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*Chapter One*

# Introduction

## THE ISSUES

Few economists or business analysts need be reminded of the importance of investment. First, investment contributes to future output; net investment, to economic growth. Second, it contributes to current demand and current employment. Understandably, there is much sentiment for encouraging investment, or at least for removing discouraging influences, to permit these contributions to be optimal.

Public discussion of the topic has generally focused on investment in plant, equipment, and inventories by business, while ignoring the investment aspects of production as well as purchases by government, nonprofit institutions, and households. It has also largely ignored (or failed to perceive as investment) the acquisition, no matter by whom, of human or nonphysical capital in the form of knowledge (research and development, job training, formal and nonformal education), health, and the preservation of the environment. Fortunately, economists have recently been devoting major attention to this more broadly defined area of investment.

This volume, however, confines itself to the consideration of business investment. That in itself has been massive. In 1974 expenditures for new plant and equipment by business (excluding agricultural business; real estate operators; medical, legal, educational and cultural services; and nonprofit organizations) were $112.4 billion, some 8 percent of gross national product. Nonfarm investment in business inventories amounted to another $11.9 billion, bringing the total to $124.3 billion, or 8.9 percent of gross national product.

Aside from its magnitude, business investment becomes critical because of its volatility. Business expenditures for new plant and equipment, while remaining roughly constant in dollar terms, declined sharply in real terms—by about 12 percent—from the second quarter of 1974 to the second quarter of 1975. Nonfarm investment in business inventories moved from a positive figure of $17.5 billion in the fourth quarter of 1974 to minus $30.6 billion by the second quarter of 1975, a swing of almost $50 billion at annual rates. Total business investment, including plant, equipment, and inventories, fell to $81.9 billion, only 5.7 percent of gross national product. This decline in business investment, both directly and in its multiplier effects, was a major factor in the sharp 1974-1975 recession.

What does determine the rate of business investment? Under conditions of full employment, the aggregate of investment, with proper adjustment of government accounts, equals the aggregate of saving. Except to the extent that business investment can be undertaken at the expense of other investment (residential construction, or investment by government, households, and nonprofit institutions, or investment in human capital), it is bound by the saving constraint. In the aggregate, therefore, we may imagine that under conditions of full employment, changes in the rate of business investment must involve changes in either the *propensity* to save or the proportion of total investment undertaken by business.

However, if employment is not assumed to be full, so that output and income can vary, business investment may vary—and vary sharply—while the propensity to save and investment by other sectors remain unchanged. And, more generally, variations in business investment may themselves bring on changes in output and income that induce changes in saving and other investment.

Further, in the general case where there are some slack resources, a higher rate of output or investment for one firm need not imply and probably would not imply a lesser rate of output or investment for another. One must ever beware of falling into the fallacy of composition; what is true of an individual firm or a number of individual firms may be quite false for all of business or for the economy as a whole. Nevertheless, in a world of generally less than full employment, behavior of the individual firm may shed major light on the problems of aggregate investment. It is thus with considerable hope for enlightenment that we proceed to the analysis of the McGraw-Hill capital expenditure survey and related data to which this volume is devoted.

The major problems considered here stem directly from important questions of economic policy under debate and the econometric issues involved in estimating parameters of investment relations pertinent to that debate.

Of central concern is the extent and speed with which business investment reacts to changes in demand. Where investment is highly responsive, changes in government tax and expenditure policy affecting consumer and government spending may have significant indirect effects upon the rate of business investment, perhaps even greater ones than those stemming from direct measures involving business taxes or subsidies.

The role of profits in business investment is also of paramount concern. Do firms invest more when profits are higher? If so, is it because of a direct link between profits and investment, or do profits operate only as a proxy for or in conjunction with other variables? If the latter is true, a change in taxes, for example, that would change after tax profits while leaving other variables unchanged might have no effect upon investment.

Investment has long been correctly perceived (particularly as stressed by John Maynard Keynes) as related essentially to expectations of the future. The anticipated profitability of current acquisition of goods depends upon expectations of future demand and other economic variables. How are these usually unobservable expectations tied to data of the past and present that are the usual ingredients of economic analysis? How accurate and how stable are expectations?

And what can be learned about the relationship between business investment and other variables, such as the current utilization of capacity, depreciation charges, the market value of the firm's securities, or the rate of return or cost associated with those securities? And what about interrelations among variables or differences in relations attributable to size of firm, to industry, or to the direction of change in sales or the relative size of cash flow? How can determinants of investment for expansion be distinguished from those for replacement and modernization?

