

Chapter 2. Medieval England: The Plantagenet Cycle (1150–1485)

2.1 Overview of the cycle

We bracket the secular cycle of medieval England by two periods of intense and prolonged internal conflict: the Anarchy during the reign of Stephen (1138–53) and the Wars of the Roses (1455–85). Because this period, roughly 1150–1485, was spanned by the Plantagenet dynasty (including its Lancastrian and Yorkist branches), we will refer to it as the Plantagenet cycle. The end of the cycle, which we assign to 1485, is probably noncontroversial, since most authorities agree that population regime in England changed from stagnation to growth at the end of the fifteenth century. As to the starting point of the cycle, sustained population growth in England apparently did not get going until the end of the twelfth century. This is a more controversial point, and the empirical evidence supporting it will be discussed later in this section.

In our discussion of the Plantagenet cycle we will use the following scheme. First, we present the data on the dynamics of the major variables that lie at the heart of the demographic-structural explanation of secular cycles. We start with demographic and economic variables, then move on to social structure and elite dynamics, and finally to political aspects. Once the general outlines of the cycle have been established, we shift the focus to examining how these variables interacted with each other during each of the phases of the cycle (expansion, stagflation, crisis, and depression).

Trends in population and economy

The major features of population movements during this period are not in doubt (Hatcher 1977, Hallam 1988b, Hatcher and Bailey 2001, Dyer 2002). There was a period of general population growth up to the late thirteenth century, a peak in the vicinity of 1300, a slow decline during the early fourteenth century accelerating to a population collapse associated with the Black Death of 1348 and its aftershocks, and a depression phase during most of the fifteenth century (Figure 2.1). First signs of population recovery made themselves known around 1480, and there was a sustained increase during the sixteenth century (which belongs to the next cycle). However, although the outlines of the demographic cycle are clear, we know much less about the quantitative details (e.g., the precise magnitude of the peak in 1300) and, more importantly, when the period of sustained growth began.

Figure 2.1. Population numbers and the “misery index” in England: 1150–1500. Population data from (Hatcher 1977, Hatcher and Bailey 2001), modified to show slower growth during the twelfth century following (Hallam 1988b:537). The misery index is the inverse real wage, here measured as the number of days of work need to purchase the standard basket of consumables (data from AHEW II:778 and AHEW III:491).

The starting point of reconstructing the dynamics of English population is the Domesday Book census of 1086. The census lists about 275,000 persons (Hatcher 1977:68) who were either males of working age, or heads of households (Harvey 1988). This number needs to be converted into total population. Additionally, allowance must be made for four northern countries and two major cities omitted from the survey, and for the likelihood of unrecorded sub-tenants and landless men (Hatcher 1977:68). One important source of uncertainty is the multiplier that should be used to convert the heads of households into the total population. Russell (1948), using a multiplier of 3.5 per household, estimated the population of England in 1086 as 1.1 mln. By contrast, Postan (1966) argued for a figure of 2.5 mln. Currently, the multiplier estimate of 4.5–5 appears more plausible (Harvey 1988:48), and the most often quoted number for population of England in 1086 lies in the range of 1.75–2.25 mln (Hatcher 1977:68).

The second anchoring point is the 1377 Poll Tax, which indicates that there were between 2.5 and 3 mln people in England at that time (Hatcher 1977:68). Between 1348 and 1377 the population probably dropped by 40–50%. Additionally, there was some decrease from 1300 to 1348. On the basis of these considerations, Hatcher estimated the peak population in 1300 as 4.5–6 mln, “with the balance of possibilities pointing to the higher reaches of this range” (Hatcher 1977:68).

A similar number was estimated by Hallam (1988b) working forward from 1086. Using the information about the number of holdings recorded on various manors between 1086 and 1350, assuming that the household size was 4.7 people and the 1086 population 2 mln, Hallam (1988b:537) generated the following estimates:

Table 1. Population of England and Wales, estimated by Hallam (1988b:537).

Year	Population, mln	Implied per capita growth rate, % per y
1086	2.00	–
1149	3.42	0.85
1230	4.96	0.46
1262	6.20	0.70
1292	6.52	0.17
1317	6.30	–0.14

These figures indicate that population and settlement expanded in an uneven manner during the period of 1086–1300. Earlier (in 1956) Michael Postan suggested that population expansion was most rapid to 1130, while between 1130 and the closing quarter of the century population stagnated (Postan 1973:276). More recently, the same conclusion was reached by Langdon and Masschaele (2006:63).

In fact, even this conclusion may be too optimistic. Certain data, although admittedly fragmentary, suggest that population may have declined during the middle part of the twelfth century as a result of the civil war between the adherents of Stephen and Matilda. Thus, *Gesta Stephani* speaks of villages “standing lonely and almost empty” and of unharvested fields because the peasantry has perished or fled (Miller and Hatcher 1978:x). Furthermore, the amount of taxes collected during the early years of Henry II reign shrank by 25% compared to 1130. This decline was not simply due to the disruption of revenue collection resulting from the civil war. Officials reported that many previously productive lands were now “waste”. Furthermore, the fiscal machinery of the English state was fully recovered by 1165, yet it was only in the very end of Henry II (1154-1189) reign when his revenues matched those enjoyed by Henry I. Thus, it is very likely that general population declined during Stephen’s reign. Rapid population expansion resumed at the end of the twelfth century and continued during most of the thirteenth century. The sudden appearance of inflation during 1180–1220 (Harvey 1973) is an indirect evidence of the changed population regime.

Both Hatcher and Hallam estimate peak population to be in the vicinity of 6 million people, and that estimate is reflected in the curve in Figure 2.1. The case for lower peak numbers—4.25 mln—continues to be made by Campbell (2005).

The final signpost is the tax returns and muster certificates of the 1520s, which suggest that the population of England around 1522–25 was in the range of 2.25–2.75 mln (Hatcher 1977:69). There is a good reason to believe that by this time population has recovered from the

lowest point in the mid-fifteenth century. Hatcher suggests that at the population nadir England contained between 2 and 2.5 mln people. Thus, English population increased by a factor of three from 1086 to 1300 and by 1450 declined to the level scarcely above that of the Domesday England (Hatcher 1977: Figure 1).

Figure 2. The price of a quintal of wheat in grams of silver (data from AHEW II: Table 7.1 and AHEW III: Table 5.1).

The movement of prices mirrored faithfully population dynamics (Figure 2). Prices rose from the low level of 1.5 s. per quarter of wheat (11 g of silver per quintal =100 kg) in the mid-twelfth century to over 6 s. (44 g S/quintal) in the early fourteenth. Overall between 1180 and 1330 there was a four- to five-fold rise in prices (Farmer 1988:718). After 1350 the price of a quarter of wheat continued to fluctuate around the level of 6 s. When expressed in silver, however, the price of wheat declined more than twofold (to 20–25 g S/quintal).

Nominal wages did not exhibit a cycle, but grew fairly monotonically. Thus, building craftsman’s wage increased from 3 in the late thirteenth century to 6 d. per day in early sixteenth century (Phelps-Brown and Hopkins 1955). The real wages, by contrast, exhibited an oscillation, driven by the cycling movement of prices (Figure 3). The “rural wage” in Figure 3 is the farm laborer’s wages recently compiled by Clark (2007). The “urban wage” is the average of real wages of laborers and craftsmen in London and Oxford (Allen 2001). Both curves show similar dynamics. Real wages declined during the thirteenth century, reaching the absolute minimum during the second decade of the fourteenth century. After that they grew continuously, apart from short-term fluctuations, until the 1430s. During the rest of the fifteenth century they stayed at approximately constant high level. One interesting difference between city and country is in the overall magnitude of increase: just under two-fold in the urban wage, but over three-fold in the rural wage. (One possible explanation is that relative depopulation was more pronounced in the countryside, see below on urbanization dynamics.)

Figure 3. Real wages: rural (Clark 2007) and urban (Allen 2001).

Peasant consumption patterns were also affected by population movements. During the second half of the thirteenth century the peasant diet was dominated by bread, and they ate very little meat (Table 2). The proportion of bread in diet started to decline after 1300 and decreased to less than 20% after the Black Death. Meat consumption increased from 4% in 1250s and 1260s to 30% in the end of the fourteenth century.

Table 2. Foodstuffs (by value, in percentages) consumed by harvest workers at Sedgeford, Norfolk (Dyer 2000:82).

Year	Bread	Meat	Year	Bread	Meat
1256	41	4	1353	31	15
1264	48	4	1368	19	25
1274	49	7	1378	15	24
1286	47	14	1387	14	30
1294	48	8	1407	17	28
1310	43	8	1413	20	--
1326	39	11	1424	15	28
1341	34	9			

Social structure and elite dynamics

Turning now to the social composition of the population, and how it changed during the cycle, we first focus on the magnates (the upper elite stratum). In 1166 there were 133 baronies in England, defined as any tenure in chief with 5 or more knights' fees (Painter 1943:26). In 1200 this number increased to 160 (Painter 1943:170). By 1300 the baronage may have included well over 300 families. According to Matthew Paris, Henry III (d. 1272) could recall the names of 250 English baronies, and there were actually even more "barons" because of partition among heiresses, since the holder of a portion of a barony was still regarded as a baron (Pugh 1972:117). However, not all "barons" may be considered as magnates. The question of whom to include into the top stratum of the English society is further complicated by the shifting definitions, since the decades around 1300 were a period of transition from the tenurial to the parliamentary baronage (Painter 1943:173). The best guess is that there were 200–220 magnate families in England around 1300 (Painter 1943, Given-Wilson 1987). R. J. Wells (cited from Given-Wilson 1987:188) identified 217 families belonging to the greater baronage in 1300. This number is not very different from 196 heads of noble families summoned to a parliament in the period of 1295–1325 (McFarlane 1973: Appendix B). To summarize, the numbers of magnates increased between 1166 and 1300, but this increase probably did not match the general population increase (Table 3).

Table 3. Numbers and incomes of English magnates (Painter 1943, Given-Wilson 1987).

Year	Number of magnates	Average income
1086	170 barons	£200
1166	133 barons	£200
1200	160 barons	£200
1300	220 greater barons (196 peers)	£668
1436	73 peers	£881

The dynamics of the magnate stratum after 1300 can be followed using the data presented by K. B. McFarlane (Table 4). Until 1350 the nobility increased or stayed roughly constant (depending on whether we focus on the numbers at the start of the period or total numbers). The size of the stratum started to decline after 1350, plunged during the first half of the fifteenth century, and then leveled off by the end of the century. The number of peer families was still around 60 in 1540, well into the next secular cycle (see next chapter).

Table 4. Numbers of noble families in England during the fourteenth and fifteenth centuries (defined as those whose head received at any time after 1295 a writ of summons to a Parliament) (McFarlane 1973: Appendix B).

Period	Number of families at the start of the period	New families summoned during the period	Total families	Extinctions during the period	Extinction rate per 25 y, %
1300–25	136	60	196	51	26.0
1325–50	145	47	192	45	23.4
1350–75	147	29	176	50	28.4
1375–1400	126	17	143	41	28.7
1400–25	102	11	113	40	35.4
1425–50	73	25	98	25	25.5
1450–75	73	22	95	24	25.2

1475–1500	71	10	81	20	24.7
1500–	61				

The extinction rates calculated by McFarlane tell a similar story: a general increase up to 1400–1425 and decline after that. However, an even more important factor was a drastic drop in the number of new families summoned to parliaments. Thus, the reduction in the peerage around 1400 was accomplished both by enhanced extinction rates and lowered upward mobility, while the equilibrium of the post-1450 was a result of continuing low upward mobility and decreased extinction rate.

We should also comment on the fairly high average extinction rate, which fluctuated between 25 and 35% per quarter-century. The average rate of 28% implies that over 70% of families go extinct each century. Partly this result is due to the technical definition of extinction used by McFarlane, which inflates somewhat the real rate. But the conclusion is still inescapable: the English nobility of the later Middle Ages were characterized a poor replacement rate. For comparison, we can use the statistics compiled by R. J. Wells (cited from Given-Wilson 1987:188). According to Wells, of the 206 baronial families in 1216, 77 (37%) had gone extinct or suffered derogation by 1300. These numbers imply a 13% extinction rate per 25 years for the English magnate families during the thirteenth century; a rate that is half that for the succeeding two centuries. This difference is so strong that the qualitative conclusion should remain unchanged even when we take into account the different definitions of extinction used in these two studies.

To gain some understanding of numerical dynamics of broader elite strata, we turn to the remarkable data on inquisitions post mortem analyzed by J. C. Russell (1948) and reanalyzed by T. H. Hollingsworth (1969). The data deals with some 8,000 tenants in chief, that is, persons who held land directly of the king. The sample includes both magnates and some individuals holding minute amounts of land, but is dominated by middle-rank landowners, so it should give us a good idea of what was happening to the elites as a whole. The replacement rate (following recalculation of the Russell data by Hollingsworth) is plotted in Figure 4. It shows that the numbers of elites continued to expand right up to the Black Death (the replacement rate is above 1). During the next century the pattern is of almost uniform decline, with the worst period around 1400. Only after 1450 does the curve break above the replacement rate, while the “healthy” increase rates of the thirteenth century are matched only at the very end of the fifteenth.

Figure 4. Numerical dynamics of landed elites. Solid line: replacement rates calculated from inquisitions post mortem. Dashed line: relative numerical dynamics calculated from the replacement rates, assuming generation time of 32 y. “ZPG line”: zero-population growth when the replacement rate is precisely one.

