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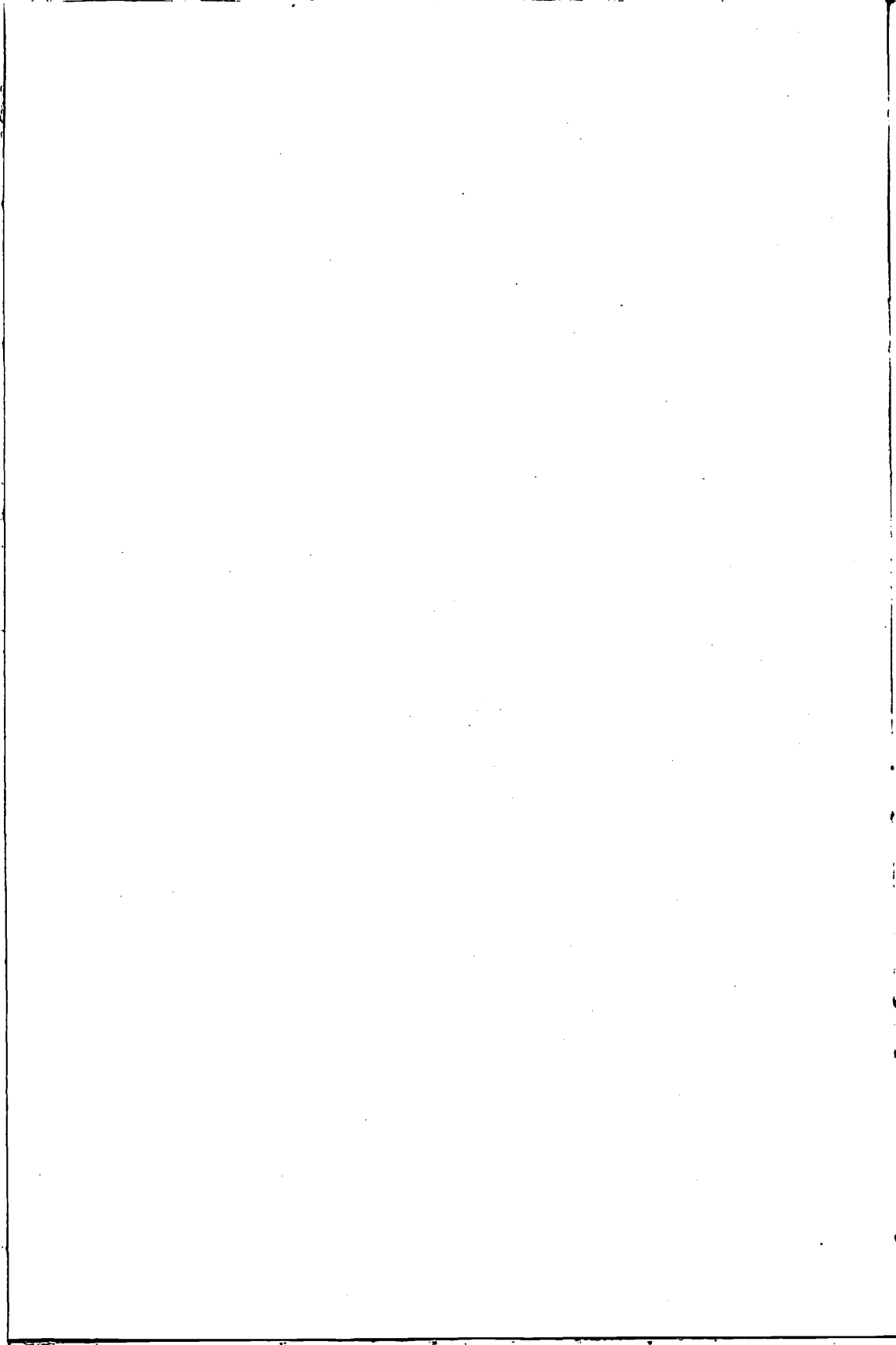
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Contents

List of Tables	xi
Preface	xxi
Chapter 1	
Introduction	1
The Issues	1
Theoretical Framework	4
Data	5
Structuring of the Data: Time Series, Cross Sections, and Overall Relations—Firm, Industry, and Aggregate	8
Plan of the Volume	13
Chapter 2	
Sales Expectations and Realizations	17
Introduction	17
Short-Run Sales Change Expectations	18
Long-Run Sales Change Expectations	24
Short-Run Sales Realizations	28
Long-Run Sales Realizations	36
Summary and Conclusions	40
Appendix	44

