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MANUFACTURING: RELATIONS AMONG PROFIT FACTORS DURING CYCLES IN QUANTITY SOLD

Rise in Margins During Expansions and Fall During Contractions

From the preceding chapter it would appear that cost and prices rose in most expansions and contractions of quantity sold, although not in all portions of either. The rises in cost tended to make profit margins narrower, while the rises in prices tended to widen them. It remains to examine the outcome of these often conflicting influences.

There was a net rise in margin during thirty-eight, or 79 per cent, of the quantity expansions in the various industrial groups (Table 34). In contractions of quantity, there was an even stronger predominance of net falls in margins; they declined in fifty-seven, or 95 per cent, of the observations.

Margins therefore varied positively with quantity. How large were the variations? Computing the percentage changes in margins would result in wildly fluctuating figures, since the absolute changes are sometimes large relative to the initial figure. Indeed margins can change from negative to positive; in that case the ratio of the second margin to the first would have a negative sign, which would be confusing since the margin rises algebraically. In fact, none of our fifteen industries had a negative margin at a trough in the relatively prosperous 1947–61 period; but negative margins occured in earlier and more severely disturbed periods, especially around 1932 and 1938. On the other hand, the percentage change in the cost ratio is free of these difficulties.

The median change in the cost ratio during expansions was a

TABLE 34
Margins: Direction of Net Change During Expansions and Contractions in Quantity Sold, Fifteen Manufacturing Industries, 1947–61

	Number of Quantity Expansions with		Number of Quantity Contractions with	
	Net Rise in Margin	Net Fall In Margin	Net Rise in Margin	Net Fall in Margin
Food and beverages	0	1	0	1
Tobacco	0	1	2	0
Textiles	3	1	0	5
Apparel	2	0	0	3
Lumber and products	3	1	0	5
Paper and products	3	1	0	5
Chemicals	3	1	0	5
Petroleum refining	2	0	1	2
Rubber	2	1	0	4
Leather and products	3	1	0	4
Stone, clay, glass	4	0	0	4
Primary metals	4	0	0	5
Fabricated metals	3	1	0	5
Machinery	3	0	0	4
Electric equipment	3	1	0	5
Total number	38	10	3	57
Percentage of total for expansions or contractions	79	21	5	95

fall of 1.8 per cent (Table 35). The median change in contractions was a rise of 2.5 per cent. The sharpest falls occurred in the early Korean expansions, and the sharpest rises in the Korean contractions.

Rising margins were more numerous than falling margins in every time group of expansions except the late Korean group. Declining margins were preponderant in every group of contractions.

Rising Margins Most Frequent in Early Expansion

Rising margins outnumbered falling margins in the first three segments of expansion and were outnumbered in the last three segments of contraction (Table 36). Rising margins were most common between stages II and III, falling margins between stages VII and VIII.

TABLE 35
Cost Ratios: Changes in Successive Groups of Expansions and Contractions in Quantity Sold, Fifteen Manufacturing Industries, 1947–61

Group of Phases	Number of Observations	Number of Net Rises	Median Percentage Change
Expansions			
Early Korean	9	0	-7.6
Late Korean	9	6	0.7
1949–53	4	2	-0.7
1954–57	13	2	-1.9
1958–60	13	0	-1.7
Total	48	10	-1.8
Contractions			
1948–49	10	9	3.0
Korean	9	9	4.1
1953–54	15	14	2.5
1957–58	13	13	2.5
1960–61	13	12	1.5
Total	60	57	2.5

During expansions of quantity sold, the most frequent pattern of change was a rise turning into a fall, which occurred in fifteen, or 31 per cent, of the observations (Table 37). A continuous rise was the next most common, occurring in ten instances. In contractions the most common pattern was a continuous decline, found in seventeen, or 28 per cent; a rise-fall occurred in fourteen, or 23 per cent.

In the nine "long" expansions with a continuous rise, the margins of course were highest in the last stage. In some other expansions, an early or intermediate fall was more than offset by a later rise. The margin was highest at stage V in sixteen phases altogether, or 35 per cent of the observations with five stages. This was smaller than the number with a rise from IV to V (twenty-two) which means that in some cases an early or intermediate fall had been partly but not wholly recovered. Stage I was highest in five expansions, II in two, III in fourteen, and IV in nine.