The pattern of replacement rate curve shown in Figure 4 has interesting implications for the dynamics of lord/peasant ratio during the fourteenth century. As noted above, it is generally agreed that general population started declining soon after 1300. The numbers of the landed elites, on the other hand, continued to increase for another 50 years. We can estimate the magnitude of this increase by calculating relative population of elites, starting with “1” in 1240 and then using the replacement rate to project the population change one step forward. The calculated relative population increases by 40% between 1300 and 1350. Naturally, we cannot conclude that the elite numbers increased by the same amount, because elite dynamics are governed not only by the biological reproductive rate, but also by upward and downward social mobility. Nevertheless, it seems likely that during the first half of the fourteenth century elite

numbers continued to increase while commoner numbers declined. As a result of both these processes, the lord/peasant ratio must have grown substantially on the eve of the Black Death.

As a useful indicator of elite consumption patterns we can look to the dynamics of ecclesiastical building. Generally speaking, public building can be funded both by the state and the elites, but in medieval England the state played a minor role in church building. Funds to build churches were provided by a broad spectrum of elites—ecclesiastical, lay nobility, and the urban rich. When we look at the church building activity dynamics (Figure 5), we observe a steadily rising trend reaching the peak during the first half of the fourteenth century, and then collapsing to a minimum during the first half of the fifteenth century. If church building activity is a reasonable index of economic prosperity of the elites, this pattern suggests that elite replacement rates responded directly to elite economic prosperity.

Figure 5. The number of major building projects in progress in each decade from 1150 to 1500 (after Morris 1979: Figure 7).

State finances

The English state in the Middle Ages derived its revenues from a bewildering variety of sources, for which only fragmentary documentation has been preserved, making the reconstruction of state budgets a very difficult task. Nevertheless, various types of revenue can be grouped in three general classes: the crown lands (the farms), taxation, and feudal sources. The relative importance of these sources fluctuated during the period of interest. In 1086 the Crown held around 18% of the landed revenues of the kingdom, valued at approximately £11,000 per annum (Dyer 2002:82). The royal estates contributed 60% of the total state revenue. In 1165 the farms were still responsible for 61% of the total revenues, 23% were raised from taxation, and judicial and other payments contributed 16% (White 2000:160). However, from that point on the contribution of the crown lands exhibited a declining secular trend (although there were several short-term fluctuations around this trend). Around 1300 the farms yielded £13,000–14,000 (Dyer 2002:115), a major decline in real terms, compared to the times of William I. At this time, the contribution of crown lands to the total state revenues dropped to 20%. Another way of looking at this number is to note that the king's share of the overall landed income had fallen to 2% (Dyer 2002:115). During the reign of Edward III (1327–77) the farms contributed only 5% of the total income (Madge 1938:30).

Ramsay (1925) used Exchequer accounts (the pipe rolls) to trace the history royal revenues for the period of up to 1400. His calculations have been much criticized for a variety of technical reasons. However, we are interested not in specific numbers for any particular year, but in overall dynamics of royal finances, and for that purpose Ramsay's numbers can serve as a rough guide. When expressed in real terms (deflating them by the price of wheat), we observe that real revenues declined steadily during most of the thirteenth century at the time when population increased (Figure 6).

Figure 6. English real revenues (1150–1400), based on the Ramsay data (solid line). The units are millions of hectoliters. Revenue from taxation (1260-1500): decadal averages, indexed to 1450 = 100% (based on O'Brien's data from Richard Bonney's European State Finance Database, files \obrien\engm009.txt).

The thirteenth century's pattern of revenue decline was reversed in two spurts, the first one under Edward I (1272–1307), and the second one under Edward III (1327–1377). Since by the reign of Edward III, the farms have fallen to a very minor part of royal revenues, the main new source of revenues was taxes, both direct and indirect (Ormrod 1999). The rise (and fall) of

medieval English taxation is traced by the data compiled by Patrick O’Brien (Figure 6). These data indicate that after a peak achieved in the late fourteenth century, tax revenues went into a decline that was reversed only after 1485 with the start of a new cycle.

Sociopolitical instability

England during the Middle Ages was racked by periodic baronial rebellions, which seemed to recur at intervals of 50–60 years (Figure 7). However, during the thirteenth century internal warfare was not as protracted and intense as during the fourteenth and especially fifteenth centuries. This trend can be measured, for example, by the treatment of defeated high-status enemies. “Between the later eleventh and the early fourteenth century, defeated political opponents of high birth were rarely dispossessed and scarcely ever maimed or killed in cold blood” (Bartlett 2000:60). Internal wars during the fourteenth and, particularly, fifteenth century were much more sanguinary. This point is best illustrated by the fates of royal losers: the deposition was followed by murder in prison (or, at least, death under suspicious circumstances) for Edward II (1327), Richard II (1400), Henry VI (1471), and Edward V (1483). Finally, Richard III was killed on the battlefield (1485).

Figure 7. Sociopolitical instability in England, 1100-1500: incidence of rebellions and civil wars per 20 years (solid line) and the number of hoards per twenty years (dotted line).

Temporal distribution of coin hoards supports this interpretation (Figure 7). After the peak of the mid-twelfth century, hoards dropped off to the early thirteenth century minimum. The thirteenth and fourteenth centuries saw a gradual (and uneven) rise culminating in a peak c. 1370. Another great peak during the second half of the fifteenth century closely tracks instability associated with the Wars of the Roses. In fact, there is a general correspondence between the peaks in the instability index, constructed by counting years in civil war or rebellion per twenty years, and the temporal distribution of hoards (Figure 7). The only significant mismatch is between the major peaks of 1370 in hoards and 1400 in instability index. We should note, however, that this comparison relies on a very inadequate hoard data. We had to rely on the compilation by Thompson (1956) which is 50 years out of date. We know that many more English medieval hoards came to the attention of numismatists, or were discovered with the aid of the metal detector, but we were unable to find any compilations updating Thompson’s data.

This concludes our overview of general trends during the Plantagenet secular cycles. In the next sections we turn to a more detailed discussion of demographic-structural dynamics organized by cycle phases.

Table 5: Occurrence of rebellions, coups d’état, civil war and other instances of internal war in England: 1100–1500. Following (Sorokin 1937), supplemented by (Stearns 2001).

Period	Description
1138-53	Anarchy (civil war between Stephen and Matilda/Henry)
1173-4	Widespread rebellion against Henry II
1215-7	Civil war between John and the barons (Magna Carta), then Royalists against rebels
1263-7	Civil war between “reformer” and “conservative” barons. Simon de Montfort defeats and captures Henry. Defeat and death of de Montfort at Evesham
1315	Civil disorders (private wars in several southern counties) during supremacy of Lancaster (1314-22)
1321-2	Civil war. Baron uprising in the western counties. Edward II defeated

	Lancaster at Boroughbridge and beheaded him.
1326-7	Rebellion of Isabella and Mortimer. Abdication of Edward II followed by his murder in prison eight months later.
1330	The coup of Edward III against Mortimer (hanged, 1330)
1381	Peasants' Revolt
1387-8	Insurrection of the "Lords Appellant"
1391	Coup d'etat of Richard II
1397-9	Events leading to the deposition of Richard II (1399). Richard, furious at a parliamentary demand for financial accounting, had the mover (Haxey) condemned for treason (not executed). In the next Parliament three of the lords appellant were convicted and executed for treason. The conspiracy of Henry of Bolingbroke. Richard was forced to abdicate. He was thrown into the Tower and later died (was murdered?) in prison (1400).
1400-8	Glyn Dwr rebellion
1414	A Lollard plot against the king's life
1448-51	Domestic disorders. Henry VI, declared of age (1437), was unfit to rule; the council continued in power, and factions and favorites encouraged the rise of disorder. The nobles maintained increasing numbers of private armed retainers (livery and maintenance) with which they fought one another, terrorized their neighbors, paralyzed the courts, and dominated the government.
1450	Jack Cade's rebellion
1455-6	The Wars of Roses: 1st phase. Battle of St. Albans (1455): Somerset defeated and killed.
1460-5	The Wars of Roses: 2nd phase. Battle of Northampton (1460): the Yorkists defeated the royal army and took Henry VI prisoner. Richard's son Edward defeated the Lancastrians at Mortimer's Cross (1461), but was defeated at the second battle of St. Albans (1461). London admitted Edward to the town, and after his victory at Towton, acclaimed him king (1461). Civil war continued intermittently, and Henry VI was finally captured (1465) and put in the Tower.
1467-71	The Wars of Roses: 3rd phase. Edward's victory at Barnet (1471), where Warwick was killed. Henry VI died (in all probability, was murdered) in the Tower.
1483-5	The Wars of Roses: 4th phase. Richard III aborted a rebellion conceived by Morton, bishop of Ely, and led by the duke of Buckingham; the latter was beheaded. The landing at Milford Haven of Henry, earl of Richmond. Henry defeated Richard II on Bosworth Field (Leicestershire), where Richard fell.
1489	Rebellion in Northumberland
1495	Rebellion of Perkin Warbeck
1497	Insurrection in Cornwall on occasion of an imposition of a tax by parliament. It was suppressed by the defeat at Blackheath (June 22, 1497), and the leaders executed (Flammock).

2.2 The expansion phase (1160–1260)

We lack direct estimates, but lasting population growth must have started soon after the end of Stephen's anarchic reign and the establishment of stability under Henry II. An indirect evidence of this growth is the persistent inflation in the prices of wheat from 1160 (Figure 2).

Other signs of overpopulation include evidence of fragmentation of peasant holdings. In a classic paper on the Somerset manor of Taunton, J. Z. Titow (1961) showed that in 1248 the land/peasant ratio was 3.3 acres (1.33 ha), while in 1311 it was 2.5 acres (1 ha) at best.

Political instability during this period achieved the lowest level of the whole medieval period (Table 5, and Figure 7). Nevertheless, this period was not conflict-free. There were three major political crises: the rebellion of 1173–4, the civil wars at the end of John’s reign, and the troubles of 1258 leading into the “barons’ wars” of 1263–7 (Mortimer 1994:77). The troubles of 1173–4 started in Normandy and then spread to England, where several disgruntled earls were in revolt (centered in the Midlands). The kings of France and Scotland invaded, but were defeated by royal loyalists. The next serious conflict, forty years later, was politico-constitutional struggle between the feudal barons and John Lackland that eventually led to Magna Carta. Both civil wars of 1174–4 and 1215–7 were fairly mild conflicts (by medieval standards), mostly conducted by manoeuvring and sieges. The civil war of 1263-6 and conflicts after it will be discussed in Section 2.4.

2.3 Stagflation (1260–1315)

Rural Population

Population growth continued to 1300, but at a slowing rate, as overall population numbers in England and Wales approached the 6 million mark. In some regions growth apparently ceased altogether.

This period saw the development of classical signs of overpopulation, as postulated by the Malthusian/Ricardian framework. Prices reached the secular peak in the 1310s (Figure 2), real wages declined (Figure 3), land rents increased (Table 6a). Entry fines paid on taking up tenancy was another method that landlords could use to extract income from land. Evidence for fines prior to the mid-thirteenth century is scarce, but what there is suggests that they increased even more steeply than the rents (Table 6b).

Table 6. (a) Rents: 1000–1450

<i>Period</i>	<i>Rent, d./acre</i>	<i>Location</i>	<i>Reference</i>
1000	0.3-0.6	England	(Dyer 2002:39)
XI c	1	East Anglia	(Miller and Hatcher 1978:45)
XI c	1	Kent	(Miller and Hatcher 1978:45)
1251	2-4	Cambridgeshire	(Bolton 1980:187)
1251	4-6	Norfolk	(Miller and Hatcher 1978:45)
1299	12.5*	Bishopric of Worcester	(Dyer 1980:72-3)
1300	12	Cambridgeshire	(Bolton 1980:187)
early XIV c	8-28	Huntingdonshire	(Miller and Hatcher 1978:45)
early XIV c	33	Yorkshire	(Miller and Hatcher 1978:45)
early XIV c	30-36	Northumberland	(Miller and Hatcher 1978:45)
1370-90	10.75**	Norfolk	(Bolton 1980:214)
1437	10.5	Warwickshire	Fryde in Kaeuper 2000

*Average rents and dues per acre

**This is the open market rate; for customary land where services were commuted landlords demanded 24 d., but could not find takers.

(b) Entry fines

<i>Period</i>	<i>s./virgate</i>	<i>Location</i>	<i>Reference</i>
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1214	1-1.67	Wiltshire	(Miller and Hatcher 1978:46)
1250	13.3-20	Ramsey estates, Hunts	(Miller and Hatcher 1978:46)
1296-7	30 (range 2-113)	Earl of Cornwall estates, various counties	(Miller and Hatcher 1978:46)
1277-1348	8-47	Wiltshire	(Miller and Hatcher 1978:46)
1283-1348	39	Oxfordshire	(Miller and Hatcher 1978:46)
1283-1348	109	Taunton	(Miller and Hatcher 1978:46)
1300	60	general estimate	(Dyer 2002:141)
after 1300	>60	Ramsey estates, Hunts	(Miller and Hatcher 1978:46)
early XIV	20-30 (max=100)	Northamptonshire	(Dyer 1980:47)
early XIV c	800-1600*	Somerset	(Miller and Hatcher 1978:46)

*These are exceptionally high

An analysis of the Hundred Rolls of 1279–80 suggested that rent per acre depended on the size of the holding, whether the tenant was free or unfree, whether landlords were church or lay, and land fertility, among other factors (Kanzaka 2002). Some of the variation in fines was probably explained by differential land fertility, circumstances of the prospective tenant, nearness to markets, and access to non-agrarian employment (Miller and Hatcher 1978:46). It is also possible that some lords used entry fines as another way to increase returns on land where they had no flexibility in raising rents, for example. The great amount of variability exhibited by rents and fines precludes precise quantitative statements, but the overall trend is unmistakable—the ability of landowners to extract surplus from peasants increased dramatically during the stagflation phase.