Chapter 3	
Inventory Investment	47
Introduction	47
Specific Models of Inventory Investment	48
The Role of Profits	60
Summary and Conclusions	66
Chapter 4	
Capital Expenditures—The Basic Model	69
Analytical Foundations and Complications	69
A Basic Accelerator-Profits Investment Function	73
A Permanent Income Theory for Investment	79
The Role of Reported Sales Expectations	95
Utilization of Capacity and Other Variables	103
Summary and Conclusions	112
Appendix	114
Chapter 5	
Capital Expenditures—Some Further Analyses	117
Asymmetrical Accelerator Relations	117
Gross Profits and the Speed of Reaction	119
Asymmetrical Role of Profits in Speed of Reaction	124
Role of Profits and Size of Firm	125
Summary and Conclusions	130
Chapter 6	
Short-Run Capital Expenditure Anticipations and Realizations	133
Introduction	133
Means of Expenditures, Anticipations, Sales, and Profits	
Changes	134
Determinants of Anticipations and Expenditures	135
Realizations Functions	142
The Role of Sales Expectations and Realizations	145
Accuracy of Anticipations, by Year and Industry	153
Summary and Conclusions	157
Appendix	158

Chapter 7	
Longer Term Capital Expenditure Anticipations	161
Introduction	161
Determinants of Long-Run Capital Expenditure Plans	162
The Role of Long-Run Capital Expenditure Plans as Determinants or Forecasts of Actual Expenditures	166
Summary and Conclusions	171
Appendix	172
Chapter 8	
Components of Capital Expenditures—Replacement and Modernization versus Expansion	175
Introduction and Description of Data	175
Relative Stability of Replacement versus Expansion Investment	178
Determinants of Anticipated Replacement and Expansion Expenditures	181
Comparison with Feldstein-Foot Results	183
Summary and Conclusions	188
Chapter 9	
A Final Note	189
Appendix A	
Glossary	195
Appendix B	
Sample McGraw-Hill Questionnaire	201
References	205
Index	211
About the Author	219



List of Tables

Tables with no prefix before their numbers are reproduced in the text; those with asterisks appear in abbreviated form. The designation M indicates a table available only on microfiche. All of the tables, including those in the text, appear in full on microfiche.

2-1	Short-Run Sales Change Expectations, Firm and Industry Time Series, 1956-1968	19
2-2	Short-Run Sales Change Expectations, Firm and Industry Cross Sections, 1956-1968	22
2-3*	Short-Run Sales Change Expectations as a Function of Past Sales Changes and Long-Run Expected Sales Changes, Firm Time Series, by Industry and for All Industries, 1956-1968	24
2-4*	Short-Run Sales Change Expectations as a Function of Past Sales Changes and Long-Run Expected Sales Changes, Firm Cross Sections, by Year and for All Years, 1956-1968	26
M2-5	Short-Run Sales Change Expectations, Firm and Industry Time Series and Cross Sections, 1956-1968	
2-6*	Long-Run Sales Change Expectations, Firm and Industry Time Series, 1956-1968	27
2-7*	Long-Run Sales Change Expectations, Firm and Industry Cross Sections, 1956-1968	28
2-8	Short-Run Sales Realizations: Actual minus Expected Ratios of Changes in the Physical Volume of Sales, s_t^s , Means and Standard Deviations, by Industry and Year, 1955-1968	30

