3

Britain in 1600 and Early Changes, 1600-48

The Starting Point: Britain in 1600

The British Isles in 1600 consisted of one large kingdom, England, a smaller dependent state, Wales, united with England in 1536, a troubled semi-independent nation, Ireland, first invaded by Henry II in 1171, and a fully independent nation, Scotland, ruled by its own king, James VI, since 1567. Scotland would join nominally with England by the union of the two Crowns in 1603; it would not join in full political union until 1707.

England in 1600 was ruled by the aged Elizabeth I, a truly remarkable woman, who had ruled so much by the force of her personality that she had made life very difficult for any successor. The decades-long war with Spain and the Irish rebellion had exhausted the Treasury, and there were no solid structures for obtaining popular consent to the taxes needed to rectify the problem. The country had suffered a rapid population increase, by 70% from 2.4 million in 1500 to 4.1 million in 1600[1] with persistent inflation, so living standards had declined considerably. England was also in the early stages of looking

1. Mitchell (ed.), *British Historical Statistics*, Table I-1 gives an estimate for 1600, based on extrapolating parish register birth rates backwards from 1801, and one for 1541, the earliest date given (parish registration of births became a legal requirement in 1538). I have extrapolated Mitchell's 1541 figure back 41 years linearly using the 1541-61 change.

for overseas trading posts further away than Europe, but without the means to pay for much international expansion.

Most dangerous, the succession to Elizabeth seemed likely to be disputed, as she had resisted providing assurances that James VI of Scotland, her first cousin twice removed but her nearest relative, should succeed her. Certainly, Philip III of Spain had hopes that his elder half-sister, Isabella Clara Eugenia (1566-1633), ruler with her husband Archduke Albert (1559-1621) of the Spanish Netherlands, might succeed Elizabeth; she was a descendant of John of Gaunt, the patriarch of the Lancastrian line.

The other parts of the future Britain were considerably poorer than England. Wales was almost entirely agricultural; while it had produced the Tudor dynasty, it would produce no more significant national leaders until David Lloyd George.[2] However, Wales was never a major source of upheaval and was generally Royalist during the Civil War.

Scotland was an independent country, at war intermittently with England until the 1547 Battle of Pinkie. It had moved sharply to Calvinist Presbyterianism, led by John Knox (1514-72) during the long minority and absence in France of Queen Mary (1542-87). On Mary's deposition in favour of the infant James VI in 1567, the Protestant party had taken full control of Scotland's administration, but in adulthood James' relationship with Elizabeth was fairly amicable, since both recognized that he was her most plausible Protestant successor. After 1603, Scotland was to become a source of opposition to royal rule and instigator of the Civil War, later providing support for Parliament. It remained disaffected under the later Stuarts; its economy only integrated with England's after the 1707 Act of Union.

England's relationship with Ireland was only mildly exploitative until the Reformation, but England's turn to Protestantism was not shared by Ireland, after which the traditional Irish leadership became disaffected, and were subjected under Elizabeth to repeated campaigns of conquest and subjection, culminating in the English victory at Kinsale in 1602. Thereafter, England and Scotland subjected Ireland to aggressive colonization, primarily led by English and Scottish Presbyterians, which was most successful in Ulster. The Irish rebellion of 1641, combined with the English Civil War, led to Cromwell's seizure of Catholic landholdings in the 1650s. That produced an Ireland impoverished and

2. David Lloyd George (1863-1945). 1st Earl Lloyd George of Dwyfor, 1945. Prime Minister, 1916-22.

subjected to quasi-colonial rule, with most Irish land held by absentee Protestant grandees.

Scotland and Wales were to play significant roles in the Industrial Revolution, but Ireland outside Ulster remained primarily agricultural and increasingly impoverished.

The sixteenth century was miserable for the English working classes. The repeated plagues of the previous centuries had depopulated the country, leaving a surplus of arable land for the populace it needed to support; consequently, the purchasing power of English labourers and craftsmen had reached a high point around 1475-1500. Robert C. Allen calculated London labourers' wage rates at about 4.1 times the purchasing power necessary for subsistence in 1500, declining to around 2.9 times the subsistence purchasing power in 1600 and a nadir of about 2.8 times the subsistence purchasing power in the 1630s. In terms of a more generous 'respectability' basket of goods (for example, including the purchase of bread, meat, dairy products, beer, soap, lamp oil, candles and fuel), the decline is similar, from 1.5 times the purchasing power of a 'respectable' basket in 1475 to 1.0 times that ratio around 1625. Skilled workers' wages – Allen used masons as an example – showed a similar decline from 2.5 times the 'respectability' basket in 1475 to 1.7 times that basket in 1625.[3]

The period of high working-class earnings in late fifteenth-century England was not fully matched in other countries, where even in Western Europe the peak in wages was generally 10-20% lower than in England, and this had important structural consequences. In England, the move from feudalism, whereby service obligations were translated into cash payments, land holdings became outright freeholds and rural labourers became economically 'free' had begun in the thirteenth century, but working-class prosperity in the fifteenth century pushed it much further. It would be completed by legislation in 1660, discussed below.

During that halcyon fifteenth-century period of 'Merrie England', population pressure was especially low, so land prices were low and labourers' wages were high, far above Malthusian subsistence level. With parliamentary representation of at least the upper fringe of the skilled working class established by the 'Model Parliament' of 1295 and its 40s-freehold franchise, the British social system was already more open and 'democratic' than those of France or Spain. It was also slowly

3. Allen, *The British Industrial Revolution in Global Perspective*, Figs 2.2, 2.3 and 2.6.

becoming market-based, so when new better-paid opportunities arose for those working on the land, they were increasingly free to pursue them.