Peasant holdings became increasingly fragmented during this period. Here are some numbers, brought together by Grigg (1980:68). On the Bishop of Worcester’s estate the proportion of peasants who held a yardland (30 acres or 12 ha) declined from 33% in 1250 to 25% in 1300. At Kempsey the number of smallholders tripled between 1182 and 1299. The average holding on a manor in Taunton was 1.3 ha in 1248, declining to 1 ha in 1311. By the end of the thirteenth century on a sample of estates owned by various ecclesiastical lords, 33% of the population had less than 1 ha. The minimum size of a farm needed to provide subsistence to a family has been estimated by various authorities to lie in the region of 4.5–6 ha (see below). By 1300 the majority of peasants in England had less than this amount of land, and could not survive without some alternative source of income (Grigg 1980:68). Distribution of land holdings (Table 7) in the late thirteenth century suggests that holdings of half-virgate were both the median and the mean.

Table 7. Distribution of peasant land holding c. 1280 (Kosminsky 1956).

Land	free	villein	all	Percent
Over virgate*	521	173	694	3.2
One virgate	904	3940	4844	22.6
Half virgate	1083	5724	6807	31.8
Quarter virgate	775	1378	2153	10.0
Small holders	2251	4687	6938	32.4

*One virgate = yardland = 30 acres = 12 ha.

Various estimates of peasant budgets around 1300 have been made by economic historians (Titow 1961, Hilton 1966, see also Hollingsworth 1969, Hallam 1988a, Dyer 1989). There is a general agreement among these authorities that a typical peasant in 1300 holding half

virgate of land was barely making ends meet, if that. Let us retrace here the main points of this calculation.

Table 8. Estimated Peasant Budget, assuming land holdings of half-virgate = 15 acres (6 ha)
 q = 1 quarter of wheat (8 bushels = 64 gallons = 2.9 hectoliters = 218 kg)

<i>Assumptions</i>	<i>Calculations</i>
Production	
Crop acreage, assuming 3-field system	10 acres
Sowing rate per acre	0.25 q
Total seed	0.25 q/acre × 10 acres = 2.5 q
Yield ratio	1:4
Crop harvested	10 q
Net (seed deducted)	10 – 2.5 = 7.5 q
Production in money (1 q = 6 s.)	7.5 q × 6 s./q = 45 s.
Extraction	
Tithe (10% of harvest)	0.1 × 10 q = 1 q = 6 s.
Rent (1 s. per acre)	1 s./acre × 15 acres = 15 s.
Other feudal exactions	1 s.
Taxes	1 s.
Death duties	
Heriot (best animal)	1 bull = 10 s.
Mortuary (another animal)	1 bull = 10 s.
Entry fee	40 s.
Total death duties	60 s.
same per year	60 s./20 y = 3 s.
Total extraction = (6+15+1+1+3) s.	26 s. = 4.3 q
Summary of peasant budget	
Total extraction	4.3 q
Remaining to the peasant	7.5 q – 4.3 q = 3.2 q
Minimum consumption	4 q
Deficit	3.2 q – 4 q = – 0.8 q
Deficit in money (1 q = 6 s.)	0.8 q × 6s. = 5 s.
Proportions	
Total production (assuming the deficit of 5 s. was somehow made up)	45 s. + 5 s. = 50 s. = 100%
Consumption (% of total production)	24 s. = 48%
Church tithes (% of total production)	6 s. = 12%
Landowner (% of total production)	19 s. = 38%
State (% of total production)	1 s. = 2%

The above calculation makes a number of simplifying assumptions. For example, peasants did not grow just wheat, as assumed above. However, the overall result is very similar when a more realistic mix of crops is substituted. For example, Dyer (1989:113) performed a more elaborate calculation, assuming that crops were split between wheat, barley, peas, and oats. Repeating his calculation with the assumption that only wheat was grown, we obtained a result that was less than 10% different from Dyer's. Another source of agricultural income that Table 8 does not take into account is a cash income from animals. Dyer calculated that a peasant holding a virgate would derive additional income of 33 s. from this source. Unfortunately, he did not duplicate these detailed calculations for a half-virgater, but it is unlikely these peasants with more typical

land holdings would derive much income from this source. They kept considerably fewer animals than full virgaters, and what they kept would yield very little cash surplus after the tithes and personal consumption have been taken into account. Perhaps it would be enough to cover the calculated deficit of 5 s., or perhaps the peasant had to rely on the garden or poultry, and the extra earnings by wife (spinning) or family (sons hiring as agricultural labourers) would become very important in meeting his obligations to the lord, church, and the state. “How he paid for clothing, cooking pots, or furnishings is not at all clear”, concludes Dyer. The final note here is that the calculations above assume normal conditions. During the times of even mild crop failure, the half-virgater would have to go in debt to survive.

These calculations can also give us at least an order of magnitude of the estimated proportion of resources extracted by the elites and the state from the producers. Assuming that peasants somehow could make up the deficit of 5 s. through exploiting non-arable resources, their estimated total production rate would be 50 s. per year. Of this amount, the church took 12% (this is an underestimate that does not include the tithe on animals and garden produce), the lord took 38% (again, an underestimate, because it does not include labour services; also, various feudal exactions are probably underestimated at 1 s. p.a.), and the state took a tiny 2%, leaving the peasant less than half of the product (and barely enough for basic subsistence).

While typical half-virgaters were balanced on the edge of survival, those few well-to-do peasants who had a virgate did much better. On the basis of his investigation of the manor of Bishop’s Cleeve in Gloucestershire in 1299, Dyer (Dyer 1989:117) concluded that “an average yardlander in a normal year was in a good position to make a cash surplus”. By contrast, a smallholder in order to make ends meet had to find employment for 130 days per year. Since the numbers of such smallholders were very large, it is likely that only a small minority of them would be able to secure full employment. The contrast between the economic position of different peasant strata can be further illustrated by the fact that around 1300 at Halesowen in Worcestershire the wealthier peasants had on average 5.1 children, compared to the cottagers’ 1.8 offspring (Dyer 2002:158).

One remarkable feature highlighted by the above calculation of the peasant budget is how little – 2% – of peasant-generated product went to the state. Our estimate of taxes equaling 1 s. p.a. follows Dyer (2002:258), who calculated that a peasant born in 1270 and acquiring a holding of 20 acres in 1293 would find himself paying direct taxes in every year in 1294–7 and then a further nine years between 1301 and 1322. His son, succeeding him in the mid-1320s, would pay in 1327, 1332, 1334, 1336 and contribute to three subsidies in 1337–40. In all, the two generations would pay 60 s. over the period of 46 years, or 1.3 s. per year. A half-virgater holding 15 (instead of 20) acres would probably pay a little less, say 1 s. per year.

The state, of course, had other sources of revenues than lay subsidies that affected peasants directly. However, Dyer (2002:257) estimated that in 1297 the crown’s taxes amounted to only 2% of the estimated Gross Domestic Product. In sum, England of 1300 was a very undertaxed country, and the process of surplus extraction was heavily lopsided in favor of the elites. In fact, crude estimates above suggest that by 1300 elite extraction started cutting into the bare subsistence minimum, and this tendency would only become worse during the most of the fourteenth century.

Urbanization

Keene (2001:196) speculated that in 1100 there were 20,000 Londoners, or 0.8% of the total population in the country. By 1300 population of London reached 80,000, constituting 1.3% of the total (Keene 2001:195). The poll taxes for 1377 indicate that 1.7% of the assessed

population of England was found in London (Keene 2001:194), suggesting that there were slightly under 50,000 Londoners. In summary, between 1100 and 1400 the urbanization index of England (defined as the proportion of the total population found in the capital) doubled.

The proportion of population living in large towns (over 10,000 people) also increased. In the eleventh century there was only one such town, London, while by the end of the thirteenth century there were between 14 and 16 towns with population 10,000 or more, which contained at least 5% of the population of England (Britnell 1995:10). Urbanization continued to increase during the fourteenth century.

In addition to the expansion of urban populations in established towns, new towns were founded during the twelfth and thirteenth centuries. For example, planned towns built in England and Wales reached a peak during the second half of the thirteenth century (Beresford 1967:366).

The increase in the proportion of population found in towns during the fourteenth century was clearly not a result of better demographic rates there, compared to rural locations. In fact, everything we know about medieval cities suggests that they were population sinks (“death traps”). Most English towns were decimated by the outbreaks of the plague (Dobson 2001:276), but then made up losses as a result of immigration from rural areas. Direct evidence of this process comes from the spectacular increase in the recruitment of new citizens recorded in York’s freemen’s register (Dobson 2001:276). Populations of some cities, like Coventry, actually expanded during the second half of the fourteenth century in spite of the ravages of the Black Death (Phythian-Adams 1979:33).

The Elites

While general population growth slowed sometime during the thirteenth century, and eventually reached the peak around 1300, the elite numbers continued to expand throughout the stagflation phase, and even beyond it (to 1350). In general, the elites did well economically during the thirteenth century. At the top, the number of magnate families expanded only slightly – from perhaps 160 to 200 families, but their average income grew from £200 to £670 p.a., which represents more than a two-fold increase in real terms (Table 9a).

Table 9. Changes in the social structure of the top strata, 1150–1450.

(a) *Magnates* (data from Table 3)

year	Numbers	Avg. income	Real income, hectaliters
1166	133	£200	7,700
1200	160	£200	3,100
1300	200	£670	6,600
1436	70	£880	8,600

(b) *Middle ranks*

year	Designation	Numbers	Min income	Real min income*	Reference
1100	“belted knights”	1,000	£5	190	(Dyer 2002:85)
1200	belted knights	1,000**	£10	160	(Painter 1943:172)
1300	knights and esquires	3,000***	£20	200	(Given-Wilson 1987:18)
1400	knights and esquires	2,400	£20	180	(Given-Wilson 1987:73)
1500	knights and esquires	1,300	£20	190	(Mingay 1976:4)

*in hectaliters of grain

**A guess assuming that the numbers of belted knights did not change much during the twelfth century

*** Of which 1,250 knights

(c) Lesser elites (very approximate)

Period	Designation	Numbers	Min inc.	Real min inc.*	Reference
c.1100	lesser landholders	7,000–8,000	£1	40	(Dyer 2002:85)
c.1200	knights	4,500–5,000	?		(Bartlett 2000:216)
c.1300	country gentry	18,000–20,000	£5	50	(Denholm-Young 1969:16)
c.1300	gentry & clergy**	20,000	£10	100	(Dyer 2002:152)
XIV cent.	gentry	9,000–10,000	£5	45	(Given-Wilson 1987:72)
XV cent.	gentry & clergy	10,000	£10	100	(Dyer 1989:32)
XV cent.	gentry	6,000–9,000	£5	50	(Pugh 1972:97)
1436	taxpayers with incomes <£40	6,200	£5	40	(Gray 1934:630)
c.1500	gentry	5,000	£5	55	(Mingay 1976:4)

* In hectoliters of grain

**Households enjoying £10–100 p.a., includes beneficed gentry

The middle ranks also participated in this expansion: whereas there were perhaps 1,000 belted knights (substantial land-owners holding land worth at least £10 p.a.) in 1200, by 1300 there were 3,000 knights and esquires with incomes over £20 p.a., a rough equivalent in real terms of £10 in 1200 (Table 9b).

The numbers of lesser landholders also grew, although a precise numerical estimate of this increase cannot be given: Given-Wilson estimated the numbers of lords with income over £5 at 9,000–10,000 in the fourteenth century, while Denholm-Young proposed a number twice that (Table 9c). Dyer suggests that there were 20,000 households who enjoyed incomes between £10 and 100 p.a. in 1300. This estimate, however, includes beneficed clergy, while excluding those lesser landowners whose incomes were between £5 and 10.

The truth probably lies between these extremes: in general, it seems likely that the numbers of landholders kept pace with that of the general populace (although with a lag, see below), in which case they should have tripled from around 5,000 in the twelfth century to 15,000 at their peak in the fourteenth century. Inquisitions Post Mortem support this interpretation. The elite replacement rate was well above one during the whole period 1250–1340. If the landed elites were a closed class, whose size would change only as a result of births and deaths, then their numbers would expand by a factor of 2.67 during the century after 1250 (Figure 4). In reality, of course, elite numbers were also affected by upward and downward social mobility. There is no evidence, however, for massive downward mobility after 1250 comparable to that of the earlier period that resulted in substantial numbers of the lesser nobility slipping down the social scale in the years around 1200 (Given-Wilson 1987:16). Regional studies suggest that those losing ground were in minority. For example, in a sample of 31 families from Oxfordshire five families lost land, nine gained it, and seventeen remained in much the same position (Dyer 2002:152).

The size of the non-productive class was greatly bloated by the huge numbers of the clergy. England of the thirteenth century was “swarming with clerics” (Jessopp 1892). There were an estimated 25,000 monks and nuns (Moorman 1946:258). As to the numbers of parish clergy, estimates range from 40,000 (Moorman 1946:53) to 2% of population (Coulton 1907), which would imply a staggering figure of over 100,000. There were 9,000–10,000 parishes in thirteenth century England (Moorman 1946:5) and around five ordained men per parish (Moorman 1946:55). For example, Hilton (1966:62) estimated that there were 2,000 ordained clerics in the diocese of Worcester, which had 445 parishes. These numbers, thus, imply an estimate of 50,000 secular clergy in England of 1300, or 75,000 counting monks and nuns. And this figure does not include the huge “clerical or semi-clerical underworld” (Hilton 1966:62).

The foundation of elite prosperity was provided by the plentiful labor supply, leading to increasing rents and declining wages. As a result, the elite incomes from land kept pace, or even grew faster than inflation. Dyer (2002) suggests that “the main benefit for lords came from additions to the numbers of customary tenants who owed heavy burdens of labor service and cash payments”.

The gap between the economic well-being of commoners and elites increased: while the incomes of peasants plummeted as a result of lack of land, increased rents, and decreased wages, the elite incomes increased both in absolute and relative terms. This trend can also be seen in the dynamics of military wages. The rate of pay for elite soldiers (knights) grew faster than inflation, while real wages of commoners (foot soldiers) declined (Table 10).