2-9	Short-Run Sales Realizations: Inequality Coefficients (U), by Year and Industry	33
2-10	Short-Run Sales Realizations: Inequality Coefficients (U) and Bias (U^m), Variance (U^s), and Covariance (U^c) Proportions, Individual Firms by Industry and Year, Overall and Groups	34
2-11	Short-Run Sales Realizations: Actual Sales Change Ratios as a Function of Expected Sales Change Ratios, Firm and Industry Time Series and Cross Sections, 1955-1968	35
2-12	Short-Run Sales Realizations: Actual Sales Changes as a Function of Expected Sales Changes, Firm and Industry Time Series and Cross Sections, 1955-1968	36
M2-13	Short-Run Sales Realizations: Actual Sales Change Ratios as a Function of Past Sales Change Ratios and Expected Ratios, Firm and Industry Time Series, 1956-1968	
M2-14	Short-Run Sales Realizations: Actual Sales Change Ratios as a Function of Past Sales Change Ratios and Expected Ratios, Firm and Industry Cross Sections, 1956-1968	
2-15*	Long-Run Sales Realizations: Actual minus Expected Ratios of Changes in the Physical Volume of Sales, by Industry and by Year, over Three and over Four Years, Means and Standard Deviations	38
M2-16	Long-Run Sales Realizations: Inequality Coefficients (U), by Year and Industry	
2-17	Long-Run Sales Realizations from Anticipations over Three or Four Years as Reported: Inequality Coefficients (U) and Bias (U^m), Variance (U^s), and Covariance (U^c) Proportions, Individual Firms by Industry and Year, Overall and Groups	39
2-18	Long-Run Sales Realizations: Actual Sales Change Ratios as a Function of Expected Sales Change Ratios, Firm and Industry Time Series and Cross Sections, 1956-1968	41
2-19	Long-Run Sales Realizations: Actual Sales Change as a Function of Expected Sales Change, Firm and Industry Time Series and Cross Sections, 1956-1968	42
M2-20	Long-Run Sales Realizations over Four Years: Inequality Coefficients (U) and Bias (U^m), Variance (U^s), and Covariance (U^c) Proportions, Individual Firms, by Industry and Year, Overall and Groups	
M2-21	Long-Run Sales Realizations: Actual Sales Change	

	Ratios as a Function of Expected Sales Change Ratios, Cross Sections, by Year, 1956-1968	
M2-22	Long-Run Sales Realizations: Actual Sales Change as a Function of Expected Sales Change, Cross Sections, by Year	
3-1	Inventory Investment and Expected and Actual Sales, Firm Time Series, 1960-1968	53
3-2	Inventory Investment and Expected and Actual Sales, Firm Cross Section, 1960-1968	56
3-3	Inventory Investment and Expected and Actual Sales, Industry Time Series, 1960-1968	57
3-4	Inventory Investment and Expected and Actual Sales, Constrained Regressions, Time Series and Cross Sections, 1960-1968	59
M3-5	Inventory Investment and Expected and Actual Sales, Industry Cross Section, 1960-1968	
3-6	The Role of Relative Gross Profits, Expected and Actual Sales, and Errors in Expectations, Time Series and Cross Sections, 1960-1968	62
M3-7	The Role of Relative Gross Profits, Expected and Actual Sales, and Errors in Expectations, Constrained Regressions, Firm Time Series and Cross Sections, 1960-1968	
M3-8	The Role of Relative Gross Profits, Expected and Actual Sales, and Errors in Expectations, Time Series and Cross Sections, 1960-1968	
M3-9	The Role of Relative Gross Profits, Expected and Actual Sales, and Errors in Expectations, Firm Time Series and Cross Sections, 1960-1968	
4-1	Capital Expenditures as a Function of Sales Changes, Profits, and Depreciation, Firm Overall Regression, 1955-1968	76
M4-2	Profits as a Function of Current and Past Sales Changes, 1955-1968	
M4-3	Lagged Profits as a Function of Current and Past Sales Changes, 1955-1968	
4-4	Capital Expenditures as a Function of Sales Changes, Profits, and Depreciation, Firm and Industry Cross Sections and Industry Overall Regressions, 1955-1968	84
4-5	Capital Expenditures as a Function of Sales Changes, Profits, and Depreciation, Firm and Industry Cross Sections and Overall Regressions, 1955-1962 versus 1963-1968	86