Further, how can we differentiate between relations involving individual firms, industries, and the whole economy? What do such possible differences imply both for the real world and our econometric attempts to estimate relevant relationships? What are the different response patterns of firms and industries in regard to what appear to be temporary as opposed to longer run or permanent factors?

What roles do sales expectations and the difference between expectations and actual sales play in determining inventory investment? How much of investment and inventories can be explained by the attempt to maintain a fairly constant inventory-to-sales ratio in the face of changing sales and sales expectations? What is the relationship between expectations and current and future sales trends?

How does all this tie into investment anticipations and actual plans? What are the determinants of capital expenditure plans, short-run and long-run? How accurate are they in themselves as predictors of actual investment? To what extent do plans once made prove to be commitments that remain fixed regardless of future events? What is the relative value for forecasting purposes of announced capital expenditure plans versus our estimates of the economic relations that determine investment? How, and how much, can we increase the forecasting value of anticipations by relating them to concurrent or subsequent values of the underlying determinants of investment?

The questions are many. The validity of the answers will depend on the conceptual structure within which they are posed.

## THEORETICAL FRAMEWORK

Empirical analysis rests critically on the theoretical framework that indicates the data to be examined and the relations and parameters to be estimated. Some theoretical formulation or preconception must always be at least implicit. Let us begin with an explicit view of business investment as essentially the solution of the following problem: maximizing the present value of expectations of probability distributions of future income—subject to (1) the costs of obtaining useful information and costs of adjustment, and (2) the constraints of a production function and factor supply and product demand functions.

In a riskless world we might presume that firms are maximizing their net worth or the present value of their expected future income. Taking into account risk suggests modification in a direction of maximizing a utility function which is monotonically related to net worth. This would allow, in likely cases of risk aversion, for accepting lower than maximum expected values of net worth in order to reduce risk or variance in the probability distribution of such anticipated values.

The supply of factors will involve not only the whole set of labor and other goods and services related to production but money itself. Thus, imperfections in money markets, including differences between borrowing and lending rates, and imperfections in factor

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[1] See Eisner (1960), Eis
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[2] See Jorgenson (1963),
and Eisner and Nadiri (196

markets as perceived by the individual firm, including rising supply curves for both labor and capital goods, are all likely to be relevant.

Perhaps unfortunately from the standpoint of scientific inquiry, expectations play a crucial role. Since business investment decisions have a future payoff related overwhelmingly to future as opposed to initial conditions, maximization for the individual firm must also relate substantially to expectations of future functions and prices. Yet in our econometric work, we are usually reduced to utilization of past and, at best, current data. Where such data are substituted for the relevant expectations of the future, we are frequently left with a formidable problem of errors in variables or explicit misspecification of the relations to be estimated.

Also of the essence is the dynamic character of investment. We are dealing not merely with the determination of an equilibrium stock of capital but with the path of capital and its depreciation or retirement over time as well. The relation between changes in the capital stock and its underlying determinants is not sufficient to indicate the rate of capital expenditures, for this must depend also (and perhaps critically) on the relationship between the cost of capital expenditures and the speed with which they are made. Since costs of planning, ordering, supply, and construction may well be an increasing function of the speed with which they are accomplished, a distributed lag response of investment is indicated.[1]

Out of this formulation emerge two major elements in the explanation of investment: output and prices, or more generally, the levels of and changes in the expected demand for final product and relative prices. The importance of these elements depends both upon (1) parameters of the production function and supply and demand functions for factors and product, and (2) the degree of change in intratemporal and intertemporal relative prices or relative marginal costs and marginal revenues. If product price and factor cost elasticities of investment demand are low, or if the relevant relative price movements are small, we may expect movements of investment demand to be dominated by changes in final demand or what has come to be known as the acceleration principle.[2]

## DATA

Our analysis is based on a very substantial, and in many ways unique, body of data collected in connection with the annual McGraw-Hill

[1] See Eisner (1960), Eisner and Strotz (1963), and Nerlove (1972), among many.

[2] See Jorgenson (1963), Jorgenson and Stevenson (1967a, 1967b, and 1969), and Eisner and Nadiri (1968 and 1970).