Table 10. Daily rates of pay for soldiers in England. Sources: (Harvey 1976:150) for 1060 and (Contamine 1984:94) for the rest.

Period	Knight	Foot soldier	Knight/foot ratio
1060	4d.		
1160	6d.		
1165	8d.	1d.	8:1
1195	1s.		
1215	2s.	2d.	12:1
1250	2s.		
1300*	2, 3, or 4s.	2d.	18:1

*Rates varied according to rank: between 2s. for a knight-bachelor and 4s. for a knight-banneret.

The overall pattern in incomes up to 1300, therefore, was one of increasing inequality: the standard of living of commoners declined, gentry incomes generally outpaced inflation, while the magnates did best of all. In Henry II’s reign few lords had an income exceeding £500 p.a. (Bartlett 2000:80). The highest income in Sidney Painter’s list of 54 barons around 1200 was the £800 enjoyed by Roger de Lacy, constable of Chester, at his death in 1210. The maximum/average income ratio among the barons was only 4:1. One hundred years later, the largest income in Painter’s list of 27 landholders was that of Edmund, the earl of Cornwall, who had an annual income of £3,800 at his death in 1301 (Painter 1943:174). Taking inflation into account, this represents an increase of 2.8 in real terms. A even greater landed income was that of Thomas, earl of Lancaster – £11,000 in 1311 (Dyer 1989:29). The maximum/average ratio was 16:1, compared to 4:1 one hundred years earlier. Six earls (including the earl of Cornwall) enjoyed an income over £3,000 per annum (Dyer 1989:29). The largest known fortune in cash in late medieval England was that of Richard, earl of Arundel, amounting to £72,250 at the time of his death in 1376 (Bean 1991:565).

Another way to address the well-being of elites is to examine their consumption of luxuries. Wine consumption reached the medieval peak in the early fourteenth century, when the English imported 20,000 tuns from Gascony (Dyer 1989) worth wholesale £60,000 (Miller and Hatcher 1978:81). Assuming there were 20,000 elite households at that time, this represents 2–3 liters of wine per household per day!

2.4 Crisis (1315–1400)

Population decline

The economic misery of commoner population steadily grew during the stagflation phase and reached the peak in the early fourteenth century. Peasants were squeezed from below by an insufficient land supply, resulting from too many people competing for limited land, and from above by an expanding (and increasingly rapacious) class of noble landowners eager to maintain the consumption levels to which they had become accustomed during the thirteenth century. There were important regional variations in how the social structure responded to population pressure. In East Anglia, for example, the freeholder stratum (the sokemen) progressively subdivided their land among heirs resulting in proliferation of smallholders with tiny plots of land (Poos 2004). In the South, by contrast, manorial lords exerted a better control over land distribution, so that a substantial minority of peasants held from one-quarter to a whole virgate (between 3 and 12 ha), leaving the surplus population with cottages and garden plots. In both cases, however, the majority of the population did not have enough land to feed themselves, and had to rely on additional sources of income, as was discussed in the previous section. Increasing misery has also affected the amount of grain that peasant were able to store. Thus, in Colchester between 1295 and 1301, the median store of wheat per taxpayer slipped below 1 quarter (Hallam 1988a:822). Peasants were increasingly leading a precarious hand-to-mouth existence, with most having no protection against any fluctuations in the amount of grain brought in as harvest. Thus, a string of very poor harvests in England beginning in 1315 resulted in mortality rates that were nothing short of catastrophic.

The classic study of Postan and Titow (Postan 1973: Chapter 9) on the heriots paid on five Winchester manors allows us a glimpse into how mortality rate fluctuated between 1245 and 1350 (heriots were paid when a tenant died and another replaced him). The average number of heriots more than doubled from 47 per year during the second half of the thirteenth century to 106 during the decade of 1310-19. But most revealing are the dynamics of one category, money heriots, paid by the poorer villages who had few or no beasts, and by implication few or no acres of land (Miller and Hatcher 1978:58). The number of money heriots fluctuated around 10 per year until 1290, and then experienced rapid growth to the peak of almost 60 in 1310-19 and another one in the decade just prior to the Black Death (Figure 8). It is clear that the first to suffer from the dearth were the poorer segments of the rural society. Further evidence for this conclusion comes from the observation that high wheat prices were correlated with numbers of money heriots, but not with animal heriots (the analysis by J. Longden in Postan 1973: 179-185).

Figure 8. Number of money heriots paid on Winchester manor, 1245–1348 (data from Postan 1973:Table 9.2).

The period of severe harvest failures and livestock epidemics between 1315 and 1322 was a dividing line in the history of the medieval English countryside (Miller and Hatcher 1978:60). A poor harvest of 1314 was succeeded by two disastrous harvests of 1315 and 1316. Harvests improved after 1317, but a series of deadly epidemics affected cattle herds between 1319 and 1321. The agrarian crisis of 1315–1321 resulted in a substantial decline of population.

Direct evidence of this fall is fragmentary, but we know that the tithingpenny data from Essex parishes indicates that between 1300 and 1340 the number of tithingmen declined by 30 percent (Poos 1985). Indirect evidence of the population decline was a significant increase in the number of unwanted holdings signaling the slackening of competition for land (Miller and Hatcher 1978:59). Wheat prices during the 1330s and 1340s declined to the levels not seen since 1270 (Figure 2), and the secular trend was definitely down, although with significant fluctuations. By the 1340s the amount of uncultivated land reached noticeable dimension in some counties such as Sussex or Cambridgeshire (Miller and Hatcher 1978:61).

The disasters of 1315–1321, however, soon paled into insignificance compared to what was yet to come. In 1348 the Black Death arrived in England, and the number of cash heriots on Winchester manors jumped to 675 in 1349 (compared to less than 60 even during the worst decades of the early fourteenth century). The evidence of a drastic population collapse country-wide is abundant and is reviewed in, for example, Hatcher (1977). There is a broad agreement among the authorities that the first shock of the epidemic carried away 30–40% of the population, and that the aftershocks of 1361–2, 1369, and 1375 depressed the population to the level that was less than half of its 1300 peak.

The effect of the Black Death on social structure

As we noted above, demographic rates varied widely among various social strata. Wealthier peasants had 2–3 times as many children as cottagers, and their death rates tended not to be affected by crop failures. Moving up the social scale, we also saw that while the general population in England probably declined between 1300 and 1348, replacement rates calculated for landowners (tenants-in-chief) suggest that their numbers continued to expand at a healthy clip throughout this period. What is known about mortality rates during the mid-century plague epidemics provides more evidence for the strong effect of socio-economic status on demographic rates (Table 11).

Table 11. Mortality rates (%) of various social strata in England during the years of plague outbreaks.

<i>Stratum</i>	<i>1349</i>	<i>1361</i>	<i>1369</i>	<i>1375</i>	<i>References</i>
Monks	45				(Hatcher 1977:22-25)
Beneficed clergy	40	14	13		(Hatcher 1977:22-25)
Tenants-in-chief	27	23	13	12	(Russell 1948:216-8)
Bishops	18				(Hatcher 1977:22-25)
Peers	8	19	6	5	(McFarlane 1973:170)

The highest mortality rates during the first and most severe outbreak of 1348–9 were observed among monks and beneficed clergy. Parish priests are of particular interest, because although they were better fed and housed, which would tend to lower death rates, conscientious performance of their duties would tend to rise them (Hatcher 1977:23). Thus, their death rates provide a reasonable estimate of the death rates among the general rural population. In fact abundant, although varying in quality, data from manorial records, reviewed by Hatcher (1977:22) suggests that the death rate of beneficed clergy is an underestimate of that of peasants.

If peasant death rates were over 40%, middle-rank elites suffered only 27% mortality, while the magnates escaped with even lighter losses of 8–18% (Table 11). The privileged groups had a better than average chance of escaping infection because they lived in stone houses (rats preferred wood houses) and they could flee the advancing plague (Hatcher 1977:23). However, the elites apparently paid the price during the next epidemic of 1361–2. Among the general population the death rates were much lower than during the first visitation of the plague in 1348–9. A numerical estimate is again provided by the death rates of the beneficed gentry (at least for the adult population, see Table 11). The most likely reason is the build-up of resistance to infection among the population (which was a direct consequence of removal of those who were most susceptible in 1348–9, leaving those who were more resistant). While the first epidemic struck mainly at people in the prime of life (Hatcher 1977:24), later epidemics had a disproportionate effect on the children. There was also a disproportionate effect on the higher ranks: the mortality rate of tenants-in-chief was hardly lower in 1361 than in 1349, while the death rates among the peers actually increased (Table 11).

To summarize the numerical dynamics of the productive and elite strata during the phase of crisis, the numbers of peasants started declining no later than in 1315 and took a plunge in 1348–9, while the numbers of elite expanded until 1348 and declined at a much milder rate between 1348 and 1380. A highly important consequence of these divergent dynamics, from the point of view of the demographic-structural theory, is that the elite/commoner ratio experienced a substantial increase during this period; the social pyramid became top-heavy. This development spelled problems for the elites. Of course, a two-fold decrease in the size of the productive stratum did not translate into a two-fold decrease in the society's productive capacity, because per capita productivity increased. Pre-1315 England had built up an enormous demand for land. Thus, many landlords were able to immediately rent out the land of tenants deceased in the epidemic of the Black Death. However, on the estates of the bishop of Worcester few new tenants could be found for the larger holdings in 1349–50, and the majority of them remained vacant. Surviving smallholders lacked the necessary animals or equipment or skills to embark on such large ventures (Fryde 1991:747). Subsequent epidemics (1361, 1369, and 1375) disrupted productive capacity even more. Thus, in 1362–4 grain prices rose more than in 1349–51, and there was a severe famine in 1370 (Fryde 1991:745-6).

An even worse threat for the elite incomes was an indirect consequence of the post-1348 depopulation. Since the thirteenth century the landlords had become accustomed to the high supply of labor driving high rents/entry fines and low wages. This economic clout was lost after 1348, and ultimately resulted in a substantial reduction of per capita incomes enjoyed by the elites. Particularly badly hurt were the middle ranks and lesser landowners who relied on personal servants and hired labor to farm substantial properties (Fryde 1991:755).

How did the elites deal with this threat? Apparently, they immediately recognized the enhanced bargaining power of peasants, and took steps to legislatively fix the rents and wages at rates prevailing before 1348. The Ordinance of Laborers was vigorously enforced, although ultimately economically ineffective. It foundered on the “freerider problem”: it was to the benefit of each individual employer that others would be limited to lower wages, so that he could attract sufficient labor by offering a slightly better wage. Since everybody felt the same way, the limits on wages quickly unraveled. Characteristically, the employers (the gentry) were not prosecuted for offering illegal wages, while many laborers were punished for accepting them. The labor legislation, in general, was the focus of much popular hatred, and its enforcement was one of the important causes of the peasant revolts of 1381 (Fryde 1991:760). Another element of the “seigneurial reaction” was implemented by landlords in their private courts. Manorial courts increased their revenues after the Black Death, a remarkable achievement as the numbers of tenants had fallen drastically (Dyer 2002:286).

The magnates did better than the middle-rank and lesser elites, at least to 1380. The large landowners employed numerous retainers whom they could, and did employ to intimidate peasants to continue to accept high rents and low wages that prevailed before 1348. In counties where their estates dominated they also had a much better chance of locating runaway serfs and returning them to their land, or punishing them as an example to others. In short, they were able to use extra-economic coercive means to stabilize their incomes, at least temporarily. In some (rare) cases, as on the Welsh marches, lords were even able to increase their incomes by intensifying peasant oppression. For example, the Arundels increased their income from the lordship of Chirk in North Wales from £300 to £500 between 1320 and 1380. Henry the Bolingbroke used the occasion of his succession after the death of his father John of Gaunt to force the people of Cydweli to pay £1,575 (Dyer 2002:292). Such unpredictable and arbitrary exactions contributed to the Welsh uprising led by Glyn Dŵr in 1400.

In general, the elites enjoyed a temporary success in postponing the effects of the depopulation brought about by the Black Death for about a generation. Wages rose gradually and reached their highest level only 20–30 years after the first epidemic (Dyer 2002:293). Incomes of lords declined, but not drastically. The aristocracy continued to enjoy a high level of expenditure that they had become accustomed during the century around 1300. Another factor contributing to the well-being of elites was the initial success of the English in the Hundred Years War (this will be discussed below). This is probably the explanation why the trade, industry, and towns continued to do well after 1348 (Dyer 2002:296).

In fact, the degree of urbanization of England increased in the late fourteenth century. In 1300 the population of London was estimated at 80,000 or 1.3% of the total English population. The poll taxes of 1377 indicated that the proportion of population living in London increased to 1.7%. In other words, although the population of London declined to about 50,000, the rural population declined even faster. Several towns actually increased in size: Colchester from 4,000 to 6,000 and Coventry from 5,000 to 9,000. Larger towns such as Bristol, Norwich, Southampton, and York experienced a phase of prosperity at the end of the fourteenth century (Dyer 2002:296). Because towns suffered very much during the plague epidemics, and generally had a negative rate

of population growth, we must conclude that rural population continued to flow to towns during the second half of the fourteenth century, even though the countryside long ceased to be overpopulated. The most likely explanation for this seemingly paradoxical fact is the simultaneous push-pull conjuncture, where push was the increased extra-economic oppression of the rural population by lords, and the pull was exerted by increased employment opportunities in towns aimed at satisfying the consumption of the same elite individuals.

Elites in Crisis

As it became clear that no more revenue could be squeezed out of the peasants, the elites increasingly sought other means of additional income. One avenue of advancement, open to impoverished but ambitious individuals, was to join the retinue of a great lord, or find employment with the Royal government. Increased competition for such elite positions was manifested in the spread of literacy among the aristocracy. As Denholm-Young (1969:2) notes, during the fourteenth century the *miles literatus* ceased to be a rarity. (In the fifteenth century, when intraelite competition slackened, there was a decline in the student population of, for example Oxford (Thomson 1983:351).) However, by far the most common employment was in the military.