4-6	Capital Expenditures as a Function of Sales Changes and Profits, Firm and Industry Time Series and Cross Sections, and Firm Overall Regressions, 1955-1968	88
4-7	Capital Expenditures as a Function of Sales Changes and Profits, Firm and Industry Time Series and Cross Sections, and Firm Overall Regressions, 1955-1962 versus 1963-1968	90
4-8	Capital Expenditures as a Function of Sales Changes, Profits, and Depreciation, Individual Year and Pooled Firm Cross Sections, 1955-1968	92
4-9	Capital Expenditures as a Function of Sales Changes, Profits, and Depreciation, Cross Sections and Time Series by Industry, 1955-1968	96
M4-10	Capital Expenditures as a Function of Sales Changes, Profits, and Depreciation, All Except Depreciation Measured as Ratios of Previous Year's Gross Fixed Assets or Previous Three Year Sales Averages, Firm Overall Regression, 1955-1968	
M4-11	Capital Expenditures as a Function of Sales Changes, Profits, and Depreciation, Firm and Industry Cross Section and Industry Overall Regressions, 1955-1968	
M4-12	Capital Expenditures as a Function of Sales Changes and Profits, Firm and Industry Time Series and Cross Sections and Firm Overall Regressions, 1955-1968	
M4-13	Capital Expenditures as a Function of Sales Changes, Profits, and Depreciation, All Except Depreciation Measured as Ratios of Previous Year's Gross Fixed Assets or Previous Three Year Sales Average, Individual Year and Pooled Firm Cross Sections, 1955-1968	
M4-14	Capital Expenditures as a Function of Sales Changes, Profits, and Depreciation, All Except Depreciation Measured as Ratios of Previous Year's Gross Fixed Assets or Previous Three Year Sales Average, Cross Sections and Time Series by Industry, 1955-1968	
4-15	Capital Expenditures as a Function of Sales Changes, Expected Sales Changes, Profits, and Depreciation, Firm Overall Regression, 1955-1968	99
4-16	Capital Expenditures as a Function of Sales Changes, Expected Sales Changes, Profits, and Depreciation, Cross Sections and Industry Overall Regression, 1955-1968	101

- 4-17 Capital Expenditures as a Function of Sales Changes, Expected Sales Changes, and Profits, Firm and Industry Time Series and Cross Sections and Firm Overall Regressions, 1955-1968 102
- M4-18 Capital Expenditures as a Function of Sales Changes, Expected Sales Changes, Profits, and Depreciation, All Except Depreciation Measured as Ratios of Previous Year's Gross Fixed Assets or Previous Three Year Sales Average, Individual Year and Pooled Firm Cross Sections, 1955-1968
- M4-19 Capital Expenditures as a Function of Sales Changes, Expected Sales Changes, Profits, and Depreciation, All Except Depreciation Measured as Ratios of Previous Year's Gross Fixed Assets or Previous Three Year Sales Average, Cross Sections and Time Series by Industry, 1955-1968
- M4-20 Capital Expenditures as a Function of Sales Changes, Expected Sales Changes, Profits, and Depreciation, Firm Overall Regressions, 1955-1968
- M4-21 Capital Expenditures as a Function of Sales Changes, Expected Sales Changes, Profits, and Depreciation, Firm and Industry Cross Sections and Industry Overall Regressions, 1955-1968
- M4-22 Capital Expenditures as a Function of Sales Changes, Expected Sales Changes, and Profits, Firm and Industry Time Series and Cross Sections and Firm Overall Regressions, 1955-1968
- M4-23 Capital Expenditures as a Function of Sales Changes, Expected Sales Changes, Profits, and Depreciation, Individual Year and Pooled Firm Cross Sections, 1955-1968
- M4-24 Capital Expenditures as a Function of Sales Changes, Expected Sales Changes, Profits, and Depreciation, Cross Sections and Time Series, by Industry, 1955-1968
- 4-25 Capital Expenditures as a Function of Sales Changes, Utilization of Capacity, Profits, and Depreciation, Firm and Industry Overall Regressions, 1955-1968 104
- M4-26 Capital Expenditures as a Function of Sales Changes, Utilization of Capacity, and Profits, Firm and Industry Time Series, 1955-1968
- 4-27 Capital Expenditures as a Function of Sales Changes, Utilization of Capacity, Profits, and Depreciation, Cross Section and Time Series by Industry, 1955-1968 106

