Explaining Long-Term Trends in Health and Longevity

ROBERT W. FOGEL
University of Chicago

CAMBRIDGE UNIVERSITY PRESS
Contents

Tables
Figure
Acknowledgments

1. Foreword (Stanley L. Engerman) 1
2. Secular Changes in American and British Stature and Nutrition 5
   Principal Samples and Procedures 6
   Statistical Issues 11
   Sample-Selection Biases 12
   Measurement Bias 13
   Methods of Estimating Mean Height from Truncated Distributions 15
   The "Basketball" Problem 17
   The Findings 20
      The Early Achievement of Modern Stature and Improved Nutrition in the United States 20
      Cycles in Height 22
      The Influence of Economic and Social Factors on Height 26
      The Influence of Height on Social and Economic Behavior 28
      Some Economic and Demographic Issues 30
3. Second Thoughts on the European Escape from Hunger: Famines, Chronic Malnutrition, and Mortality Rates 39
   Famines amid Surpluses: A Suggested Mechanism 54
   The Long Struggle to Repair the System of Food Distribution 61
   Chronic Malnutrition and the Secular Decline in Mortality 66
Energy Cost Accounting: The Case of Britain and France
during the Last Quarter of the Eighteenth Century 68
The Implications of Stature and Body Mass Indexes for the
Explanation of Secular Trends in Morbidity and Mortality 72
Conclusions 81
Appendix 82
The Derivation of Equation (7) 84
The Derivation of Equations (8) and (10) 86
The Sources for the Estimation of Parameters in Equations
(4), (5), (6), and (11) 87
Sources for the Parameter Estimates in Table 3.5 88

4. Trends in Physiological Capital: Implications for Equity in Health Care 91
Physiological Capital 92
Equity Implications of the Accumulation of Physiological Capital 95
Implications of Enhanced Physiological Capital for Egalitarian Health Policies 99
Thesis 2: Slowed Physiological Capital Depreciation Rates Are More Important than Improved Medical Technology 101
Thesis 4: Lifestyle Change Is Key to Improving Health 103
Thesis 5: Health Care Outreach Programs Are More Important than Extension of Insurance 104
Conclusion 104

5. Changes in Disparities and Chronic Diseases through the Course of the Twentieth Century 106
The Significance of Changes in Body Size 111
The Theory of Technophysio Evolution 112
Technophysio Evolution and the Reduction in Inequality during the Twentieth Century 115
Conclusion 118

6. Some Common Problems in Analysis and Measurement 120
Using Ratios of CDR Instead of Differences 120
Estimating the Income Elasticity of Food Consumption from Cross-Sectional Data 122
Contents

Use of BMI Curves to Identify Optimal Levels of Weight (Adjusted for Height) Instead of Weight by Height Surfaces 127

7. Afterword: A Conversation with the Author 133

References 147

Index 161