The margin was lowest at stage IX in twenty-five, or 62 per cent, of the forty "long" contractions. Stage V was lowest in two, VI in one, VII in three, and VIII in nine.

The actual peak quarter in the margin preceded the corresponding peak in quantity sold somewhat more often than it

TABLE 36
Margins: Direction of Change from Stage to Stage of Cycles in Quantity Sold, Fifteen Manufacturing Industries, 1947–61

From Stage	To Stage	Number of Observations			Percentage	
		With Rise	With Fall	Total	Rising	Falling
I	II	30	16	46	65	35
II	III	37	9	46	80	20
III	IV	26	20	46	57	43
IV	V	23	23	46	50	50
V	VI	22	18	40	55	45
VI	VII	8	32	40	20	80
VII	VIII	7	33	40	18	82
VIII	IX	12	28	40	30	70
I	V	38	10	48[a]	79	21
V	IX	3	57	60[a]	5	95

[a]Includes phases too short for division into five stages.

TABLE 37
Margins: Patterns of Change During Expansions and Contractions in Quantity Sold, Fifteen Manufacturing Industries, 1947–61
(number of phases)

Pattern	Expansions			Contractions		
	Long Phases	Short Phases[a]	Total	Long Phases	Short Phases[a]	Total
Continuous rise	9	1	10	0	0	0
Rise, fall	15	0	15	12	2	14
Rise, fall, rise	5	1	6	8	1	9
Rise, fall, rise, fall	1	--	1	2	--	2
Continuous fall	0	0	0	6	11	17
Fall, rise	9	0	9	3	5	8
Fall, rise, fall	7	0	7	8	1	9
Fall, rise, fall, rise	0	--	0	1	--	1
Total	46	2	48	40	20	60

[a]Too short for division into five stages.

followed the quantity peak. Margin peak led quantity peak in 26 instances, coincided with it in 5, followed it in 20. At troughs the margin lagged more often than not: it led quantity 17 times, coincided 18 times, lagged 23 times. In a few cases there was no turn in margin corresponding to the turn in quantity.

In the forty-six observations of change in the cost ratio from stage I to II, the median change was a fall of 1.0 per cent. In other segments of expansion the figures are, successively, −1.0, −0.2, and 0.0. For segments of contraction they are, −0.2, 0.8, 1.4, 0.6. Declines in cost ratios tended to be larger in early expansion, and rises larger in mid-contraction.

Profits More Closely Related than Margin to Quantity Sold

When an industrial group expands the quantity it sells, the dollar value of its sales will also expand if the prices it receives are stable. If prices go up, value of sales must rise faster than quantity. Aggregate profits equal the product of the profit margin and the dollar value of sales. The rise in sales will assure a rise in profits if the margin rises or does not change; if sales rise enough, profits can increase even if the margin declines. Consequently one should expect profits to increase in more expansions than profit margins. This was true not only of expansions as a whole, but in every segment of expansion. For example, while margins rose in only 50 per cent of the fourth segments observed, profits rose in 74 per cent (Table 38).

Conversely, when the quantity sold by an industrial group is contracting, one would certainly expect profits to decline when the margin declines, as it so often does, and in some cases one would expect the decline in sales to more than offset a rise in margin, producing a fall in profit. Declines in profits might be expected to be even more numerous than declines in margin. However, there was a net rise in margins during only three contractions, and in these the fall in sales was not great enough to offset the wider margin; profits rose also.

In first, third, and fourth segments of contractions in quantity sold, however, declines in profit were more numerous than declines in margin. The second segment figures look peculiar; the

TABLE 38
Profits Before Taxes: Direction of Change from Stage to Stage of Cycles in Quantity Sold, Fifteen Manufacturing Industries, 1947–61

From Stage	To Stage	Profits: Number of Observations: With Rise	With Fall	Total	Profits: Per Cent: Rising	Falling	Margins[a]: Per Cent: Rising	Falling
I	II	35	11	46	76	24	65	35
II	III	41	5	46	89	11	80	20
III	IV	35	11	46	76	24	57	43
IV	V	34	12	46	74	26	50	50
V	VI	21	19	40	52	48	55	45
VI	VII	9	31	40	22	78	20	80
VII	VIII	6	34	40	15	85	18	82
VIII	IX	8	32	40	20	80	30	70
I	V	46	2	48[b]	96	4	79	21
V	IX	3	57	60[b]	5	95	5	95

[a] From Table 36.