M4-28	Capital Expenditures as a Function of Sales Changes, Utilization of Capacity, Profits, and Depreciation, All Except Depreciation Measured as Ratios of Previous Year's Gross Fixed Assets or Previous Three Year Sales Average, Individual Year and Pooled Firm Cross Sections, 1955-1968	
4-29	Capital Expenditures as a Function of Sales Changes, Profits, Rate of Return, Value of the Firm Ratio, Depreciation, and Trend, Firm Time Series, Cross Section and Overall Regressions, 1960-1962	109
4-30	Capital Expenditures as a Function of Sales Changes and Profits Measured as Ratios of Lagged Gross Fixed Assets and Average Sales, Change in Value of Firm, and Depreciation, Firm and Industry Cross Sections and Firm Time Series and Overall Regressions, 1961-1962	110
5-1	Asymmetrical Accelerator Relations: Capital Expenditures as a Function of Positive and Negative Sales Changes, Profits, and Depreciation, Industry Time Series and Firm and Industry Cross Sections, 1955-1968	120
M5-2	Asymmetrical Accelerator Relations: Capital Expenditures as a Function of Positive and Negative Sales Changes and Profits, Firm and Industry Time Series and Cross Sections, 1955-1968	
5-3	Gross Profits and the Speed of Reaction: Capital Expenditures as a Function of Sales Changes, Profits, Depreciation, and the Difference between Profits plus Depreciation and Their Mean, Firm and Industry Cross Sections and Overall Regressions, 1955-1968	122
M5-4	Gross Profits and the Speed of Reaction: Capital Expenditures as a Function of Sales Changes, Profits, Depreciation, and the Difference between Profits plus Depreciation and Their Mean, Firm and Industry Time Series, Cross Section and Overall Regressions, 1955-1968	
5-5	Gross Profits and the Speed of Reaction, Rising and Falling Sales: Capital Expenditures as a Function of Sales Changes, Profits, Depreciation, and the Difference between Profits plus Depreciation and Their Mean, Firm and Industry Cross Sections and Overall Regressions, 1955-1968	126
M5-6	Gross Profits and the Speed of Reaction, Rising and	

	Falling Sales: Capital Expenditures as a Function of Sales Changes, Profits, Depreciation, and the Difference between Profits plus Depreciation and Their Mean, Firm and Industry Time Series, Cross Section, and Overall Regressions, 1955-1968	
5-7	Role of Profits and Size of Firm: Capital Expenditures as a Function of Sales Changes, Profits and Gross Fixed Assets, and Depreciation, Firm and Industry Cross Sections, 1955-1968	129
M5-8	Role of Profits and Size of Firm: Capital Expenditures as a Function of Sales Changes and Profits and Gross Fixed Assets, Firm and Industry Time Series and Cross Sections and Firm Overall Regressions, 1955-1968	
6-1	Capital Expenditures, Change in Capital Expenditures, and Anticipated Change in Capital Expenditures, Measured as Ratios of 1957 Gross Fixed Assets, Firm Means by Year, 1955-1968	134
M6-2	Capital Expenditures, Capital Expenditure Anticipations, Capital Expenditure Realizations, Sales and Profits Changes, Firm Means by Year, Millions of 1954 Dollars, 1955-1966	
M6-3	Capital Expenditures, Capital Expenditure Anticipations, Previous Capital Expenditures, Capital Expenditure Realizations, Change in Capital Expenditures, Anticipated Change in Capital Expenditures, Profits, and Change in Sales, All Measured as Ratios of Previous Year's Gross Fixed Assets or Previous Three Year Sales Average, Firm Means by Year, 1955-1968	
6-4	Short-Run Capital Expenditure Anticipations as a Function of Sales Changes, Profits, and Depreciation, Firm Overall Regression, 1955-1968	137
6-5	Short-Run Capital Expenditure Anticipations as a Function of Previous Anticipations, Error in Previous Anticipations, Sales Changes, and Sales Realizations, Firm and Industry Time Series and Cross Sections, 1955-1968	138
6-6	Capital Expenditures and Change in Capital Expenditures as Functions of Previous Capital Expenditures, Capital Expenditure Anticipations, and Anticipated Change in Capital Expenditures, Measured as Ratios of 1957 Gross Fixed Assets, Pooled Individual Firm Time Series, 1955-1968	139

