

This PDF is a selection from an out-of-print volume from the National Bureau of Economic Research

Volume Title: Consumption and Business Fluctuations: A Case Study of the Shoe, Leather, Hide Sequence

Volume Author/Editor: Ruth P. Mack

Volume Publisher: NBER

Volume ISBN: 0-870-14090-6

Volume URL: <http://www.nber.org/books/mack56-1>

Publication Date: 1956

Chapter Title: Retailers' Buying: The Market Prospect

Chapter Author: Ruth P. Mack

Chapter URL: <http://www.nber.org/chapters/c4804>

Chapter pages in book: (p. 113 - 127)

CHAPTER 9

RETAILERS' BUYING: THE MARKET PROSPECT

Judgments about market conditions—the speed with which deliveries will be made, the certainty of obtaining good selections (especially of the season's favorite models), the direction in which prices will move—are highly relevant to the question of *when* retailers place their orders for the season's requirements. On the character of these judgments depends action of economic interest, for the judgments change from time to time, and with them change the patterns of buying.

How Buying Fluctuates with Changing Market Prospects

Changes may be subtle or gross. "Buying booms"—real overbuying sprees and the collapse that inevitably follows—are only the unusual and very extreme manifestation of a very common phenomenon, "buying waves," which result from the constant re-evaluation by businessmen of conditions expected to materialize in the markets in which they buy. Before endeavoring to analyse these expectations and their impact on buying, I would like to draw a portrait of the buying boom of late 1936 and early 1937. There we find, blown up for easy vision, the components of the milder shifts in market position that lack the drama but not the importance of the showier events. The account is based on reports primarily from two trade journals, the *Shoe and Leather Reporter* and the *Boot and Shoe Recorder*.¹

A BUYING BOOM

Throughout 1935, trade reports tell of the struggle of producers to raise shoe prices in line with the advance in leather prices; it eventuated in the mild rise in wholesale shoe prices that the Bureau of Labor Statistics index shows started almost imperceptibly during the first half of the year and reached a temporary peak in February of 1936. During this period we read of the occasional placing of larger than usual advance orders by distributors. By January of 1936, ". . . the sales reported done at the shoe convention were reported by many as the largest they had ever had, notwith-

¹ Both of these publications are weeklies. The *Shoe and Leather Reporter* (SLR), from which most of the material comes, is published by the Shoe and Leather Publishing Co. of Boston and has been in existence since 1857.

standing the fact that prices were higher on most every line represented."² The pause in buying that followed in the next few months and sent prices down again was attributed to the fact that the trade was waiting for improved retail sales that did not eventuate, in part because of the cold February and March. But in April the trade reported marked increase in demand for practically all types of footwear at retail, as well as the presence of trading up and multiple purchases. ". . . depleted [retailers'] stocks which looked abnormally large previous to the [consumer] buying movement . . . may have the effect of creating more anticipation buying than has been experienced in recent months."³ Now it was a weakness in the hide and leather markets that put off the retailers' buying spree. Seasonally adjusted hide prices had been declining slowly since January.

In the last half of the year, however, strength developed from both sides—the price of hides and that of leather resumed their climb, and retail demand was at a high level, the highest since early in 1931 in dollar terms, and the highest on record in pairs. Retailers placed a flood of "at-once" orders: they are not only reported in the press, but clearly reflected in the index of wholesale sales of shoes, which, in seasonally corrected form, rose from around fifty-one in April and May to around sixty-five in the closing months of the year. Apparently, retailers were anxious to buy because they had underestimated demand and found their stocks too low—stocks were low, that is, not in absolute terms, but low relative to what it was thought that they should be. As early as June 1936, key buying accounts were finding it necessary to enter the markets for replenishment, despite the fact that their early season orders had exceeded, by a comfortable margin, the previous season's purchases. The note of betterment in excess of expectations was sounded again and again. The rush to get merchandise, doubtless partly due to underestimated consumer demand, was also due to worry about the prompt delivery of orders. "Shoe manufacturers were not keen to commit themselves for extended periods and were doing their best to hold buyers down to 60 or at most 90 days' delivery. On the other hand buyers, desirous of getting prompt de-

² SLR, January 18, 1936, p. 29.

³ SLR, April 18, 1936, p. 51.

livery on their lines, were apparently more concerned about getting shoes shipped than they were in wasting time trying to get prices down."⁴ In spite of reports that sales were in excess of expectations and stocks required replenishment, all this resulted not only in rising stocks, but in stocks that rose faster than sales, for the indexes show sales-stock ratios turning down in October and November of 1936. But though the slack in the rope had been taken up and tension was developing, shoe prices had not yet started to move; for only three of the twenty-one models canvassed by the BLS had price increases been reported by December 1936.

It was not until the first of the next year that wholesale shoe prices broke loose—in February, increases were recorded for fifteen models. Consumer demand had continued to rise and was at a high level, though the rate of its advance had slackened. Shoe manufacturers were frequently reported operating at capacity, a fact borne out by the over-all statistics. In late January 1937 “. . . a number of [shoe manufacturing] leaders [report] inability to take any further business for early spring cutting. . . . Regular business [was] being accepted only on a basis of delivery when completed, manufacturers being unable, due to the present rush, to promise specific delivery dates.”⁵ The higher prices of leather were pressing heavily, and with considerable uniformity, on the cost structure of shoe manufacturers. The *SLB* comments in February 1937 that shoe manufacturers had supplies of leather thought ample for the season's needs but unusual factory activity had dissipated supplies and forced buying of leather at higher prices. (Average leather prices rose over 43 per cent between August 1936 and April 1937.) Moreover, “Tanners of various descriptions of leather, which usually are considered on a par for quality, are nearer together in their ideas of leather value than has been the case in many years. Production and raw stock costs now play a more important part in asking figures than for many seasons past.” This “. . . may well indicate the approach of a more universally observed policy of replacement selling.” Indeed, “. . . several outstanding producers presented the same identical prices for sizable orders of shoes made to definite quality specifications.”⁶

Retailers were trying to accumulate larger stocks. “Retail shoe buyers are displaying some eagerness to build up spring stocks. . . .”⁷ Again in March, “Distributors of footwear are replenishing stocks on staples as rapidly as possible, anticipating broader call for

such types. A number are endeavoring to build reserves against possible higher prices or production schedule interruptions which are expected with further spread of labor controversies.”⁸ In fact, by January, conditions were becoming alarming to some observers: “An element of danger in the situation, as indicated by the [shoe] Fair, was the speculative interest in shoes bought for inventory. One manufacturer said, ‘Many of my smaller merchant customers selling less than three thousand pairs of shoes a year have tried to place orders for fifteen hundred pairs in one sitting.’” Buyers, it was reported, “. . . attempted to place more business than they could properly handle in the hopes of getting wanted shoes on time for early Easter. . . .”⁹

The desire to increase stocks was part of a speculative fever that ranged wide: “Evidence that markets are headed toward definitely higher levels continues to accumulate from week to week. It is apparent that all branches of the industry, beginning with the small collector of raw materials at remote country points, and extending to the retail distributor of footwear located in large metropolitan cities, believe that prices will rise. They are imbued with the idea that inflation, while it has already arrived, will carry prices to still higher levels. In view of this fact, *they can see no good reason for selling themselves out of a future profitable position.*”¹⁰

It is interesting to note that, in all of this passion to buy, there are no complaints about difficulty in getting funds with which to acquire inventory. Indeed, the complaints run the other way—the editors of both the *BSR* and the *SLR* complain of an improvident abundance of credit: “Many a merchant is in a perilous position today with a madness to stock up to the limit because banks and businesses are a trifle more tolerant of expansion for growth.”¹¹ An editorial in the *SLR* in March warns of undercapitalization of shoe manufacturers, pointing out that if formerly \$1,000 cash capitalization was deemed necessary to produce a case of shoes, now the figure ought to be increased by 20 per cent.¹²

All through the late winter and spring, shoe prices at wholesale and retail continued to rise. In the words of an editorial in the *SLR*, “Concentrated efforts of the industry which for months were centered on the one important objective of raising prices in the retail end of the business, are beginning to bear fruit.”¹³

⁸ *SLR*, March 13, 1937, p. 16.