Working-class living standards declined during the sixteenth century by about 25-30% and would bottom out at one third below their late-mediaeval peak early in Charles I's reign. The same decline had occurred in most other countries of Europe; for the European working classes, the sixteenth-century Renaissance and opening to the New World had been thoroughly miserable. Only after 1650 did the British working classes' experience begin to differ from those elsewhere in Europe.

The increased openness of British society did not vanish. Sixteenth-century inflation lowered working-class living standards, but also lowered the real cost of a 40s freehold, entitling its owner to a vote, so that more of the upper working class were included in the franchise. Furthermore, the increase in Parliament's power effected by Henry VIII's use of Parliament to pass the Reformation statutes, led to a political system with strong elements of instability, but also relatively broad representation.

England also differed from Spain and France in 1600 by being a limited monarchy, where in principle even the monarch was bound by the laws. Sir John Fortescue in *The Difference between an Absolute and Limited Monarchy* (*c.* 1470) had written:

> there be two kind of kingdoms, of which that one is a Lordship, called in Latin 'Dominium Regale' and the other is called 'Dominium Politicum et Regale'. And they differ, in that the first may rule his people by such Laws as he makyth himself, and therefore he may set upon them Tallies, and other Impositions, such as he wills himself, without their Assent. The second may not rule his people, by other Laws than such that they assent to; and therefore he may set upon them no impositions without their own Assent.[4]

Fortescue gave the example of the kings of France, who in Louis IX's time (1226-70) levied no taxes without the three estates' consent, but during the Hundred Years War became absolute, levying taxes without consent with the nobility exempted, so that:

> the Commons be so impoverished and destroyed, that they may scarcely live. They drink water, they eat apples with

4. Sir John Fortescue, *The Difference between an Absolute and Limited Monarchy*, (London: W. Bowyer, 1714), pp. 1-2.

> Bread right brown made of Rye. They eat no Flesh, but if it be seldom, a little Lard or Entrails or Heads of Beasts slain for the Nobles, and merchants of the Land. … Their wives and children go barefoot; they may in none other way live.[5]

In England, on the other hand:

> Blessed be God, this Land is ruled under a better Law, and therefore the people thereof be not in such penury, nor thereby hurt in their Persons, but they be wealthy and have all things necessary, to the sustenance of Nature. Wherefore they be Mighty, and able to Resist all the adversaries of this Realm, and to best other Realms, that do or will do them wrong.[6]

Fortescue was writing at the peak of the late-mediaeval surge in English living standards. Still, the principle that Parliament must consent to royal tax levies was immensely important in the run-up to the Civil War, causing British history to diverge radically from French and Spanish history, greatly benefiting both ordinary people and economic progress.

By 1600, England was already diverging from its Continental neighbours in the breadth and depth of its merchants' global interests. The first major joint-stock company, the Muscovy Company, was granted in 1555 by royal charter to carry on trade with Muscovy (part of today's Russia) for which trade the company had a monopoly. A predecessor organization the 'Company of Merchant Adventurers to New Lands', part-founded by Sebastian Cabot (1474-1557), a survivor of his father John Cabot's 1497 voyage to Newfoundland, had in May 1553 sent a small flotilla headed by Richard Chancellor (*c.* 1521-56) to find a northeast passage to 'Cathay'. Having failed to do so, Chancellor had travelled overland to Moscow, and cleared a substantial trade profit, while opening relations with the Russian Czar Ivan IV 'the Terrible' (1547-84).

The Muscovy Company was not initially successful; Chancellor was lost at sea on its first voyage. Its second chief trader, Anthony Jenkinson (1529-1611) (an ancestor of Lord Liverpool) made four voyages to Russia, an additional overland trip to Persia and returned with trading agreements, maps and an invitation from Ivan IV to Queen Elizabeth I

5. Ibid., p. 17.
6. Ibid., pp. 23-24.

for an alliance. The company continued in existence with its monopoly of Russian-British trade until 1698, but its revenues and profits lessened with the period of instability in Russia that followed Ivan IV's death in 1584, and with increasing Dutch competition after 1600.

Interest in the potential for trading to the East Indies arose from the profits of a net £140,000 from a Portuguese East India carrack, the *Madre de Deus*, seized at the Battle of Flores in 1592, and from news of the successful 1595-96 and 1598-99 Dutch voyages to the East Indies. With the precedent of the Muscovy Company available, it was natural for London merchants to seek a royal charter for an East India Company (EIC). This was granted for a fifteen-year period on 31 December 1600, the company having capital of £68,373, less than a tenth of that of the Dutch East India Company established two years later.

In the Americas before 1600, there had been a huge amount of gallant English seafaring, but not a lot to show for it. Sir Francis Drake (*c*. 1540-96) who had circumnavigated the world between 1577 and 1580, was dead, Sir Walter Raleigh's (1552-1618) attempted colonization of Virginia had failed and no other significant colonization attempts had been made. Portugal, Spain and, embryonically, France had trans-atlantic settlements, but Britain did not.

Whereas England in the late sixteenth century was a leader in global exploration, its scientific track record was less impressive. Probably its leading scientist was John Dee, whose mathematical studies were accompanied by true international celebrity as an alchemist, including a period at the court of Emperor Rudolf II. William Gilbert (1544-1603) in his *De Magnete*, published in 1600, made significant advances in the understanding of magnetism and electricity, a term which he defined. The early seventeenth century was to prove scientifically more productive.

