

Cambridge University Press

978-0-521-57228-6 - The Industrial Revolution in Scotland

Christopher A. Whatley

Excerpt

[More information](#)

Introduction

Numerous books and articles have been published on the ‘British’ Industrial Revolution. Most however either ignore Scotland, or pay lip-service to it. In many cases there is a failure to recognise that generalisations, particularly of the macro-economic variety, about the nature, timing and causes of ‘British’ (i.e. what is in effect English) industrialisation do not necessarily apply to Scotland [153]. Often too, references to Scotland stress a single aspect – most frequently the cotton industry of Glasgow, Paisley and elsewhere in west-central Scotland, or the same region’s coal and iron and related industries, which underpinned Scotland’s ‘Victorian economic miracle’. Important as this region and these products undoubtedly were to Scotland’s economy, such approaches fail to recognise the diversity of Scotland’s economic experience in the eighteenth and early nineteenth centuries. Keith Wrightson’s observation that there were ‘many Englands’ is equally applicable to Scotland where there were several other identifiable economic regions [318:258]. Considerable attention will be paid in this book to the most important of these.

Outside the central Lowlands, the most distinctive region throughout the period was the Scottish Highlands and Islands, which accounted for some 20 per cent of the Scottish population in 1801, 350,000 people in 1831. There is much substance in the remark that Scotland in the 1840s was a ‘dual economy’, with the south becoming increasingly capitalistic and industrialised, whereas the north, which too had felt the impact of capitalist impulses, ‘was a world of traditional values, oriented round the peasant desire to cling to a holding of land despite intolerable demographic pressures’ [192:81].

Cambridge University Press

978-0-521-57228-6 - The Industrial Revolution in Scotland

Christopher A. Whatley

Excerpt

[More information](#)2 *The Industrial Revolution in Scotland*

In neither region however was the pattern of economic and social change uniform. Lowland Scotland was not simply a producer of cotton, minerals and ships. By the mid-nineteenth century the economy of Dundee and the towns and villages of the surrounding area in east-central Scotland had become firmly based on coarse linen and jute. In Dundee itself, Scotland's third town after Glasgow and Edinburgh, were located the world's two biggest mill and factory complexes, in linen and jute respectively [291]. To the south, in Fife, specialisation occurred in smaller towns such as Dunfermline, with fine linens. Manufacturing in the rural counties to the south of Edinburgh – Border country – was focussed on wool. Edinburgh itself had a sizeable textile industry which in 1841 was still the city's biggest employer of industrial workers, although reflecting the city's status as an educational, legal and cultural centre and the impact of its professional middle-class expenditure patterns it boasted Scotland's greatest concentrations of consumer industries and of those employed in food, drink and tobacco [247]. Aberdeenshire, the second county in Scotland in terms of population in 1755, had followed a pattern of economic development in the eighteenth century similar to the other counties of eastern Scotland, as hand-based manufacturing spread into the countryside. Yet while textile production had become concentrated in the regional centre of Aberdeen from c.1779, its virtual collapse between 1848 and 1852 heralded the emergence of a much more balanced economic structure than that of the 'one industry' town of Dundee [112; 286]. Although Aberdeen's distance from the coal and iron mines of central Scotland meant that it suffered from comparative disadvantages as far as steam ship-building was concerned, at least half a dozen firms concentrated on wooden vessels. Innovative and producing high-quality schooners, barques and clippers, the products of three firms were sought in increasing numbers by English purchasers in the 1830s and 1840s [106]. Aberdeenshire, on the other hand, became increasingly dependent upon agriculture after 1811, when rural employment in textiles reached its peak [287:80].

Meaningful analysis of industrialisation and its impact in such areas however requires even further spacial disaggregation by region and even sub-region: eastern Aberdeenshire, for example, was Highland, while the Lowland part of the county can be

Cambridge University Press

978-0-521-57228-6 - The Industrial Revolution in Scotland

Christopher A. Whatley

Excerpt

[More information](#)

distinguished by two land types, recognition of which is crucial for an understanding of the product-base of proto-industry in the eighteenth century [287:73–8]. Similarly, conditions in the Highlands and Islands varied. The west highland coast and the islands of the Hebrides were measurably less well developed and poorer than the central, south-western and eastern highlands, where proximity to the industrial areas was one factor which determined the economic viability of both landed estates and sub-tenant household economies, largely through the operation of demand for products – such as slates from Argyll – and migrant labour respectively [31; 192:10; 202:24]. The effects of the Industrial Revolution were felt in the Highlands and Islands directly as well as indirectly. Even in west-central Scotland, which incorporated the counties of Ayrshire, Dunbartonshire, Lanarkshire and Renfrewshire, there was a massive contrast between the industrial powerhouse of Glasgow, the country's largest urban unit with a rapidly growing population which had reached 345,000 in 1851 (i.e. over one in ten Scots), and to the south, the rural villages and relatively small farms of Ayrshire outside the mining districts, which concentrated on beef production, and increasingly, dairying [36].