⁹ *Boot and Shoe Recorder (BSR)*, January 9, 1937, pp. 15 and 22.

¹⁰ *SLR*, April 3, 1937, p. 3 (*italics mine*).

¹¹ *BSR*, January 30, 1937, p. 22.

¹² *SLR*, March 6, 1937, p. 3.

¹³ *SLR*, May 1, 1937, p. 3.

⁴ *SLR*, December 5, 1936, p. 12.

⁵ *SLR*, January 23, 1937, p. 16.

⁶ *SLR*, February 13, 1937, p. 3 (*italics mine*).

⁷ *SLR*, January 23, 1937, p. 16.

But contemporaneously with this happy announcement come words of warning. The International Statistical Bureau, late in March, calls attention to reports from retailers that sales, though good, were somewhat below expectations. A week later the theme is struck in a different key—retail shoe volume has not shown increases reported at wholesale. About the same time the *SLR* notes that “. . . there are definite signs of easiness in raw and finished materials which bodes ill for some sections of the industry if continued for an extended period.”¹⁴ Leather and hide prices ceased to increase at an accelerating rate in March or April, though they did not break until August. Early bargain sales were reported by some retail stores, and manufacturers complained about the absence of “at-once” orders.

Nevertheless, this seemed to be interpreted by many of the bigger distributors as a temporary weakness, perhaps similar to the one that had occurred the year before. For toward the end of May, “Reports were current in shoe manufacturing and distributing quarters during the past week to the effect that volume buyers had placed a moderate to good sized volume of business on staple or semi-staple types during the past ten days. . . . Several of the key buying organizations who have been sitting on the side lines waiting for market easiness to run its course, took advantage of the situation to place orders for part of their requirements for the fall season. While the details are closely guarded it is understood that slight concessions were made where sizable business was involved but following the booking and the recovery of raw stock and finished material manufacturers changed their attitude with respect to future business.”¹⁵ Indeed, there is other evidence that advance orders were placed in unusual volume as late as June. One large buying group, for example, placed orders in May and June that amounted to 75 per cent of its sales for the five months of August through December, and this in spite of the fact that the ratio of current sales to stock plus orders outstanding had been falling sharply since December of 1936.

By July, however, the buying spree was definitely over. Wholesale sales had reached their peak in March. Shoe prices were, as usual, slow to react (the wholesale price index held its own, and the retail price index showed a continued rise, until October). Several large popular-priced chains that had instituted price increases as late as May rescinded them in August.

Late summer and fall exhibited the usual postboom symptoms. Shoe manufacturers complained about the absence of at-once orders and about demands for price rebates. However, their demands for price concessions

were not as insistent as on a notable earlier occasion, when Frank Rand, President of the International Shoe Co. spoke of the calamitous situation during the last six months of 1920. The International Shoe Co. did not guarantee prices, as did many manufacturers at that time; they would grant no rebates; “We had every excuse on earth given, from the baby being sick to crop failure, why the shoes that we had shipped should not be kept at the prices at which we had sold them.” A tardy account sent a telegram asking what to do. The wires rang back, “Walk the floor, that’s what I’m doing.” The account sent \$500 a few days afterward with a “cheerful” letter, the postscript to which was not so cheerful: “If you think there is no trouble down here, with the bottom having dropped out of cotton, if you think there is no trouble down here send your trouble man down and find out.”¹⁶ Yet the John Henry-like cadence of this message produced, apparently, neither the trouble man nor the rebate.

Retailers complained that consumers were not buying, that repair trade was unusually good, that special sales of new merchandise were announced at the height of the season. Stocks in the hands of would-be sellers cumulated. In retail stores, the statistics show no absolute rise, but presumably there was a rise relative to desired stocks. On the other hand, finished leather held by tanners rose (after adjustment for the usual seasonal patterns) by about 1,650 thousand equivalent hides (or 52 per cent) between April 1937 and January 1938. Packers’ hide stocks, which reached their seasonally adjusted low in August, rose by 300 thousand hides in the next five months; indeed, for the next two months something like half the current kill appears not to have been disposed of. In November, Swift & Co. endeavored to break the stalemate by announcing that they would sell only one week’s production of hides each week until the market was ready to absorb inventory reduction “. . . in an orderly manner. . . .”¹⁷

This it began to do around the beginning of the year. We hear once again of more sizing and at-once orders. The attendance at the January shoe fair was thought good, though it was characterized by a close-range policy of buying. Percy Straus of R. H. Macy, for example, announced that though his firm usually placed orders six months in advance, this year the period was cut in half.¹⁸ But very shortly we start to hear that though buying is still cautious, it is *better than expected*; the sharp drop in hide and leather prices, having recently slowed down, presently turned; and thus the first rifts in the clouds appear.

¹⁶ *SLR*, February 2, 1922, pp. 45–47.

¹⁷ *SLR*, November 6, 1937, p. 57.

¹⁸ *BSR*, January 8, 1938, p. 17.

¹⁴ *SLR*, May 1, 1937, p. 3.

¹⁵ *SLR*, May 29, 1937, p. 34.

BASIC CHARACTERISTICS: OVERBUYING VERSUS SHIFTS IN ADVANCE-ORDER RATIO

From this eyewitness account, one basic characteristic of the flow and ebb of a buying wave is clear enough: as the wave reaches the flood, retailers buy more than they would require to provide for and service current consumer buying; as it ebbs, they buy less. In the case of a buying boom, retailers may place orders for far more than they actually expect to buy. But this alternation of over- and underbuying is, as far as I can judge, a central characteristic of only a fairly extreme buying movement in the finished-shoe markets, though it may be present in small measure even in mild departures from hand-to-mouth buying.

In the milder buying waves, overbuying is largely relative. Here the amount of shoes bought well ahead of time (in the preseason months) increases *relative* to the orders of shorter term: the advance-order ratio rises. This may take place without overbuying for the season as a whole. Yet the judgment about the proportion of expected sales for the season, which should be placed as the preseason order, is as much influenced by a consideration of market prospects with respect to prices and the ease and speed of obtaining merchandise as is the judgment that lies behind the over- and underbuying that characterizes a real splurge and its aftermath. This portrait of a buying boom is, then, simply somewhat of a caricature of a personality type that is usually found with a far more moderate expression—that of a buying movement.

That it is actually so found is suggested by what we are told by retailers and shoe manufacturers. They say that consideration of market prospects will cause a change in the proportion of the expected season's sales ordered early rather than late. Some shoes, of course, are bought early in any market. A situation described as hand-to-mouth buying might mean, for example, that about 30 or 35 per cent of the expected sales for the next season are bought when manufacturers' salesmen start to show their new lines; secondary orders, placed a month or two later, might also be a bit smaller relative to the last-minute orders. On the other hand, in a seller's rather than buyer's market, the proportion of preseason buying may move to 65 per cent or more. In times of true speculative furor, the 60 per cent figure may, as we have seen, rise to 100 or even higher as individual merchants, expecting to receive only a fraction of what they have ordered, commit themselves for several times what they can use.

This is, of course, a vastly oversimplified description that glosses over all sorts of differences. The 65 per cent figure is a nonhomogeneous composite. For highly staple shoes, for which substantial price concessions

may accompany the off-season order, as much as 100 per cent of expected requirements may be bought ahead when market conditions are reasonably tight. In the case of models for which hopes are high, advance purchases may exceed those of the less-favored numbers. Delivery terms of individual manufacturers will also influence dealers' orders. Moreover, even if the same proportion of the expected requirements for the total six-month period are purchased ahead, the time-distribution is often different for staple numbers and style numbers; for the latter, the proportion of shoes to be sold within the next three months may be relatively high.