Private property rights were not especially strong in 1600 in England. To some extent, that is what the Civil War would be about: a contest between property owners, one class of whom believed that royal favour should allow them to enrich themselves, while the other believed that property gave rights independent of the king and the government. In a three-stage process including the Civil War, the Restoration settlement and the 1688 Revolution, the latter view was to win. In 1600 it was by no means dominant; the feudal belief that property rights derived from the king, or through him from the local landowner was still strong.

The rule of law was still not secure, although the erosion of traditional and mediaeval rights that had already taken place in Spain and France

had not gone as far. Elizabeth, like her father and her sister, resorted to arbitrary power from time to time, especially if national security or religion were involved. Ordinary people could get a hearing through the law courts, but the chances of success against a politically powerful antagonist were slim. Fortescue had not been wrong in 1470 when he claimed that England was governed by laws, not by absolute monarchs, but other countries, notably the Netherlands, were ahead of England in this respect by 1600.

England's savings climate had improved considerably under Elizabeth I. Whereas Henry VIII had debased the coinage, reducing the value of savings by as much as three quarters, Elizabeth's financial advisor Sir Thomas Gresham[7] perceived that coinage debasement had adversely affected confidence in England's ability to pay its debts. He therefore had ended it. In 1560 he removed the debased currency from circulation and issued a new coinage with high fineness. Since Gresham took in debased currency for exchange only based on its silver content (unlike in Liverpool's recoinage of 1816), the Crown gained an additional £50,000 from this recoinage, at the expense of savers. For the remainder of Elizabeth's reign and that of James VI and I, the coinage remained sound, although the continued inflow of silver from the New World caused hidden inflation which reduced further the value of savings. Nevertheless, although England had no reliable banks in 1600, savers were after 1560 better treated than in most Continental jurisdictions.

The financial services sector would be crucial to the Industrial Revolution. The London financial market in 1600 was considerably less developed than those of Genoa, Venice or Amsterdam, in which banks already existed. In 1600, both scriveners and goldsmiths performed financial transactions on an *ad hoc* basis, but their approach was different.

Scriveners, who had formed a guild in 1373, were professional drafters of legal documents, usually licensed as notaries public. Being knowledgeable of the legal forms that would be accepted by a court, and of adequate substance and professional standing, scriveners could hold money on behalf of customers, make payments and so on. In the Middle Ages, their first clients for such types of banking services had been farmers of larger holdings, who, after driving their flocks of sheep to market in London, would deposit the sale proceeds of those sheep with these reliable intermediaries.

7. Thomas Gresham (1519-79). Kt 1559. Merchant, financier. Founded Royal Exchange, 1565.

Scriveners had lost some of their importance with the invention of printing but still acted for clients in conveyancing, property management in general and inheritance. (Attorneys also existed but were involved mainly in more complex legal matters.) A new Scriveners' Company was incorporated in 1617 and, because land turnover was high, scriveners enjoyed prosperous decades until 1642. John Milton (1562-1647), father of the poet John Milton,[8] was a scrivener, and made enough money to keep his son in his old age, scrivening being more profitable than writing epic poems about Paradise. As the legal system became more professionalized after 1660, scriveners' business declined, with only their notary functions surviving.

In financial matters, scriveners acted as 'cash keepers' for clients' holdings of cash and valuables, and as loan brokers helping clients to invest in mortgage loans, using their document search expertise at the Mayor's Court in London to ensure that property parcels were owned by the borrower and free of other encumbrances. They only rarely took deposits, and most of the loans they made directly were funded by their own resources rather than client monies. Given their activities, their client base was primarily rural landed gentry, not London merchants or the very rich aristocracy. It should be noted that they made few transfers of money between the country and London; their clients brought cash and valuables with them for storage when they came to 'town' with or without flocks of sheep.[9]

Goldsmiths' client base was primarily the very rich and the Court, for whom they designed and produced gold and silver 'plate', itself an important store of value, as well as the London mercantile community. Like scriveners, they also acted as 'cash keepers', providing storage for plate, coinage and other valuables, and would melt down plate and pay the value of the resulting bullion when their clients needed money. The largest of them acted as substantial, theoretically short-term financiers of the state and engaged in foreign exchange dealings with merchants in London and Continental financial centres. Goldsmiths made fewer private mortgage loans than scriveners, since they lacked a detailed

8. John Milton (1608-74). Secretary for Foreign Tongues, 1649-60. *L'Allegro* and *Il Penseroso* (1632), *Eikonoklastes* (1649), *Paradise Lost* (1667).

9. The activities of seventeenth-century scriveners and goldsmiths are described in Frank Melton, *Sir Robert Clayton and the Origins of English Deposit Banking, 1658-1685* (Cambridge: Cambridge University Press, 1986), pp. 16-40.

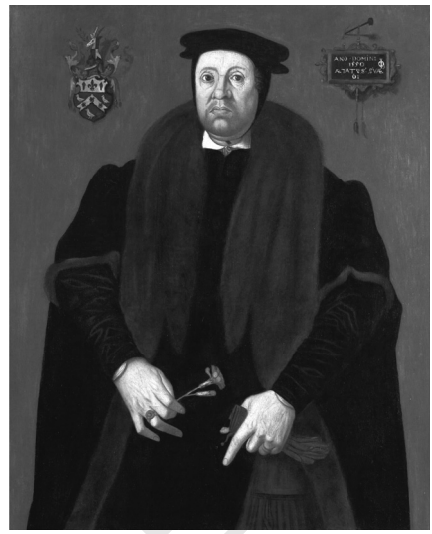
knowledge of land holdings, but their Court and mercantile contacts brought them considerable short-term lending business. Goldsmiths' business expanded with the Civil War and Interregnum, as noble families sought to have their plate melted down for cash; they were in a stronger position relative to scriveners by 1660. Clarendon remarks that by the time he was Lord Chancellor, in the early 1660s, the scriveners' 'money business' had been taken over by a group of five to six eminent goldsmiths, whose professional holdings of gold gave customers additional security in their solidity as proto-banks.[10]

There was considerable destitution in England in the last years of Elizabeth's reign. Living standards had declined, the monasteries had been abolished in the 1530s and 1540s, removing their traditional function in helping the poor, and the wars with Spain had brought economic difficulties and unemployment. The Poor Law of 1601 was to provide considerable alleviation of this problem.