[b] Includes phases too short for division into five stages.

percentage with falling profits is slightly smaller than the percentage with falling margins. The difference is accounted for by an irregularity in one contraction of quantity sold. Quantity, and also the value of sales, rose a little from stage VI to stage VII of that contraction. Consequently it was possible for total profits to rise although the margin declined.

Instances of rising profit greatly outnumbered instances of falling profit in every segment of quantity expansions. Falls were somewhat less frequent than rises in the first segment of quantity contractions, but thereafter greatly outnumbered rises. The percentage of observations with rising profits is highest in the second segment of expansion; thereafter it falls continuously to the third segment of contraction, after which it rises. The upturn of quantity brings a sharp rise in frequencies, from 20 to 76 per cent. A continuous rise was the most common pattern of change during expansions, and a continuous fall was most common in contractions (Table 39).

Because of rising sales, continuous rises in profits from stage to stage were more frequent during quantity expansions than con-

TABLE 39
Profits Before Taxes: Patterns of Change During Expansions and Contractions in Quantity Sold, Fifteen Manufacturing Industries, 1947–61
(number of phases)

Pattern	Expansions			Contractions		
	Long Phases	Short Phases[a]	Total	Long Phases	Short Phases[a]	Total
Continuous rise	19	2	21	0	1	1
Rise, fall	10	0	10	14	3	17
Rise, fall, rise	6	0	6	6	0	6
Rise, fall, rise, fall	0	--	0	1	--	1
Continuous fall	0	0	0	8	11	19
Fall, rise	8	0	8	2	4	6
Fall, rise, fall	2	0	2	9	1	10
Fall, rise, fall, rise	1	--	1	0	--	0
Total	46	2	48	40	20	60

[a]Too short for division into five stages.

tinuous rises in margins. There were twenty-one of the former (Table 39) and only ten of the latter (Table 37); in quantity contractions, there were nineteen continuous declines in profits and seventeen in margins.

In twenty-eight expansions, profits were highest in the last stage (V). The corresponding figures for other stages are: I, two; II, zero; III, ten; and IV, six. In twenty-nine contractions, profits were at their lowest in the last stage (IX). Figures for other stages are: V, two; VI, one; VII, three; and VIII, five. In a majority of instances, therefore, profits were highest at the top of expansions in quantity and lowest at the bottom of contractions in quantity.

Profits did not turn upward or downward consistently earlier, or consistently later, than quantity sold. The actual peak quarter in profits preceded the corresponding peak in quantity eighteen times, coincided with it sixteen times, and lagged behind it twenty-three times. The trough quarter in profits preceded the trough in quantity thirteen times, coincided twenty-eight times, and lagged nineteen times. In six instances, there was no turn in profits corresponding to the turn in quantity. Most of the leads and lags were only one quarter long.

Reflection of Cost in Prices

Changes in cost were usually reflected in prices; changes in the latter were most often in the same direction as those in cost, although not necessarily proportionate. Most net increases in cost during a full upswing or downswing in quantity sold were accompanied by a net rise in the corresponding price index (Table 40). Indeed, even from stage to stage, most increases in one were accompanied by increases in the other, except from stages VIII to IX. Falling prices were associated with most net declines in cost over a full phase. Declines in cost were rare in some segments, and segment-by-segment comparisons with prices yield erratic results. Altogether, however, there were ninety-one declines in cost from one expansion stage to the next, and forty-six from one contraction stage to the next; prices fell in most cases. In every segment of expansion or contraction, the percentage of observations with rising prices is higher for those with rising cost than for those with falling cost.

