STUDIES IN ECONOMIC AND SOCIAL HISTORY

This series, specially commissioned by the Economic History Society, provides a guide to the current interpretations of the key themes of economic and social history in which advances have recently been made or in which there has been significant debate.

Originally entitled 'Studies in Economic History', in 1974 the series had its scope extended to include topics in social history, and the new series title, 'Studies in Economic and Social History', signalises this development.

The series gives readers access to the best work done, helps them to draw their own conclusions in major fields of study, and by means of the critical bibliography in each book guides them in the selection of further reading. The aim is to provide a springboard to further work rather than a set of pre-packaged conclusions or short-cuts.

ECONOMIC HISTORY SOCIETY

The Economic History Society, which numbers over 3000 members, publishes the *Economic History Review* four times a year (free to members) and holds an annual conference. Enquiries about membership should be addressed to the Assistant Secretary, Economic History Society, Peterhouse, Cambridge. Full-time students may join at special rates.

STUDIES IN ECONOMIC AND SOCIAL HISTORY

Edited for the Economic History Society by L. A. Clarkson

PUBLISHED

- Bill Albert* Latin America and the World Economy from Independence to 1930
B. W. E. Alford Depression and Recovery? British Economic Growth, 1918–1939
B. W. E. Alford British Economic Performance, 1945–1975
Michael Anderson Approaches to the History of the Western Family, 1500–1914
Michael Anderson Population Change in North-Western Europe, 1750–1850
P. J. Cain Economic Foundations of British Overseas Expansion, 1815–1914
S. D. Chapman The Cotton Industry in the Industrial Revolution
Neil Charlesworth British Rule and the Indian Economy, 1800–1914
J. A. Chartres Internal Trade in England, 1500–1700
R. A. Church The Great Victorian Boom, 1850–1873
L. A. Clarkson Proto-Industrialization: The First Phase of Industrialization?
D. C. Coleman Industry in Tudor and Stuart England
P. L. Cottrell British Overseas Investment in the Nineteenth Century
M. A. Crouther Social Policy in Britain 1914–1939
Ralph Davis English Overseas Trade, 1500–1700
M. E. Falkus The Industrialisation of Russia, 1700–1914
Peter Fearon The Origins and Nature of the Great Slump, 1929–1932
T. R. Gourvish Railways and the British Economy, 1830–1914
Robert Gray The Aristocracy of Labour in Nineteenth-century Britain, c. 1850–1900
J. R. Harris The British Iron Industry 1700–1850
John Hatcher Plague, Population and the English Economy, 1348–1530
J. R. Hay The Origins of the Liberal Welfare Reforms, 1906–1914
R. H. Hilton The Decline of Serfdom in Medieval England
E. L. Jones The Development of English Agriculture, 1815–1973
John Lovell British Trade Unions, 1875–1933
Donald N. McCloskey Econometric History
Hugh McLeod Religion and the Working Class in Nineteenth-Century Britain
W. J. Macpherson The Economic Development of Japan c. 1868–1941
J. D. Marshall The Old Poor Law, 1795–1834
Alan S. Milward The Economic Effects of the Two World Wars on Britain
G. E. Mingay Enclosure and the Small Farmer in the Age of the Industrial Revolution
Rosalind Mitchison British Population Change Since 1860
R. J. Morris Class and Class Consciousness in the Industrial Revolution, 1780–1850
J. Forbes Munro Britain in Tropical Africa, 1880–1960
A. E. Musson British Trade Unions, 1800–1875
Patrick K. O'Brien The Economic Effects of the American Civil War
R. B. Outhwaite Inflation in Tudor and Early Stuart England
R. J. Overy The Nazi Economic Recovery, 1932–1938
P. L. Payne British Entrepreneurship in the Nineteenth Century
G. C. Peden Keynes, The Treasury and British Economic Policy
Roy Porter Disease, Medicine and Society in England, 1550–1860
G. D. Ramsay The English Woollen Industry, 1500–1750
Elizabeth Roberts Women's Work 1840–1940
Michael E. Rose The Relief of Poverty, 1834–1914
Michael Sanderson Education, Economic Change and Society in England, 1780–1870
S. B. Saul The Myth of the Great Depression, 1873–1896
Arthur J. Taylor Laissez-faire and State Intervention in Nineteenth-century Britain
Peter Temin Causal Factors in American Economic Growth in the Nineteenth Century
Joan Thirk England's Agricultural Regions and Agrarian History, 1500–1750
Michael Turner Enclosures in Britain, 1750–1830
Margaret Walsh The American Frontier Revisited
J. R. Ward Poverty and Progress in the Caribbean 1800–1960

OTHER TITLES ARE IN PREPARATION

The British Iron Industry 1700–1850

*Prepared for
The Economic History Society by*

J. R. HARRIS

*Professor of Economic History
University of Birmingham*

M
MACMILLAN
EDUCATION

© The Economic History Society 1988

All rights reserved. No reproduction, copy or transmission of this publication may be made without written permission.

No paragraph of this publication may be reproduced, copied or transmitted save with written permission or in accordance with the provisions of the Copyright Act 1956 (as amended), or under the terms of any licence permitting limited copying issued by the Copyright Licensing Agency, 7 Ridgmount Street, London WC1E 7AE.