Even the word "order" is ambiguous. Sometimes advance ordering is less formal than the "confirmed" order. The buyer of a large firm may inform a "resource" that he expects to require a given number of pairs in the course of a season; then, though the retailer is not committed, the manufacturer may reserve factory space. In the "blanket order," space is definitely booked but the articles are not specified until later. Sometimes unconfirmed orders are quite specific as to styles and sizes but, because they exceed the open-to-buy position, are placed "on the cuff." Orders of this sort rest on an understanding between individuals, and carry whatever weight such understandings have been found to warrant in the past.

But in spite of inevitable haziness, the most satisfactory way to phrase the concept is in terms of the shift in the proportion of expected requirements ordered earlier rather than later. First, we want to discover what evidence there is of the presence of these shifts; second, why and how they occur; third, what pattern they impart to total buying, and consequently to the backward transmission of demand.

Statistical Evidence that Shifts Have Occurred

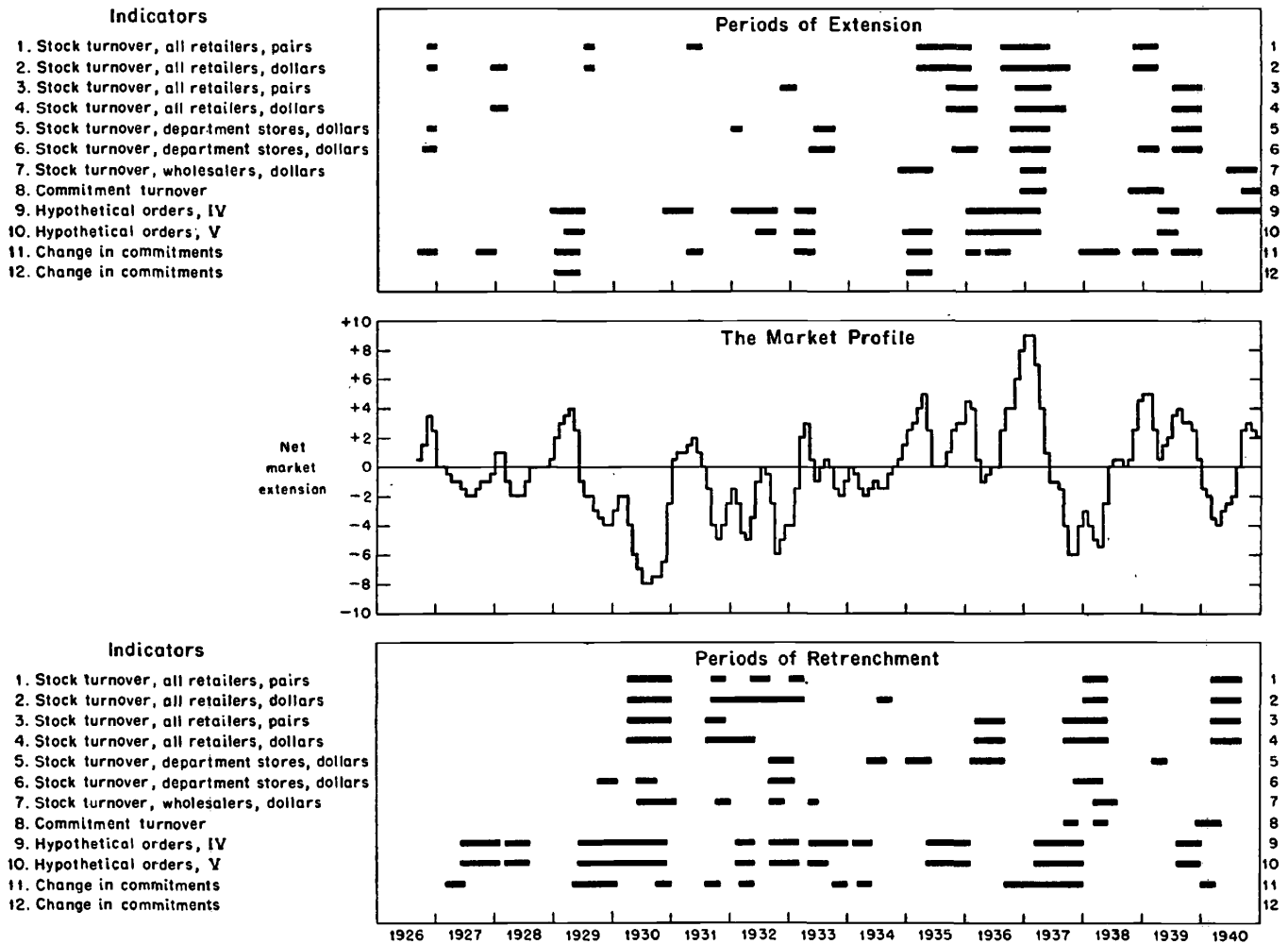
Starting with the first question, we search the statistical record for evidence as to when markets seem to have moved away from a hand-to-mouth position and how extreme the movements were. Ideally, we require a time series on a state of mind—on how actual stocks differ from what they would have been had market prospects been perfectly stable, that is, from what they would have been had there been no change whatever in actual or expected delivery periods, in ease of obtaining adequate selections, in shoe prices, or in any other factors commonly considered in a decision on how much to buy earlier rather than later. What data we actually have will soon be all too evident.

THE MARKET PROFILE

I have assembled the group of materials presented in Chart 21 partly in desperation and partly in sport.

CHART 21

Twelve Indicators of When Market Positions in Shoes Changed, 1926–1940



Method of construction of the market profile: Net market extension is obtained by subtracting the number of indicators in retrenchment from the number in extension each month. Periods of market retrenchment are identified by behavior converse to that described below for periods of extension. Market extension is suggested by the following eight indicators when the turnover ratio (sales divided by stock) is in falling phase and sales in rising phase:

1. Shoe distributors' stock turnover in pairs (59) and retail shoe sales in pairs (33)
2. Distributors' stock turnover (59) and retail shoe sales in dollars (31)
3. Turnover of shoe stock in all hands (58) and pair shoe sales (33)
4. Turnover of shoe stock in all hands (58) and dollar shoe sales (31)
5. Department-store shoe stock turnover in constant prices (55), which is based on the stock series derived from sales and receipts, and department-store shoe sales in dollars (28)
6. Department-store shoe stock turnover in constant prices (56), which is based on a directly reported stock series, and dollar sales (28)
7. Shoe wholesalers' stock turnover in constant prices (57) and their dollar sales (36)
8. Turnover ratio of stock and outstanding orders in dollars of a department-store group (confidential) and their sales in dollars; the data begin in 1936

Market extension is suggested by the following two indicators when sales rise faster than orders. The two series comprising the indicators are:

9. Wholesale sales in pairs (37) and hypothetical orders IV
10. Wholesale sales in pairs (37) and hypothetical orders V (for description of IV and V, see Chapter 8, "Hypothetical Stable Market Orders")

Market extension is suggested when investment is rising while sales are changing at a rate lower than that of the average incremental sales-stock ratio, or at a decreasing rate:

11. Retailers' investment in stock on hand and on order (53) is compared with month-to-month change in pair shoe sales (33)

Market extension is suggested when investment is rising while sales are changing at a decreasing rate. This indicator shows no periods of market retrenchment:

12. The same two series are compared as in indicator 11 (see text note 22 for a further discussion of these two indicators)

Exploiting to the full the slightest logical relation of actual data to the question at issue, I simply add up the evidence of each rickety construct and look at the result. It seems to make sense, more is the wonder.

