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WIN G. NOURSE and HORACE B. DRURY

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**ODD-LOT TRADING
ON THE
NEW YORK STOCK EXCHANGE**

**ODD-LOT TRADING
ON THE
NEW YORK
STOCK EXCHANGE**

**BY
CHARLES O. HARDY**

**WASHINGTON, D.C.
THE BROOKINGS INSTITUTION**

1939

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DIRECTOR'S PREFACE

In this volume we present the results of an investigation of the structure and functioning of the odd-lot market of the New York Stock Exchange. This study is of particular interest at this time because of the recent extension of the regulatory activities of the federal government to cover the issuance and distribution of securities and the activities of organized stock exchanges.

Although the structure and technique of stock exchanges have, for many years, been the subject of a considerable body of literature, attention has centered on the "round lot" market because of the importance of its price-making functions, its larger volume, and the fullness and promptness with which its operations are reported in the press and through the stock exchange ticker system. The subsidiary odd-lot system has been much less publicized and is little understood, even by the great body of investors who patronize it. Prior to publication of reports of its operations by the Securities and Exchange Commission no quantitative data concerning its operations were available to the public, and information concerning its method of operation was available almost exclusively through trade sources.

This study was undertaken at the suggestion of the three principal odd-lot dealers—Carlisle, Mellick & Co., DeCoppet and Doremus, and Jacquelin and DeCoppet—and it has been possible to carry it through only because of their cooperation. All three dealers gave Mr. Hardy the run of their offices and free access to their files, released for his use the entire body of confidential information which they had previously submitted to the

Securities and Exchange Commission, and furnished much additional information at his request. The author wishes to acknowledge the assistance given him by partners and employees of these firms, whose work has frequently been interrupted for his benefit.

The expense of this study, aside from the actual compilation of statistical data, has been borne by the Brookings Institution. While the odd-lot dealers have naturally made many valuable suggestions and criticisms, the entire responsibility for the findings rests with the author and his cooperating committee. The committee of the Brookings Institution which cooperated with the author consisted of George W. Edwards, Sheldon B. Akers, and the Director of the Institute of Economics.

Edwin G. Nourse
Director

Institute of Economics
March 1939

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CHAPTER I

INTRODUCTION

On all of the important American stock exchanges the standard method of trading is through oral bids and offers made on the floor of the exchange, for blocks of stock of a specified size, which are known as "round lots." Orders for smaller quantities and less than round-lot remainders of larger orders, which are known as "odd lots," are not matched against one another in the auction markets, but are turned over to dealers who stand ready at all times to buy and sell at prices which are fixed automatically by the current round-lot price.

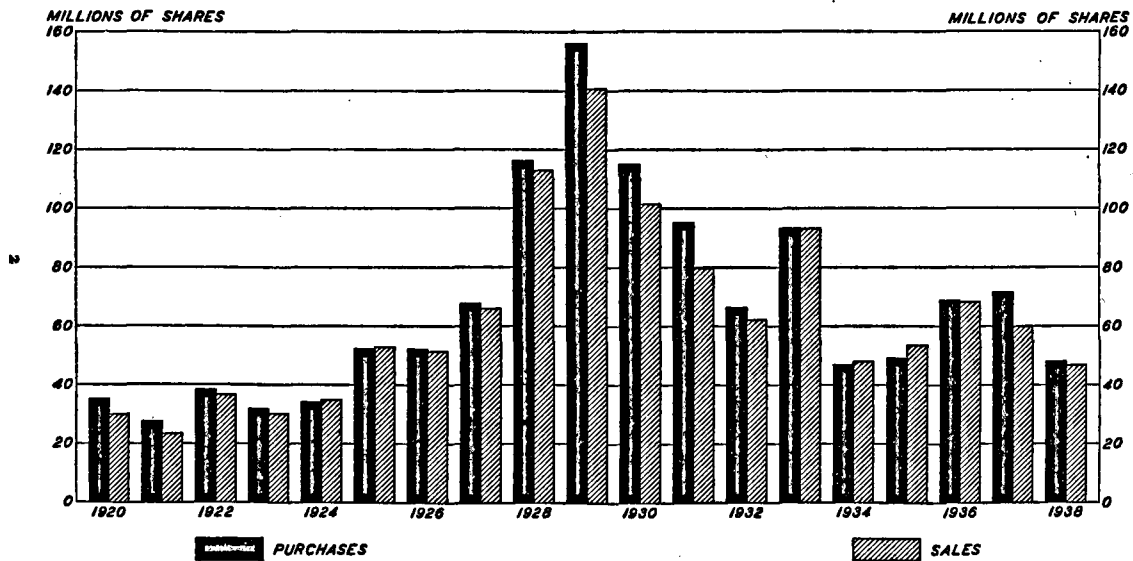
On the New York Stock Exchange the unit of trading in all except the most inactive stocks is 100 shares. In this chapter we describe the extent and general character of the trade on that exchange in lots of less than 100 shares, after which we shall discuss in detail the market organization through which the trade is carried on.¹