The extent of aristocratic involvement in the war during the fourteenth century was remarkable, especially during the period 1338–61, when the English enjoyed a string of successes in France. For example, over 900 knights served at Crécy and Calais, while 870 (of whom no fewer than 680 were English) participated in the royal expedition to France in 1359–60, and this was only a part of mobilized forces, since England was fighting on several fronts at the same time (Ormrod 1990:149). To place these numbers in perspective, Denholm-Young (1969) estimated that there were around 1,250 knights in England at the beginning of the thirteenth century.

Knights were paid at the rate of 2–4 s. per day, depending on the rank. Thus, two or three months of campaigning would add up to a substantial sum (£6–18), given that about £20 p.a. was needed to support a knight during the fourteenth century. Many archers were probably recruited from the ranks of impoverished lesser gentry (Powicke 1962). Although their rate of pay (2 d. per day) was relatively low, they could improve their fortunes by a windfall of booty or a ransom. In addition to wages, the spoils of war included plunder, ransoms paid by captured French noblemen, and indemnities paid by occupied fortresses and towns (*rachâts*). The order of magnitude of these cash flows is indicated by the crown's portion: Edward III received more than £250,000 in ransoms for Kings John of France and David of Scotland, and a similar amount from *rachâts* (Postan 1973:74–5). Finally, the conquests brought with them landed income. For example, when Normandy, Maine, and Anjou were conquered during a later stage of the Hundred Years War, Henry V conferred lands worth about £30,000 on his followers (Bean 1991:566).

English medievalists have debated whether the Hundred Years War paid for itself, or resulted in a net loss (Postan 1973:63–80). Whatever the general answer, it is clear that for the elites it was a very lucrative enterprise, because the rewards went primarily to them, while most of the costs of the war (the bulk of taxation, purveyances, etc) were born by the commoners. Thus, according to the estimate by McFarlane, out of over eight million pounds in taxes levied for war purposes over the 120 years, half came from taxation on wool.

There is no question that the elites did very well out of the war, as long as it went well for the English. When Edward III returned to England in 1346, after the victorious battles of Crécy and Neville's Cross (where the Scots were defeated and King David II captured) the rolls of parliament record that "all thanked God for the victory he had granted to their liege lord ... and said that all the money they had given him had been well spent" (King 1979:157–8).

Eventually, however, the respite brought about by military successes in France was over. Anglo-French warfare broke out again in 1369, and during the 1370s the French were able to reconquer most of Aquitaine, leaving in the English hands only a narrow strip of coastline between Bordeaux and Bayonne (Ormrod 1990:33). Social tensions had been increasing since the aftermath of the Black Death, and the poll tax of 1381 precipitated a major crisis, the Great Revolt of 1381 (Fryde 1991). Although the peasant revolts were speedily suppressed, they laid an indelible imprint on the landowner psyche. Parliaments became terrified that further taxes might provoke more risings, and for a time they refused to grant any more direct taxes. Thus, the Great Revolt of 1381 proved to be a turning point in the war with France, undermining the ability of the English to profit from the internal turmoil in France during the early years of minority of Charles VI (Fryde 1996:5). It also accelerated the transition from direct domanical exploitation to the leasing of demesnes, which started in the late 1360s (Fryde 1991:762). During the first half of the fifteenth century land incomes of the nobility continued to decline in value. Reduction of 20% were normal in southern and midland England, whereas in the northeast revenues fell by a third (Dyer 2002:337).

Squeezed by diminishing returns on the land and deprived of opportunities of overseas profits from conquest, the elites put more pressure on the state finances, resulting in a greater proportion of the crown's income that was diverted in their direction. If the annuity bill of Edward III in the 1360s was £13,000, by 1399 Richard II's was closer to £25,000 (representing a three-fold increase in real terms). However, only a small proportion of the aristocracy could benefit from these funds, small relative to their numbers and appetites. A similar pressure from lesser gentry, coupled with the magnates' need for large retinues to defend their interests in parliaments, courts, and factional conflict, lead to the development of what became known as "bastard feudalism". Mertes (1988: Appendix C) presents evidence that the average retinue of magnates (peers and bishops) increased from 50 during the first half of the fourteenth century to over 150 during the second half of the fifteenth.

The rise of huge baronial retinues was one of the outward manifestations of intense intraelite competition, increasing factionalization of England's ruling class, and privatization of coercive power. It was one of the most important contributing factors to later civil wars, particularly during the Wars of the Roses period.

The Rise and Fall of State Finances

As we noted above, the demands made by the English state on the society during the thirteenth century were mild. Taxes stayed approximately constant or even declined in real terms before 1290, implying that the proportion of GDP going to the state took a plunge (since both GDP and population expanded greatly during the same period). Even during the local peak around 1300, after taxes were doubled, they were less than 2% of GDP. England was undertaxed and could clearly be made to yield more. What was needed, however, was a worthy cause that would unify the crown, the aristocracy, and the commoners. This common cause was the war with France (King 1979:155).

Revenues of the crown doubled during the early stages of the Hundred Years War (Figure 6). During the 1370s and 1380s, the revenues stayed roughly at the same level, but since population has been reduced by half, this represents another doubling of the tax burden. Additionally, the aim of the new poll taxes, first granted by the parliament in 1377, was to shift the burden of taxation towards the peasantry (King 1979:163).

Between 1369 and 1380 the English government incurred extraordinary expenditures amounting to more than £1.1 mln (Fryde 1991:43). After some political struggle (the “Good Parliament” of 1376 rejected the crown’s requests for direct taxation, while the parliament of 1377 granted a direct subsidy in the novel form of a poll tax) the decision was reached to bring into the tax system a large segment of lower classes of the population that were previously exempt (Dyer 2002:284). Unprecedented taxes were imposed on the population in 1377, 1379, and 1381. In the first, everybody over age 14 was expected to pay 4d., while the last demanded 12 d. from everybody over 15.

According to the calculations of W. M. Ormrod and Patrick O’Brien the maximum yield from taxes (in real terms) was achieved during the decade centered on 1340 (1336–45). The general trend for the next century was down. This secular trend, however, was overlaid by shorter-term fluctuations, whose peaks (in 1300, 1340, 1380, and 1420) closely correlated with periods of intensified warfare against Scotland and/or France. Overall, between 1340 and the lowest point of 1460 the revenue from taxes declined almost three-fold.

Rising Sociopolitical Instability

Popular immiseration, intraelite conflict, and the state’s financial difficulties were the primary factors underlying the unraveling of social order, which was experienced by the English society during the fourteenth century. However, the rise of sociopolitical instability between early thirteenth and late fourteenth centuries (Figure 7) was not a simple, unilineal dynamic. The rising secular trend was overlaid by a series of waves, which tended to occur every other generation. The most significant period of unrest during the thirteenth century was the crisis of 1258 leading into the “barons’ wars” of 1263–7 (Mortimer 1994:77).

The next wave of internal war occurred in the 1320s during the last half of Edward II’s reign. It began with the unsuccessful rebellion of the barons of the Welsh Marches, the battle of Boroughbridge, which the Royal forces won, followed by the execution of the rebel leaders (1322). These events were followed by a successful rebellion of Mortimer and Isabella (1326), deposition and murder of Edward II (1327), a rebellion led by Henry of Lancaster, which was put down by Mortimer (1329), execution of Edmund, earl of Kent, for plotting against the regime (1330), and, finally, the coup led by Edward III against the regime of Mortimer and Isabella followed by the execution of Mortimer (1330). As was noted above, the regicide of Edward II marked a significant elevation of the intensity of intraelite conflict.

The reign of Edward III was relatively free of internal strife (except at its very end), because the focus of elite energy was directed towards the war against France, which initially met with great success. However, by the end of this reign, the French reconquered most of lands lost to the English, leading to the chain of events eventually resulting in the Peasants’ Revolt of 1381. Thus, the reign of Edward III’s successor, Richard II (1377–98), was another period of enhanced sociopolitical instability, in which strife between elite factions was accompanied by peasant uprisings. Between 1381 and 1405 at least five more popular revolts (in addition to that of 1381) broke out, or were averted only at the last moment. Most of these were regional in extent, with only the Cheshire rising of 1403 merging into a major civil war (Fryde 1991:797). Serious elite infighting started with the uprising of the “Lords Appellant” in 1387–8, followed by the coup d’état in which Richard II regained control of the government (1391). The civil war reached its peak in 1397–9, when first Richard II had three lords appellant convicted of treason and executed. Next year Henry of Bolingbroke deposed Richard II and had himself crowned as Henry IV (Richard died, or was murdered, in prison in 1400). Finally, in 1400 there was a great uprising in Wales led by Glyn Dŵr which lasted for eight years.

The Late Medieval Crime Wave

The fourteenth and fifteenth centuries were also periods of heightened criminal activity—the so-called “Late Medieval Crime Wave” (Dean 2001). Based on her analyses of the coroner’s rolls, Barbara Hanawalt (1976, 1979) showed that the best explanations for changes in the pattern of crime in fourteenth-century England were economic changes and war. Economic crimes increased during the periods of scarcity. Thus, the number of burglaries increased enormously during the period of 1315–19 (Figure 9) as a result of the Great Famine. Annual statistics of economic crimes followed very closely fluctuations in the price of wheat (see Figure 12 in Hanawalt 1979).

Figure 9. Number of crimes (burglaries and homicides) committed in eight counties of England during 1300–48 (averages over the counties and five-year periods) (Hanawalt 1979: Tables 9 and 10).

Homicides tended to be primarily affected by political strife and war. This conclusion is supported by the more detailed analysis of criminal patterns focusing on each county (Hanawalt 1979:229-238). For example, Herefordshire was the scene of some of the major phases of the civil war which led to the deposition of Edward II, and the highest peak in crime in this county was achieved not during the famine of 1315–17, but during civil war. The periods of Scottish wars (1314–19, 1322–23, and 1332–37) all coincided with rises in crimes in Yorkshire. “War also contributed to the problems of the nobles’ households and gang activity in general and correlated with increased murder. The Commons were undoubtedly correct in their complaints about the increased horrors of gangs and pardoned felons who were king’s veterans” (Hanawalt 1979:238). As a result, homicide rates greatly increased from 1300 to 1348 (Figure 9). The increased murder rate probably persisted during the second half of the fourteenth century, as suggested by the data from rural Northamptonshire (Table 12). Note that the murder rate of 14–18 during 1360–79, compared to the average of 11 in 1300–29, implies that homicide incidence per capita nearly tripled during the fourteenth century, given the post-Black Death population decrease.

Table 12. The average number of homicides per year in rural Northamptonshire (Hanawalt 1976: 303).

Period	Homicides
1300-29	11
1330-39	13
1340-49	21
1350-59	10
1360-69	18
1370-79	14

Intraelite conflict took various forms, ranging from fullblown civil war to persistent infighting between noble factions down to small-scale feuding and individual-on-individual violence. In the fourteenth century’s Gloucestershire, more than half of resident knights and esquires committed at least one felony or trespass (Saul 1981:174).

2.5 Depression (1400–85)

As we stressed in the introductory chapter, all temporal break points are to greater or lesser degree arbitrary, and this applies with particular force to the year of 1400. There was no abrupt transition in that year, and in fact, outbreaks of civil war continued to arrive in a recurrent fashion.

General population and peasant economy

During the fifteenth century the population numbers in England stayed relatively constant in the range of 2–2.5 million. Some authorities depict the population trend as essentially flat (e.g., Dyer 2002: Figure 2), while others suggest that population continued to decline towards 1450, although at a much slower rate than during the second half of the fourteenth century (Hatcher and Bailey 2001: Figure 3). Inasmuch as the replacement rates for both commoners and landowners tended to be below one before 1450, the second view is probably closer to the truth.

However, it is likely that regional variation and population redistribution were more important than whatever national trend obtained. People moved from rural areas to towns and from one village to another. Between 1370 and 1520 at least 2,000 villages were deserted in England (Dyer 2000:350).

Low population densities translated into greatly improved living standards. Real wages continued to increase during the first half of the fifteenth century, although at a slowing rate (Figure 3). Peasants ate less bread and more meat, fish, and dairy products. For example, bread accounted for about half of the value of foodstuffs consumed by harvest workers in Norfolk in 1300. In the fifteenth century the proportion of bread in diet declined to 15% of the total. At the same time, the proportion of meat increased from 8 to 30–40% (Dyer 1989:82). Land/peasant ratios increased greatly. By 1500, one-eighth of rural householders in England held 50 acres or more, compared with the tiny proportion before the epidemics (Dyer 2002:358).

As we remarked in Chapter 1, the great puzzle of late-medieval English demographic history is why excellent real wages, consumption patterns, land/peasant ratios, and low rents did not translate into renewed population growth. All these conditions were in place by 1400, yet population growth resumed only a century later. One possible cause of the lower birth rate could have been late marriage (e.g., Dyer 2002:276). Yet this hypothesis is not really satisfactory, because it does not explain why population growth resumed in the sixteenth century. What changed c.1500 that caused population growth to resume? We will return to this question below when we discuss the role of sociopolitical instability.

Elite dynamics

At the same time that the commoners enjoyed increasingly better incomes and consumption levels, the incomes of the landholding elites continued to decline. Bean (1991:579) points to 1420–70 as the period of a marked fall in landed revenue for many estates (while 1470–1500 were years of recovery). There was significant variation between different regions: reductions in the land value of 20 percent were normal in southern and midland England. In Cornwall the lords lost less ground, while in northeast England revenues fell by a third (Dyer 2002:337).