Three sorts of materials are used. The inclusion of each is based on an argument that may be briefly outlined. The first seven indicators are based on sales-stock ratios and the eighth on a ratio of sales to stock on order as well as on hand. Characteristically stock, whether on hand or also on order, rises and falls with sales, and consequently turnover ratios parallel sales. However, there are notable exceptions to this pattern. When sales are rising and the ratio falling, it seems reasonable to assume that this rise in the number of weeks' supply held in stock on hand or on order represents an intended extension of the market position motivated by consideration of market prospects; for at such times (unlike times when sales are falling), if retailers wish to reduce either their stocks or their commitments, they can. Conversely, when sales are falling, yet stocks on hand and on order start to turn more rapidly, contrary to the usual pattern, it seems reasonable to assume that a volitional shortening of the market position is taking place, though, of course, it may well have been taking place earlier without being visible.¹⁹ The same logic that we apply to stock plus commitments may likewise be applied to stock on hand alone.²⁰ In accordance with this line of thought, we denote as periods of market extension the times when sales are rising and the ratio of sales to stock and commitments is falling, and as periods of market contraction the times when sales are falling and the ratio of sales to stock and commitments is rising. Each of our turnover ratios, judged in connection with appropriate data on sales, yields a set of reports on shifts in market position.

The logic of the next two indicators is simply that if we could get a series on orders under stable market prospects and subtract it from total orders, the difference would be orders associated with shifts in market prospects. Accordingly we compare our two hypothet-

¹⁹ By the same logic, it would theoretically be possible to spot in the figures the effort to decrease stocks before turnover actually started to speed up. But to do so, we would need to know how much turnover declined due to the sorts of factors discussed in the previous chapter, and we cannot say this any more than we can make the corresponding statement on how much turnover usually rises when sales rise.

²⁰ Of course, it would be quite possible for retailers to increase the amount of stock on order without ever increasing the amount on hand, but it is more likely that before long stock on hand would increase, too. Again, the only way that an increase can be identified as associated with a consideration of market prospects is after turnover starts to fall while sales are still rising; the more subtle matters of the extent of parallel change being past our power to evaluate. These statements may be rephrased to apply to evidence concerning a contraction in the market position.

ical stable market order series developed in the previous chapter with our best representation of total orders—wholesale sales. Since the levels of the two series are not the same, comparison must focus on rates of change. Market extension is deemed to occur when total orders (wholesale sales) are rising and those predicted on constant market prospects are rising more slowly or falling; conversely, market retrenchment is deemed to occur when total orders are declining and those based on constant market prospects are declining more slowly or rising.

The final set of comparisons is the most highhanded of all. It is based on a hypothetical series for change in retailers' stock on hand and on order (ownership position) calculated by subtracting retailers' sales from their orders (again represented by wholesale sales). The ratio of first differences in sales to this series (hypothetically, first differences in ownership position)²¹ may, we noted in the previous chapter, stay fairly steady under stable market prospects. Marked departure from stability may, therefore, be attributed to market extension or retrenchment due to shifting market prospects.²²

Looking now at Chart 21, there seems to be a rough tendency for the horizontal bars indicating periods of market extension as shown by each of the indicators to cluster more often than not in certain periods. But there is some suggestion that the series in which stock on order as well as on hand plays a part give their signs ahead of the others. The same may be said for periods of retrenchment. The market profile is simply a count

²¹ This difference series cannot be converted to an aggregative one for the error is too considerable to allow for cumulation over more than short periods of time.

²² The incremental sales-ownership ratio will have an average level, and we are interested in departures from the average. We judge that market extension occurs, for example, when the rate of change in ownership position and that in sales are both in rising phase but the slope of ownership is steeper relative to sales than is indicated by the average relationship; the incremental sales-ownership ratio is less than average. Other aspects of the procedure can be summarized as follows:

MONTH-TO-MONTH			
DIRECTION IN WHICH MARKET POSITION IS ASSUMED TO BE MOVING	CHANGE IN:		SPECIAL REQUIREMENTS
	Sales (type of phase)	Ownership	
Extending	Rising	Rising	$r < R$
Not specified	Rising	Rising	$r > R$
Retrenching	Falling	Falling	$r < R$
Not specified	Falling	Falling	$r > R$
Extending	Falling	Rising	Except when sales proper have just started to fall
Retrenching	Rising	Falling	Except when sales proper have just started to rise

where r is the ratio of Δ sales divided by Δ ownership, over each matched specific subcycle, and R is the average of these ratios for all phases.

of how many of these twelve indicators show the presence of extension minus the number that show the presence of contraction. The logic of the summation is this: I regard each of the series as an observation on the presence of a shift in market position. When more of these fallible indicators agree that a certain sort of movement is taking place, I conclude that the judgment is more certain and the movement probably stronger than when fewer do so. In view of the fact that seven of the indicators would presumably operate at a slightly later stage than the other five, their concurrence may also mean that the shift has matured.

These waves in advance buying or advance position, the chart shows, are not merely occasional occurrences but take place most of the time. I would guess that most retailers or shoe manufacturers would have said of the period covered by the chart that hand-to-mouth shoe buying had been the rule except in the last part of 1936 and early 1937, and possibly in the very early days of the National Industrial Recovery Act, in 1933. The hide and leather markets would have been described as also off a hand-to-mouth basis in 1927 to 1928. Journals kept reporting resistance by shoe buyers in 1928 and the difficulty of passing on higher leather costs to them. This may be why the profile fails to show strong market extension at that time; but of course the data, particularly for the first few years, are highly fallible.

SEASONAL PATTERNS

Because *retailers ordinarily place most advance orders for shoes in certain months*, the buying of these months would presumably be heavier relative to that of the others when positions are being extended and smaller when dealers are returning to hand-to-mouth buying. Advance buying is not likely to occur before the new lines have been designed and shown—seldom earlier than November for the spring season or May for the fall season—or after the rush work starts in early February for the spring, and in August for the fall, semester.²³ By and large, then, when business is good and factories are expected to be busy, a larger proportion of the year's orders should be found to have been placed in November, December, early January, May, and June than are placed in these months at times when factories are expected to be fairly empty. Since such a shift implies a lengthened ownership position for retailers, it constitutes the expansion phase of a buying wave.

A good series on orders each month would serve to test whether buying has this seasonal pattern. But we do not have such a series; nor can wholesale sales or

²³ I describe the patterns for the interwar period. They may have moved in recent years.

combined shoe and leather orders serve the purpose because of the probable difference between their seasonal patterns and those of shoe orders. Instead, I use shoe production. The large majority of shoes are manufactured only after an order has been received. For much of the rest, decisions as to the volume to be produced are often closely geared to the flow of current orders, though orders and output are not individually matched. Finally, insofar as shoe manufacturers depart from their usual seasonal pattern to put a larger than usual proportion into production early rather than late without definite orders for them, they are taking the same sort of gamble as shoe retailers and for much the same reasons. Accordingly, it seems proper to assume that the difference between average seasonal patterns of shoe production and those found at various phases of a buying wave will parallel analogous differences for orders received by shoe manufacturers.

To test whether such differences occur, I assume, as a first approximation, that extension of market position occurs at high levels of output when delays are feared and not at low levels; and contrariwise for retrenchment. Consequently, evidence of buying waves would be present if a larger than usual proportion of output (and by imputation, orders) occurred in pre-season months when the level of output is high and a smaller proportion when it is low; conversely, the proportion done in months close to the seasonal peaks would be expected to be inversely associated with output. Shoe output for, say, January in any specific year is, accordingly, divided by output for the surrounding twelve months. This figure is plotted against the twelve-month output figure (after adjusting the latter for a straight-line time trend; the adjustment is supposed to allow roughly for changing plant capacity). The procedure is repeated for each of the twenty-one Januaries covered by the index from 1922 to 1942. If the twenty located points lie in a more or less horizontal band, we may conclude that Januaries do not tend to be higher in active years relative to the aggregate output for the surrounding year than in inactive years. If the dots slope upward to the right across the page—thus having positive regression coefficients—the monthly output ratios are positively associated with the cyclical level of operation; if they slope downward, the association is negative and coefficients have a negative sign.