Publishing Company spring capital expenditure surveys from 1956 through 1969.[3] The data were furnished on an individual firm basis but by code number, in order to preserve the confidential character of the survey responses. They were combined with related quantitative data collected from company financial statements, generally as reported in Moody's.

Our coverage includes over 700 firms, only a subset—although a large subset—of the entire McGraw-Hill sample. It tends to include the largest firms, accounting for the bulk of capital expenditures: our aggregate of gross fixed assets in 1966 totals some $279 billion, with mean gross fixed assets at $492 million for the 568 firms for which information was available that year. The data utilized relate primarily to capital expenditures, capital expenditure anticipations, profits, depreciation charges, gross fixed assets, inventories, sales, expected percentage sales changes, and actual and desired rates of capacity utilization. In addition, a set of data bearing on the market values of the firm was utilized for the years 1959 through 1962, and some special analyses were carried out on the basis of responses to questions regarding (1) the ratio of expenditures for replacement and modernization versus those for expansion and (2) the effects of various presumed tax incentives for investment, particularly accelerated depreciation and the equipment tax credit.[4]

While some work was done with undeflated data, the analyses involve regressions of price-deflated variables wherever such price deflation was appropriate and feasible. In particular, sales were deflated in each case by one of ten sets of price indexes constructed chiefly from Bureau of Labor Statistics indexes and relatives on the basis of the broad product or industry classes into which the McGraw-Hill firms could be categorized. Inventories were similarly deflated. Capital expenditures and profits were deflated by a capital expenditures price index constructed from an average of the implicit GNP price deflators for "other new (nonresidential) construction" and "producers' durable equipment," weighted by the constant dollar volumes of these aggregates. Capital expenditure anticipations were generally deflated by the capital expenditures price index for the time (presumed to be the fourth quarter) at which the anticipations were indicated. Thus, for example, anticipations of 1957 capital expenditures collected by McGraw-Hill in March 1957 were presumed to have been formed several months earlier and were deflated by the capital expenditures price index for the fourth quarter of 1956. This may be further rationalized by the assumption that businessmen during this period, in anticipating future capital

[3] A sample McGraw-Hill questionnaire is presented in Appendix II.

[4] The report on the analysis of tax incentives is to be found in Eisner and Lawler (1975).

expenditures, made their calculations on the basis of current prices. In the case of long-run capital expenditure anticipations, however, as indicated in Chapter 7, this assumption appeared suspect.

Depreciation charges and gross fixed assets were taken at their accounting values without price deflation, with depreciation charges usually expressed only as a ratio of gross fixed assets. Inasmuch as the complicated weighting factors necessary for an appropriate price deflation of each of these two variables would have been virtually the same, their ratio would have been little affected by price deflation. (In any case, the depreciation ratio constitutes essentially a measure, in inverse form, of the durability of capital.) Since the capacity and expected sales change variables were, implicitly or explicitly, expressed in physical terms, they were not deflated for price changes either.

In addition to price deflation, a number of transformations were performed on the basic variables to lend them desirable statistical and economic properties. In particular, since a significant part of the analysis was cross-sectional, it was desirable to transform variables in such a way as to reduce the extreme heteroscedasticity expectable because of variance in firm size. Without appropriate transformation of data from firms of vastly different sizes, of course, the absolute size of error terms or the scatter around regression planes would be positively related to the values of the independent variables. Firms with high sales, high profits, and high capital expenditures—that is, large firms—would be firms with high absolute values (or squares) of error terms.

Both to meet this problem and to fit the underlying economic relation I believe to be operative, capital expenditures and capital expenditure anticipations, along with net profits (after taxes), were expressed as ratios of gross fixed assets, and sales changes were expressed as ratios of sales. Capital expenditures divided by gross fixed assets (a measure of capital stock) may be taken, after subtracting a term to reflect depreciation or scrapping of capital equipment, as a measure of the relative change in capital stock, while the change in sales divided by sales is a measure of the relative change in output. With the variables in this form, if capital stock is more or less proportionate to output in the long run, investment functions can be estimated efficiently without undue disturbances from differences in firm size or in capital-output ratios.

Finally, it should be reported that some effort was made to eliminate observations with extreme values. Intervals for acceptance of observations were generally set up to exclude up to 1 percent of observations because of outliers in each of the transformed variables utilized in the analysis.