6-7	Capital Expenditures and Change in Capital Expenditures as Functions of Previous Capital Expenditures, Capital Expenditure Anticipations, and Anticipated Change in Capital Expenditures, Measured as Ratios of 1957 Gross Fixed Assets, Pooled Firm Cross Sections, 1955-1968	140
M6-8	Capital Expenditures and Change in Capital Expenditures as Functions of Previous Capital Expenditures, Capital Expenditure Anticipations, and Anticipated Change in Capital Expenditures, Measured as Ratios of 1957 Gross Fixed Assets, and Ratio of 1953 Depreciation to 1953 Gross Fixed Assets, Pooled Annual Firm Cross Sections, 1955-1968	
6-9	Capital Expenditures as a Function of Previous Capital Expenditures and Capital Expenditures Anticipations, Measured as Ratios of 1957 Gross Fixed Assets, Pooled Individual Firm Time Series by Industry, 1955-1968	141
M6-10	Capital Expenditure Anticipations as a Function of Sales Changes, Profits, and Depreciation, Firm and Industry Cross Sections and Industry Overall Regressions, 1955-1968	
M6-11	Capital Expenditure Anticipations as a Function of Sales Changes and Profits, Firm and Industry Time Series and Cross Sections and Firm Overall Regressions, 1955-1968	
6-12	Capital Expenditures as a Function of Sales Changes, Profits, Capital Expenditure Anticipations, and Lagged Capital Expenditures, Measured as Ratios of Previous Year's Gross Fixed Assets or Previous Three Year Sales Average, 1955-1968	142
6-13	Capital Expenditures as a Function of Sales Changes, Profits, Depreciation, Capital Expenditure Anticipations, and Previous Capital Expenditures, All Except Depreciation Measured as Ratios of Previous Year's Gross Fixed Assets or Previous Three Year Sales Average, 1955-1968	144
6-14	Capital Expenditures as a Function of Sales Changes, Profits, Capital Expenditure Anticipations, and Previous Capital Expenditures, All Measured as Ratios of Previous Year's Gross Fixed Assets or Previous Three Year Sales Average, Firm Time Series, by Industry, 1955-1968	146

6-15	Capital Expenditures, Capital Expenditure Realizations, Sales Realizations, Sales and Profits Changes, Measured as Ratios of Previous Year's Gross Fixed Assets or Previous Three Year Sales Average, Means by Year, 1955-1968	148
6-16	Capital Expenditure Realizations as a Function of Sales Realizations, Measured as Ratios of Previous Three Year Sales Average, 1955-1968	149
6-17	Capital Expenditures or Capital Expenditure Realizations as a Function of Sales Changes, Sales Anticipations, Sales Realizations, Profits, and Capital Expenditure Anticipations, Measured as Ratios of Previous Year's Gross Fixed Assets or Previous Three Year Sales Average, Firm and Industry Time Series and Firm Cross Sections, 1955-1968	150
M6-18	Capital Expenditures as a Function of Sales Changes, Profits, Depreciation, Sales Expectations, and Capital Expenditure Anticipations, All Except Depreciation Measured as Ratios of Previous Year's Gross Fixed Assets or Previous Three Year Sales Average, Firm Overall Regression, 1955-1968	
M6-19	Capital Expenditures, Capital Expenditure Realizations, Sales Changes, and Profits Changes, Measured as Ratios of Previous Year's Gross Fixed Assets or Previous Three Year Sales Average, Means by Year, 1955-1968	
6-20	Capital Expenditures as a Function of Sales Changes, Profits, and Capital Expenditure Anticipations, Measured as Ratios of Previous Year's Gross Fixed Assets or Previous Three Year Sales Average, Firm and Industry Time Series and Firm Cross Sections, 1955-1968	152
M6-21	Capital Expenditures as a Function of Sales Changes, Profits, Depreciation, and Capital Expenditure Anticipations, All Except Depreciation Measured as Ratios of Previous Year's Gross Fixed Assets or Previous Three Year Sales Average, Firm Overall Regressions, 1955-1968	
M6-22	Capital Expenditure Realizations as a Function of Sales Changes, Measured as Ratios of Previous Three Year Sales Average, 1955-1968	
M6-23	Capital Expenditure Realizations as a Function of Sales Realizations, Measured as Ratios of Previous Three Year Sales Average, Firm Time Series, 1955-1968	