The chart on page 2 shows the volume of odd-lot purchases and sales by years since 1920.² Monthly data are given in Appendix D. It will be seen that the volume of odd-lot trading varies greatly from one year to another. It follows rather closely the fluctuations of the reported volume of trading in round lots, the lowest percentage of odd-lot volume to reported round-lot volume since 1920 having been 11.4 per cent in 1925,

¹ For other markets, compare Chap. VII.

² Except as otherwise noted, the statistics of the odd-lot business which are used in this study refer only to the operations of the three principal odd-lot dealers, who now do over 97 per cent of the business. Compare p. 118.

STOCK BOUGHT FROM AND SOLD TO THREE ODD-LOT HOUSES, 1920-38



and the highest 16.1 per cent in 1937 and 1938.³ By years, the ratio has been as follows:

Year	Percentage	Year	Percentage
1920	14.3	1930	13.3
1921	14.7	1931	15.2
1922	14.4	1932	15.1
1923	13.1	1933	14.3
1924	12.2	1934	14.6
1925	11.4	1935	13.5
1926	11.5	1936	13.8
1927	11.5	1937	16.1
1928	12.3	1938	16.1
1929	13.2		

It is frequently assumed that the odd-lot trade is much less speculative in character than the round-lot trade. This may be true, but the close relationship between the volumes of odd-lot trading and of round-lot trading suggests that a large proportion of the odd-lot trading is speculative in character, and is controlled by the same factors that determine the volume of round-lot

³ These percentages compare the reported odd-lot volume with twice the reported round-lot volume. To compare odd-lot volume directly with reported round-lot volume would be misleading because in the round-lot market a purchase by one member and sale by another is counted only once, while the odd-lot data include both dealers' purchases and dealers' sales. In the odd-lot market it takes two transactions to transfer stock from one investor to another, while in the round-lot market it takes only one. On the other hand, the method we have used results in a slight understatement of the relative importance of odd-lot trading, since part of the odd-lot transactions are not offset against one another but against round-lot trades. The reported round-lot volume is considerably lower than the actual volume, as several classes of transactions are not reported on the tape or counted in the reported volume. The most important of these omissions are "stopped stock" (see App. C), and sales made after the close of the market. In 1937 the total round-lot volume was 448,622,800 shares, and the reported round-lot volume was 409,464,570 shares. (*Yearbook of the New York Stock Exchange, 1937*, p. 148.) For most years only the reported volume is known.

speculation. This tentative conclusion is perhaps strengthened by the fact that there is a very heavy bunching of odd-lot trading in orders for round numbers of shares.⁴ Trades of 10, 20, 25, and 50 shares make up about two-thirds of the total odd-lot volume. Although permanent investors presumably think in round numbers as much as do speculators, it seems probable that the size of a permanent investment is typically adjusted more closely than that of speculative operation to the exact amount of money that happens to be available. If this is true, an odd-lot investment order is less certain than a speculative order to appear as a round number of shares.

The preponderance of speculation in odd-lot trading is confirmed by a strong tendency of the volume of purchases and that of sales of odd lots to go up and down together, the net balances of stock bought or sold by the odd-lot public always being a small percentage of the amount turned over.⁵ The total excess of purchases over sales made by the odd-lot public from January 1, 1920 to December 31, 1938 was 73 million shares, out of a total of 1,266 million shares that were sold to the public by the odd-lot houses. In other words, on the average the odd-lot public accumulated six shares of stock by buying 106 and selling 100.

It is generally assumed that the preponderant factor in the balance of odd-lot purchases is the distribution of stock from large to small holders. A total of 73 million shares distributed in 19 years is not too large to be consistent with this assumption, as it amounts to only a little more than 5 per cent of the total amount of stock

⁴ Compare table on pp. 183-88.

⁵ Compare chart on p. 2 and table on pp. 176-77.