We find upon inspection of Table 36 (columns 3 and 5) that the months with the five highest positive coefficients (the only ones for which the correlation coefficient is over zero) are November, December, January, May, and June, just the ones in which pre-season buying was usually done, though January may be late, at least for the larger stores. On the other hand August

TABLE 36

Association of Seasonal Patterns of Shoe Production with the Level of Output, 1922-1942

	AVERAGE RATIO OF OUTPUT FOR THE MONTH TO CENTERED 12-MONTH TOTAL ^a		REGRESSION OF RATIOS ON TREND-ADJUSTED OUTPUT ^b				SEASONAL INDEX OF PRODUCTION	
	Ratio (1)	Rank (2)	Regression Coefficients		Coefficient of Correlation (6)	Index ^c (7)	Average Subcyclical Variation ^d (8)	
			Coefficient (3)	Rank (4)				Standard Error (5)
January	7.79	10	+ .0118	2	±0.0034	.60	93.5	+9.4
February	8.27	6	+ .0007	7	±0.0025	.0	99.2	+0.5
March	9.37	2	- .0010	9	±0.0042	.0	112.4	-0.7
April	8.70	5	+ .0006	8	±0.0041	.0	104.4	+0.4
May	8.12	7	+ .0053 ^e	5	±0.0044 ^e	.15 ^e	97.4	+4.1
June	7.81	9	+ .0066 ^e	4	±0.0027 ^e	.46 ^e	93.7	+5.0
July	8.08	8	+ .0039	6	±0.0055	.0	97.0	+3.1
August	9.56	1	- .0117	11	±0.0049	-.44	114.7	-9.1
September	9.05	4	- .0122	12	±0.0048	-.47	108.6	-9.6
October	9.08	3	- .0014	10	±0.0054	.0	109.0	-0.9
November	7.27	11	+ .0086	3	±0.0052	.29	87.2	+6.7
December	6.92	12	+ .0154	1	±0.0042	.62	83.0	+12.0
Average	8.34						100	5.1 ^f
Coefficient of rank correlation								-.94

^a The ratios are simple averages, 1922-1942, of the ratio of production (series 39) for a given month to the total of the 12 surrounding months.

^b The regression of the ratios (described in note a) on production adjusted for its straight-line trend (see text for further discussion).

^c The figures are simply the average ratios in column 1 multiplied by twelve. They thus are not the same as the average seasonal correction applied to shoe output which was done with the aid of a moving seasonal adjustment.

^d The estimates were made by applying the regression coefficients to the average amplitude of specific subcyclical fluctuation in shoe production, which was 65.4 million pairs, and converting the calculation to the basis of a seasonal index.

^e The figures for 1931 and 1933 were very eccentric, and since there was reason to believe the circumstances exceptional, they were excluded from the correlation.

^f Average, ignoring signs.

and September (September is a seasonal peak in consumer buying) have clear negative slopes. The rest of the months have standard errors in excess of the coefficient of slope.

Another rather striking aspect of these computations follows from the fact the pre-season months are also the ones when factory output is low, work on the old styles having ceased and work on the new ones being not yet vigorously under way. This means that when production is relatively high in pre-season months—that is, in good years—the valleys in the flow of production are somewhat leveled. In other words, the seasonal index is damped in good times relative to poor ones. When months are ranked first for the height of their seasonal indexes and then for the slope of the regression coefficients, the rank correlation coefficient is sharply negative (-.94). Column 8 of the table suggests that the quantitative aspect of this damping is not negligible. For what it is worth, the average increase of indexes for the lower months and decrease for the higher months is about 5 percentage points in the course of the average subcyclical rise of production.²⁴

²⁴ The finding raises an interesting question about techniques of seasonal adjustment. If our hypothesis is correct, the observed

I conclude that these calculations seem to add the weight of their evidence to that of the market profile and trade news in testifying that distributors alternately extend and contract their ownership position in shoes. What can be learned of the cause of these shifts?

Cause of Shifting Market Positions

Certainly the explanation, if pushed to the level of basic cause, is extremely complex. There is very little that happens in the course of a business day that does not help to form expectations about market prospects upon which shifts in ownership position are predicated. Included in relevant happenings would be all contacts between buyers and sellers, news of purchases and sales and the prices at which they are consummated, reports of salesman, information about stocks of customers and suppliers or of events in other markets and in the world at large. But though the basic process whereby expectations are formulated is vastly complex,

differences in seasonal patterns among years of high and of low output can be cyclical or subcyclical phenomena. Amplitude corrections or most sorts of moving seasonals would remove a good bit of this pattern.

worthwhile insight can be gained by concentrating at quite a superficial level.

INFLUENCE OF EXPECTATIONS CONCERNING DELIVERIES, SELECTIONS, AND PRICES

The maze of final factors converge on two simple questions: Are wholesale shoe prices going to rise (or fall)? Will merchandise of the requisite type and quality be difficult (or easy) to get at the last minute?

In actual practice, both questions are likely to evoke the same answer at any given time. This is important, since actually only one or the other is often considered. One buyer will eschew price considerations though he admits good merchandising obviously requires that more goods be bought early at some times than at others; another buyer will claim that it is sensible to take the expected course of prices into account and buy early when prices are expected to rise and late when they are expected to fall.

Several different sorts of factors could contribute to the resultant tendency for orders having relatively long delivery terms to form a larger proportion of all orders in good times than in bad. In good times, the bargaining position of sellers is strong relative to that of buyers, and sellers prefer early orders, which permit more economical factory operation. In good times, buyers

I can produce no direct evidence on the extent to which any of these factors are present at different times, though the question would be a most interesting one to investigate.

A few quantitative explorations can, however, be made of the second type of reason for shifting market positions—an expected change in prices. A buyer stands to gain the amount by which prices rise over a period for which he has a true option concerning when to buy the goods that he expects to sell at some more or less specific future time. For style goods, which are redesigned each semester, the option is at best the few months between the pre-season and the late season order; for staples, it might be somewhat longer; but for shoes, six months are probably the outside limit. In Table 37 we calculate the advantage that might have accrued as the result of taking this maximum gamble on the basis of true clairvoyance. For the purpose of this rough approximation, we ignore interest, storage, and other costs of carrying merchandise. The difference between the two columns of wholesale prices shows the advantage that the retailer would have gained had he bought at the best possible moment (though no longer than six months ahead). I assume that retail price would have been based exclusively on the last minute purchase price (the price plus a gross margin of 40 per

TABLE 37

Opportunities to Increase Retail Margin by Correctly Anticipating Rise in Wholesale Price of Shoes by as Long as Six Months, 1926-1941

CURRENT MONTH WHEN SALE IS TO BE MADE		WHEN BEST ADVANCE PURCHASE MIGHT HAVE BEEN MADE		SELLING PRICE FIGURED AT 40% MARKUP OVER WHOLESALE PRICE ON DATE OF SALE ^b		GROSS MARGIN ON SHOES PURCHASED IN ADVANCE			
Date	Wholesale Price ^a	Date	Wholesale Price ^a	Index Points	% of Retail Price	Excess over 40% Margin			
(1)	(2)	(3)	(4)	(5)	(5) - (4) (6)	(6) ÷ (5) × 100 (7)	(7) - 40% (8)		
Nov. 1927	106.3	May 1927	99.9	177.2	77.3	43.6	3.6		
Oct. 1933	98.9	Apr. 1933	83.2	164.8	81.6	49.5	9.5		
Dec. 1935	100.1	June 1935	97.3	166.8	69.5	41.7	1.7		
June 1937	107.5	Dec. 1936	99.4	179.2	79.8	44.5	4.5		
May 1939	101.3	Nov. 1938	100.4	168.8	68.4	40.5	0.5		
Feb. 1940	108.2	Aug. 1939	100.8	180.3	79.5	44.1	4.1		
Oct. 1941	118.8	Apr. 1941	107.8	198.0	90.2	45.6	5.6		
Average							4.2		

^a Prices are Bureau of Labor Statistics indexes of the wholesale price of boots and shoes (1926 = 100; series 1 in Appendix B).