Like other European countries, England already had substantial entrepreneurs in the sixteenth century. In textiles, the Winchcombe family of Newbury were for three generations among the country's largest wool cloth manufacturers, England's principal export industry. The first 'Jack of Newbury', who died in 1520, was described by Thomas Fuller, writing around 1660, as 'the most considerable clothier (without fancy or fiction) England ever beheld'.[11] While 'Jack of Newbury' is reported to have provided 100 men for the royal forces at Flodden in 1513, his son John Winchcombe[12] may have been the clothier to which Fuller refers, with '100 looms in his house, each managed by a man and a boy'. This John Winchcombe also provided men for Henry VIII's armies and manufactured over 6,000 cloths per annum in the 1540s, with Stephen Vaughan writing from Holland to the Council in 1544, 'If your honours send hither Winchcombe's kerseys they will, with great gains, make great heaps of money.'[13]

10. Edward, Earl of Clarendon, *The Life of Edward Earl of Clarendon*, 3 vols (Oxford: Clarendon Printing House, 1759), vol. 3, p. 597.
11. Thomas Fuller (1608-61) DD. *History of the Worthies of England* (London: J.G.W.L. and W.G., 1662), p. 98.
12. John Winchcombe (1489-1557). MP for Great Bedwyn and Cricklade, 1545-47.
13. Entry for John Winchcombe, of Bucklebury and Thatcham, Berks., in S.T. Bindoff (ed.), *The History of Parliament, 1509-58* (Woodbridge: Boydell & Brewer, 1982) (available online). Kerseys are coarse-ribbed woollen cloths for work clothes. Stephen Vaughan (1502-49). Governor, Merchant Adventurers, Bergen-op-zoom, 1538-45.

Winchcombe invested in land, gained a coat of arms and was close to Edward Seymour[14] and Thomas Gresham. Alas, the scale of his operations was so alarming to the authorities that a 1555 statute during the retrogressive reign of Mary I forbade weavers to have more than one woollen loom in their house, on penalty of 20s a week.[15] While the available technology gave Winchcombe no manufacturing economies of scale, as an exporter he had considerable marketing economies of scale, being able to ship substantial quantities and gaining a reputation with foreign buyers for reliable quality.



John Winchcombe was 'the most considerable clothier England ever beheld'. Painting by the School of Federico Zuccaro.

Thus, England had the beginnings of a commercial economy by 1600, especially in London and large prosperous towns. While the country's exports did not extend far beyond traditional cloth and woollen goods, local specialties existed in other areas. Nevertheless, as in the woollen example quoted above, neither law nor custom produced a free market. The Statute of Artificers 1563, which codified earlier legislation, established the control of trade guilds over most trades, and prevented competition in those trades by those who had not served a seven-year apprenticeship. Employees had to get permission to transfer between employers, and many wages and prices were fixed by the statute, which caused difficulties as inflation continued.

The statute indicates clearly that England in the late sixteenth century was not yet a proto-capitalist economy. It still retained the thought-patterns and restrictions of the Middle Ages, both among the legislators and statesmen and among the merchants who pushed for the statute to be enacted. The statute was finally repealed in 1814 but it had fallen

14. Edward Seymour (1500-52). 1st Duke of Somerset from 1547. Lord Protector of the Realm, 1547-49.
15. The Weavers Act 1555 (2 and 3 Philip and Mary c. 11), quoted in Mantoux, *The Industrial Revolution in the Eighteenth Century*, p. 35.

largely into disuse before then – for one thing, it was held not to apply to trades that had not existed in 1563.

England had only a small surplus of investible capital in 1600 but was already deploying it effectively, capitalizing the East India Company in that year. In this respect, therefore England ranked alongside the Netherlands and France, and ahead of Spain and the Holy Roman Empire, where the financial difficulties of the state hampered capital market development.

Occupying a large part of an island, provided Scotland could be kept friendly, England by 1600 had become relatively safe from foreign predators. Domestic unrest was another matter; the country had suffered several such episodes during the sixteenth century and was to suffer a major civil war in the next generation. However, the Civil War when it came was far less devastating to Britain than the Thirty Years' War, fought in the same period, was to the Holy Roman Empire.[16] Here, too, Britain had an advantage over its competitors.

Finally, most other countries in Western Europe had access to substantial coal reserves similar to England's. By 1600 England was beginning to use those coal reserves more intensively than other countries. England's wood resources had already become somewhat scarce and expensive, raising the cost of firewood in urban areas substantially, although for naval needs the shortage was alleviated by supplies from Scandinavia and later the American colonies. Ruth Goodman[17] explains that the principal difficulty was the rapid expansion of London's population, which rose from 75,000 to 250,000 during the sixteenth century. This caused London firewood prices to soar, as the available woodland for 'coppicing' within a day's journey from London became exhausted.