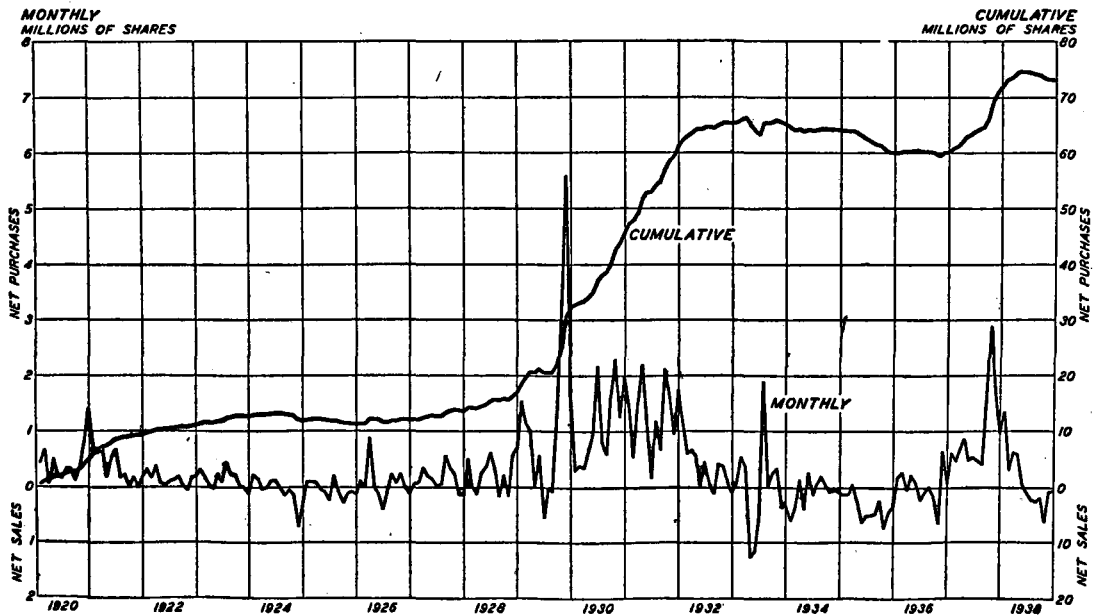
which is now listed on the New York Stock Exchange. Some qualifications should be noted, however, as there are other factors besides distribution to small holders which affect the balance. Some of these work one way and some the other.

Split-ups, for one thing, contribute to the excess of odd-lot purchases over odd-lot sales. If a stock is split four for one, all odd lots of 25 shares or more will be converted into round lots. The great frequency of split-ups in 1928-29 may partly account for the heavy balance of odd-lot buying over selling in those years and those immediately following. Secondly, it seems probable that in a period when prices are very high in comparison with previous years, investors will tend to sell in round lots securities which they were able to buy in round lots when stocks were cheap, and to buy stock in odd lots because it is now high-priced. When prices are very low as compared with the preceding period, the reverse tendency is to be expected; that is, the tendency to sell odd lots and buy round lots. Finally, an investor who has accumulated stock over a long period by small purchases will sometimes build up his odd lots into round lots and later sell them.

These factors, which tend to increase the apparent net balance of public odd-lot buying, are offset, at least partially, by three compensating factors. These are the splitting up of round lots in the distribution of estates, the payment of stock dividends, and the operation of the rules on "short selling."⁶ Holders of round lots who receive odd lots as dividends sell them to the odd-lot houses, which sell part of the resulting inventories as round lots. Because the rules in force during a large

⁶ Compare pp. 11-12.

NET BALANCES OF STOCK BOUGHT FROM AND SOLD TO THREE ODD-LOT HOUSES, BY MONTHS, 1920-38



part of the period covered made it easier to sell short in odd lots than in round lots, speculators sometimes made two 50-share sales, and covered later by buying one round lot.

The factors which qualify the significance of the balance of trading as an index of the distribution of securities to small holders cannot be measured statistically, but it seems probable that they are, comparatively speaking, very small items. The bulk of the 73 million shares which the odd-lot houses have sold on balance in odd lots since the end of 1919 probably represents permanent absorption of stock by relatively small investors.

