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on in this work. The rationalization of production investment will clearly reflect government demand, and, in an "give," there is no net on the basis of

business investment as for its positive contribution distributed in its lags with profits, does not. Expectations leaves future behavior, less

more general than in essentially proxy variables and, proximately, statistical inferences in this work that should be of parameters from different levels of aggregation. In some instances, we have used. But in many cases both in the text and analysis.

Wales (1969).

## Appendix A

### Glossary

#### Symbol

$$d_{53} = \frac{D_{53}}{K_{53}}$$

$$d_t^* = \frac{D_t}{K_{t-1}}$$

$$e_{jt} = \left( \frac{S_t - S_t^{t-1}}{H_{t-1}} \right)_j$$

$$e_t^{t-1} = \left( \frac{I^e}{I} \right)_t^{t-1}$$

$$G = \frac{p_{t-1}^* + d_{t-1}^*}{0.13545} - 1$$

$H$

$$\Delta h_{jt} = \left( \frac{H_t - H_{t-1}}{H_{t-1}} \right)_j$$

#### Description

1953 depreciation charges as ratio of 1953 gross fixed assets

Depreciation charges of the year  $t$  as ratio of gross fixed assets at end of year  $t-1$

Error in sales expectations of the  $j$ th firm as ratio of end of previous year inventories

Proportion of planned capital expenditures indicated for expansion

Gross profits relative to mean gross profits

Inventories in millions of 1954 dollars

Inventory investment ratio of the  $j$ th firm in the year  $t$

## Symbol

$$h_{jt}^* = \left( \frac{k_t S_t - H_{t-1}}{H_{t-1}} \right)_j$$

$$h_{j,t-1}^* = \left( \frac{k_t S_{t-1} - H_{t-1}}{H_{t-1}} \right)_j$$

$$h_{j,t+1}^t = \left( \frac{k_t S_{t+1}^t - H_{t-1}}{H_{t-1}} \right)_j$$

$$h_{jt}^{t-1} = \left( \frac{k_t S_t^{t-1} - H_{t-1}}{H_{t-1}} \right)_j$$

 $I_t$  $I_{t+1}^t$ 

$$i_t = \frac{I_t}{K_{57}}$$

$$i_t^* = \frac{I_t}{K_{t-1}}$$

$$i_{tAV} = (i_{t+1} + 2i_t + i_{t-1})/4$$

$$i_{t+1}^t = \frac{I_{t+1}^t}{K_{57}}$$

## Description

Desired inventory investment ratio component relating to current sales

Desired inventory investment ratio component relating to previous sales

Desired inventory investment ratio component relating to sales expectations

Desired inventory investment ratio component relating to previous sales expectations

Capital expenditures of the year  $t$ , in millions of 1954 dollars

Capital expenditure anticipations for the year  $t + 1$  in millions of 1954 dollars (presumably held at the end of the year  $t$  and reported in the spring survey of the year  $t + 1$ )

Capital expenditures in 1954 dollars as ratio of 1957 gross fixed assets

Capital expenditures in 1954 dollars as ratio of previous gross fixed assets

Weighted, centered average capital expenditure ratio

Capital expenditure anticipations one year ahead as ratio of 1957 gross fixed assets