There are a number of reasons why Scotland should have figured less prominently than England in older accounts of the British Industrial Revolution. One is the parochialism of many English historians and the difficulties they have in incorporating Scottish material [182]. More important perhaps is that there has been nothing like the same wealth of usable statistical material which has been available to English economic historians, especially for the eighteenth century [209:xi; 31]. Sometimes the data simply do not exist. In other cases the time-consuming tasks of collation and manipulation have not been carried out. Partly as a result of this, but also because Scottish historians, economic and otherwise, have been and still are relatively few in number and thinly spread across a range of research topics, published work on the Industrial Revolution in Scotland as such has not been thick on the ground. Indeed the only book of any note with the phrase 'Industrial Revolution' in its title was first published as long ago as 1932 [143].

This is not to suggest that economic historians in Scotland have

Cambridge University Press

978-0-521-57228-6 - The Industrial Revolution in Scotland

Christopher A. Whatley

Excerpt

[More information](#)4 *The Industrial Revolution in Scotland*

neglected the subject. Economic histories have been written and considerable progress has been made, in terms of sectoral, industrial and regional studies. Business historians, industrial archaeologists, social historians, historical geographers and demographers have all contributed to the deepening pool of knowledge. From the later 1970s Scottish economic and social historians began to engage in comparative analysis. This has borne most fruit where Scottish and Irish economic and social history has been concerned, although comparisons with Scandinavia have also been revealing, as have attempts to place Scottish demographic patterns within a European framework [61; 90; 162; 214]. Thus examination of landownership patterns in Denmark, where peasant proprietorship was increasingly common after c.1780, points to the importance for Scottish modernisation of the power and passion for agrarian progress of Scottish landowners in a society in which land proprietorship was confined to 2 per cent of the population, a much lower figure than for Norway for instance [273; 274].

It might be objected that there was no distinctively *Scottish* Industrial Revolution, and some historians have correctly observed that the industrialisation process of which it was part was a wider British and European phenomenon. From 1603 Scotland and England had shared the same monarch. Incorporating union had followed in 1707. Political and cultural links had been forged prior to this, most visibly between Lowland Scotland and the four northern counties of England, where there were several shared social characteristics [157:16–17, 262–4; 116]. Trade, overland and coastwise, with England was substantial, and undoubtedly contributed to the processes of economic growth and industrialisation. Scotland gained enormously from the legal right which she had post-1707 to trade with and exploit in other ways England's expanding colonial empire, itself a component part of the emergent European world-economy. As will be seen, English capital flowed northwards, as did English technology and expertise. An example of the merging of the English and Scottish economies is the Borders woollen industry, which after 1707 'became integrated more closely with the economy of the north of England than with that of Scotland itself', with large quantities of Scottish wool being transported to the West Riding of Yorkshire, and Scots in the southern counties being recruited as outworkers by English

worsted manufacturers [140:36]. On the other hand, Scotland made important contributions to England's – Britain's – Industrial Revolution [23]. This is most notable in the sciences and civil and mechanical engineering. Men such as Charles Macintosh, the founder of Manchester's rubber industry, Charles Tennant, of St Rollox bleachworks, the Fairbairn brothers, renowned engineers in Leeds and Manchester, James Watt and Thomas Telford and others, were Scots who had benefited either directly or indirectly from the uniquely rational methods of enquiry taught by the Scottish universities in the eighteenth century [34:34–7].

Yet there is a case for treating Scotland separately. Although a stateless nation after 1707, Scotland was in many respects a distinctive political, economic and social entity [37; 213]. Scotland's economic fortunes were a crucial issue at the time of the Union, and even after 1707 certain specific Scottish economic interests were discussed and legislated upon at Westminster. The Union preserved several uniquely Scottish institutions, such as the legal and educational systems and the Church of Scotland. These, some economic historians contend, made real contributions to the Scottish economy in the eighteenth century. The influential Board of Trustees of Manufactures, established in 1727, was a specifically Scottish body, and an influential one at that, and other quasi-state agencies also served to further the economic ambitions of a self-consciously patriotic professional and business elite. As will be seen in what follows, it can be argued that in terms of the timing, nature and causes of her Industrial Revolution, Scotland was sufficiently different to justify separate treatment. Such a study will make for a deeper understanding of Britain's industrialisation process.

