets', *Journal of Economic History* 57, 1, pp.1-33.
- Olson, M. 1982. *The Rise and Decline of Nations. Economic Growth, Stagflation, and Social Rigidities*. New Haven and London.
- Ormrod, M. 'The West European Monarchies in the Later Middle Ages', in R.Bonney ed. *Economic Systems and State Finance*, Oxford 1995, pp.123-60.
- Overton, M. *Agricultural Revolution in England. The Transformation of the Agrarian*

Economy 1500-1850, Cambridge 1996.

- Persson, K.G. 1988. *Pre-Industrial Economic Growth. Social Organization and Technological Progress in Europe*, Oxford.
- . 1991. 'Labour Productivity in Medieval Agriculture: Tuscany and the "Low Countries"', in B.M.S. Campbell and M. Overton eds. *Land, Labour and Livestock. Historical Studies in European Agricultural Productivity*, Manchester, pp.124-43.
- . 1996. 'The Seven Lean Years, Elasticity Traps, and Intervention in Grain Markets in Pre-Industrial Europe', *Economic History Review* 49, pp.692-714
- Poehlmann, E. 1993. *Economic Growth in Late Medieval England: A Challenge to the Orthodoxy of Decline*. M.Sc. Dissertation, London School of Economics.
- Poos, L. 1991. *A Rural Society after the Black Death. Essex 1350-1525*, Cambridge.
- Postan, M.M. 1973. *Essays on Medieval Agriculture and General Problems of the Medieval Economy*, Cambridge.
- Postan, M.M. and J.Z. Titow (with statistical notes by J.Longden). 1958-9. 'Heriots and Prices on Winchester Manors', *Economic History Review*, 2nd ser. 11, pp.392-417.
- Ravallion, M. 1987. *Markets and Famines*, Oxford.
- Razi, Z. 1980. *Life, Marriage and Death in a Medieval Parish: Economy, Society and Demography in Halesowen, 1270-1400*, Cambridge.
- Reininghaus W. 1981. 'Die Migration der Handwerksgesellen in der Zeit der Entstehung ihrer Gilden (14./15. Jahrhundert)', *Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte* 68, pp. 1-21.
- Sen, A. 1981. *Poverty and Famines. An Essay on Entitlement and Deprivation*, Oxford.
- Smith, R.M. 1991. 'Demographic Developments in Rural England, 1300-48: A Survey', in B.M.S.Campbell, ed. *Before the Black Death. Studies in the 'Crisis' of the Early Fourteenth Century*. Manchester, pp.25-78.
- Stabel, P. 1997. *Dwarf among Giants. The Flemish Urban Network in the Late Middle Ages*, Leuven and Apeldoorn.
- Taylor, E.G.R. 1957. *The Haven-Finding Art. A History of Navigation from Odysseus to Captain Cook*. New York.
- Thoen, E.
- Unger, R.W. 1980. *The Ship in the Medieval Economy 600-1600*, London.

- . 1983. 'Integration of Baltic and Low Countries Grain Markets, 1400-1800', in J.M. von Winter ed. *The Interactions of Amsterdam and Antwerp with the Baltic Region, 1400-1800*, Leiden, pp.1-10.
- van der Wee H. and T.Peeters. 1970. 'Un modèle dynamique de croissance interséculaire du commerce mondial (XIe-XVIIe siècles)', *Annales: E.S.C.* 25, pp.100-26.
- van Zanden, J.L. 1997. 'Pre-Modern Economic Growth: The European Economy 1500-1800', Paper presented at the 4ème Journées Braudeliënnne, NIAS 23-24 May.
- Viazzo, P.P. 1989. *Upland Communities. Environment, Population and Social Structure in the Alps Since the Sixteenth Century*, Cambridge.
- de Vries, J. 1974. *The Dutch Rural Economy in the Golden Age 1500-1700*, New Haven and London.
- . 1984. *European Urbanization 1500-1800*, London.
- . 1994. 'The Industrial Revolution and the Industrious Revolution', *Journal of Economic History* 54, 2, pp.249-70.
- de Vries, J. and A.W. van der Woude. 1997. *The First Modern Economy. Success, Failure, and Perseverance of the Dutch Economy, 1500-1815*, Cambridge.
- Wallerstein, I. 1974. *The Modern World-System*, vol.1, New York.
- Walter, J. and R.Schofield. 1989. 'Famine, Disease and Crisis Mortality in Early Modern Society', in J.Walter and R.Schofield, eds., *Famine, Disease and the Social Order in Early Modern Society*, Cambridge, pp.1-74.
- Watson, A. 1983. *Agricultural Innovation in the Early Islamic World. The Diffusion of Crops and Farming Techniques, 700-110*. Cambridge.