Fortunately, a solution existed, in the 'sea coal' from around Newcastle, which, being close to river and sea routes, could be shipped from Newcastle to London more cheaply than closer coal available only by overland routes. Newcastle coal had been used in London since

16. Modern estimates suggest 200,000 killed by war or disease in England, compared with about five million in Germany in the Thirty Years' War (where the population declined by about seven million).
17. Ruth Goodman, *The Domestic Revolution: How the Introduction of Coal into Victorian Homes Changed Everything* (New York: Liveright Publishing, 2020). The subtitle suggests she is discussing Victorian domestic arrangements, but her analysis relates to the period after 1570, and the transition was mostly completed by the late seventeenth century. Her coal shipment figures are on p. 88, in metric tons (one metric ton equals approximately 2,205lbs).

the twelfth century by blacksmiths and lime burners (preparers of quicklime for the building trades). Beginning around 1570, high wood prices caused London households to switch from wood-burning to coal-burning for their domestic fuel needs.

Ruth Goodman relates in detail how this change required a host of modifications in living styles, from cooking methods to house design – chimneys were not necessary for wood-burning households but were essential for coal-burning, and had to be retrofitted, an expensive operation. Goodman reports that shipments of coal from Newcastle to London were 15,000 metric tons annually in the mid-sixteenth century, but rose to 27,000 metric tons in 1581-82, 68,000 metric tons in 1591-92, 144,000 metric tons in 1605-6 and 288,000 metric tons in 1637-38. By the years 1660-64, annual shipments of coal from Newcastle to London averaged 181,000 chaldrons, equivalent to 478,000 metric tons.[18]

Naturally, this extensive use by such a large city of 'sea coal' led to further development of the coal mining industry. New coal deposits were found, and ways of extracting coal more efficiently and safely were devised, for example, 'long wall' mining in which the entire coal seam was exposed. Other sources of supply were developed, for example, in Scotland, which provided a higher-quality hotter-burning coal than that from Newcastle. Already by 1660, therefore, Britain's coal industry was far ahead of its competitors. Britain did not have significantly more access to coal than several other countries, but since its coal industry was more developed and sold higher volumes, its coal was cheaper and more readily available for potential industrial uses. This was to prove an inestimable advantage in industrialization.

Overall, the England of 1600 was not especially well positioned to develop an Industrial Revolution. While the London mercantile community was outward-looking and seeking new markets, and the country had developed considerable expertise in ocean voyaging and warfare, the overall business climate remained bound by tradition and guild restrictions, extended as recently as 1563. The governing class was corrupt and oriented towards exploitation of monopolies and special favours rather than entrepreneurship, or open trade in general. The country was relatively poor, with a population considerably smaller than all its competitors except the Netherlands, and its living standards had

18. Mitchell (ed.), *British Historical Statistics*, Table IV-1, p. 240, gives the figure in chaldrons, a unit of coal volume in 1660 equivalent to 2.6 Imperial tons of 2,240lbs. For consistency with the previous figures, I have converted to metric tons, which differ from the Imperial ton by only 1.6%.

declined substantially over the previous century. In only one respect was it unique: the move to coal usage in London's homes was not matched elsewhere and would lead the coal industry to develop the necessary scale for industrialization. However, that provided only one small piece of the changes that would be necessary for industrialization to occur.

Early Progress, Britain 1600-48

Economic policy under the first two Stuarts remained corrupt and oriented towards the exploitation of monopolies, without significant understanding of the free market, as already existed in the Netherlands. However, there was a new aggressiveness in development of overseas markets and settlements that was to bear great fruit later. Moreover, several legislative and intellectual developments, aside from the political turmoil of the period, provided significant steps towards an industrial future.

The first of these steps, at the end of Elizabeth's reign, was the Poor Law 1601. As in other European countries, relief of the indigent had before the Reformation been concentrated in monasteries and other Church bodies. After the Reformation settlement had begun to remove the monasteries, Thomas Cromwell's (1485-1540) Poor Law 1536 provided for public works schemes for 'vagabonds' and provisionally an income tax to finance them; it became a dead letter after Cromwell's fall. The rising population and declining living standards of the late sixteenth century made the problem of poverty worse, and several attempts were made to address it until finally in 1601 definitive legislation was passed.[19]

The Poor Law 1601 for the first time compelled local parishes to pay a tax 'rate' based on property value for the support of the poor in the parish, and provided a system of 'overseers', themselves monitored by Justices of the Peace, to distribute the funds collected. The use to which funds were put was left to each parish and, in some cases, money was used to provide food, clothing or shelter, or to establish workfare schemes for the able-bodied poor. The great majority of the money raised was paid in 'outdoor' allowances, either regularly to the 'impotent' poor – the old, mentally ill and disabled – or on a one-off basis to the able-bodied who had lost work or whose work, perhaps in a time of dearth, was unable to support them. The normal allowance for full-time recipients was 6d per week initially, but generally rose to 1s per week after 1660.

19. Paul Slack, *The English Poor Law, 1531-1782* (Cambridge: Cambridge University Press, 1990), gives details on the law, its costs and administration.

Even at the latter level, equivalent to about £18 per week in 2020 money, the allowance was below the subsistence level in most years but was a substantial help towards avoiding outright starvation.

The Poor Law system was instituted only gradually, with many parishes reluctant to impose a tax on their residents (or administratively unable to do so). However, by 1660 over 4,000 parishes had the system in place, and by 1696 it effectively fully covered England, although coverage in Wales was not completed until late in the eighteenth century. Scotland instituted a similar system in the 1690s, however, there were administrative difficulties because the 'civil parish' was less well defined than in England. Ireland did not institute such a system until the 1830s, when the English 1834 Poor Law Amendment Act was mirrored by a similar act for Ireland in 1838.

