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The Path of Economic Growth

ADOLPH LOWE

Assisted by STANFORD PULRANG

with an appendix by
EDWARD J. NELL

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To my students – my teachers

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Adolph Lowe
Frontmatter
More information

Contents

Preface ix

Acknowledgments xi

PART I The Basic Model

1 Introduction: Scope and Method 3
2 Patterns of Economic Growth 19
3 A Schema of Industrial Production 24
4 The Circulation of Fixed Capital 35
5 The Circulation of Working Capital 48
6 The Stationary Process in Operation: Structure Analysis 55
7 The Stationary Process in Operation: Force Analysis 62
8 Transition to Dynamic Equilibrium 70
9 Dynamic Equilibrium: Structure Analysis 77
10 Dynamic Equilibrium: Force Analysis 95

PART II Changes in the Rate of Change
I. *The Dynamics of Labor Supply*

11 The Setting of the Problem 103
12 A Bird's-Eye View of an Expanding Traverse 109
13 On the Short-Period Variability of the Capital–Labor Ratio 115
14 Adjustment to a Higher Rate of Growth of Labor Supply in a Free Market. I. Structure Analysis 123
15 Adjustment to a Higher Rate of Growth of Labor Supply in a Free Market. II. Force Analysis 146
16 Adjustment to a Higher Rate of Growth of Labor Supply in a Collectivist System 168
17 Some Comments on the Role of Working Capital in the Traverse 176
18 Instrumental Analysis of Decline in the Rate of Growth of Labor Supply 182

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Cambridge University Press
978-0-521-12533-8 - The Path of Economic Growth
Adolph Lowe
Frontmatter
More information

PART III Changes in the Rate of Change
II. *The Dynamics of Natural Resources Supply*

19 The Dynamics of Diminishing Returns 209
20 Recycling of Production and Consumption Residuals and the Structure of Production 223

PART IV Changes in the Rate of Change
III. *The Dynamics of Technological Progress*

21 The Scope of the Investigation 235
22 Dynamic Equilibrium Once More 240
23 Nonneutral Innovations: A General Survey 246
24 Pure Labor-Displacing Innovations 256
25 Pure Capital-Displacing Innovations 266
26 Some Comments on Combined Changes in the Input of Labor and Capital 272
27 Technical Progress and Diminishing Returns 275

28 Some Concluding Remarks 285

Appendix: An Alternative Presentation of Lowe's Basic Model by Edward J. Nell 289

Glossary of Recurring Symbols 327

Name Index 331

Subject Index 333

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CAMBRIDGE

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978-0-521-12533-8 - The Path of Economic Growth
Adolph Lowe
Frontmatter
More information

Preface

Fifty years ago, in 1925, I published an essay outlining the stages and patterns characteristic for the process of industrialization.[1] This investigation, my first contact with the problem of economic growth, served as the starting point for an ambitious research program concerned with World Industrialization and International Business Cycles, which I conducted during the subsequent quinquennium under the auspices of the Institute of World Economics at the University of Kiel, Germany. Among the studies that issued from this enterprise, the best known are F. A. Burchardt's work on the industrial structure of production,[2] and Walter G. Hoffmann's elaboration and testing of my original hypothesis.[3]

The search for a verifiable model of "cyclical growth" has remained at the center of my own writings[4] as well as of my former activity as Director of Research of the Institute of World Affairs in New York City.[5] All of these partly theoretical, partly historical-descriptive studies fall into the category of "positive" economics. However, increasing doubts as to

[1] Adolph Lowe, "Chronik der Weltwirtschaft," *Weltwirtschaftliches Archiv,* Vol. 22, 1925, pp. 1*–32*.

[2] Summarized in R. Nurkse, "The Schematic Representation of the Structure of Production," *Review of Economic Studies,* Vol. 2, 1935, pp. 232–44, and in Adolph Lowe, "A Structural Model of Production," *Social Research,* Vol. 19, 1952, pp. 135–76. See also Chapter 2, Section II, of this book.

[3] Walter G. Hoffmann, *Stadien und Typen der Industrialisierung,* Jena, 1931, published in English as *The Growth of Industrial Economies,* Manchester, 1958.

[4] See Adolph Lowe, "Some Theoretical Considerations of the Meaning of Trend," *Proceedings of the Manchester Statistical Society,* Manchester, 1935; "The Trend in World Economics," *The American Journal of Economics and Sociology,* Vol. 3, 1944, pp. 419–33; "A Structural Model of Production," *loc. cit.;* "The Classical Theory of Economic Growth," *Social Research,* Vol. 21, 1954, pp. 127–58; "Structural Analysis of Real Capital Formation," in *Capital Formation and Economic Growth,* ed. Moses Abramovitz, Princeton, 1955, pp. 581–634.