^b See column 2. The markup of 40 per cent is calculated on retail selling price (SP). It is, therefore, the purchase price (PP) divided by 0.60 ($SP = PP + 0.40 SP$).

anticipate slower deliveries for three reasons: it takes longer for orders to be put into production; a longer time is required to complete production; stocks of finished shoes from which immediate deliveries can be made are relatively small.²⁵ These stipulations apply with special force to the season's more popular models.

²⁵ Finished-goods inventories typically have inverse cyclical patterns, and, as far as I can judge, those of shoe factories are no exception.

cent of retail). Actually, had a sizable number of retailers purchased shoes at the advantageous prices, the retail price would probably not show as much as a 40 per cent margin over current wholesale prices, since retailers who had bought at a lower price would typically convert at least part of their price advantage into a competitive advantage through lower retail prices.²⁶ Be

²⁶ The figure of 40 per cent is at best highly approximate. It is probably high for maintained margin and low for an initial

that as it may, on the basis of the extreme assumption that the entire advantage was taken in the form of additional margin, and ignoring interest, storage, and other such costs, we can see what the retailer stood to gain by taking the chances incident to advance buying. Under these extreme assumptions, apparently, the additional margin that would have rewarded the advance buyer would have been almost 10 points on goods purchased six months ahead during the rapid price rise associated with the NRA, and almost 6 points in the early days of the war. At three other times in the twenty-year period, additional margin of around 4 points might have been achieved.

If for the same periods analogous calculations are made for shoe wholesalers, Table 38 is developed. The

liquidate his mistakes by reducing his own prices. Finally, the businessman to whom he sells is probably more readily enticed by a bargain, knowing one when he sees it, than is the consumer.²⁷

Though these figures suggest that retailers and certainly wholesalers can improve their profits if they can foretell prices and act accordingly, the advantage to the retailer, at least, is not spectacular, even under the extreme favorable assumptions behind the calculations. When we consider how, in actual life, the recorded gain will be whittled by carrying charges and wrong guesses as to the amount and timing of price change and by the purchase of merchandise that can be sold only after severe markdown, it would seem that unless a retailer feels very certain of the trends of the market, price ad-

TABLE 38
Opportunities to Increase Wholesale Margin by Correctly Anticipating Rise in Wholesale Price of Shoes
by as Long as Six Months, 1926-1941

CURRENT MONTH WHEN SALE IS TO BE MADE		WHEN BEST ADVANCE PURCHASE MIGHT HAVE BEEN MADE		SELLING PRICE FIGURED AT 15% MARKUP OVER WHOLESALE PRICE ON DATE OF SALE ^b	GROSS MARGIN ON SHOES PURCHASED IN ADVANCE		
<i>Date</i> (1)	<i>Wholesale Price</i> ^a (2)	<i>Date</i> (3)	<i>Wholesale Price</i> ^a (4)	(5)	<i>Index Points</i> (5) - (4) (6)	<i>% of Wholesale Price</i> (6) ÷ (5) × 100 (7)	<i>Excess over 15% Margin</i> (7) - 15% (8)
Nov. 1927	106.3	May 1927	99.9	125.1	25.2	20.1	5.1
Oct. 1933	98.9	Apr. 1933	83.2	116.4	33.2	28.5	13.5
Dec. 1935	100.1	June 1935	97.3	117.8	20.5	17.4	2.4
June 1937	107.5	Dec. 1936	99.4	126.5	27.1	21.4	6.4
May 1939	101.3	Nov. 1938	100.4	119.2	18.8	15.8	0.8
Feb. 1940	108.2	Aug. 1939	100.8	127.3	26.5	20.8	5.8
Oct. 1941	118.8	Apr. 1941	107.8	139.8	32.0	22.9	7.9
Average							6.0

^a Prices are Bureau of Labor Statistics index of the wholesale price of boots and shoes (1926 = 100; series 1 in Appendix B).

^b See column 2. The markup of 15 per cent is calculated on the selling price of the wholesaler (*SP*). It is, therefore, the purchase price (*PP*) divided by 0.85 ($SP = PP + 0.15 SP$).

last column in this table may be compared with that of Table 37. The wholesaler not only stood to increase his margins by a larger per cent of selling price than did the retailer, but potential speculative gain represented a far larger proportion of average margin for the wholesaler than for the retailer, since a given price advantage in dollars represents a larger proportion of a 15 per cent than of a 40 per cent margin. In general, the larger the ratio of materials to total costs, the greater the inducement to engage in price speculation, other things the same. Actually, the wholesaler may well have further advantages over the retailer when it comes to price-oriented buying. Because wholesalers' shoe stocks turn, on the average, perhaps two or two and a half times as fast as retailers', the wholesaler's prospect of gain per dollar of capital invested in inventories would be that much greater. Also, he may be in a better position to

vantage alone would be a feeble reason for taking an extreme advance position. But, as we have seen, the price motive does not need to work alone. It tends to be paralleled by the need to make sure that seasonable merchandise will be available in the right quantities at the time when it is required by customers.

The price motive in early buying may operate in part, at least, in a way that does not involve the retailer in a guess about the future course of prices. It seems to be usual for early orders, especially large ones, to be written at a lower price than later ones. In part this reflects the fact that such orders facilitate a smoother and consequently more efficient factory operation without the gamble of anticipating customer requirements. This would be present, good times or bad. But some of my discussions with people in the trade have suggested an interesting path for further investigation—Is

markup, and it is hard to say which of the two concepts is called for by the context.

²⁷ This point was made a long while ago by Simon Kuznets in *Cyclical Fluctuations: Retail and Wholesale Trade, United States, 1919-1925*, Adelphi, 1926.

the reward for early orders larger in good times than in bad? I think it may be for several reasons. If a manufacturer expects to be booked to capacity in the peak months, early orders may represent an absolute gain in the year's output in addition to the advantage of producing more efficiently, and thus provide a double addition to operating profits.²⁸ Furthermore—a matter of psychology and management mechanics—when prices are rising, the reward of early orders may be the opportunity to buy at the old prices, and such offers may be made more readily than the offer of a corresponding opportunity in a falling market—a price lower than that of the still-unannounced new line. Finally, an advantage of early orders to the manufacturer, which may in part be passed on to his customer, derives from his ability to buy leather early, and therefore at a lower price, without taking the gamble as to whether the particular sorts of leather will be required. Whether the corresponding opportunity to take a short position in leather in a falling market operates symmetrically is not clear.

But if it is true that shoe manufacturers would be more inclined in good times than in poor to offer a sizable discount for an early order, it will presumably be uncertainty as to whether the market will continue to rise (rather than the experience of an actual reversal) that will make the manufacturer chary of offering more than the minimum actual off-season operating economies to an advance buyer. For one thing, he can no longer feel reasonably sure that he would benefit from early leather buying; for another, if the market breaks, his customers' advance orders may not remain firm, thus rendering him a double loser, for cancellations and requests for price rebates are old enemies of the trade. Time and again when prices appear to have reached levels that are deemed high in absolute terms, and when other reasons for uncertainty seem to have appeared, we read of shoe manufacturers (and tanners, too) being unwilling to accept customers' orders more than sixty days in advance. If the shift in the direction of inventory change depends on uncertainty, it will occur earlier than if a full-blown reversal in sentiment is required.

Shifting buying prices for distributors raise the question whether the defensive action of earlier or later buying may focus on expected operating margins rather than simply on the expected wholesale price of shoes. Unfortunately, there is no way of investigating this question empirically, for we have no relevant infor-

²⁸ There may also be a special advantage that characterizes times of very low output, though I would think it might be of a lesser order: when the absolute level of production in the slack months is very low, there may be a greater per unit advantage to raising the level and thus to keeping personnel together.

mation on retailers' gross or net margins.²⁹ If it were available, however, it is likely that if percentage margins on a last-in-first-out basis moved at all, they would tend in the short run to move inversely to the wholesale price of shoes. Extension or contraction of the market position would provide a method of defending margins against a cost squeeze in a rising market. One would assume that the critical question may involve the limits to which movements could be tolerated.