The time is now ripe for a survey and synthesis of the literature referred to above. For one thing, the long-running debate about the British Industrial Revolution is currently in the midst of one of its more active phases. Secondly, there has recently been a resurgence of interest in the idea of the Industrial Revolution as a regional and local phenomenon [163]. Concerns about the limitations of national accounts and aggregate statistics as a means of identifying and understanding the Industrial Revolution, and the recognition of marked regional disparities, have led some economic historians to conclude that 'regional studies may be of more

Cambridge University Press

978-0-521-57228-6 - The Industrial Revolution in Scotland

Christopher A. Whatley

Excerpt

[More information](#)6 *The Industrial Revolution in Scotland*

value in understanding the process of industrialisation than studies of the national economy as a whole' [6:38]. Thirdly, there is now just about sufficient published material available on the Scottish economy in the seventeenth, eighteenth and nineteenth centuries to make it possible to identify and provide a fresh explanation for Scotland's Industrial Revolution, and to offer a Scottish contribution to the ongoing debate about the characteristics and explanations for the Industrial Revolution in Britain. Much more work remains to be done however, as will become apparent from this study.

It will have been noted that the terms 'Industrial Revolution' and 'industrialisation' have been used above interchangeably, with no attempt having been made either to define or to distinguish between them. This is not the place to become embroiled in the debate about the adequacy of the concept of an 'Industrial Revolution' [216; 226]. Clearly, it has many drawbacks, not the least of which is the confusion over its precise meaning, which can vary from historian to historian [152]. Rondo Cameron and others have argued that contemporaries seemed unaware that they were living through such a cataclysmic event, although to include Scots such as Robert Burns and Sir Walter Scott amongst those who might have been expected to have commented upon it, but did not, is to overlook the former's fascination with and visit to Carron iron-works and the latter's terror of the growing grumblings of the working classes [26]. And while it is certainly the case that no Scottish contemporary used the term 'Industrial Revolution', there can be no denying that many of the clerical contributors to the parish-by-parish statistical accounts in the 1790s were acutely aware that major change had begun and that manufacturing and industry was on the march [102:44].

The received view amongst Scottish economic historians is that Scotland did experience an Industrial Revolution, and that this started later and was more compressed than its English counterpart [104:97–9]. As should become apparent later, this is because whatever doubts there may be about the applicability of the term 'Industrial Revolution' to England, arguably, there are fewer in Scotland's case.

There is however considerable uncertainty about its precise timing and characteristics, due in part to the absence of any

Cambridge University Press

978-0-521-57228-6 - The Industrial Revolution in Scotland

Christopher A. Whatley

Excerpt

[More information](#)

substantial attempt on the part of those concerned to define their terms. Various starting dates have been proposed: the 1740s, 1760s and 1780s (the most common) [31], and even 1830 [94]. The last follows the late Professor H. Hamilton who argued for a two-stage process: the first, led by cotton, beginning in 1780, and a second, commencing in the 1830s and lasting until c.1880, in which iron, engineering and shipbuilding were predominant [143:1].

Nevertheless, following gradualist interpretations of the English Industrial Revolution, there are those who have been inclined to question the notion of sharp turning points [199:161–2; 189:101–2, 155]. That the process of industrialisation was incomplete by 1830 would be accepted without reservation [192:10]. Campbell has recently drawn attention to the continuing dominance of the landowner in a Scotland which in 1830 ‘was still a rural country’ [37:93]. Rapid and profound structural change however was under way, and whilst recognising such continuities, others argue that a ‘major and decisive break with the past’ had occurred, and that between 1780 and 1840 Scotland had become ‘irreversibly, a different kind of society’ [81:60–61; 266; 189:155]. This was certainly the case by 1850, the concluding date for this volume. Both symbolic of and contributing to the new order was the railway, which played a crucial role not as a consumer of the products of Scotland’s emerging heavy industries but rather in opening up the coal deposits of central Scotland [288]. Before the mania of 1845–46 the new lines had been essentially of local importance, but by mid-century they had linked the main towns of Lowland Scotland. Significantly, the border with England had been crossed at two points.

What will immediately strike the reader who is familiar with the debates about economic growth, ‘modernisation’ and industrialisation in England is the relative absence in the Scottish case of series of sophisticated statistical data in the form of estimates of national income, per capita income, total factor productivity and occupational structure. Measures of this sort have been crucial to recent interpretations of the English economy in the eighteenth and early nineteenth centuries [55; 175]. Other important building blocks upon which discussion of England’s eighteenth century economy and Industrial Revolution have rested, such as the analysis of the

8 *The Industrial Revolution in Scotland*

social structure of England and Wales in 1688 by Gregory King, have no – or only partial – Scottish equivalents prior to the 1790s, when the invaluable *Statistical Accounts* of all of Scotland's parishes were compiled under the direction of Sir John Sinclair. Heroic attempts however have been made to analyse Scottish social structure in the 1690s from surviving poll-tax data from which a firmer impression of the nature of the pre-industrialised economy can be obtained [313; 157; 82].