## STRUCTURING OF THE DATA: TIME SERIES, CROSS SECTIONS, AND OVERALL RELATIONS—FIRM, INDUSTRY, AND AGGREGATE

The fourteen years of McGraw-Hill and related data involving some 700 firms permit a variety of approaches to estimating parameters of relevant relations. Despite missing data on particular variables and incomplete series because of mergers and of nonresponse, sets of at least several hundred observations, distributed in up to eleven broad industry groups, are available for most relations in each of these fourteen years. It thus becomes possible to pool observations in various ways, generating (1) individual firm time series within industries and pooled for all industries, and (2) individual firm cross sections within or across industries and within years. Regressions can also be calculated on the basis of deviations from overall means or by utilizing industry year means to obtain industry time series or industry cross sections or industry "overall" relations. The various structurings of the data utilized in this work, along with an algebraic statement of the deviations underlying regressions and other statistics, are outlined below.

### Structurings

1. *Firm time series* for firms with more than one year of observations, utilizing deviations of observations for each year about the mean of the firm's observations for all years. These deviations are summed for all firms in each industry for pooled firm time series regressions, by industry. They are also summed for all firms in the sample for a general pooled firm time series, which assumes the same regression plane within all industries.
2. *Industry time series*, involving deviations about the means for all years within each industry, where each observation is the mean of all observations of individual firms within the industry during the year, weighted by the number of firms. These deviations are summed for all industries.
3. *Aggregate time series*, involving deviations about the overall mean, where each observation is a mean of all observations of individual firms for the year, weighted by the number of firms.
4. *Firm cross sections within industries*, using deviations about the means of observations within each industry for each year, summed for all years and all industries.
5. *Firm cross sections across industries*, which use deviations about the overall mean for each year, summed for all years.

6. *Cross sections of firm means within industries*, utilizing the means of the observations of each firm with more than one year of observations, involving deviations of these firm means about the means of underlying individual observations within each industry.
7. *Cross sections of firm means across industries*, utilizing the means of the observations of each firm with more than one year of observations, involving deviations of these firm means about the overall mean of underlying individual observations.
8. *Industry cross sections*, involving deviations of industry year mean observations about the means for all industries for each year, summed for all years.
9. *Aggregate cross sections*, involving deviations of industry mean observations about the overall mean.
10. *Overall deviations of observations from their means*, where observations differ as to firm or industry as well as to year.

**Algebraic Statement of Deviations Underlying Regressions and Other Statistics**

Let $X_{fnt}$ denote the observation vector of firm $f$ in industry $n$ for the year $t$;

$F_{nt}$ denote the number of firms with observations in industry $n$ for the year $t$;

$\tau_{fn}$ denote the number of years of observations for firm $f$ in industry $n$;

$F_n$ denote the number of firms in industry $n$ for which $\tau_{fn} > 1$;

$N$ denote the number of industries containing observations;

$N_t$ denote the number of industries containing observations in the year $t$; and

$\tau$ denote the number of years for which observations are available.

Then $\overline{X}_{fn} = \dfrac{\sum_{t=1}^{\tau_{fn}} X_{fnt}}{\tau_{fn}}$ = the mean of observations of all years for firm $f$ in industry $n$ (firm mean),

$$\overline{X}_{nt} = \frac{\sum_{f=1}^{F_{nt}} X_{fnt}}{F_{nt}}$$

= the mean of observations of all firms in industry $n$ in year $t$ (industry year mean),

$$\overline{X}_{n} = \frac{\sum_{t=1}^{\tau} \sum_{f=1}^{F_{nt}} X_{fnt}}{\sum_{t=1}^{\tau} F_{nt}}$$

= the mean of observations of all firms in industry $n$, in all years (industry mean),

$$\overline{X}_{t} = \frac{\sum_{n=1}^{N_t} \sum_{f=1}^{F_{nt}} X_{fnt}}{\sum_{n=1}^{N_t} F_{nt}}$$

= the mean of observations of all firms in all industries in year $t$ (year mean), and

$$\overline{X} = \frac{\sum_{t=1}^{\tau} \sum_{n=1}^{N_t} \sum_{f=1}^{F_{nt}} X_{fnt}}{\sum_{t=1}^{\tau} \sum_{n=1}^{N_t} F_{nt}}$$

= the mean of all observations of all industries in all years (overall mean).