It is desirable to try to find some objective evidence of the validity of the line of explanation that has been forwarded. But how may we hope to find external evidence on expectations about prices, speed of delivery, and wealth of selections? Although well-designed questionnaires and surveys might supply pertinent information, none has been undertaken. Only time series are available, and they could hardly be very informative.

Still they may not be entirely without meaning. For example, if retailers need to guess whether shoe prices are going to rise or fall, they will look at the prices of basic raw materials whose cost represents a large portion and also a highly variable portion of the cost of shoes. For this purpose hide prices may even be superior to leather prices, since the latter are known to move with the former and hide prices are more prompt and reliable indicators. Because the advantage of early buying is a function of the *change* in shoe prices, it might be the change in hide prices that is watched. A comparison of time series may suggest an association between the basis of expectation (recent changes in hide prices) and resultant action (market extension as shown in the profile).

Insofar as speed of deliveries and wealth of choice determine the willingness to order ahead, the level of demand must help to influence opinions. I have been told that if sales are not good, retailers simply cannot be interested in early ordering. Similarly, the level and rate of change of factory operation, since they are considerations in judging how rapidly goods will be received, are relevant to when they should be purchased. Wholesalers' sales seem to be thought good prognosticators of market conditions by several people with whom I have spoken. However, except for retail sales, they could and indeed must be an effect as well as a cause of shifts in the market position of retailers. In line with the discussions of the previous chapter, not only

²⁹ Annual figures on gross and maintained margins for shoe stores are available in selected years and annually from 1928 for shoe departments of department stores. But annual figures are of no help for this purpose. Comparison of the retail and wholesale shoe price indexes shows general similarity with occasional differences for which no rationale appears. Neither set of data, especially the retail one, is accurate enough to provide a reliable record of differences between them.

the level but also the rate of change in sales must influence expectations.

In spite of all the difficulties and qualifications it may be useful to compare some of these time series that logic suggests might help to formulate opinion with the results of opinion—shifts in market position as reflected, however imperfectly, in the market profile and seasonal pattern of production.

EVIDENCE OF THE TIME SERIES

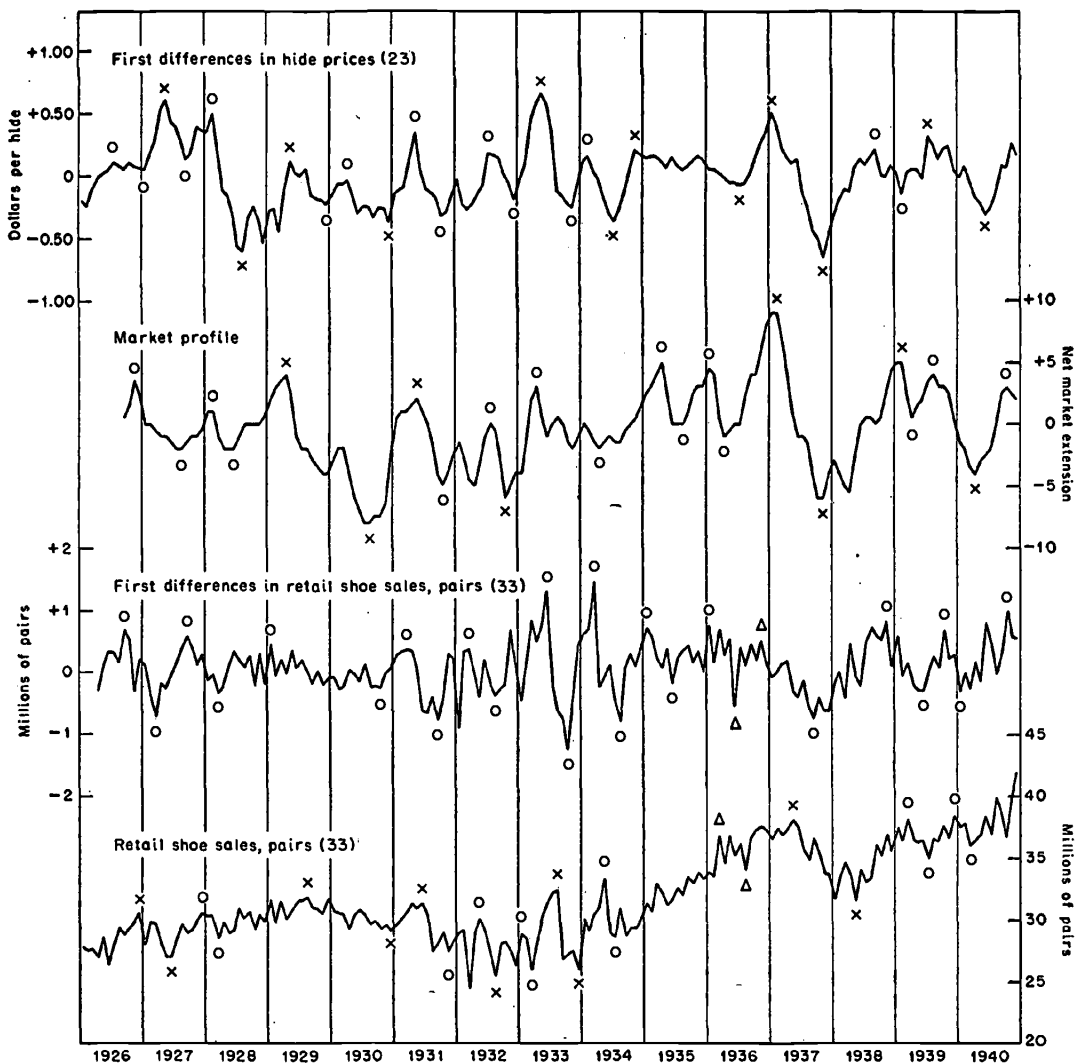
In Chart 22 and Table 39 the market profile is compared with selected series. Inspection of the chart suggests considerable parallelism between the profile and the rate of change in retail sales and hide prices. The

table sharpens this and other comparisons. Though many subcycles are not in like phase, the average deviation is small indeed (1.4 months) for those turns in the rate at which hide prices change, matched with corresponding ones in the profile. For change in retail sales, the average deviation for the considerable number of matched turns is not notably small, yet only 27 per cent of the months are in unlike phase (a small figure for series with as many subcycles as these). The correspondence with wholesale sales is quite striking.³⁰

³⁰ It does not seem at all likely that the correspondence is significantly a function of the fact that wholesale sales play some part in the computation of five of the twelve indicators. In none would the timing of wholesale sales be necessarily imposed

CHART 22

The Market Profile Compared with Selected Series, 1926-1940



Specific-cycle turns are marked by X, specific-subcycle turns by O, and retardations by Δ. See notes to Chart 21 for method of construction of market profile and calculation of net market extension. First differences are centered five-month moving averages of month-to-month change.

TABLE 39
Timing of Subcycles in the Market Profile Compared with Selected Series, 1926-1940

	NUMBER OF TURNS					TIMING (months)		MONTHS IN UNLIKE PHASE ^b AS % OF ALL MONTHS Timing That Maximizes Correspondence	
	All Turns	Matched Turns ^a				Mean Lead (-) or Lag (+) (6)	Average Deviation (7)	Lead (-) or Lag (+) (months) (8)	(% ¹) (9)
		Total	Leading	Lagging	Synchronous				
		(1)	(2)	(3)	(4)				
	REFERENCE FRAME: MARKET PROFILE (23 TURNS) ^c								
SLH-subcycle reference chronology ^d	22	16	2	12	2	+2.6	2.2	+3	29
First differences ^e in prices:									
Shoe (1)	26	15	3	12	0	+2.7	2.1	+3	33
Leather (19)	18	14	3	9	2	+0.9	1.9	+1	34
Hide (23)	26	15	4	7	4	+0.3	1.4	0	32
Retail shoe sales, pairs (33)	24	16	4	12	0	+1.6	2.1	+2	30
First differences ^e in retail shoe sales	25	20	13	5	2	-1.4	1.9	-2	27
Shoe production (39)	24	14	3	7	4	+0.9	1.8	0	34
Wholesale shoe sales, pairs (35)	22	16	2	10	4	+1.1	1.2	+1	24

^a For the rules used in matching subcycle turns, see Appendix A, secs. 10a, b, c and d.