The principal problem with the Poor Law, once it was fully in place, was the tendency for its costs to escalate. Slack gives a Board of Trade estimate of a cost of £400,000 in 1660, equivalent to 0.8% of national income, but this cost increased steadily over the following century, to an average of £2.0 million in 1783-85, or 2% of national income.[20] This reflected both a greater expenditure per head of population, in cash or in terms of wheat purchasing power, and a gradually increasing number of the impoverished covered, perhaps as high as 15% of the population in the 1780s. Expenditure varied greatly according to the quantity of the annual harvest and trade conditions generally; in the difficult, early wartime years after 1793 they took a further leap upwards.

Various attempts were made over the years to reduce the costs of poor relief. These took the form of attempts to deny it to the able-bodied poor, restrictions on the ability of the poor to move between parishes (in the eighteenth century, according to Slack, as much as one fifth of the population in many parishes was 'unsettled' so not entitled to relief) and, in 1723, an attempt to replace this system of 'outdoor relief' with 'workhouses'.

The genius of the Poor Law was its localism and flexibility. First, it placed both the tax obligation and the relief responsibility at a parish level, keeping it close to individual problems. Second, it provided relief mostly in cash, rather than forcing the destitute to move to workhouses and have their lives controlled by unsympathetic overseers. While mobile poor people could fall through the cracks (though there were cases where an established home parish paid relief even to recipients living elsewhere), the system's localism made it as user-friendly as

20. Ibid., p. 22.

possible, greatly reducing the risk of destitution for the poor. By so doing, it increased their ability to try new things, take risks and together create a new industrial world.

Liverpool, as prime minister responsible, among other things, for overpopulated and non-industrialized Ireland, would note in 1824 the problem of destitution there without the benefit of a Poor Law:

> You should also recollect that Ireland has no poor-laws. I here contrast the condition of the colonial slave with that of the unemployed peasant, or the broken-down small farmer of Ireland. The former is sure of food and clothing and derives even some advantages from the caprices of his master; but the poor peasant in Ireland, where there is no system of parochial relief, when unemployed, is a vagrant without a home or any chance of relief, save that which he derives from casual charity. … When the serf is separated from the soil, when he is looked upon as a free being dependant on his own exertions, it is a wise policy to make some provision for his wants, when those exertions are unable to supply them, and in this view I consider that the establishment of the poor-laws in this country were productive of more good than evil. From such a resource, however, the poor of Ireland derive no benefit, as she has no general poor-rates.[21]

Monopolies, Good and Bad

The continued orientation of economic policy towards the exploitation of monopolies had important economic consequences. In Britain as in the rest of Europe, most major new business opportunities arose from monopolies granted by the king for a period of years. Sometimes this made sense – the East India Company and other companies formed to carry out economically perilous long-distance trade had plenty of competition from other countries in 1600, together with perils from the weather, inadequate marine technology and international marauders. There was little danger in 1600 of a new monopoly on trade to the East Indies degenerating into a comfortable well-padded sinecure. As the trade developed, the companies grew bigger and the risks decreased,

21. Hansard, *Parliamentary Debates New Series*, Vol. 11, cols 267-68, 8 April 1824.

the danger of corruption and sloth became far greater – Adam Smith was not wrong in his strictures on the East India Company of 1770. However, for a new long-distance trading business struggling against large odds, national monopolies made sense, which is why they were used in all European countries that attempted to enter this business.

Inevitably, in the corrupt courts of Elizabeth I and, more particularly, James VI and I and Charles I, the monopoly privilege was abused to reward royal favourites with monopolies that damaged economic welfare. The practice took off in the last cash-strapped years of Elizabeth I and then became ubiquitous under James, who although keeping the country at peace discovered that the Crown's ordinary revenues were insufficient to support his Court and administration and that parliamentary grants were difficult to obtain and still did not always cover his costs. (His fiscal problem derived from the rise in prices, which had more than doubled since 1500 – many royal revenues and parliamentary grants were expressed in fixed amounts and so did not rise with inflation.)

By the Parliament of 1621, the problem of monopolies had achieved major political salience. It had become the practice to grant patents in order to farm out certain judicial functions previously performed by state officials, such as the licensing of inns and alehouses – patentees would pay a fee to the Crown and make the money back by charging for licences. Patents of monopoly were granted (again, for a fee to the Crown) providing the sole right to use a particular form or method of trade or industry – they often became intertwined with particular 'projects' at a time when the economy was diversifying. Parliament revived the ancient power of impeachment, pursuing Sir Giles Mompesson and Lord Chancellor Bacon, who was blamed for organizing the sale of patents and monopolies.

Mompesson was a typical, if extreme, example of an early Stuart entrepreneur; his career shows the opportunities that such entrepreneurs thought worth exploiting. He was born into a family of long-established but modest Wiltshire gentry, married a well-connected wife and entered Parliament in 1614 as MP for Great Bedwyn. He then enjoyed a stroke of good fortune when the half-brother of his wife's sister's husband George Villiers (1592-1628) was taken up as 'favourite' by James VI and I and rapidly promoted to become first Duke of Buckingham. With Buckingham as his ally, and Bacon as Attorney General and later Lord Chancellor providing legal coverage, Mompesson had access to numerous money-making ventures, that could be exploited by a man with high energy and little scruple.