LONDON SCHOOL OF ECONOMICS
ECONOMIC HISTORY DEPARTMENT WORKING PAPERS
1992

1. Competing Notions of "Competition" in Late-Nineteenth Century American Economics
Mary S. Morgan
2. New Light Through Old Windows: A New Perspective on the British Economy in the Second World War
Peter Howlett
3. Social Risk and Social Welfare in Britain, 1870-1939
Paul Johnson
4. Textile Factories, Tuberculosis and the Quality of Life in Industrializing Japan
Janet Hunter
5. European Emigration 1815-1930. Looking at the Emigration Decision Again
Dudley Baines
6. Scale Bias & State Building: an Historical Perspective on Government Intervention, Political Systems & Economic Performance in Tropical Africa
Gareth Austin
7. Class Law in Victorian England
Paul Johnson
8. The Instituto Nacional de Prevision Social and Social Insurance Reform in Argentina, 1944 to 1953
Peter Lloyd-Sherlock
9. Human Capital and Payment Systems in Britain, 1833-1914
Dudley Baines, Peter Howlett, Paul Johnson
10. Much Ado About Little
Robert Humphreys
11. Regional Fairs, Institutional Innovation and Economic Growth in Late Medieval Europe
S.R. Epstein

1993

12. The Performance of Public Enterprises in South Africa, Zambia and Zimbabwe during the last two decades
David Ferreira
13. Political Primacy in Economic Laws: A Comparison of British and American Anti-dumping Legislation, 1921
Peter M. Richards
14. Scientific Charity in Victorian London. Claims and Achievements of the Charity Organisation Society, 1869-1890
Robert Humphreys
15. Essex Men Vindicated: Output, Incomes and Investment in Agriculture, 1850-73
E.H. Hunt and S.J. Pam

1994

16. Learning by Doing among Victorian Farmworkers: A case study in the Biological and Cognitive Foundations of Skill Acquisition
David Mitch
17. "Blind Alley" Employment and the Role of Adolescent Labor Force Experience in Skill Development in Late 19th and Early 20th Century England
David Mitch
18. British Imperialism in Microcosm: The Annexation of the Cocos (Keeling) Islands
Margaret Ackrill
19. Short-termism on Trial: An Empirical Approach
Breht Feigh
20. Tenancy and Agricultural Techniques: Evidence from the 1882 Commission
David Coombs
21. Economic Distress and Unemployment in Australia since 1850
Paul Johnson
22. Freedom and Growth. The European Miracle?
S.R. Epstein

23. Bygone Charity - Myths and Realities
Robert Humphreys
24. Late Economic Development in a Regional Context
Domingos Giroletti, Max-Stephan Schulze, Carles Sudrià

1995

25. How Important was Tariff Protection for Spanish Farming prior to 1936?
James Simpson
26. British Business in Argentina
Colin M. Lewis
27. The Principal-Agent Question: the Chartered Trading Companies
S.P. Ville and S.R.H. Jones
28. Craft Guilds, Apprenticeship and Technological Change in Pre-Modern Europe
S.R. Epstein
29. The 'Quality of Life': Lessons for and from the British Industrial Revolution
N.F.R. Crafts

1996

30. Transplanting Economic Ideas: International Coercion and Native Policy
Ioanna Pepelasis Minoglou
31. Creditors, Debtors and the Law in Victorian and Edwardian England
Paul Johnson
32. Population Growth and the Dynamics of Canadian Development: A Multivariate Time Series Approach
Alan G. Green and Gordon R. Sparks
33. The Human Development Index: Some Historical Comparisons
N.F.R. Crafts
34. The Character of "Rational Economic Man"
Mary S. Morgan

1997

35. Were British "Business Cycles" Cyclical? Evidence from Historical Statistics, 1700-1913
Philip Epstein
36. Re-Estimating Austrian GDP, 1870-1913: Methods and Sources
Max-Stephan Schulze
37. The labour force participation and economic well-being of older men in London, 1929-31
Dudley Baines and Paul Johnson
38. 'Pawns will live when slaves is apt to dye': Credit, Slaving and Pawnship at Old Calabar in the era of the Slave Trade
Paul E. Lovejoy and David Richardson

1998

39. The Abolition of Resale Price Maintenance in Britain in 1964: a turning point for British Manufacturers?
Helen Mercer
40. American Business Cycles since World War II: Historical Behaviour and Statistical Representation
Philip Epstein
41. Finance Capital in the Weimar Republic: Does evidence on supervisory board representation support Hilferding's view of the role of large banks in German capitalism?
Jeroen F. De Boer
42. Productivity Growth during the First Industrial Revolution: Inferences from the Pattern of British External Trade
C. Knick Harley and N.F.R. Crafts
43. Clogs to Clogs in Three Generations? Explaining Entrepreneurial Performance in Britain since 1850
Tom Nicholas
44. Industrial Growth in the Third World, c.1870-c.1990: Depressions, Intra-Regional Trade, and Ethnic Networks
Edited by Gareth Austin

45. In search of the 'traditional' working class: social mobility and occupational continuity in inter-war London
Dudley Baines and Paul Johnson
46. The late medieval crisis as an 'integration crisis'
S.R. Epstein

1999

47. The Impact of American Aid in the Spanish Economy in the 1950s
Oscar Calvo-Gonzalez
48. Quantitative Economic History
N.F.R. Crafts
49. Nutrition and Economic Destitution in Northern Ghana, 1930-1957. A Historical Perspective on Nutritional Economics.
Jérôme Destombes