On the other hand, the state of the market affected prices independently of cost. Of the net rises in cost during expansion, 93 per cent were accompanied by rising prices; but only 78 per

TABLE 40
Cost Per Unit: Changes Classified According to Change in Price Between Stages of Cycles in Quantity Sold, Fifteen Manufacturing Industries, 1947–61

		OBSERVATIONS WITH COST RISING			OBSERVATIONS WITH COST FALLING		
			With Price Rising			With Price Rising	
From Stage	To Stage	Total Number	Number	Per Cent	Total Number	Number	Per Cent
I	II	10	7	70	36	12	33
II	III	18	15	83	28	14	50
III	IV	31	30	97	15	4	27
IV	V	34	31	91	12	6	50
V	VI	34	32	94	6	2	33
VI	VII	36	28	78	4	3	75
VII	VIII	26	18	69	14	0	0
VIII	IX	18	9	50	22	5	23
I	V	27	25	93	21	10	48
V	IX	54	42	78	6	0	0

cent of the net rises during contraction were so accompanied. Of the observations with net falling cost, 48 per cent of those for expansions, but none of those for contractions, showed rising prices. Higher prices accompanied 40 per cent of the ninety-one stage-to-stage declines in cost during expansion, but only 22 per cent of the forty-six stage-to-stage declines during contraction.

Rising prices were more frequently associated with rising cost in the second half of expansion than in the first, and in the first half of contraction than in the second. In other words, an industry's chance of recovering at least some part of an increase in cost is greater when the market for its products is active than when the market is dull.

Proximate Causes of Changes in Margins

The characteristic widening of margins during expansion could be caused by a fall in cost, a rise in prices received, or both. On balance over the expansion as a whole, cost fell in a minority of the instances in which the margin rose (Table 41). Prices, on the other hand, rose in 82 per cent. Price was a more frequent contributor than cost to the characteristic change.

The typical net narrowing of margins during contraction might be explained by rising cost, falling price, or both. Cost rose in 89 per cent of the observations; prices received fell in only 32 per cent. Cost was a more frequent contributor than price to the net fall.

The relative importance of price and cost changes between early and late expansion. Cost fell in almost all first segments; the percentage of margin rises in which cost was a factor diminishes steadily thereafter. The percentage in which price was a factor increases, although irregularly. Falling cost contributed to more than half of the rises in margin during the first two segments, to less than half during the last two. Rising prices contributed to more than half of the margin rises during all segments of expansion.

The percentage of declines in margins in which rising cost is a factor is high in all segments of contraction but shows a downward trend after the second. The percentage in which falling

price is a factor is low at first but increases continuously and in the last segment is well over 50.

Contracyclical net changes in margins over entire expansions or contractions are too few for analysis. Declines in margin during early expansion were caused mainly by declines in price, while those in late expansion were caused mainly by rises in cost. Margins rose in the first segment of contraction in a fair number of

TABLE 41

Changes in Margin Classified According to Change in Cost Per Unit and Change in Price Between Stages of Cycles in Quantity Sold, Fifteen Manufacturing Industries, 1947–61

From Stage	To Stage	A. OBSERVATIONS WITH MARGINS RISING: Total Number	With Cost Falling: Number	With Cost Falling: Per Cent	With Price Rising: Number	With Price Rising: Per Cent
I	II	30	25	83	17	57
II	III	37	24	65	27	73
III	IV	26	12	46	18	69
IV	V	23	8	35	21	91
V	VI	22	4	18	20	91
VI	VII	8	3	38	8	100
VII	VIII	7	5	71	2	29
VIII	IX	12	12	100	5	42
I	V	38	17	45	31	82
V	IX	3	0	0	3	100

From Stage	To Stage	B. OBSERVATIONS WITH MARGINS FALLING: Total Number	With Cost Rising: Number	With Cost Rising: Per Cent	With Price Falling: Number	With Price Falling: Per Cent
I	II	16	5	31	14	88
II	III	9	5	56	7	78
II	IV	20	17	85	4	20
IV	V	23	19	82	7	30
V	VI	18	16	89	4	22
VI	VII	32	31	97	9	28
VII	VIII	33	24	73	17	52
VIII	IX	28	18	64	19	68
I	V	10	6	60	6	60
V	IX	57	51	89	18	32

observations; rising price rather than falling cost was the main explanation. Rising margins were rare after the first segment.

Costs and Profits of Individual Industries

Hitherto we have not discussed the various manufacturing industries separately in describing the relations among cost, prices, margins, profits, and quantity. Often we do not have enough information for a single industry. If we assume that statistics for eight or more phases (expansions or contractions) afford a broad enough foundation on which to erect a conclusion, we have enough statistics for each of nine industries.