6-24	Means, Standard Deviations, and Root Mean Squares of Capital Expenditure Realizations, All Measured as Ratios of Previous Year's Gross Fixed Assets, 1955-1968	154
6-25	Short-Run Capital Expenditure Realizations: Inequality Coefficients (U), by Year and Industry, 1962-1968	155
6-26	Short-Run Capital Expenditure Realizations: Inequality Coefficients (U) and Bias (U^m), Variance (U^s), and Covariance (U^c) Proportions, Individual Firms by Industry and Year, and Group Means, 1955-1968	156
7-1	Determinants of Long-Run Capital Expenditure Plans	163
7-2	Role of Current Capital Expenditures	165
M7-3	Role of Current Capital Expenditures and Short-Run Capital Expenditure Plans	
M7-4	Role of Utilization of Capacity and Expected Sales Changes	
7-5	Role of Long-Run Capital Expenditure Plans	167
M7-6	Forecasting Accuracy of Long-Run Capital Expenditure Plans, Given Previous Sales Changes	
M7-7	Forecasting Accuracy of Long-Run Capital Expenditure Plans, Price-Deflated and Undeclared Data	
M7-8	Moving Average Forecasting Accuracy of Long-Run Capital Expenditure Plans	
7-9	Long-Run Capital Expenditure Realizations: Inequality Coefficients (U), by Year and Industry	170
M7-10	Long-Run Capital Expenditure Realizations: Inequality Coefficients (U) and Bias (U^m), Variance (U^s), and Covariance (U^c) Proportions, Individual Firms by Industry and Year, Overall and Groups	
8-1	Capital Expenditures for Replacement and Modernization and for Expansion, 1954-1955, 1957-1968, as Ratios of Previous Gross Fixed Assets	179
8-2	Replacement Expenditures as a Function of Expansion Expenditures	181
8-3	Total Investment as a Function of the Proportion of Investment Planned for Expansion, Firm, Industry, and Aggregate Time Series	182
8-4	Anticipated Expansion Investment versus Replacement and Modernization Investment Functions	184
8-5	Comparison with Feldstein-Foot Time Series Estimates, Planned Replacement Expenditures	186

Preface

This book has been a long time aborning. In 1951 and 1952 I completed a number of interviews on investment with top executives of large corporations in connection with a project on business expectations and planning under the overall direction of Franco Modigliani.¹ This brought me early to the conclusion that an economist can no more rely on businessmen's perceptions and rationalizations to explain the determinants of investment than a physician can rely on patients' introspections alone to explain illness. The analysis offered by participants in the investment process may well suggest hypotheses and models to be tested. But hard scientific knowledge must come from the quantitative measures of what firms actually did and of the experiences they actually had that were relevant. Thus, early in my investigations, I undertook to gain access to a body of data that would permit relating plans and expectations reported in surveys to information on capital expenditures, profits, sales, depreciation, existing assets, and other variables relevant to investment obtainable from either surveys or accounting records. This volume is the final result.

Most fortunately, Dexter M. Keezer, then director of the economics department of the McGraw-Hill Publishing Company, permitted me to obtain individual firm data of McGraw-Hill capital expenditure surveys and to arrange to have them matched by a

¹The project was financed by the Merrill Foundation for Advancement of Financial Knowledge and by the University of Illinois. My own contribution was reported in a monograph, *Determinants of Capital Expenditures: An Interview Study* (1956), and in a lengthy paper, "Interview and Other Survey Techniques and the Study of Investment" (1957).

member of his staff with accounting information, generally from Moody's manuals. While the McGraw-Hill staff member, of course, knew the identity of the firms, I was furnished the data with firm identities deleted but with each firm's major industry group classification listed.

Initially, the data were processed by Beryl Hegerty, who worked on the McGraw-Hill surveys. For subsequent help, and for the great bulk of the basic input in the present study, I am most indebted to Margaret K. Matulis, who for many years conducted the surveys, and to Douglas Greenwald, current director of the department of economics, who extended the collaboration begun earlier.

Whole generations of graduate students and undergraduates worked with me as research assistants in the enormous task of processing, checking, and analyzing survey and collateral data over the years. After the processing of new data year after year came extensive and intensive statistical examination, essentially with least squares regressions involving a fairly elaborate analysis of variance and covariance. In laying the foundations of much of this work in the early years, Robert M. Coen, then my research assistant, was of critical assistance; he played a key role in planning a basic, specialized computer program that permitted estimating simultaneously various aggregations and disaggregations of time series and cross sections of the same large body of data. Of similar critical assistance in the actual construction and writing of the original program, as well as in most of its increasingly complex development over time, was Betty Benson of Northwestern University's Vogelback Computing Center.