## Symbol

$$i_t^{t-1} = \frac{I_t^{t-1}}{K_{57}}$$

$$i_{t+4}^t = \frac{I_{t+4}^t}{K_{57}}$$

$$i_{t+1}^{t*} = \frac{I_{t+1}^t}{K_{t-1}}$$

$$i_t^e = e_t^{t-1} i_t^*$$

$$i_t^r = (1 - e_t^{t-1}) i_t^*$$

$$i_{t+1}^{e t} = e_{t+1}^t i_{t+1}^{t*}$$

$$i_{t+1}^{r t} = (1 - e_{t+1}^t) i_{t+1}^{t*}$$

 $K$ 

$$k_{jt} = [(H_{t-1}/S_{t-1})_j + (H_{t-3}/S_{t-3})_j] / 2$$

$$m_t = \frac{V_t}{NW_t + R_t + B_t}$$

Symbol	Description
inventory investment component ratio current sales	Capital expenditure anticipations for the year $t$ as ratio of 1957 gross fixed assets
inventory investment component ratio previous sales	Capital expenditure anticipations four years ahead as ratio of 1957 gross fixed assets
inventory investment component ratio sales expectations	Capital expenditure anticipations one year ahead as ratio of previous gross fixed assets
inventory investment component ratio previous sales expectations	Ratio of expansion capital expenditures to previous gross fixed assets
expenditures of the in millions of 1954	Ratio of replacement and modernization capital expenditures to previous gross fixed assets
expenditure anticipations for the year $t + 1$ in of 1954 dollars probably held at the end year $t$ and reported spring survey of the 1)	Ratio of expansion capital expenditure anticipations to previous gross fixed assets
expenditures in dollars as ratio of gross fixed assets	Ratio of replacement and modernization capital expenditure anticipations to previous gross fixed assets
expenditures in dollars as ratio of previous gross fixed assets	Gross fixed assets in millions of dollars
desired, centered average expenditure ratio	Desired inventory-to-sales ratio of the $j$ th firm in the year $t$
expenditure anticipations one year ahead as of 1957 gross fixed	Ratio of market value of firm to net worth + depreciation reserve + bonded indebtedness

Symbol

$P$

$$p_t = \frac{P_t}{K_{57}}$$

$$p_{pt} = \frac{P_t}{K_{p,t-1}}$$

$$p_t^* = \frac{P_t}{K_{t-1}}$$

$$\Delta q_{jgt} = \left( \frac{Q_t - Q_{t-1}}{Q_{t-1}} \right)_{jg}$$

$R$

$$r_t^d = R_t / K_{t-1}$$

$$RGP_t = p_t^* + d_t^* - \sum_{j=1}^3 (p_{t-j}^* + d_{t-j}^*) / 3$$

$$r_t = \frac{P_t' + D_t + Z_t}{V_t}$$

$S_t$

$S_{t-1}$

$$(S_t - S_{t-1}) / S_{t-1}$$

$$(S_t - S_{t-3}) / S_{t-3}$$

$$(S_t - S_{t-4}) / S_{t-4}$$

Description

Net profits (after taxes) in millions of 1954 dollars

Net profits in 1954 dollars as ratio of 1957 gross fixed assets

Net profits in 1954 dollars as ratio of previous price-deflated gross fixed assets

Net profits in 1954 dollars as ratio of previous gross fixed assets

The relative change in the price index for the group  $g$  containing the  $j$ th firm

Depreciation reserves in millions of dollars

Depreciation reserves as a ratio of previous gross fixed assets

Relative gross profits

Rate of return = (net profits + depreciation charges + interest payments) + market value of firm