In any one industry, the change in cost, prices, or margin is not always consistent from one cycle to the next. Cost may rise in some expansions and fall in some contractions of quantity, suggesting that cost is positively related to quantity; but it may also fall in other expansions and rise in other contractions, suggesting that it is inversely related to quantity. One way of judging such conflicting evidence is to count the number of phases that suggest a positive relation and the number that suggest an inverse relation; give a plus sign to the first number and a minus sign to the second; compute the net or algebraic total, and express the latter as a percentage of the absolute number. A large positive percentage indicates a strong tendency of cost to rise and fall with quantity; a large negative percentage indicates a strong tendency for cost to change in the opposite direction from quantity. Such a "conformity index" has been computed for cost and other variables in the nine industries (Table 42). An index numerically equal to or less than twenty-five can hardly be regarded as indicating any consistent relation.

Production-worker hours per unit, labor cost per unit, all-worker hours per unit, and total cost (including materials, etc.) varied inversely with quantity in most industries. Hourly earnings were not related to quantity in any industry; they tend to rise in quantity expansions and quantity contractions alike. Prices received were positively related in three industries, inversely related in three, and unrelated in three. Both profit margins and profits tended to rise and fall with quantity in all industries.

TABLE 42

Profit Variables and Profits: Conformity Indexes Measuring Relation to Quantity Produced or Sold, Nine Manufacturing Industries, 1947–61

	Production Workers							
	Hours Per Unit	Hourly Earnings	Labor Cost	All Workers, Hours Per Unit	All Cost	Prices Received	Profit Margin	Aggregate Profits
Textiles	-11	11	-56	-11	-78	56	78	78
Lumber and products	-33	-11	-78	-78	56	78	78	78
Paper and products	-56	-11	-78	-78	-33	11	78	100
Chemicals	a	a	a	a	-78	-33	78	100
Rubber	-33	-11	-11	-56	b	b	b	b
Leather and products	-100	0	-75	-100	0	25	75	100
Stone, clay, glass	-56	-11	-78	-56	-25	25	100	100
Primary metals	-100	11	-78	-100	-56	33	100	100
Fabricated metals	-33	-11	-33	-56	-33	-33	78	100
Electric equipment	-11	-11	11	-78	-33	-33	78	100

[a] Less than eight phases in quantity produced.

[b] Less than eight phases in quantity sold.

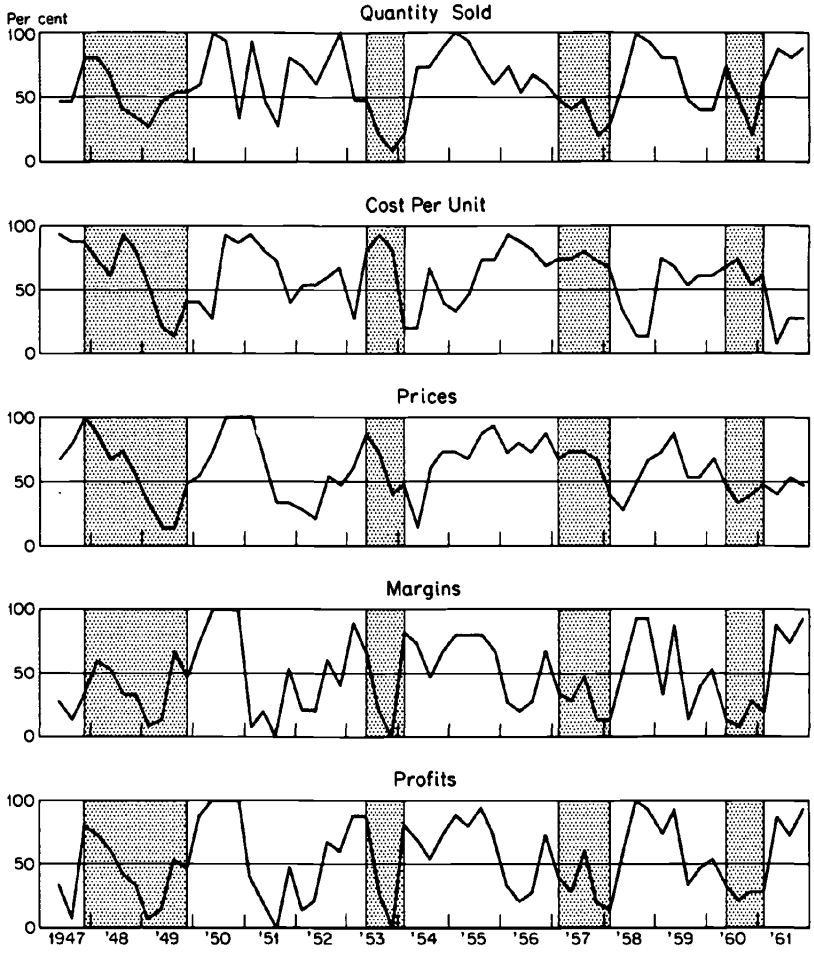
Quantities and Margins of Industries Diverge as Aggregate Quantity Approaches a Peak or Trough