Hence, $X_{fnt} - \overline{X}_{fn}$ = the deviations used in firm time series, summed for a given $n$ for time series within an industry and for all $n$ for pooled firm time series for all industries, $\overline{X}_{fn} - \overline{X}_n$ (weighted by $\tau_{fn}$) = the deviations used in the cross sections of firm means within industries, and $\overline{X}_{fn} - \overline{X}$ (weighted by $\tau_{fn}$) = the deviations used in the cross sections of firm means across industries, all relating only to firms for which $\tau_{fn} > 1$,

$X_{fnt} - \overline{X}_{nt}$ = the deviations used in firm cross sections within industries,

$X_{fnt} - \overline{X}_{t}$ = the deviations used in firm cross sections across industries, and

$X_{fnt} - \overline{X}$ = the deviations used in firm overall regressions.

$\overline{X}_{nt} - \overline{X}_{n}$ = the deviations used in industry time series,

$\overline{X}_{nt} - \overline{X}_{t}$ = the deviations used in industry cross sections,

$\overline{X}_{nt} - \overline{X}$ = the deviations used in industry overall regressions,

$\overline{X}_t - \overline{X}$ = the deviations used in aggregate time series regressions, and

$\overline{X}_n - \overline{X}$ = the deviations used in aggregated cross section regressions, where

$$\frac{F_{nt} \sum_{t=1}^{T} N_t}{\sum_{t=1}^{T} \sum_{n=1}^{N_t} F_{nt}}$$ = the weight attached to the observations for industry $n$ in the year $t$, in these industry time series, cross section and overall regressions,

$$\frac{T \sum_{n=1}^{N_t} F_{nt}}{\sum_{t=1}^{T} \sum_{n=1}^{N_t} F_{nt}}$$ = the weight attached in the aggregate time series to the observation of year $t$, and

$$\frac{N \sum_{t=1}^{T} F_{nt}}{\sum_{t=1}^{T} \sum_{n=1}^{N_t} F_{nt}}$$ = the weight attached in the aggregate cross section to the observation of industry $n$.

The "constant" reported in firm and industry time series and cross sections is an *average* intercept, $\hat{b}_0 = \overline{X}_0 - \sum_{j=1}^{m} \hat{b}_j \overline{X}_j$, where $\overline{X}_0$ is the mean of the dependent variable, the $\overline{X}_j$ are the means of the independent variables for all of the observations used in the regression; and the $\hat{b}_j$ are the values of the corresponding regression coefficients. In firm time series there are actually as many intercepts as there are firms ($F_n$ within a single industry and $\Sigma F_n$ in the firm time series pooled for all industries), with the means in each case relating to the observations of that firm; and in industry time series there are as many intercepts as there are industries. Firm cross sections within industries have as many intercepts as there are industry years ($N_t$ for a single year and $\Sigma N_t$ in the within industry cross section pooled for all years), while firm cross sections across industries and industry cross sections have as many intercepts as there are years.

Examination of the algebraic statement of deviations will suggest the varied possibilities available in what becomes essentially an analysis of variance and covariance. Thus, the matrix of sums of squares and cross products of deviations for firm overall regressions equals the matrix in the firm time series plus the matrix in the cross section of firm means across industries. Similarly, firm cross sections across industries can be decomposed into a firm cross section within industries and industry cross sections. Firm time series pooled for all industries can, of course, be decomposed into firm time series for individual industries. Cross sections pooled for all years and all industries can be decomposed into cross sections for individual years or individual industries (or for individual industry years if that detail is wanted). Thus, $F$ ratios can be calculated to measure the statistical significance of differences among regression planes. Then, on assumptions of zero covariance of estimates of corresponding coefficients, the significance of their differences can be tested.

If relations could be specified correctly and disturbances all had appropriate properties for estimation, we would presumably come up with similar parameter estimates from the various types of regressions our data allow. This, however, is frequently not the case, a matter all too often ignored by econometricians who take a given body of data (frequently of the aggregative or industry time series type) and assume that somehow the statistics they derive will be unbiased estimates of structural parameters describing a firm's behavior or the aggregate of the firms' behavior. Yet there may be no stable relation among aggregates independent of microeconomic relations and the varying ways they may interact in different situations.

In many instances, individual firm behavior may prove irrelevant to the aggregate and aggregate quantities irrelevant to the firm. A classic example of the latter would occur with a gradual increase in demand in a perfectly competitive industry facing a perfectly elastic supply of factors and other inputs. Each existing individual firm in the industry would go on as before, with no net investment, while new entries into the industry would acquire capital and product to meet the increasing demand. Conversely, individual firms producing for stock which have backlogs of orders may treat their own fluctuations of demand as purely transitory, representing short-run changes in the distribution between firms of a given average rate of industry demand.