Sales of the year,  $t$ , in millions of 1954 dollars

Sales of the year  $t-1$ , in millions of 1954 dollars

One year sales change ratio

Three year sales change ratio

Four year sales change ratio

Symbol

$$S_t - S_t^{t-1} = S_t$$

$$S_t^{t-1} = (1 + s_t^{t-1})$$

$$s_{t+1}^t = \frac{S_{t+1}^t - S_t^t}{S_t^t}$$

$$s_t^{t-1} = \frac{S_t^{t-1} - S_{t-1}^{t-1}}{S_{t-1}^{t-1}}$$

$$S_{t+1}^t = (1 + s_{t+1}^t)$$

$$\Delta s_t = \frac{3(S_t - S_{56})}{S_{56} + S_{57}}$$

$$\Delta s_t^* = \frac{3(S_t - S_{t-1})}{S_t + S_{t-1}}$$

$$s_{t+4}^t = \frac{S_{t+4}^t - S_t^t}{S_t^t}$$

$$s_{t+1,4}^t = \frac{S_{t+4}^t - S_t^t}{S_{t+1}^t}$$

## Symbol

$$S_t - S_t^{t-1} = S_t - (1 + s_t^{t-1})S_{t-1}$$

$$S_t^{t-1} = (1 + s_t^{t-1})S_{t-1}$$

$$s_{t+1}^t = \frac{S_{t+1}^t - S_t}{S_t} \quad \text{and}$$

$$s_t^{t-1} = \frac{S_t^{t-1} - S_{t-1}}{S_{t-1}}$$

$$S_{t+1}^t = (1 + s_{t+1}^t)S_t$$

$$\Delta s_t = \frac{3(S_t - S_{t-1})}{S_{56} + S_{57} + S_{58}}$$

$$\Delta s_t^* = \frac{3(S_t - S_{t-1})}{S_t + S_{t-1} + S_{t-2}}$$

$$s_{t+4}^t = \frac{S_{t+4}^t - S_t}{S_t}$$

$$s_{t+1,4}^t = \frac{S_{t+4}^t - S_{t+1}^t}{S_{t+1}^t} \quad \text{and}$$

## Description

Implicit short-run realizations in millions of 1954 dollars

Sales anticipated for the year  $t$  at the end of the year  $t-1$ , in millions of 1954 dollars

Short-run sales expectations = expected percent change in physical volume of sales from McGraw-Hill survey, converted to pure decimal

Sales anticipated for the year  $t+1$  at the end of the year  $t$  in millions of 1954 dollars

Relative sales change ratio, price-deflated, 1956-1958 denominator

Relative sales change ratio, price-deflated, previous three year denominator

Long-run expected sales change over four years, from McGraw-Hill surveys of 1952 to 1955 = expected percent change in the physical volume of sales over four years, converted to pure decimal

Long-run expected sales change over three years, from McGraw-Hill surveys of 1956 to 1968 = expected percent change in the physi-

(after taxes) in 1954 dollars

in 1954 dollars  
1957 gross fixed

in 1954 dollars  
previous price-deflated assets

in 1954 dollars  
previous gross

change in the  
for the group  $g$   
the  $j$ th firm

reserves in millions

reserves as a  
of gross fixed

profits

earnings = (net profit  
minus charges  
payments) + margin  
firm

year,  $t$ , in millions  
dollars

year  $t-1$ , in  
1954 dollars

sales change ratio

sales change

sales change ratio

## Symbol

$$s_{t-3,t}^{t-4} = \frac{S_t^{t-4} - S_{t-3}^{t-4}}{S_{t-3}^{t-4}}$$

$$s_t^{g3} = \frac{S_t - S_{t-3}}{S_{t-3}} - s_{t-3,t}^{t-4}$$

$$s_t^{g4} = \frac{S_t - S_{t-4}}{S_{t-4}} - s_t^{t-4}$$

$$s_t^{g4'} = \frac{S_t}{S_{t-4}} - (1 + s_{t-3,t}^{t-4})(1 + s_t^{t-4})$$

$$s_t^s = \frac{S_t - S_{t-1}}{S_{t-1}} - s_t^{t-1}$$

$$\tilde{s}^t = (1 + s_{t+1,4}^t)^{\frac{1}{3}} - 1$$

T

 $u^a$  $u^p$ 

$$u_t^c = u_t^a / u_t^p$$

$$V_t = B_t + F_t$$

$$\Delta v_t = \frac{V_t - V_{t-1}}{V_{t-1}}$$

## Description

cal volume of sales over three years, beginning one year ahead, converted to pure decimal

Long-run sales realizations over three years, ratio,  $t = 1960$  to 1968

Long-run sales realizations over four years, ratios,  $t = 1956$  to 1959

Long-run sales realizations over four years, synthesized, ratios,  $t = 1960$  to 1968

Short-run sales realizations, ratios

Average long-run sales change expectations at annual rates, 1956-1968

Time trend integer beginning with zero for first year of dependent variable

Actual utilization of capacity

Preferred utilization of capacity

Ratio of actual to preferred rate of utilization of capacity

Market value of firm = sum of end of year bonded indebtedness and market value of common and preferred stock

Relative change in market value of firm

Confidential

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Part I—All questi

1. How much d  
in 1965? (T  
for replacem  
buildings and
- a. At the  
physical
- b. At the e