Although most industries have a trough in quantity sold somewhere near a trough in the composite quantity sold by all industries, or in economic activity at large, revival comes to some industries before it come to others. From its lowest point, the number with rising quantity gradually increases. At first the increases in the reviving industries are not large enough to offset the continuing decreases in others, and aggregate quantity continues to decline. But eventually the rise in quantity in the growing number of reviving industries becomes greater than the fall in quantity in the dwindling number of industries that continue to contract. Conversely, recession comes at first to a few industries, then to more and more. Eventually the receding quantity in a growing number of industries outweighs the expanding quantity in a diminishing number of others; total quantity reaches a peak and begins to decline.

These tendencies are very clear in the 1954–58 cycle of composite quantity (Chart 6). In the fourth quarter of 1953, only one industry sold more goods than in the third. From the fourth of 1953 to the first of 1954 (the trough in composite output), three had rising quantity. From 1Q 1954 to 2Q 1954, eleven had rising quantity, and this was enough to turn the balance; composite quantity rose. As it continued to grow, participation continued to widen, until all had rises in quantity from 4Q 1954 to 1Q 1955. Thereafter, although aggregate quantity continued to increase, the number of manufacturing groups participating in the increase declined.

In the 1949–53 expansion, the sequence of participation is more complicated because of the Korean episode. However, the number of industries with rising quantity began to increase long before the trough in aggregate quantity sold, and began to decrease before the peak in aggregate quantity. Complete participation in the growth of quantity was reached in the second quarter of 1950, in which the first Korean alarm was sounded. Participation remained at 93 per cent in the third quarter but fell to 33 per cent in the fourth. On the second alarm it shot up to 93 per cent

CHART 6
Percentage of Industries with Quantity, Cost, Prices, Margins, or Profits Higher Than in Preceding Quarter, Fifteen Manufacturing Industries, 1947–61



NOTE: Shaded areas are contractions in composite quantity sold.

in 1Q 1951, but fell to 47 per cent in the second quarter, and 29 per cent in the third.

Participation began to decline fairly early in the 1958–60 expansion, although the rebound after the steel strike in the last half of 1959 temporarily raised the percentage.

In every expansion, the point of time at which the smallest number of industries had rising cost preceded the peak in composite quantity sold. The point at which the largest number had rising cost preceded the trough in quantity during all four contractions. It is harder to generalize about prices. The period in which rising margins are most common precedes the peak in composite quantity, and the period in which falling margins are most common precedes the trough with one partial exception. The increasing frequency of falling margins late in composite expansions is associated with the increasing frequency, among individual industries, of declining output and rising cost; and the spread of rising margins late in contractions of quantity is associated with the increase in the number of industries that have begun to expand their quantity and lower their unit costs. Changes in the frequency of rising profits are similar.

On the other hand, there were numerous instances in which an industry's margin fell during the later stages of a rise in its quantity, although these instances did not amount to a majority of the observations (Table 36). Some part of the fall in composite margins late in expansions of composite quantity is accounted for by such industries. Rises in margin during the later stages of an industry's contraction were far less frequent; industries with falling output but rising margins can account for only a small part of such rises in composite margin as occurred late in composite expansions.

A word of caution as to the interpretation of Chart 6, and similar charts, may be helpful. A fall in one of the curves does not mean that the variable depicted is typically declining in the several industries. For example, the margin curve falls from 87 per cent in 1Q 1953 to 67 per cent in 2Q 1953. This means that 87 per cent of the industries had margins rising to 1Q 1953 from the preceding quarter, while only 67 per cent had margins rising from 1Q 1953 to 2Q 1953. Rising margins predominated in both

cases; but the predominance was smaller in the second instance. Whenever the curve lies above the 50 per cent line, regardless of its slope, the number of industries in which the variable depicted rises is greater than the number in which it falls.