[5] Of the pertinent publications of the Institute, I mention Henry G. Aubrey, "Deliberate Industrialization," *Occasional Paper,* New York, 1949, and "Small Industry in Economic Development," *Occasional Paper,* New York, 1951; Wilbert E. Moore, *Industrialization and Labor,* Ithaca and New York, 1951; Hans Neisser and Franco Modigliani, *National Incomes and International Trade,* Urbana, 1953.

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the practical applicability of the results obtained gradually convinced me that analytical progress in this field was conditional on a fundamental revision of the method of research.

A different approach was first outlined in my book *On Economic Knowledge*.[6] There, in the eleventh chapter, the reader will find a literary sketch of the manner in which the problem of economic growth can be treated with the help of this particular technique of analysis. The present work is a systematic elaboration of that first attempt, now presenting the issues in both literary and symbolic formulations.

The reasons for adopting a new methodology will be presented in the introductory chapter. Otherwise, as the reader will see, this book is almost totally devoid of controversy and even of neutral discussions of other writings. After having summarized my past work, I trust that this will not be attributed to ignorance or disrespect. I simply believe that our contributions should be judged by what they add rather than by what they detract.

New York
April 1976

Adolph Lowe

[6] Adolph Lowe, *On Economic Knowledge*, New York and Evanston, Ill., 1964 (also Harper Torchbook TB 1526).

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More information

Acknowledgments

When the Syndics of Cambridge University Press invited me early in 1970 to write up my lecture notes on the theory of economic growth, I did not expect that this assignment would take me the better part of five years. Apart from some unforeseeable interruptions, the main reason for this slow process of gestation was the well-known experience that what sounds perfectly plausible in the classroom loses some of its apparent validity when put in black and white. Moreover, as even Keynes had to admit in the Preface to his *General Theory,* "It is astonishing what foolish things one can temporarily believe if one thinks too long alone." Therefore, I am thankful for the good fortune that provided me in the later stages of this inquiry with the ideal critic in the person of my friend and former student, Stanford Pulrang.

In speaking of the ideal critic, I am not alluding to the literary judge who is mainly concerned with questioning our basic outlook and its underlying assumptions. His function can be very helpful in the initial stages when we lay out our program. However, once work is in progress, we are in need of another type of evaluator who accepts our frame of reference but checks the inner consistency of the argument, points out alternatives, and in every way acts as the Devil's Advocate. Mr. Pulrang has played this role to perfection. His contribution is important enough to deserve more than this passing reference.

Of a different nature but no less significant in its own right has been the contribution of Professor Nell. Several readers of the manuscript had felt that interest in and comprehension of my exposition would be greatly enhanced if the underlying basic model would be rendered in the symbolic language used in some recent writings in the theory of growth. In the Appendix, Professor Nell has carried out this delicate task with exceptional skill. Not only has he succeeded in faithfully translating my analytical scheme, but in doing so, he has been able to identify essential similarities and differences of my model compared with the analytical apparatus of Hicks, Morishima, von Neumann, and Sraffa. His demonstration will no doubt serve as an effective tool of communication, and I feel deeply obligated to him for the effort he has bestowed on this project.

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I am also grateful to Professors Murray Brown and David Laibman for useful suggestions concerning particular chapters. Drs. D. N. Lincoln, E. Lustig, and W. S. Sheldrick have skillfully lifted me over some mathematical hurdles. To all these helpmates, I extend my sincere thanks, while naturally exempting them from all responsibility for the use I have made of their advice.

I have dedicated this book to my students who were associated with me at various times in several countries during more than half a century. It has been their incessant and relentless questioning which, more than any other outside influence, has determined the direction of my work. If I were to single out a particular name it would, of course, be Robert L. Heilbroner. A close friend for more than 25 years and a highly esteemed colleague, he has once again acted as guardian of my style and also as an expert simplifier. By carefully disentangling a number of rather involved passages, he drew my attention to more than a few lacunae and errors. Thus his contribution has improved the content as well as the form of the book, and I am very grateful for both.

For a second time the Lucius Littauer Foundation has awarded me a grant for the completion of a manuscript, a favor for which I wish to express my genuine appreciation.

Special thanks are due the editorial officers of Cambridge University Press, in particular Luther Wilson and Rhona Johnson and also Edith Feinstein, accomplished copy editor, for their help in improving the text. But that there was any text to improve upon has been the achievement of Ms. Lillian Salzman who has done outstanding work in transforming an almost illegible manuscript into the final draft. It is difficult for me to find the proper words of praise for the intelligence, meticulous care, and good-humored patience with which she has performed a Herculean task.

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