## ANALYTICAL TABLE OF CONTENTS

PHEFACE M.

### CHAPTER I. INTRODUCTION

- § 1. Purpose of the Study (11).
- § 2. Method employed (11).
- \$ 3. Macro-economic Approach (14).

# CHAPTER II. — ELEMENTARY OUTLINE OF THE METHOD OF CORRELATION ANALYSIS

- § 4. Simple Correlation: Simple correlation (15)—Perfect correlation (16)—Perfect linear correlation and perfect curvilinear correlation (16)—Regression curves and coefficients (17)—Lags (17)—Imperfect correlation (18)—Correlation index; correlation coefficient (18)—Regression curves and coefficients (19)—Example (20).
- § 5. Multiple Correlation: Multiple correlation (21)—Perfect linear multiple correlation (22)—Regression coefficients (22)—Influence of  $x_2$  (22)—Partial scatter diagrams (23)—Imperfect multiple correlation (23)—Multiple curvilinear correlation (24)—Graphic representation chosen (26)—Example (26).
- § 6. Statistical Significance of Results: Reliability of results (27)—The classical method (28)—Frisch's Method (29)—Bunch-map analysis (30)—Useful, superfluous and detrimental variates (31)—A combination of the two methods (32).

## CHAPTER III. -- FLUCTUATIONS IN INVESTMENT

§ 7. The Relation tested: Problem chosen for testing (34)—Marginal profits and total profits (35)—Factors influencing profit expectations (36)—Profit margin or total profit? (36)—Profits and profit rates (37)—Financial possibilities (38)—Technical circumstances (38)—Series rejected (39)—(1) "Weighted average of previous production" (40)—(2) Autonomous changes in investment (40)—Two stages of investigation (41).

- § 8. The Statistical Material: Countries and periods (12)—Series used:

  (a) Description of series: I. Total investments (13)—II. Explanatory—
  series: (1) Profits earned (44)—(2) Price of capital goods (44)—(3) Interest,
  rates (45)—(4) Profit margins (46)—(5) Production of consumers' goods

  (46)—(6) Rate of increase in price level (47): (b) Trends (47): (c) Other
  series included (47)—Lags considered (48).
- § 9. Chief Results (49).
- § 10. Details of Results, First Stage (50): Increase in correlation 54 Signs (54)—Influence (55)—Conclusions (55).
- § 11. Details of Results, Second Stage: A. Examination of regression equations found—Correlation found (55)—"Influence" of profits (56)—Regression coefficients (57)—Lag (58)—The two relations between profits and investment activity (60)—Coefficient of price of iron (65)—Coefficient of interest rates (65)—Comparison between countries (67)—Comparison between production and consumption of pig-iron (67)—Comparison between periods (67)—Extrapolation for the United States, 1934-1937 (73)—Comparison between phases (76)—Inclusion of more variates (77)—Partial scatter diagrams (77); B. Significance calculations: Serial correlation for residuals (80)—Standard errors (80)—Bunch maps (86).

## CHAPTER IV. — RESIDENTIAL BUILDING

- § 12. The Relation tested: Only private building studied (90)—Two groups of "explanatory" variates (90)—First group of variates (90)—Series included (91)—A priori determination of relative influence (91)—Two sorts of calculation (92)—Second group of variates (92)—Imperfection of market for housing services (93)—Imperfection of credit markets (93)—Profits of owning houses and of constructing houses (94)—Long and short waves. Trend elimination (94).
- § 13. The Statistical Material: Countries and periods (95)—Description of series (95)—Lags used (98).
- § 14. Results: Chief results (98)—Extrapolations (103)—Details of results: Tables IV. 1—IV. 4 (108)—Correlation coefficients (108)—Signs of regression coefficients (108)—Comparison between countries (109)—Comparison of tables IV. 1 and IV. 2 (109)—Significance calculations (111).

### CHAPTER V. — NET INVESTMENT IN RAILWAY ROLLING-STOCK

§ 15. The Relation tested: Acceleration principle and profit principle (115)—Secondary factors; lags (115)—Significance calculations (116).

- § 16. The Statistical Material: Countries and periods (116)—Computation of indices: Investment index (117)—Profit series (117)—Rate of increase in traffic (117)—Trends (118).
- § 17. Results: Results not better than for general investment activity (118)—Lags (118)—Acceleration principle and profit principle (123)—Mixed principle (123)—Calculations using secondary factors (123)—Regression coefficient for acceleration principle (123)—Influence of iron prices (126)—Influence of interest rates (127)—Significance calculations (128)—Explanation of differences between countries (130)—Summary of findings (130).

## CHAPTER VI. — APPLICATION OF RESULTS: FURTHER INVESTIGATIONS

#### APPENDIX A. -- DETAILS OF CALCULATIONS

- 1. Trend calculation (133).
- 2. Multiple correlation; calculation of regression and correlation coefficients (135).
- 3. Construction of bunch maps (138).
- 4. Calculation of standard errors of regression coefficients (classical method) (141).
- 5. Calculation of limits to the error of weighting in regression coefficients (143).

### APPENDIX B. — STATISTICAL TABLES

United Kingdom, pre-war (148-9).
Germany, pre-war (150-1).
United States of America, pre-war (152).
France, pre-war (153).
Sweden, pre-war (154).
Sweden, post-war (155).
United States of America, post-war (156-7).
United Kingdom, post-war (158-9).