The decline in aristocratic revenues was matched by decreasing consumption. Above we mentioned that c. 1300 the English consumed 20,000 tuns of French wine. By 1460s less than 5,000 tuns were imported, and the recovery of wine imports did not occur until after 1490 (Dyer 1989:104). “To sum up, the aristocracy as a whole expanded their consumption in the thirteenth century; they drank more wine, rebuilt their monasteries, cathedrals and castles, and surrounded their houses by moats. In the fourteenth and fifteenth centuries they experienced greater or lesser degrees of financial embarrassment. ... Even those skilful and fortunate families who did add to their estates still had to cope with the fact that newly acquired assets were deteriorating in value. Cash incomes declined, and real incomes declined still further because of the operation of price scissors. The problem was first felt in the twenty or thirty years before the Black Death. After that

catastrophe the aristocracy felt vulnerable but did not suffer drastic drops in income. The most serious decline came after 1400, and the worst was over by the 1470s or 1480s.” (Dyer 1989:108).

Falling income from land meant that many aristocratic families could not continue to preserve their status. As a result, the balance between upward and downward mobilities had to shift decisively in favor of the latter. This process affected all ranks (Table 9a-c). The numbers of magnates declined from around 200 barons in 1300 to 60 peers in 1500. There were 3,000 middle-rank aristocrats (knights and esquires) in 1300 and only 1,300 in 1500. Thus, the numbers of both the magnates and middle-rank elites apparently declined by two-thirds. It is harder to quantify the numerical decline of the lower-rank elites, but it was probably on the same order of magnitude.

Reduction in elite numbers was a result of several processes working together. First, some lineages were extinguished when they backed the wrong side in the civil war or coup d'état. The intensity of this process tended to fluctuate in a cyclic fashion. For example, of the sixteen new earls, marquises, or dukes created during the troubled reigns of Edward II and Richard II, at least fourteen were executed, exiled, or demoted within five years of their creation. Of the thirteen created by Edward III, on the other hand, not one suffered that fate (Given-Wilson 1987:54). Second, many noble lineages could not maintain status because of diminishing revenues. Thus, George Neville, duke of Bedford, was quietly dropped from the list of peers in 1478, while the Marquis of Berkeley disappeared in 1492. Some lost their status temporarily, like the lords Clinton, who dropped out from 1460 to 1514 (Stone 1965:53). Similar forces underlied downward mobility from the middle ranks into gentry, and from gentry to yeomanry. Finally, negative replacement rates between 1350 and 1450 (Figure 4) meant that many more lineages than before or after this period failed in the male line. Their fortunes were often merged with other lineages of the same rank, keeping the latter afloat in the face of the declining returns from the land.

The forces contracting elite numbers generated an enormous amount of social tension, because many members of the privileged class were not content to sink quietly into the ranks of yeomen. This was an important factor contributing to the civil wars of the fifteenth century.

Another factor undermining political stability was the growth of armed retainues associated with magnates, to which we have referred above. Henry Percy, earl of Northumberland, was spending a third to a half of his total income of £3,000 on fees and annuities to supporters (Dyer 1989). Retainers were paid between £2 and £10 per annum, which would be a very welcome supplement to an income of £10–20 p.a.

State Fiscal Collapse and Onset of the Civil War

The reign of Henry V was another period of internal stability (apart from minor incidents of Lollard persecution) and successful warfare against France, similar to the middle years of Edward III. The years of Henry VI's minority were also relatively peaceful. However, in 1429 the English failed to capture Orléans (the city was relieved by Jeanne d'Arc), and their position in France began to unravel. In 1442 the French conquered Gascony (except Bordeaux and Bayonne), and during 1448–51 the English were almost completely expelled from France: the French reconquest of Maine (1448), Normandy (1450), and Bordeaux and Bayonne (1451) left only Calais in English hands at the end of the Hundred Years' War. This string of defeats triggered a series of events that had a remarkable resemblance to what followed English reverses at the end of Edward III reign.

By 1433 the government was in increasingly dire fiscal straits (Pollard 2000:112): the accumulated debt was £168,000 and the income from all taxation voted and to be paid in the next two years was assigned. Annual deficit on regular and domestic income and expenditure alone was of over £21,000, while the defense of the possessions in France against the resurgent French required huge outlays. By 1449 the situation has become infinitely worse. The economic depression of the mid-fifteenth century (Hatcher 1996) meant that the landed revenue of the Crown has declined. Recession and a trade embargo with Flanders halved the income from customs and poundage. In addition, the reign of Henry VI saw a steady alienation of royal properties, many for terms of life or lives. Royal annuities cost the exchequer around £30,000, accounting for close to a third of all royal revenue (Given-Wilson 1987:155). Parliament grudgingly voted a half subsidy in 1445 and none in 1447. In 1448 crown jewels had to be sold. In 1449 the total crown debt rose to the staggering sum of £372,000 (Pollard 2000:126).

This was the second time that the state debt reached the unsustainable level (Table 13). But Edward III, a century before, was saved by his military successes in France. Not the least factor in Edward’s ability to weather financial crisis was the enormous ransom of John II, who was captured at Poitiers. In 1450 the military situation in France was reversed.

Table 13. The Crown debts: 1290–1450.

year	debt, £000	reference
1289	110	(Raban 2000)
1307	200	(Ormrod 1999)
1339	300	(Ormrod 1999)
1433	168	(Ormrod 1999)
1450	372	(Ormrod 1999)

Henry VI was intermittently insane and unfit to rule. The government lost the last vestiges of legitimacy due to the disastrous loss of all French possessions (with the sole exception of Calais), and now it was broke and could not even maintain internal order.

The general level of lawlessness and disorder increased during the 1440s and especially 1450s (Figure 10). Royal justice came to be perverted for partisan ends, “particularly in East Anglia, Kent, and Sussex, where extortion, fraud, theft, violence, and intimidation ... had not been witnessed on such a scale since the reign of Richard II” (Pollard 2000:125).

Figure 10. The average number of assault cases per 5-year interval at Kempsey, Worcestershire (Dyer 1980:371).

Private feuds, riots, and armed clashes reached such proportions that between 1448 and 1455 at least one sixth of the peerage were at some time or another imprisoned for disreputable conduct (Lander 1976:20). The feuds of nobility gradually became private wars, and those, in turn, merged into general civil warfare, later called “the Wars of the Roses” (Storey 1966).

Here is a list (probably incomplete) of counties affected by major elite quarrels c.1450, culled from Storey (1966). The West (Cornwall and Devon, spilling into Somerset and Wiltshire): the feud of the earl of Devon against Lord Bonville. At one point, the earl of Devon led a private army of 5,000–6,000 retainers and allies. The North (Cumberland, Westmorland, and Yorkshire): persistent guerilla warfare between the adherents of the Nevilles and the Percies. Bedfordshire: the feud of Lords Grey and Fanhope. Norfolk and Suffolk: the minions of the duke of Suffolk

against Sir John Falstaff and the Pastons. Oxfordshire and Warwickshire: the quarrel between the Stafford and Harcourt families. Gloucestershire: the Berkeleys against the countess of Shrewsbury. Southern Lincolnshire: the exploits of Sir William Tailbois. Derbyshire: the Longfords against the Blounts (Storey 1966).

The year of 1450 was the year of a major popular rebellion led by Jack Cade. In fact, the pressure in Kent had been rising for more than a decade: there were disturbances in that county in 1438, 1443, 1445, and 1448. The Cade rebellion spread widely across southern England. In Wiltshire a mob lynched Bishop Ayscough, there were risings in Salisbury, Isle of Wight, Gloucester, and Essex. Later in 1450 (August-September) there was another wave of risings in Sussex, Wiltshire, Essex, and Kent (Storey 1966). Jack Cade's Revolt was finally suppressed in 1451.

The collapse of royal finances in 1449 was followed by state breakdown. The parliament of 1449–50 impeached the earl of Suffolk (he was murdered as he tried to leave the country). The ensuing struggle for power between Richard of York and Edmund Beaufort, the Duke of Somerset escalated into open warfare in 1455. Next year, Somerset was defeated and killed in the Battle of St. Albans. Between 1459 and 1471 the civil war was fought between the factions led by Queen Margaret and by Richard of York. York was killed in 1461, but his son Edward IV was crowned the same year. Henry VI was captured and imprisoned in the Tower, where he died (in all probability, was murdered) in 1471.

The period from 1471 to 1483 was a peaceful lull, but when Edward IV died, he was succeeded by his son, Edward V, who was only 12 years old. Conflict erupted between two elite factions, one led by the king's maternal uncle Lord Rivers and the other by the paternal uncle Richard of Gloucester. Richard won, Rivers and some other anti-Richard leaders were executed without trial. Edward V was deposed and, in all probability, later murdered in the Tower (along with his brother). Finally, in 1485 Richard III himself fell at the battle of Bosworth Field, and Henry Tudor became king of England.

Bosworth marks the end of the Wars of the Roses, and indeed, the intensity of internal warfare rapidly declined after 1485. There was a rising in Northumberland in 1489, a rebellion led by the pretender Perkin Warbeck in 1495–7, and an insurrection in Cornwall in 1497. The last aftershock of the troubles of the fifteenth century was a rather minor uprising in Yorkshire called the Pilgrimage of Grace (1536–7), after which England was to enjoy a century of internal stability.

The intensity of inraelite conflict during the Wars of the Roses was extremely high. Three kings were deposed and killed, and numerous magnates were executed, often without trial. Many ending on the losing side of a battle were simply made to kneel in the mud and beheaded on the spot. However, its direct effect on the population of England must have been insignificant. It is unlikely that more than 50,000 (out of the total population of 2–2.5 million) ever took part in the battles of the civil war (Storey 1966). Military operations affected only a small proportion of the kingdom.

On the other hand, the direct losses of combatants in the battles of the Wars of the Roses were just the tip of an iceberg. It was not the struggle for the throne itself that damaged the fabric of the society, but the general increase of sociopolitical instability during the period of 1430–85. Instability manifested itself in increased interpersonal crime, banditry, feuding, and factional infighting. The political struggles of the great lords were themselves a manifestation of this underlying social trend, rather than its direct cause.

We argue that high sociopolitical instability during 1380–1485 (and within this period, particularly 1380–1410 and 1445–1485) damaged the productive capacity of the society (its carrying capacity). The specific mechanism was the establishment of the “landscape of fear”. The most clearcut case can be made for the peripheries, which were largely left to fend for themselves. In the North, persistent Scottish raids depopulated large swaths of the Borderlands. In fact, the North was essentially abandoned by the crown to the Nevilles and Percies (who fought each other incessantly, taking opposite sides in the York-Lancaster conflict). Southern seashore badly suffered from the raids of the French pirates, and many coastal areas were abandoned by the population moving inland. In the Wales the Glyn Dŵr rebellion and the following reconquest had caused widespread destruction (Pollard 2000:172). On a smaller scale, land was lost in East Anglia from inundation as a result of failure of flood control measures installed in the thirteenth century. All these abandoned lands, obviously, could not be put to productive uses.

The situation in the central parts of the kingdom was not as dire as on the periphery, but life of a cultivator was precarious there as well. As the list of inraelite conflicts, given above, indicates, the breakdown of law and order in the English countryside in the middle of the fifteenth century was the rule rather than the exception. Common people were very vulnerable to inraelite fighting. Many factions targeted tenants of their rivals, or any others who were caught in the middle of conflict, for intimidation, extortion, robbery, and simple murder. For example, Bishop Lacy of Exeter recorded in his register that, during the private war between the earl of Devon and Lord Bonville in 1451, some of his tenants at Clyst (east of Exeter) “dared not occupy the land” (Fryde 1991:193). Followers of Thomas Percy, Lord Egremont, even after his death at the battle of Northampton in 1460, continued to hold the castle of Wressle in Yorkshire against all comers, using it as a base for raiding and harrying the country nearby (Bohna 2000:94). It was impossible to cultivate land when you or your dependents could be robbed or murdered at any moment, your work horses stolen, and your house burned around your ears.

Some areas were probably more secure because local elites maintained peace; others less so. Strong places, such as walled towns, also created a zone of security around them. A “landscape of fear” came into being, which meant that a proportion of arable land could not be cultivated, lowering the overall carrying capacity, the number of people that the English soil could support.

We know that the fifteenth century was a time of high population mobility. A facile explanation would be that fifteenth-century Englishmen and women were particularly footlose. Generally, however, people need weighty reasons to abandon places into which they have invested time and labor. In the fourteenth century such reasons could include economic oppression by landed elites, and in the fifteenth century, breakdown of law and order.

We also know that a great number of English villages were abandoned during the fifteenth century. Some were probably “murdered” by landlords who wanted to turn them into sheep pasture. Others (and this applies particularly to the smaller one) could be abandoned because they were too insecure.

Some migrants moved from one rural area to another, while others moved to towns. We know that the majority of towns continued to do well during this period. Since pre-modern towns were population sink, the only way in which they could maintain their numbers was by a constant influx of immigrants. When the Tudor regime pacified the countryside, it removed an important reason for rural dwellers to move to the security of towns. As a result, during the early Tudor period most towns lost their population, and some of them simply withered on the vine.

2.6 Conclusion

The major predictions of the demographic-structural theory appear to be borne out by the data...

The great mass of data that we reviewed in this chapter suggests that the Malthusian-Ricardian theory of Postan and Le Roy Ladurie works quite well in explaining the demographic, economic, and social dynamics of England up until mid-fourteenth century. The most striking observation is the almost perfect inverse relationship between population pressure and the real wage (Figure 1). Incidentally, strong dynamical patterns, such as the one documented in Figure 1, support the idea that historical processes can be profitably studied using the theoretical and data-analytical methods of nonlinear dynamics.

The “medieval depression”—a failure of population growth to resume once the aftershocks of the Black Death died out, however, is a significant anomaly from the point of view of the Malthusian-Ricardian theory. We have argued in this chapter that what is needed to understand the medieval depression is the elite and state-centered perspective of the demographic-structural theory. The key factor preventing population growth during the period of 1380–1485 was high socio-political instability, manifesting as recurrent breakdown of law and order. In turn, law and order could not be established on a permanent basis until the numbers and appetites of the elites could be brought in line with the productive ability of the society. In other words, population growth could not resume until the problem of elite overproduction was somehow solved.

