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978-0-521-10341-1 - The French Economy in the Nineteenth Century: An Essay in Econometric Analysis

Maurice Levy-Leboyer and Francois Bourguignon

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In this book a highly distinguished economic historian joins forces with one of the leading exponents of the influential French school of econometricians to present a major re-interpretation of the economic history of France during the nineteenth century. The authors use sophisticated quantitative techniques to investigate such distinctive phenomena as the long slow-down of growth from the mid-century onwards. Their analysis is based both upon an original two-sector macro-economic model, estimated on annual series of output, consumption, foreign trade, investment, prices etc., and also upon a thorough comparison of the behaviour of all macro-economic aggregates across sub-periods. In a separate Appendix full details are provided of the construction of the statistical bases used, and the whole will make a major cliometric contribution to current debates on the nature and timing of European industrialization.

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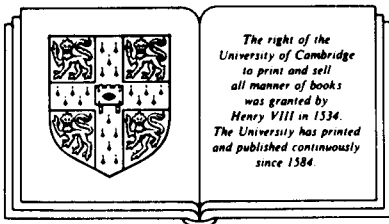
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# The French economy in the nineteenth century

An essay in econometric analysis

MAURICE LÉVY-LEBOYER AND  
FRANÇOIS BOURGUIGNON

Translated by JESSE BRYANT and VIRGINIE PÉROTIN



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For those in our families who have lived in the period  
covered by this book and those who patiently bore with  
our perhaps excessive interest in it.

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## Preface

This work is the result of a collaboration of several years between an historian and an economist. Its aim was initially limited. The purpose was simply to construct an econometric procedure to assess, within a strict framework of national accounts, the consistency of various, primary historical series covering year by year the whole of the nineteenth century. In other words, did prices, investment, output, or foreign trade, as described by these series, obey fundamental economic mechanisms? Did consumption figures, derived residually from the domestic product data, reveal income and price elasticities with signs and values consistent with economic theory?

After a long iterative process of econometric modelling and of methodological revisions in the construction of the data set, coherent national accounts reasonably detailed by economic function and by main sectors could be obtained. That is the first contribution of this work. However, during this process it appeared that the approach chosen could be taken further to open a genuine reinterpretation of historical hypotheses.

The application of the econometric procedure to distinct consecutive sub-periods exposed significant changes in the behaviour of macroeconomic aggregates. Some were expected, for instance the increase in the price elasticity of agricultural consumption. Other changes in behaviour, or their date of appearance, were more surprising, as for instance the apparent inversion of Engel's law on food consumption towards the middle of the century. Finally, other changes directly brought to light phenomena which had been inferred on a purely microeconomic basis but could not be characterized precisely at the macroeconomic level. This is notably the case for the loss of competitiveness of French industry in 1870–80, which significantly modified the behaviour of the country on the international market.

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In view of these results, two major concerns arose. Firstly, we wanted to confirm and refine the broad evolutionary features revealed quite mechanically by the econometric procedure through traditional historical material. Secondly, we hoped to combine these various hypotheses in such a way as to reach a comprehensive explanation for the behaviour of the French economy and its cycles in the nineteenth century, in particular the long slow-down that begins in the 1860s and 1870s. The collection and construction of annual series describing the evolution of economic activity gradually exceeded the initial objective and led to a reinterpretation of French economic history and to the formulation of new hypotheses about the evolution that it shows in fundamental aspects of macroeconomic behaviour.

The dual approach, historical and economic, which constantly guided our thinking, was preserved in the presentation of this work. The first part is perhaps of more interest to the historian. The principal explanatory hypotheses for the evolution of the French economy are integrated into the three areas of consumption, foreign trade, and investment. The second part is of a more strictly economic nature. The first chapter describes the structure of the theoretical model chosen for estimation. If it appears too technical to the reader, it can simply be skimmed over without affecting the understanding of the following chapter. This studies in detail the evolution of the main economic aggregates and constitutes the heart of the economic study. Finally, the partial results obtained in this chapter are consolidated in the last chapter where some overall simulations are undertaken for the evolution of the French economy on the basis of hypotheses derived in the first part. The simulations help to understand how distinct phenomena could interact to shape the particular features of France's economy in the nineteenth century.

As for the initial objective of providing a reliable data base for the analysis of the nineteenth century economy, the primary sources as well as the statistical series themselves are presented and discussed in a long appendix. We could have shown with these series the figures predicted by the econometric model to enable the reader to judge the relative significance of the series and the model. Concern for the length of this material dissuaded us from publishing them, but the interested reader can obtain a copy of these simulated series directly from the authors.

We could not conclude this foreword without thanking those who helped us in the realization of this work. Some parts were presented in a

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preliminary form in various seminars and conferences of historians or economists. The comments and suggestions made by the participants were of invaluable help, even if we have not been able to take them all into account. In the Laboratoire d'Economie Politique at the Ecole Normale Supérieure, where the whole of this work was gradually elaborated, we owe much to the encouragement of and the long discussions with two successive directors, both historians who came to economics, Christian Morrisson and Jean-Charles Asselain. The burdensome and sometimes tedious work of data processing was carried out by Bénédicte Sabatier-Labeyrie. We wish, however, to express very special thanks to Jeanne Picquart, who, with exceptional patience, typed the successive manuscripts. The quality of her work nears perfection and greatly surpasses that of our own.

Certainly, shortcomings and gaps remain in the present state of our research. We point out some in the course of our text that could probably have been corrected had we decided to delay further the publication of this work for one or two years. However, others would have appeared in the meantime. Therefore, imposing a time limit on ourselves seemed the wisest policy. At the close of this first stage, we hope to have put forward hypotheses for the interpretation of the French nineteenth century that will interest historians and economists. We hope also to have shown all the benefits of the dual historical and econometric approach in this domain and opened the way to a new research tradition in economic history.