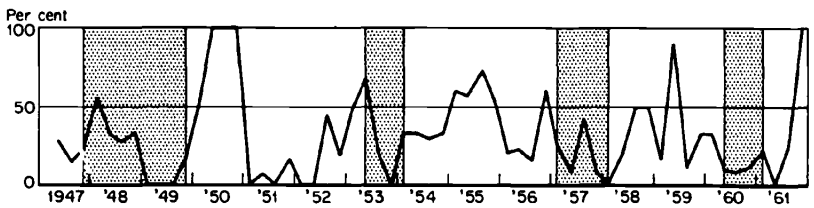
The curves are highly erratic. A change of direction in just one industry will produce a jump of 7 percentage points. If the data for manufacturing were more finely subdivided—if there were figures for 100 industries instead of fifteen—the changes in the curves would be smoother and might appear more systematic.

Rising Cost Most Often Recouped in Early or Middle Prosperity

From foregoing sections it is evident that manufacturers with rising cost are sometimes able to increase their prices by a greater percentage, and therefore to reduce their cost ratios and widen their profit margins in spite of the rise in cost. They are more successful in this respect during some parts of the economic cycle than during others.

Chart 7 illustrates these differences. "Rising" and "falling" mean higher or lower than in the preceding quarter. From the first to the second quarter of 1947, for example, fourteen industries had a rise in cost per unit. Of these, four or 28 per cent nevertheless had a falling cost ratio, i.e., a rising margin. In the chart, 28 per cent is therefore shown for the second quarter of 1947.

CHART 7
Number of Manufacturing Industries with Rising Cost but Falling Cost Ratio, as Percentage of Industries with Rising Cost, Fifteen Manufacturing Industries, 1947–61

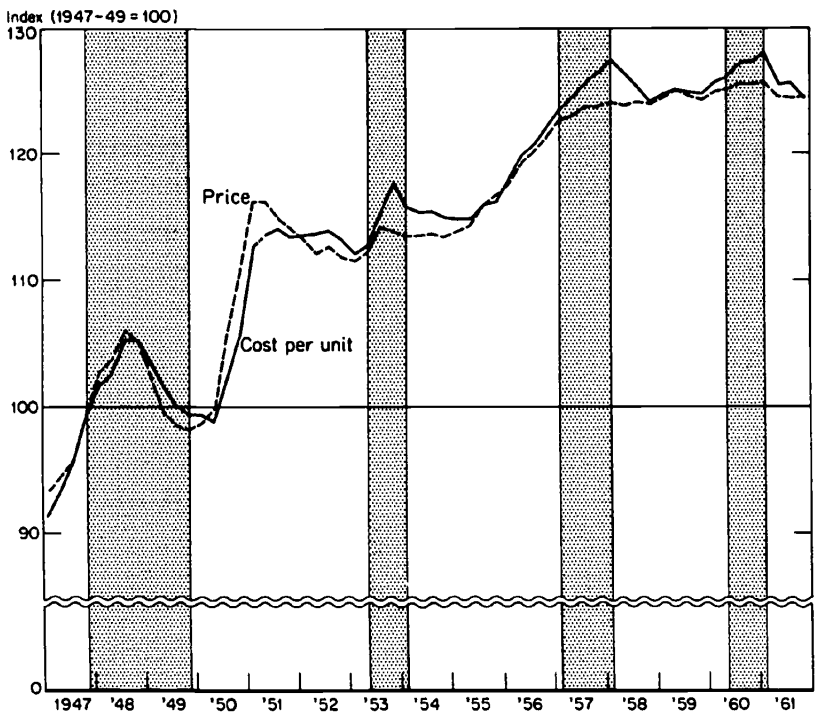


NOTE: Shaded areas are contractions in composite quantity sold.

The statistical foundation for these ratios is at times rather slim. Whenever the percentage of industries with rising costs (Chart 6, cost panel) is less than 50, the number of groups with rising costs is seven or less. Nevertheless, the results of the computations have a somewhat systematic appearance. In the 1954–57 and 1958–60 general expansions, the percentage reached a peak long before the end, and fell irregularly but substantially thereafter. The data suggest that rising costs are very seldom recouped out of higher prices when business activity at large is declining.