For a variety of reasons, discussed below, it took an unusually long time for this to happen. By 1485, however, economic hardship and internal warfare during the fourteenth and fifteenth centuries pruned the size of the English ruling class to roughly one-third of what it was in the early fourteenth century. Thus, the numbers of magnates declined from about 200 barons to some 60 lay peers, the middle ranks (knights and esquires) shrank from 3,000 to 1,300, and lesser gentry from perhaps 15,000 to 5,000 (Table 9).

Another aspect of the same process was the decline of the extreme economic inequality that developed in England by 1300. At the lower end of the social hierarchy, population decline greatly increased land/peasant ratios and improved consumption patterns of even the poor. At the higher end, the huge fortunes of the fourteenth century, such as that of the earls of Lancaster (£11,000 in 1311) or the dukes of Lancaster (£12,500 in 1394) were gone by the fifteenth century. Thus, the maximum income assessed in 1436 (Gray 1934) was £3,230, belonging to Richard of York, well below that of even the earls of Cornwall of the early fourteenth century (£6,000 in 1300). The other incomes over £3,000 were those of the earl of Warwick and the duke of Buckingham. By contrast, around 1300 there were six earls who enjoyed an income over £3,000 p.a. Later in the fifteenth century even these fortunes tended to disappear. The York inheritance was merged into the crown as a result of Richard of York’s son being crowned as Edward IV in 1461. The Warwick fortune was absorbed by the crown after 1471, when Richard Neville, the earl of Warwick was killed in battle fighting against Edward IV.

... but the theory does not capture all the complexities of the historical process

We need to stress two important qualifications to our generally positive assessment of the fit between the theory and data in the case of the Plantagenet cycle: the importance of exogenous factors, and the operation of other endogenous processes that are not, strictly speaking, part of the demographic structural theory.

One important exogenous factor was the influence of climate. The cold and wet years after 1315 apparently served as a trigger for the beginning of population decline. The global cooling following the medieval optimum probably depressed crop yields, and therefore decreased the carrying capacity the medieval-early modern agrarian system.

An even more obviously important exogenous shock was administered by the arrival of the Eurasia-wide plague pandemic in England in 1348. Although it is likely that population would continue to decline even in an absence of the Black Death, it would probably decline much more slowly and not as deeply as it actually did.

The geopolitical situation of England with respect to its neighbors, Scotland and France, is another exogenous factor of great importance. As we argued above, it was the dealings with France that served to lengthen the disintegrative phase of the Plantagenet cycle.

Turning now to endogenous factors, we note that standard demographic-structural models predict continuous socio-political instability and a gradual numerical decline of the ruling class. Yet in actuality instability waxed and wanes in waves, interspersed with relatively peaceful periods in between. This is a general occurrence during disintegrative phases of many secular cycles, and has been termed by one of us (Turchin 2003, 2006) as the “fathers-and-sons cycles.”

In the case of Plantagenet England, there were three such fathers-and-sons cycles, which interacted in a repeatable way with changes in England’s geopolitical environment. The essential dynamic of each cycle was (1) the centripetal phase, characterized by unified elites, increased taxation, and success in external wars followed by (2) the centrifugal phase, characterized by state fiscal problems, inraelite competition shading into civil war, and loss of external conquests.

The basic dynamic was set during the reigns of Edward I (1272–1307) and his son Edward II (1307–27). Edward I reversed a century-long decline in crown revenues (Figure 6) and conquered Scotland, profiting from its collapse into civil war. Edward II, in contrast, presided over an increasingly fractious nobility and declining revenues. He experienced a disastrous defeat at the hands of the Scots at Bannockburn (1314) and lost Scotland. Finally, he lost his crown and life as a result of the civil wars of the 1320s.

The next iteration of the same pattern were the reigns of Edward III (1327–77) and Richard II (1377–99). Edward III unified the elites, achieved the highest rate of taxation in medieval English history, and conquered half of France. His successor Richard II alienated a major segment of the nobility (and executed some of them). His reign saw declining revenues and the refusal of parliaments to vote more taxes, widespread popular uprisings. Like Edward II, he was overthrown and later died (was murdered?) in prison.

The last cycle was the combined Lancastrian and Yorkist period. During the reign of Henry V and the infancy of Henry VI England experienced a period of national unification, relative fiscal stability, and successful conquest in France. Beginning in the 1430s, however, it gradually slid into state bankruptcy, inraelite conflict, territorial loss in France, and finally all-out civil war. The last battle of the Wars of the Roses in 1485 was not only the end of the third mini-cycle of fathers and sons, but it was also the end of the grand secular cycle of Plantagenet England.

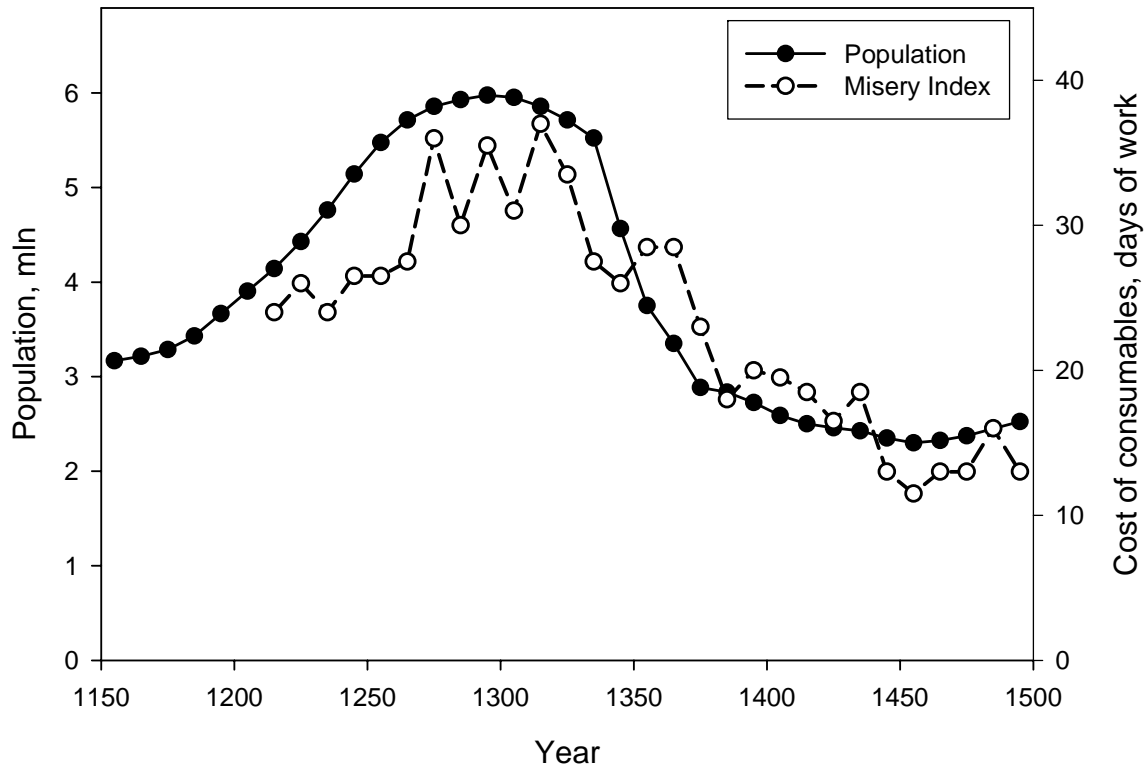


Figure 1. Population dynamics and the "misery index"