^b See Appendix A, sec. 14.

^c See text and Chart 21.

^d See Appendix A, sec. 8.

^e Centered five-month moving averages of month-to-month change.

But the most interesting thing brought out by the table is the pervasive timing lag—the tendency, in other words, for the profile to lead the several activities and the reference scheme. That it should lead retail sales, production, and the reference scheme is in line with the theory. Its association with the rate of change in sales is also not contradictory.³¹ Somewhat more puzzling is the association with change in hide prices, which, when read as recent changes in hide prices, do not show the expected lead.³² Were a reliable “market profile” to show this timing relationship, one would ask whether it might not reflect in part the impact of changes in buying on prices rather than vice versa.

The thought that the rate of change in hide prices may influence judgments about future changes in leather prices, as well as reflect other events that influenced these judgments, can also be tested in the framework of seasonal patterns. Changing market prospects

on the indicator and certainly not with the lag that appears in the association between the profile and wholesale sales.

³¹ The timing in the table is for a centered five-month average, and theory links the profile to recent experience of change. This calls for an average stated on the last rather than the center month, and a three-month average of first differences (change in sales between the third previous and the current month) may be preferable to an average of longer term. For this three-month average, stated on the last month, 17 turns may be matched with the profile; 11 lead and 6 lag and the average timing is a lead of 0.6 month relative to the profile.

³² Even for the three-month average (change between the current month and the fourth previous month), average timing is a lag of 0.9 month with 7 of the 17 matched turns leading or synchronizing.

may shift seasonal patterns in buying by increasing the relative importance of the pre-season months in good times. If positive association appears between years when hide prices rose rapidly prior to the pre-season months and years when pre-season buying represented a larger than usual proportion of the year's total, it will at least not conflict with the thesis that retailers' observations of the behavior of hide prices had influenced their buying. To test whether this may have been the case, the ratios of output to the surrounding twelve months (the same dependent variable previously used) were correlated with changes in hide prices; to hold to the logic of the association, we use prices of the *previous* several months.

Table 40 shows that although all the correlation coefficients are positive, reflecting the general correlation of prices and production, the three highest coefficients are in June, December, and November, months when pre-season orders are typically placed. But views can hardly depend on recent rates of change in hide prices alone. Certainly the level of sales is also a clue to how busy factories will be and therefore how rapidly orders can be delivered. The rate of change in sales too—reflecting, as it is likely to, the extent to which sales were better or worse than expected—will influence opinions about future prices and delivery conditions.³³

³³ There is another line of association, too. The argument of the previous chapter links recent rates of change in sales to the corrective order, and these orders may well be especially important in governing output of the immediate post-peak months

TABLE 40

Association of Seasonal Patterns of Shoe Production with Hide Prices and Retail Sales: Coefficients of Correlation, 1926-1941

	INDEPENDENT VARIABLES	
	Change in Hide Prices ^a r_{02}	Change in Hide Prices and in Shoe Sales, and Shoe Sales Proper ^a $R_{0,122}$
January	.633	.685
February	.604	.703
March	.181	.354
April	.020	.653
May	.437	.751
June	.755	.890
July	.549	.740
August	.420	.525
September	.375	.478
October	.362	.560
November	.649	.710
December	.650	.813

^a Straight-line formulae were used. Coefficients were corrected for lost degrees of freedom. For each month in turn, the variables are:

- X_0 = production of shoes, pairs (39), ratio of current month to total of twelve surrounding months, $O_0 / (O_{-3} + \dots + O_{+6})$, centered M_0
- X_1 = retail sales, pairs (33), sum of current month and two previous months, $S_0 + S_{-1} + S_{-2}$, centered M_0
- X_2 = change in hide prices (23), sum of monthly change for three months, $P_{-1} - P_{-3}$, centered M_{-1}
- X_3 = change in retail sales, pairs, three-month sum of three months' change, $(S_0 - S_{-3}) + (S_{-1} - S_{-4}) + (S_{-2} - S_{-5})$, centered M_0

Following up these ideas, we try an explanation of the production ratios month by month on the basis of all three factors. Now, as the second column shows, all the coefficients (after adjustment for lost degrees of freedom) are higher than when hide prices alone were used; June and December are still the months with the highest coefficients of multiple correlation, but third place goes to May rather than November, the fourth month when pre-season orders are placed, which was snubbed by the previous calculation. Apparently these comparisons, which are somewhat more delicate than those based on our construct (the market profile), assign a timing association to change in hide prices that is consistent with a causal sequence that moves from actual change to expected change to buying.³⁴

rather than pre-season months. This line of association may therefore sometimes control or simply confuse the seasonal patterns of rates of change in sales on market prospects. There is some evidence of this double line of impact in the regression coefficients for change in sales.

³⁴ The association between cyclical and seasonal factors has an interesting technical counterpart—the association between seasonal and cyclical ones. In correcting shoe production for seasonal patterns, a moving seasonal pattern was applied, since seasonal patterns changed from time to time. The change was greatest in the six early season months. I find now that the multiple correlation in which the influence of the three variables

Conclusion

Retailers' buying, these investigations suggest, cannot be entirely accounted for by the effort to provide for expected sales plus the intention of validating an objective concerning the technically efficient size of stock: there is a third element in efficient procurement, the proper timing of buying. The proportion of the expected season's requirements that it is advisable to cover by pre-season orders is subject to frequent change on the basis of estimates about how far ahead and how reliably merchandise can be obtained, especially for the seasonal peaks in sales, and how much cheaper purchases can be made if they are set ahead or left until the last minute.

This third set of considerations might seem to be incompatible with the notion of a firmly held stock objective based on physical efficiency. Actually, however, the conflict does not arise most of the time, since market prospects influence essentially the *time* when purchases are made and need not influence stock at all. Their economic importance arises from the line of responses they set off in shoe production, in leather buying, and in prices rather than necessarily in accumulation or decumulation of stocks of finished shoes.

In activating market-prospect-linked buying, several factors are likely to operate at the same time. Expectations that prices will rise tend to coincide with expectations that delivery periods will lengthen, so that market positions extend or contract at any given time for either or both reasons. Also, both sorts of expectations are not likely to flourish unless consumer buying and industry activity are propitious. There are indications in reports by businessmen, and no contradictory evidence in statistics, that buying waves accord with the level of consumer buying, with how the level relates to expectations (often a function of its rate of change), and with changes in hide prices, directly and as a reflection of all sorts of other relevant events. The net result is that retailers' buying based on optimistic market prospects is not independent of buying related to changes in consumer buying, the associated desired change in stock, or the need to correct errors in judging requirements.

However, there are differences as well as similarities. Market-prospect-linked buying tends to move in quite short waves more like the duration of subcycles than of business cycles. In part, the reason may be similar to the reason that causes corrective buying to have the same characteristic—a link to rates of change (rates of change in prices as well as in sales), which seem to

may be held constant virtually removes this shift in seasonal patterns.

travel in short waves. In part it may be due to self-limiting aspects of the process that explain both the short periodicity of the buying waves and perhaps of rates of change themselves. There have been hints of

such limiting factors in the boundaries imposed by the season's requirements. Finally these buying waves typically seem to reach peaks and troughs early—before retail sales or the output of shoe factories.