His first scheme in 1616 was to obtain a patent for the licensing of inns (where travellers stayed overnight) – in return for taking on this duty he was paid £100 per annum and allowed to keep 20% of the licence fees. His energy was such that he not only sold 1,200 licences to innkeepers for £5 and £10 each but prosecuted 4,000 other innkeepers who refused to pay. He even extended the scheme illegally to taverns (with no overnight lodging), in one case begging a room for the night and then fining the tavern owner next morning since he had acted as an innkeeper.

As well as licensing inns, Mompesson obtained a commission to sell timber valued at up to £25,000 from the Crown Estates, thereby raising £7,000. Then he became surveyor of the New River Company, the recently completed 20-mile aqueduct from Islington to the Lea River, at a salary of £200 per annum, and obtained a monopoly patent for the manufacture of gold and silver thread, which enabled him to harass the London goldsmiths who were his competitors. Finally, he obtained a licence to reclaim all 'lost' Crown lands, keeping those worth less than £200 per annum – the large London charities were his targets here.

After impeachment by Parliament in 1621, Mompesson fled into exile, escaping from the parliamentary sergeant-at-arms, and was fined £10,000 *in absentia*. He returned to England finally in 1628 and engaged in a coal mining venture in the Forest of Dean, which was overthrown by rioters in 1631. He was a Royalist during the Civil War, compounded to retain his estates for only £561 in 1649, and died sometime between 1651 and 1663.[22]

Mompesson's career was typical of his time, though his over-ambition, excess of energy and alienation of important interests like the London goldsmiths led to his impeachment.

Another entrepreneur typical in his manipulation of the patent system and royal favours, but atypical in that he was responsible for a significant industrial advance, was Sir Robert Mansell.[23] Mansell, of

22. Sir Giles Mompesson (1583-1651/63). Kt 1616, degraded 1621. MP for Great Bedwyn, 1614-21. His will was written in 1651 but not proved until 1663; he died between those dates. Details in A. Thrush and J.P. Ferris, *The History of Parliament: The House of Commons, 1604-29* (Cambridge: Cambridge University Press, 2010), available at: https://www.historyofparliamentonline.org/volume/1604-1629/member/mompesson-giles-1584-1651 (accessed 19 September 2022).
23. Sir Robert Mansell (c.1570-1652). Kt 1596. MP for King's Lynn, 1601, Carmathenshire, 1604-14, Glamorgan, 1624-25 and 1628, and Lostwithiel,

Welsh origin, began his career as a naval officer, rising to Vice Admiral of England. Then, in 1615, he obtained a monopoly for the manufacture of glass, for which he promised the royal finances an annuity of £3,000 per annum. Mansell bought a glass works at Vauxhall in London and over the next few years set up several others in different places, none very successful, until in 1617, having set up a glass works at Newcastle, he came up with a process whereby glass could be made in a coal-fired furnace.

Mansell expanded production rapidly, until by 1624, output from his coal-fired Newcastle works was 6,000-8,000 tons per annum. Like Mompesson, Mansell was attacked for his monopoly in the 1621 Parliament. However, he managed to preserve it until 1642, when it was finally cancelled by the Long Parliament. Regrettably, from his point of view, by 1621 he had spent £28,000 in setting up his glass works and that, together with the fees payable to the Crown and the legal fees and bribes needed to preserve his monopoly patent (which with coal-firing, involved some reward for genuine innovation), meant the overall enterprise was only marginally profitable, although glassware from the Mansell monopoly may still be found today.

Three years after Mompesson's impeachment, Parliament enacted the Statute of Monopolies 1624. This made all past patents and monopolies null and void. It provided for limited-term future monopolies for:

> any letters patents and grants of privilege, for the term of fourteen years and under, hereafter to be made, of the sole working or making of any manner of new manufactures within this realm to the true and first inventor and inventors of such manufactures, which others at the time of making such letters patents and grants shall not use, so as also they be not contrary to the law nor mischievous to the state by raising prices of commodities at home, or hurt of trade, or generally inconvenient: the same fourteen years to be accounted from the date of the first letters patents or grants of such privilege hereafter to be made, but that the same shall be of such force as they should be if this Act had never been made, and of none other. (s. 6)

By this wording Parliament did not create the world's first working patent system – the Venetian Patent Statute of 1474 had contained its

1626. Captain RN, Cadiz expedition, 1596, Vice-Admiral of the Narrow Seas, 1603. Treasurer of the Navy, 1604-18. Glass monopoly, 1615-42.

main elements – but it focussed British economic activity on technological innovation rather than on arbitrarily assigned royal monopolies. The prohibition against royal monopolies was evaded by Charles I, who defended his monopoly grants in the conciliar courts which he controlled, but after the Restoration the patent system as we know it came into being. In the reign of Queen Anne,[24] the law officers of the Crown established as a condition of grant that: 'the patentee must by an instrument in writing describe and ascertain the nature of the invention and the manner in which it is to be performed' – in other words, provide a specification of the invention. Puckle's 'machine' gun[25] in 1718 was the first invention to provide such a specification.