The next two chapters seek to provide from the available published evidence an outline description of the key features of and developments in the Scottish economy from the later seventeenth century until around 1850. At the same time, attention will be paid to the wider historiographical context and some consideration given to how Scotland's experience accords with current interpretations of the 'British' Industrial Revolution. Thereafter the reasons for Scotland's Industrial Revolution will be discussed, and then followed by a chapter which concentrates on social aspects and consequences. Throughout, heed has been taken of the series editor's plea that, above all, the book should 'let us [non-Scots] know what actually happened in Scotland'. For those readers who wish to know more, an extensive but far from exhaustive list of references, which also acts as a bibliography, has been keyed into the text.

1

Identifying Scotland's Industrial Revolution (1): the pre-Union inheritance

The search for an Industrial Revolution in England has been made more difficult with the appearance of a strong body of national economic data which shows that economic growth took place over a longer time-span and with less sharp breaks and more modest structural change than earlier accounts had suggested [55]. As a consequence, greater emphasis has been placed on the early modern period, and in particular the seventeenth and early eighteenth centuries [44]. Around 1700, it has recently been argued, England was “‘prepared” for an industrial revolution’ [226].

Characterisations of the Scottish economy in the seventeenth century have changed markedly over time. Traditionally, it was portrayed as both poverty-stricken and peripheral, and in relation to England and much of northern Europe, a ‘byword for ... backwardness’. Even though attempts were made to improve matters after the Restoration, one historian has concluded that at no point between the mid-sixteenth century and the early eighteenth ‘did any important change occur’ [183:48].

Such dismal portrayals of Scotland's pre-Union economy are certainly not without foundation, although it should be noted that one reason for them has been the anxiety of pro-unionist historians to point to the advantages which were brought by the Union of 1707 [276]. Over the past three decades however a much more positive view has emerged, to the extent that the roots of later eighteenth-century advance have been traced back to the previous century. This revised perception has two main components: first, that Scotland's economy and society was much more dynamic and conducive to economic growth than was formerly assumed, and secondly, while there was much about Scotland which was dis-

Cambridge University Press

978-0-521-57228-6 - The Industrial Revolution in Scotland

Christopher A. Whatley

Excerpt

[More information](#)10 *The Industrial Revolution in Scotland*

tinctive, in several important respects the country was similar both to England and other more advanced parts of northern Europe, 'the Sweden of the British Isles' [60:229].

The heftiest revisionist blows have been struck in the critical agrarian sector. The notion of stasis was first undermined and then swept away with the uncovering of a substantial body of evidence showing that Scottish agriculture in the 1600s was becoming commercialised and responding to new market opportunities. In the second half of the seventeenth century, Scottish landowners in the fertile cereal-growing east had managed in many seasons to export grain. Within Scotland, new outlets were created by a 'dramatic' rise in the number of market centres after 1660. Although to what extent is not known, these reduced dependence upon subsistence farming and assisted too in drawing the Highlands into the market economy; by 1707 only 18 per cent of mainland Scotland was more than 20 km from such a centre, 246 of which were created between 1660 and 1707 [307:185]. The numbers of black cattle driven south from the Highlands and western islands rose from the early 1600s, as did quantities of herring, salmon, timber, and skins and hides [130:77–8]. Grain was sent from Orkney to Norway, amongst other places, while Shetland fish were bought by German and other merchants [252]. Commercialisation is also reflected in the process of commuting rents in kind to money payments, albeit slowly. Greater efficiencies were sought through a reduction in the numbers of multiple tenancies and a rise in the use of longer, written leases [307]. Indeed there was a greater degree of stratification amongst the tenantry in rural Lowland Scotland than has sometimes been supposed [313]. Steps were taken too to extend the area of cultivation, by draining mosses and burning turf, and to improve yields and bring into cultivation former waste lands, by liming and manuring, which had begun in the sixteenth century, and were well-known in some regions by the mid-seventeenth.

Nor was the urban sector static, although owing to difficulties in interpreting the evidence there is disagreement about both how it fared overall and the precise movements within the urban hierarchy. Undisputed however are the estimates of the populations of the larger European towns (10,000-plus) which show that Scotland, like England, but unlike most of the rest of western Europe,