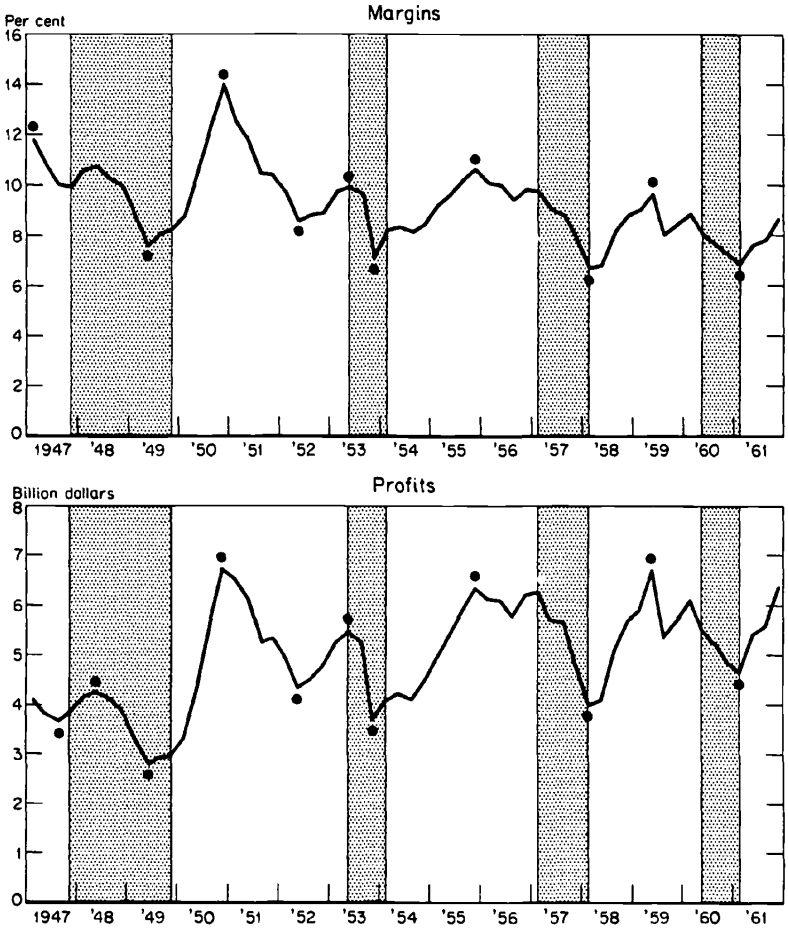
The 1949–53 general expansion was, of course, peculiar. At

CHART 8
Cost Per Unit and Price Index,
Composite of Fifteen Manufacturing Industries, 1947–61



SOURCE: Appendix Table B-1.
NOTE: Shaded areas are contractions in composite quantity sold.

CHART 9
Profit Margins and Profits,
Composite of Fifteen Manufacturing Industries, 1947–61



SOURCE: Appendix Table B-1.
NOTE: Shaded areas are contractions in composite quantity sold. Dots are at peaks and troughs in margins or profits.

the height of the Korean alarm, all industries with rising costs were able to raise prices by a greater percentage. Then the situation changed abruptly; during much of 1951 and 1952, few or no

industries with rising costs were able to raise their prices enough to preserve their profit margins.

Costs, Margins, and Profits of Industry Composite

We have divided an index of the combined expenses of the fifteen industries by the index of composite quantity sold to get an index of composite cost per unit. We have also computed a composite margin by totaling their profits and dividing by their total sales. Averages have been calculated for the various stages of the composite quantity cycles. The patterns of cost per unit, margins, and profits are too diverse, however, to permit generalization from so few instances. The net changes during expansions and contractions are more systematic. Cost rose in the two expansions in which prices of materials rose substantially (Chart 8), but fell in 1958–60 when prices of materials were stable. It rose in all contractions, except 1947–49 when prices of materials declined appreciably. The data suggest that if prices of materials were stable, cost per unit would be related inversely to quantity. Profit margins and profits rose in every expansion and fell in every contraction (Chart 9).