Dudd Dudley (1600-83), whose career would prove important to Britain's industrial future, was another user of patents, both before and after 1624. He was the illegitimate son of Edward Sutton, fifth Baron Dudley, a wealthy but spendthrift and over-indebted nobleman. Since the baron was devoted to Dudley's mother Elizabeth Tomlinson, by whom he had eleven children, and was still in funds during Dudley's youth, Dudley was educated at Balliol College, Oxford and then sent to manage his father's iron works at Pensnett Chase, near Dudley (at that time fuelled by charcoal, the universal technology, but becoming increasingly in short supply in several districts). Dudley experimented and began fuelling the iron works' smelting process with the coal derivative coke. Although this process was never entirely successful (the local coal contained impurities), Lord Dudley obtained a monopoly for it in 1620.[26]

Dudley expanded operations to the nearby Cradley works, producing only three tons a week of iron but passing quality tests at the Tower of London. Alas, the Cradley works was destroyed by a flood in May 1623, after which Lord Dudley ran out of money. Dudd Dudley persisted, obtaining a further patent in 1638 for smelting metals with coal, but was unable to exploit it.[27] Dudley served as an army officer in the Bishops' War of 1639 and became a Royalist colonel in the Civil War, being

24. Anne (1665-1714). Queen of Great Britain, 1702-14.
25. This was supposed to fire round bullets at Christians and square ones at Turks but there is no evidence that the gun was ever used in battle.
26. Grace's Guide to British Industrial History says 22 February 1620.
27. Dudley's experiments in coal-based smelting are set out in P.W. King, 'Dud Dudley's Contribution to Metallurgy', *Historical Metallurgy*, Vol. 36, no. 1 (2002).

taken prisoner at the Siege of Worcester in 1646 and again (by Andrew Yarranton, whom we will meet again in Chapter 4) in 1648.

Dudley's coke-based pig iron production was the first in England. It failed for three reasons: the coal was somewhat unsuitable; the shaky finances of early seventeenth century aristocrats (whose borrowing costs and terms were extortionate); and the fact that wood for charcoal was not yet as scarce and expensive as it later became, so the economics were marginal – he was undercut in price by fierce charcoal-based competition.

The adverse economic effects of royal monopolies were illustrated by the New Soap patent of 1632. Under this, Charles I granted a fourteen-year monopoly to the Society of Soapmakers of Westminister, prohibiting any other soap manufacture, in return for a payment of £4 per ton of soap sold through the patent. Various trials were arranged, and certificates were issued that the New Soap 'washyth whiter'. By a 1636 decree of the Star Chamber, soap manufacture was prohibited except by the New Soap proprietors in Westminster, or in Bristol, which was limited to 600 tons per annum, while soap pans of other manufacturers were destroyed. The result was considerable destruction of wealth, and a greatly reduced consumption of the now expensive and scarce soap, doubtless worsening further the mood of a labouring class oppressed by 150 years of declining wages. The New Soap patent contributed to reformers' calls that only genuine innovations should be patentable.

As Sir Edward Coke (1552-1634)[28] wrote in *Institutes of the Lawes of England*: To be patented,

> new manufacture must have seven properties. First, it must be for twenty-one years or under. Secondly, it must be granted to the first and true inventor. Thirdly, it must be of such manufactures, which any other at the making of such letters patent did not use. … Fourthly, the privilege must not be contrary to law. … Fifthly, nor mischievous to the state, by raising the prices of commodities at home. In every such new manufacture that deserves a privilege, there must be *urgens necessitas et evidens utilitas*. Sixthly, nor to the hurt of trade. … Seventhly, nor generally inconvenient.

28. Coke, Sir Edward, *Institutes of the Lawes of England*, 4 vols (Clarke, 18th edn, 1797 [1628-44]), Part Three, ch. 85, 'Against Monopolists', p.184.

Coke's doctrine has remained the core of patent law to this day; it was key to industrial innovation.

Rule of Law

In the early seventeenth century a succession of great lawyers Coke,[29] John Selden[30] and Sir Matthew Hale[31] played a vital role for industrialization in establishing the rule of law on a rigorous basis. They delved back into Saxon and mediaeval history, finding 'liberties' in that period that had often only doubtfully existed and codified them. As all three inclined to Parliament's side in the disputes with the Crown, their objective was to cement more tightly the subjection of the king to existing laws, which had been pointed out by Fortescue, but frequently ignored by Henry VIII and others. In reality, James VI and I was a legalistic pedant while Charles I was generally quite scrupulous (though some of his advisors, notably Strafford,[32] skirted the edge of the constitutionally permissible).

Coke and Selden's work was legitimized by the Civil War and formed a rock of the Restoration settlement that followed it. Although Hale served both the Protectorate and the post-Restoration governments in senior judicial roles, his greatest effect came through his writings, which codified common law and are cited today in both Britain and the United States. The work of all three men was to have great long-term importance in helping men of humble backgrounds to know the precise law and trust the courts, and thereby prevent rip-offs by the well connected.

29. Edward Coke (1552-1634). Kt 1603. MP for Aldeburgh, 1589, Norfolk, 1593, Liskeard, 1621, Coventry, 1624, Norfolk, 1625-26, Buckinghamshire, 1628. Solicitor General, 1592-94, Attorney General, 1594-1606, Chief Justice of Common Pleas, 1606-13, Chief Justice of King's Bench, 1613-16.
30. John Selden (1584-1654). MP for Lancaster, 1624, Great Bedwyn, 1626, Ludgershall, 1628, and Oxford University, 1640. Legal scholar, political philosopher and author.
31. Matthew Hale (1609-76) Kt 1660. MP for Gloucestershire, 1654, and Oxford University, 1659. Justice of the Common Pleas, 1653-59, Chief Baron of the Exchequer, 1660-71, Lord Chief Justice, 1671-76. Author of *The History and Analysis of the Common Law of England* (1713).
32. Thomas Wentworth (1593-1641). 1st Viscount Wentworth from 1629, 1st Earl of Strafford from 1640. MP for Yorkshire, 1614, 1621, 1625 and 1628, and Pontefract, 1624. Lord Deputy of Ireland, 1633-40, Lord Lieutenant of Ireland, 1640-41.