Comparison of statistics drawn from different structurings of the data should prove particularly illuminating in view of the essential role of expectations in much of our analysis. Business investment is ideally decided on the basis of anticipations of the future. We attempt to project expectations of the future with information that usually involves largely current and past data on sales, output, existing fixed capital and inventories, and existing prices and costs. Individual business decisionmakers similarly try to anticipate the future on the basis of past and current variables. But neither we nor the business decisionmaker can have any assurance that relations extrapolated from the past do in fact relate in any stable way to the future. If they do not, and if our implicitly and explicitly assumed relations between past and future prove different from those of business decisionmakers, we can hardly expect to estimate a stable or reliable relation between business investment and past or current variables. Our analysis of the various time series and cross sections of individual firm, industry, and aggregative data should help pinpoint this difficulty and at least on some occasions suggest some steps toward its alleviation.

The richness and varied dimensions of the data, the large number of plausible specifications of the various relations, and the marvels of the computer all contributed to a prodigious volume of statistical results, only a fraction of which produced a vast number of draft tables. While we tried to distill a quintessence, however substantial, for final presentation (always endeavoring to avoid the statistical pitfalls of biased selection), this volume still abounds in tables, all of which are presented on microfiche and a good number of which are incorporated in the text, some in abbreviated form.

## PLAN OF THE VOLUME

The chapters that follow are arranged in line with my central theoretical notions of the determinants of investment. For example, I accept in principle the role of relative prices and factor costs in determining desired capital stock and hence in influencing the rate of investment. At the same time, I view this role as decidedly less significant empirically in business investment than that of expected demand, sales, and output, as suggested in Eisner and Strotz (1963), Eisner (1968), and Eisner and Nadiri (1968 and 1970). Further, the McGraw-Hill and related data underlying this volume do not lend themselves readily to analyzing the role of the cost of capital and relative factor prices.

We proceed, therefore, in Chapter 2 to the consideration of sales expectations and realizations. While the formation of sales expectations and the accuracy of their realization have some intrinsic interest in themselves, they should be viewed more particularly as a link in the determination of investment. We may ultimately find that for much investment, current and past sales are taken as the best available proxy of expected future sales, or demand. But, as we never tire of repeating, it is the expected future demand that is relevant, however imperfectly firms can anticipate it. What concerns us, therefore, is the nature of sales expectations, their relation to the past, how they are adjusted in the light of current realizations, and their accuracy. This last point may give some clue, of course, to their relevance, as well as to the relationship of actual business investment to stated expectations, to changes in expectations, and to the current and past variables serving as proxies for expectations.

Next we proceed, in Chapter 3, to the analysis of inventory investment, which may be taken as the more proximate response to changes in sales and the expectation of such changes. Here we develop an accelerator-buffer model. Desired inventory investment is seen as an effort to keep to an optimal inventory-to-sales ratio in the face of changing sales and output. Our estimated relations may give some clue to the nature and likely intensity of inventory disturbances in booms and recessions.

Chapters 4 and 5 present the basic findings with regard to capital expenditures. Working with a distributed lag model that flows out of our underlying hypotheses about costs of adjustment and expectation formation, we examine the relations among capital expenditures and current and past sales changes, expectations of future sales changes, and profits and depreciation charges. Some explicit measures of the role of capacity utilization and an examination of the influence of cost of capital and market valuations are presented.

Focusing on the role of profits, we pose the question whether they have an independent role in capital expenditures or operate essentially as a proxy for expectations of future profitability related to changing sales and pressure of demand on capacity. For example, would higher after-tax profits induced by profits-tax cuts, or higher prices bring on more investment? Or, rather, is the sometimes positive relation of profits to investment a matter of distribution over time of given totals of capital expenditure and interaction with other, essentially demand- and output-oriented, variables?

Capital expenditure anticipations are examined next, in Chapters 6 and 7. Their determinants are essentialy similar to those of the capital expenditures to which they relate. We are concerned primarily with their accuracy and with the elements of change in the underlying factors that affect the path from anticipation to realization. Chapter 8 analyzes the varying determinants of the expenditures designated for replacement and those designated for expansion.

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Finally, as the title implies, Chapter 9 presents a summary of findings and conclusions.

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