Any person who does any unauthorised act in relation to this publication may be liable to criminal prosecution and civil claims for damages.

First published 1988

Published by
MACMILLAN EDUCATION LTD
Houndmills, Basingstoke, Hampshire RG21 2XS
and London
Companies and representatives
throughout the world

British Library Cataloguing in Publication Data

Harris, J. R.

The British iron industry, 1700–1850.—
(Studies in economic and social history).

1. Iron industry and trade—Great Britain
—History 2. Steel industry and trade—
Great Britain—History

I. Title II. Economic History Society

III. Series

338.4'76691'0941 HD9521.5

ISBN 978-0-333-33979-4

ISBN 978-1-349-06457-1 (eBook)

DOI 10.1007/978-1-349-06457-1

Series Standing Order

If you would like to receive future titles in this series as they are published, you can make use of our standing order facility. To place a standing order please contact your bookseller or, in case of difficulty, write to us at the address below with your name and address and the name of the series. Please state with which title you wish to begin your standing order. (If you live outside the UK we may not have the rights for your area, in which case we will forward your order to the publisher concerned.)

Customer Services Department, Macmillan Distribution Ltd
Houndmills, Basingstoke, Hampshire, RG21 2XS, England.

Contents

<i>Acknowledgements</i>	7
<i>Editor's Preface</i>	9
<i>Note on References</i>	10
1 Introduction	11
(i) The Bloomery	11
(ii) The Arrival and Nature of the Indirect Process	13
2 Historical Debate on the Charcoal Iron Era	19
(i) General	19
(ii) The Question of Output	22
(iii) Failure to Satisfy the Home Market	26
(iv) Comparative Labour costs	28
3 The British Technological Revolution	30
(i) The General Adoption of Coke Iron	33
(ii) Coal in the Second Stage of the Indirect Process	37
4 The Rise of Steel Production	41
(i) Cementation Steel	42
(ii) Crucible Steel	45
5 Iron Production and Markets before 1800	48
(i) Output	48
(ii) The Place of Imports	50
(iii) The Place of Exports	51
6 Locational Changes and War	54
(i) Locational Change	54
(ii) The Iron Industry and War	55

7	The Early Nineteenth Century	59
	(i) Technical Change 1815–1850	59
	(ii) Iron and Railways	61
	(iii) Exports	64
8	The Ironmasters	66
	(i) Ironmasters' Associations	73
	(ii) Decisive Departures	76
	Appendix I Industrial Archaeology	77
	Appendix II Iron Production	79
	<i>Bibliography</i>	80
	<i>Index</i>	87

Acknowledgements

I have had a great deal of generous help and advice from friends who have read partial or complete drafts of this work; I hope I have taken full advantage of their assistance and for any remaining faults I am all the more to blame. I have in particular to thank Kenneth Barraclough, David Crossley, Keith Gale, Charles Hyde, Barrie Trinder and Ronnie Tylecote. Between them they have saved me from many errors of fact or emphasis. As a colleague Barrie has been particularly accessible and has been able to advise on the drawings and the note on industrial archaeology. Another colleague, Eric Hopkins, and Paul Harris have read the script with the needs of the student reader in mind; having had a long connection with the promoting of this series it has always seemed to me that they are the important customers. Sue Kennedy has transformed a bad manuscript into a neat and accurate typescript. The drawings have been prepared at Ironbridge by Sue Isaacs; participating in the work of the Ironbridge Institute has been the happiest background to preparing this little work.

J.R.H.

Editor's Preface

When this series was established in 1968 the first editor, the late Professor M. W. Flinn, laid down three guiding principles. The books should be concerned with important fields of economic history; they should be surveys of the current state of scholarship rather than a vehicle for the specialist views of the authors, and above all, they were to be introductions to their subject and not 'a set of pre-packaged conclusions'. These aims were admirably fulfilled by Professor Flinn and by his successor, Professor T. C. Smout, who took over the series in 1977. As it passes to its third editor and approaches its third decade, the principles remain the same.

Nevertheless, times change, even though principles do not. The series was launched when the study of economic history was burgeoning and new findings and fresh interpretations were threatening to overwhelm students – and sometimes their teachers. The series has expanded its scope, particularly in the area of social history – although the distinction between 'economic' and 'social' is sometimes hard to recognise and even more difficult to sustain. It has also extended geographically; its roots remain firmly British, but an increasing number of titles is concerned with the economic and social history of the wider world. However, some of the early titles can no longer claim to be introductions to the current state of scholarship; and the discipline as a whole lacks the heady growth of the 1960s and early 1970s. To overcome the first problem a number of new editions, or entirely new works, have been commissioned – some have already appeared. To deal with the second, the aim remains to publish up-to-date introductions to important areas of debate. If the series can demonstrate to students and their teachers the importance of the discipline of economic and social history and excite its further study, it will continue the task so ably begun by its first two editors.

The Queen's University of Belfast

L. A. CLARKSON
General Editor

Note on References

References in the text within square brackets relate to the numbered items listed in the Bibliography, followed, where necessary, by the page numbers in italics, for example [1, 7–9].