Dietmar Rothermund

The Industrialization of India



Schriftenreihe Moderne Südasienstudien – Gesellschaft, Politik, Wirtschaft The series Modern South Asian Studies – Society, Politics, Economy

herausgegeben von Edited by

Prof. Subrata K. Mitra, Ph.D. (Rochester, N.Y.), Ruprecht-Karls-Universität Heidelberg Prof. Dr. Dietmar Rothermund, Ruprecht-Karls-Universität Heidelberg

Band / Volume 8

Dietmar Rothermund

The Industrialization of India



The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie; detailed bibliographic data are available on the Internet at http://dnb.d-nb.de

ISBN 978-3-8487-6274-3 (Print) 978-3-7489-0380-2 (ePDF)

British Library Cataloguing-in-Publication Data

A catalogue record for this book is available from the British Library.

ISBN 978-3-8487-6274-3 (Print) 978-3-7489-0380-2 (ePDF)

Library of Congress Cataloging-in-Publication Data

Rothermund, Dietmar The Industrialization of India Dietmar Rothermund 183 pp. Includes bibliographic references and index.

ISBN 978-3-8487-6274-3 (Print) 978-3-7489-0380-2 (ePDF)

1st Edition 2019

© Nomos Verlagsgesellschaft, Baden-Baden, Germany 2019. Printed and bound in Germany.

This work is subject to copyright. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or any information storage or retrieval system, without prior permission in writing from the publishers. Under § 54 of the German Copyright Law where copies are made for other than private use a fee is payable to "Verwertungsgesellschaft Wort", Munich.

No responsibility for loss caused to any individual or organization acting on or refraining from action as a result of the material in this publication can be accepted by Nomos or the author.

Preface

My interest in industry began in my childhood, long before I became a student of history. My father was the chief engineer of a large foundry with 600 workers at Henschel, Kassel. The company produced locomotives, but during the Second World war it was involved in the production of the Tiger tank. I visited my father several times at his place of work and asked him many questions. In the early 1950s he had a young Indian trainee, Satish Rastogi, he was the first Indian I met and I learned much from him. I later on visited him at TELCO, Jamshedpur, where he then was the chief engineer of the TELCO foundry. After TELCO I also visited the steel mill at Rourkela in 1961. I was later on told that people there thought I was an East German spy, because I asked so many pointed questions. I was amused by this suspicion. It seems that by picking my father's brain, I had absorbed a good deal of technical knowledge. During my stay in India, I often visited factories and workshops and talked to industrialists as well as labour leaders.

In 1992 I joined the Indo-German Consultative Group, which consisted mostly of Indian and German industrialists, with a few professors added to the team. Prime Minister P.V. Narasimha Rao had asked Chancellor Helmut Kohl to convene this group, which then met every year, alternating between India and Germany. We had the task to produce a letter to both heads of government, indicating prospects of Indo-German cooperation. After our discussions we also visited important places. I still remember the impressive tour of ISRO in 1999. I learnt a great deal by talking to the Indian members of the group to which I belonged from 1992 to 2002. Prof. Ragunath Mashelkar, Director General of the Council of Scientific and Industrial Research, was also a member of this group. I got to know him there and kept in touch with him in later years. My assessment of the work of the CSIR in this book owes much to my discussions with him.

My colleague and friend, Prof. B.B. Chaudhuri, asked me then to contribute a chapter on the industrialization of India to his edited volume on the economic history of India from the 18th to the 20th century, (see bibliography) He kindly permitted me to reproduce much of the text here. I up-dated it. I had written two books after this text: *India: The Rise of an Asian Giant* for Yale University Press, in 2008 and *Contemporary India. Political, Economic and Social Developments since 1947* for Pearson Publishers in

Preface

New Delhi, in 2013. In both these books I also referred to industrialization, I added some of this information to the present text.

Dossenheim near Heidelberg, October 2019 Dietmar Rothermund

Table of Contents

| Introduction: Studying the Industrialization of India | | 11 |
|---|--|----|
| 1. | India and the British Industrial Revolution of the 18th century | 13 |
| | The impact of the trade in Indian textiles on the development of the British textile industry and the "de-industrialization" of India | 15 |
| 2. | The beginnings of modern industrialization in India in the 19th century | 20 |
| | Western India: The cotton textile industry | 20 |
| | Eastern India: jute, tea and coal | 24 |
| | The humble beginnings of the Indian leather industry | 31 |
| | The vision of Jamshed Tata: The steel mill at Jamshedpur, the Indian Institute of Science at Bengaluru | 32 |
| 3. | The First World War and the Great Depression: Protectionism and Import Substitution | 36 |
| | Indian industry in the 1920 s | 37 |
| | The impact of the Great Depression | 40 |
| 4. | The rise of state interventionism in the Second World War | 48 |
| | The emergence of the instruments of intervention | 48 |
| | The rise of new industrial firms | 50 |
| | Economic policy after independence | 52 |
| 5. | The Nehru era: Planned economy, protectionism and forced industrialization | 55 |
| | The Bombay Plan of 1944 and the Statement of Economic Policy of 1945 | 56 |
| | Central control of the Indian economy | 59 |
| | The initial five-year plans | 61 |

Table of Contents

| | The growth of the Indian steel industry | 63 |
|----|---|-----|
| | Industrial diversification: HMT, HAL, MICO, ALIND | 66 |
| | The strangulation of the cotton textile mills | 71 |
| | The expansion of the scope of the Council of Scientific and Industrial Research (CSIR) | 72 |
| 6. | Stagnation of the public and private sectors, 1965-1980 | 75 |
| | The cult of self-reliance and the MRTPA-FERA-regime | 77 |
| | Coal, oil and steel in the period of stagnation | 80 |
| | The further decay of the textile industry | 83 |
| | Jute, tea and cement | 88 |
| 7. | The up-swing of industrial growth, 1981-1991 | 92 |
| | The success stories of the oil and cement industries | 92 |
| | Cars and machine-tools | 93 |
| | The liberalization of foreign trade | 95 |
| | The progress of the petrochemical industry | 97 |
| | The Mumbai textile strike of 1982 and the doom of the mills | 99 |
| | The new textile policy of 1985 | 101 |
| | The progress of the fertilizer industry and of steel mills | 103 |
| 8. | Balance of payments crisis, structural adjustment and liberalization: Indian industry and economic reform | 106 |
| | The restructuring of the cotton textile industry in the 1990 s | 107 |
| | Machine tools and steel in the 1990 s | 107 |
| | The pharmaceutical and petrochemical industries | 109 |
| | The defence industry | 112 |
| | The Indian oil industry | 113 |
| | India's export industries | 114 |
| | The new vision of the CSIR | 119 |
| 9. | The new frontier of Information Technology | 123 |
| | Supercomputers and rockets: Denial driven innovation | 123 |

Table of Contents

| The success of customised computer software | 127 |
|--|-----|
| 10.Indian industry in the 21st century | 132 |
| The change in outlook among entrepreneurs | 132 |
| Steel, cars and cycles | 133 |
| Machine tools: The case of Ace Micromatic Group | 140 |
| The quest for energy | 142 |
| The further progress of the IT-industry | 143 |
| Overcoming the bottlenecks of infrastructure: Railways and Roads | 144 |
| Ports and shipbuilding | 146 |
| Airlines and airports | 151 |
| Meeting the challenge faced by the textile industry | 153 |
| New industries and the importance of patents | 156 |
| The structure of Indian labour | 159 |
| Concluding remarks | 160 |
| Acknowledgements | |
| Bibliography | |
| Index | |