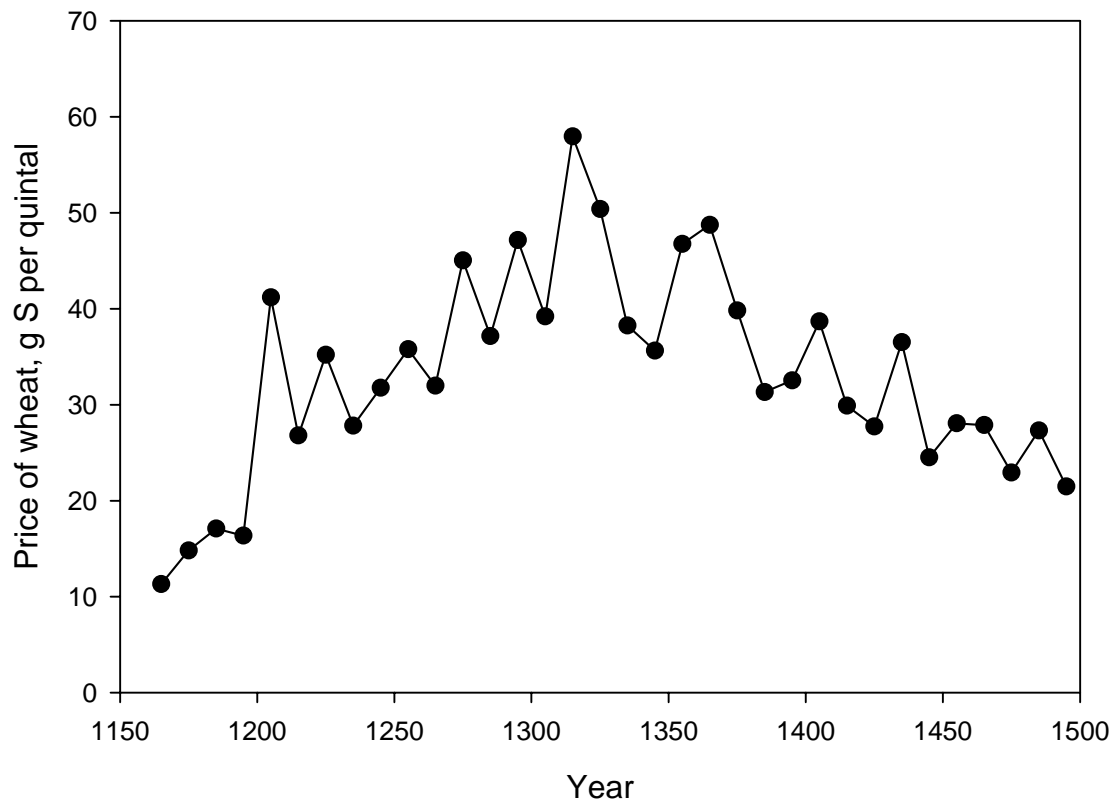


Figure 2. Price of wheat

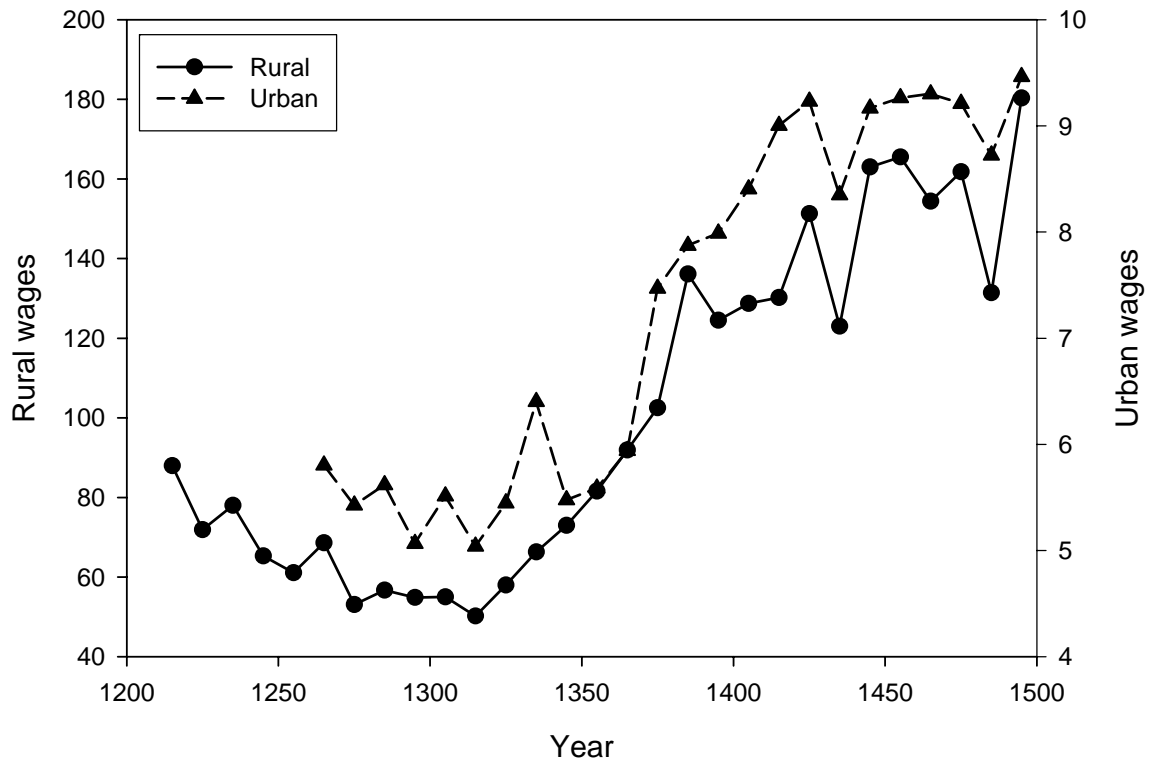


Figure 3. Real wages

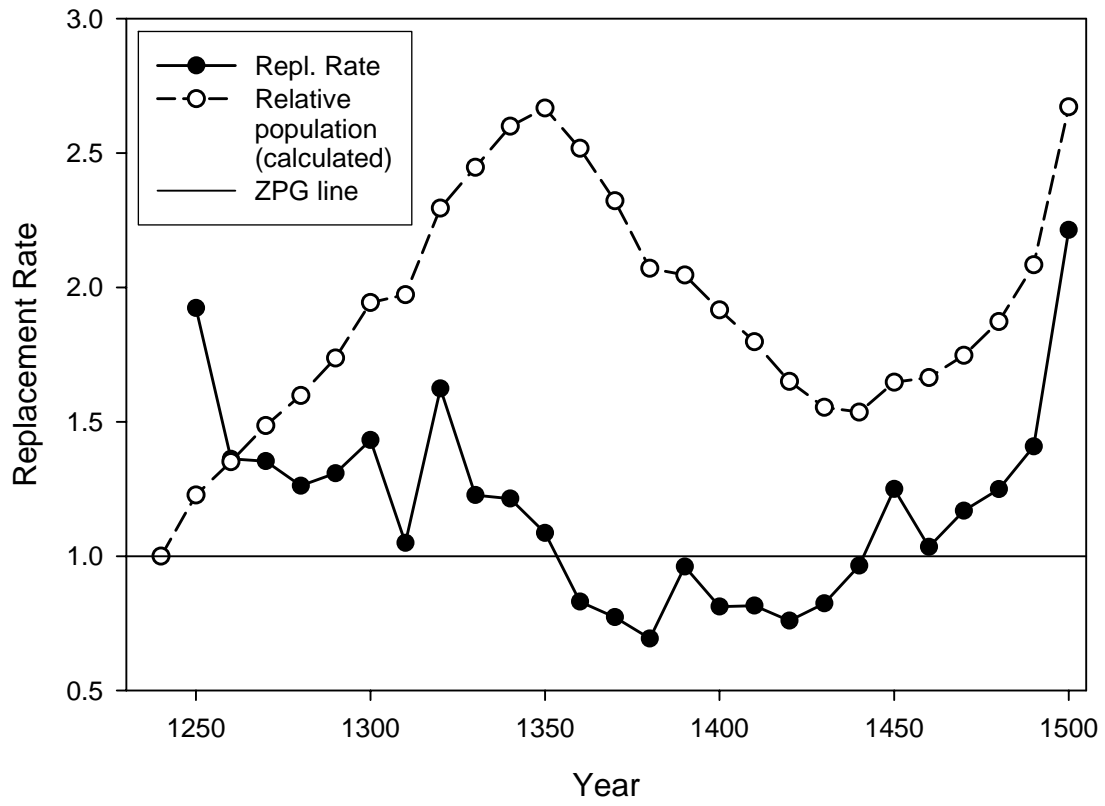


Figure 4. Replacement rates of landholders



Figure 5. Church building activity

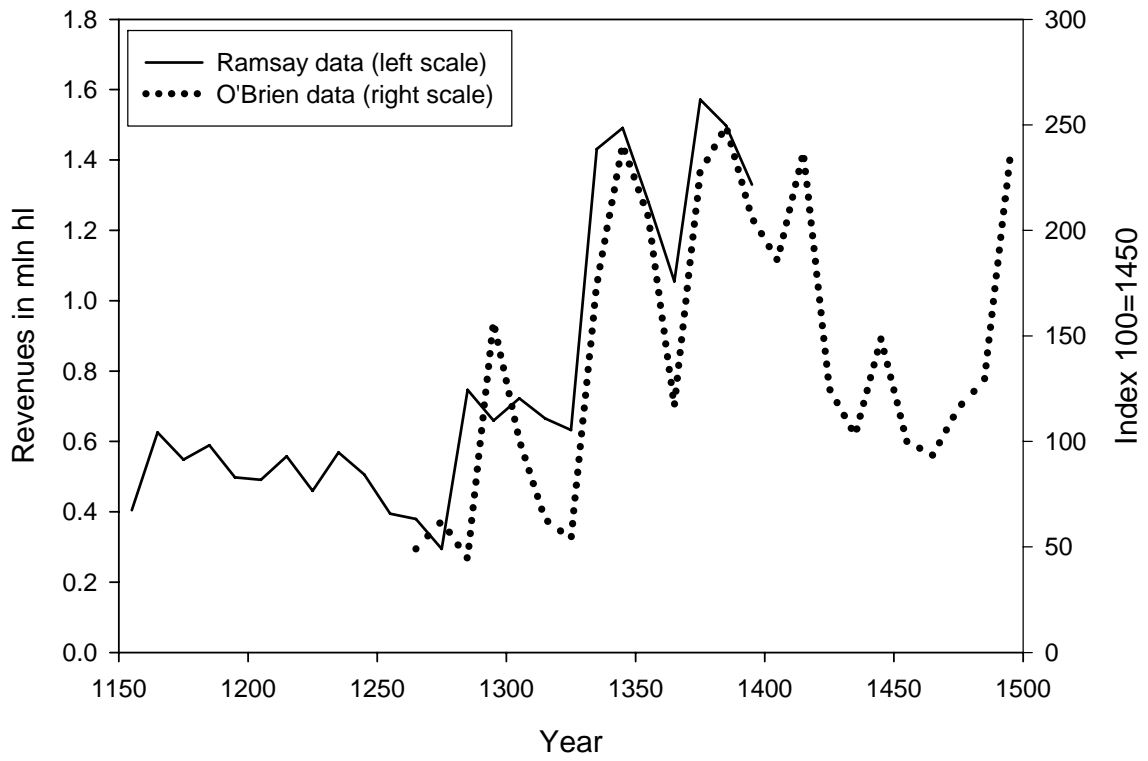


Figure 6. Revenues

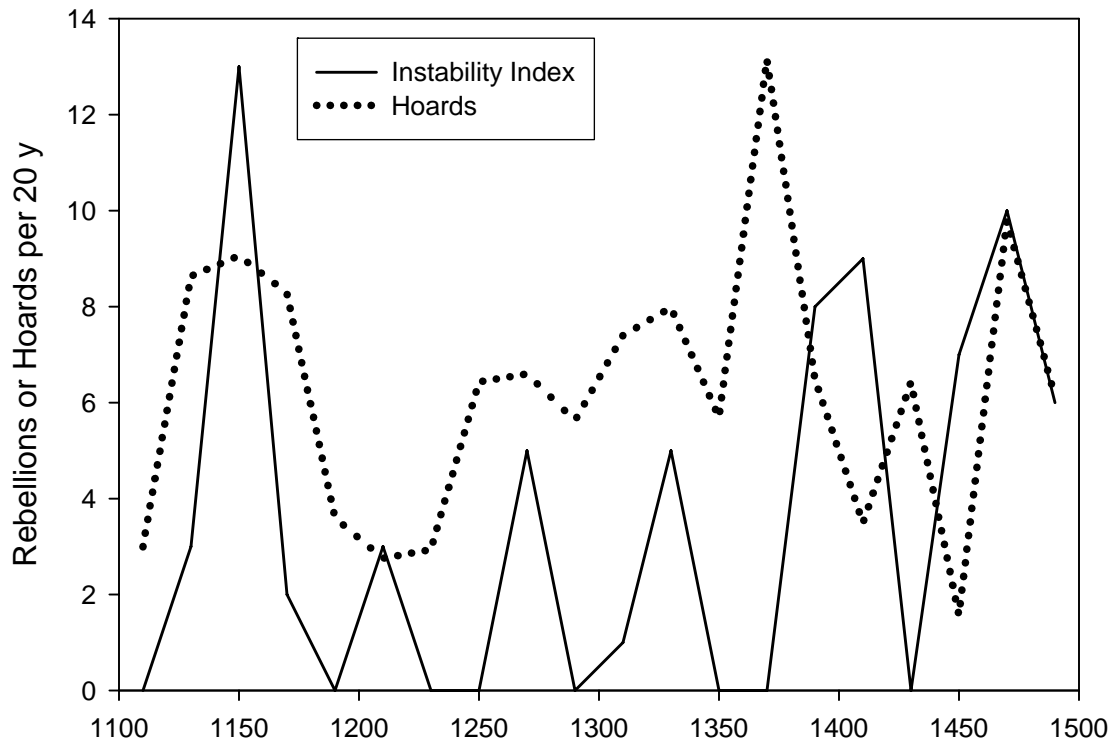


Figure 7. Sociopolitical instability



Figure 8. Heriots

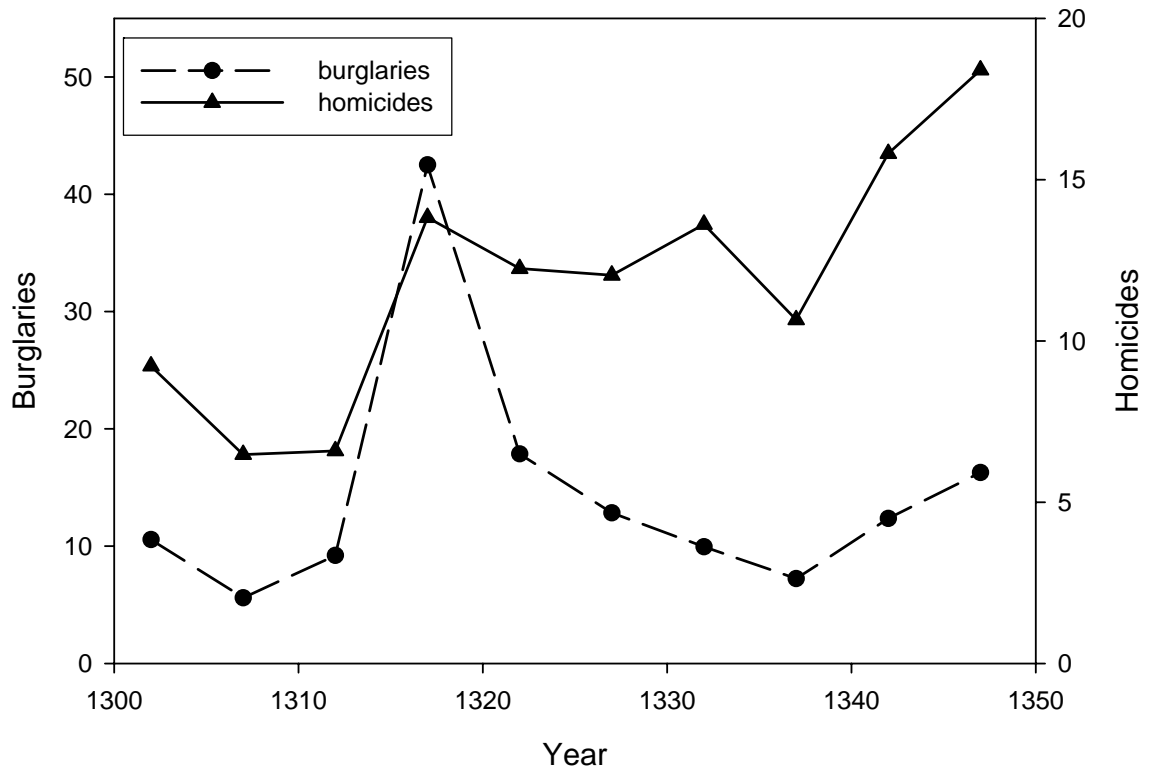


Figure 9. Crime statistics: 1300-1348

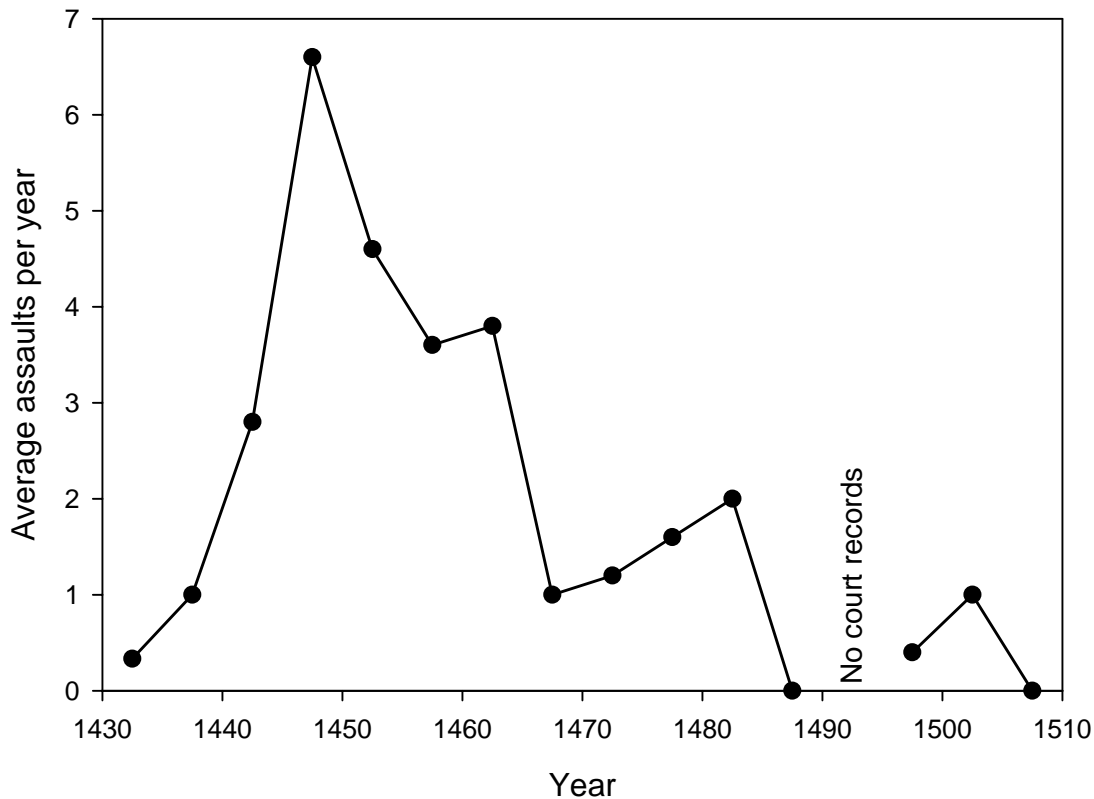


Figure 10. Assault cases at Kempsey, 1430-1510

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