Many others helped me over some two decades of work, and I hesitate, even by way of grateful acknowledgment, to list them all and recall arduous labors they may have comfortably forgotten by now. I must, however, stubbornly identify some of those who were most involved. They include Patricia Wishart, who did much in the early stages in supervising data processing and in developing price indexes to fit the various categories of firms and data made available to us, as well as Tugrul Aladag, Joel Auerbach, Michael Cummins, Joel Fried, Dosier Hammond, David Hartman, Jon Joyce, Arnold Katz, Elsie Kurasch, Margery Bechtel McElroy, Keith McLaren, Allan Mendelowitz, Judith Mitchell, John Pickerill, Hugh Pitcher, Jon Rasmussen, Bernard Reddy, Georges Rocourt, Jay Salkin, Kenneth Smith, John Soladay, Richard Strauss, and Robert Welch. Among those most recently involved in work with tables (intensified preparation, verification, and conforming of tables and text), as well as in final regressions and other computations to update earlier results or

to check last minute hunches, are Patrick Lawler, John Felzan, Paul Burik, Steve Harper, David Nebhut, and Paul Nishimoto.

This volume might well have been titled "Some Things Old and Some Things New." A few of the chapters stem from papers presented at international conferences and not offered for journal publication. Some others take advantage of varying but often considerable quantities of data for later years to enrich as well as tie together findings reported in journal articles some time ago. I am grateful to *The American Economic Review* for permission to excerpt substantial portions, particularly in Chapter 4, of my articles "A Permanent Income Theory for Investment: Some Empirical Explorations" (June 1967) and "Investment and the Frustrations of Econometricians" (May 1969). I am also grateful to *The Review of Economics and Statistics* for permission to include as Chapter 8 "Components of Capital Expenditures: Replacement and Modernization Versus Expansion" (August 1972).

As all must know, a work of this kind is not possible without financial support. My own list of benefactors is embarrassingly long. Very early—but important in freeing time for an otherwise heavily burdened junior faculty member—came a faculty research fellowship of the Social Science Research Council. Subsequently I was the beneficiary of fellowships from the Ford Foundation, the Guggenheim Foundation, and the Center for Advanced Studies in the Behavioral Sciences. Northwestern University has, of course, been of major assistance in matters both obvious and subtle. I have also benefited from my position as a senior research associate of the National Bureau of Economic Research. But the most substantial financial support has certainly come via a series of grants from the National Science Foundation. I trust that after a considerable stream of scattered articles in various professional journals, this long promised volume will move closer to balancing the account.

The actions and comments of colleagues at Northwestern University and elsewhere, their insights and corrections on matters small and large, have been most helpful. I can hardly single them all out here, but must again insist upon expressing my indebtedness to at least a few. Franco Modigliani, in early phases of my work, had a lasting influence on my conceptions and formulations of relations involving anticipations (of capital expenditures), expectations (of sales), and realizations. I appreciate the assistance of Meyer Dwass and T.N. Srinivasan in various problems of statistics and econometrics, as well as the useful comments by Bernt Stigum after his careful reading of part of the manuscript. Also, I have gained enormously from my collaboration with Robert H. Strotz in our

research paper "Determinants of Business Investment" (1963), from his comments on draft manuscripts, and from discussions with him over a long time.

At the National Bureau of Economic Research, I am most grateful to Gary Fromm, M.I. Nadiri, and Paul Wachtel of the staff reading committee and to Robert E. Lipsey, director of international studies and director of the New York office of the National Bureau of Economic Research. Significant revision and improvement in the final draft are traceable to their comments. I am also appreciative of comments of the NBER Board of Directors Reading Committee: Moses Abramovitz, Gardner Ackley, and Rudolf A. Oswald. And many thanks go to NBER editor Hedy D. Jellinek, who edited the manuscript for publication.

Finally, I owe an enormous debt to Molly Fabian, who not merely typed countless pages of staggering tables and text with astonishing expertise but functioned as executive secretary for me and our Econometrics Research Center in ways that go far beyond excellence of performance. She made a research home for all those who helped me, as well as many others. Speaking for them as well as for myself: my heartfelt gratitude!

Robert Eisner

Factors in Business Investment