The net balance of public buying displays numerous peculiarities, for some of which no obvious explanation suggests itself. For one thing, as is shown by the chart on page 6, the balance fluctuates widely from year to year. Within the period covered by our figures, one year, 1935, showed an excess of odd-lot selling over odd-lot buying by the public of about 4 million shares. Three others, 1924, 1925, and 1934, showed excess sales of from 700,000 to a million shares. The years 1933 and 1936 were about even, and the remaining years all showed an excess of public buying. Of the 73 million shares bought by the odd-lot public on balance in 19 years, 48 million were taken in the 40-month period from November 1928 through February 1932.

The balance varies among the three odd-lot houses. One house, with slightly larger odd-lot volume than either of the others, accounts for only 22.5 per cent of the balance of public absorption for the eight years 1930-37. The balance also differs from stock to stock. Some stocks are always "one way short" (that is, the public buys more of these stocks in odd lots than it sells);

others are "one way long"; and still others change suddenly from one category to the other. In general, trading in inactive stocks tends to be less evenly balanced than it is in the active trading issues. Very low-priced stocks are sold by the odd-lot public much more than they are bought. Both very large and very small odd lots are sold by the public much more frequently than they are bought.⁷ Out-of-town traders apparently buy on balance much more than those who place orders through New York offices, and customers of large-commission houses more than those of small firms.

Inspection of the tables in Appendix D indicates that the odd-lot trading public comprises three quite distinct components. The largest volume is contributed by in-and-out traders whose behavior is reflected in the high proportion of odd-lot purchases that are offset by odd-lot sales in the same month. The second element of the odd-lot public is made up of investors who buy stocks and keep most of them permanently, or at least buy more than they sell. The existence of this element is revealed by the heavy preponderance of net buying over net selling for the 18-year period covered by our data, though we do not know the turnover of this balance. The third component is that which accounts for the fluctuations in the net balances from month to month and year to year. It consists of traders who buy and sell rather infrequently, but nevertheless are ready either to buy or to sell in accordance with their opinion as to the trend of prices.

⁷ Compare table, pp. 183-88. During three sample weeks for which we have data, public buying orders contributed 54 per cent of total volume, but in stocks priced below \$5.00 a share only 46 per cent. Among the transactions in all stocks in less than 5-share lots, public sales outweighed public purchases in the ratio of 66 to 34 (by share volume 63 to 37). In the trade in blocks of over 90 shares, public selling accounted for 73 per cent of the transactions and 76 per cent of the share volume.

INTRODUCTION

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The relative size of the three groups mentioned cannot be determined but it is probable that the in-and-out traders account for the bulk of the volume, and that the public which buys steadily regardless of market conditions is much the smallest component of the total. The waves of net buying and net selling, although they are small in proportion to the total volume of odd-lot trading, are large in proportion to the net absorption which takes place over a period of years.

CHAPTER II

THE ODD-LOT DEALER SYSTEM

In this chapter we describe the market organization and operating technique of the dealer firms which handle the odd-lot business on the New York Stock Exchange. The system which is used on other exchanges is described in Chapter VII.

ORGANIZATION OF THE ODD-LOT MARKET

On the New York Stock Exchange the bulk of the odd-lot trade has been done for many years by three large dealer firms, which are known as odd-lot houses. Each of these houses stands ready at all times to buy odd lots of any listed stock for which the unit of trading is 100 shares, at a fixed differential of $\frac{1}{8}$ point ($12\frac{1}{2}$ cents per share) below the price of the next round-lot sale after the order is received by the broker who represents it on the trading floor, and to sell odd lots at a price $\frac{1}{8}$ point above the next sale.¹ If a customer does not wish to wait for the next round lot to establish a price, he has the option of buying stock immediately at a price $\frac{1}{8}$ above the offered price in the round-lot market, or of selling at $\frac{1}{8}$ below the round-lot bid price. This method of trading is rarely used except in inactive stocks, and the trades thus executed make up less than 1 per cent of the total.²

The odd-lot houses do not deal directly with the public, but only through other members of the Ex-

¹ The federal and state transfer taxes, which are payable by the seller, are added to the price of the stock when the odd-lot dealer is the seller.

² For another method of trading in inactive stocks, compare pp. 27-28.

change. The bulk of their dealings is with commission houses which take orders from the public and transmit them to the odd-lot houses. The odd-lot houses do not trade in round lots except for the purpose of liquidating inventories which they have accumulated through purchases of odd lots, or of buying in stocks that have been sold "short" in odd lots.

As the odd-lot dealers assure execution of all the odd-lot orders that are elected by a single round-lot sale,³ they are often called on to sell more stock than they own. They are able to do this because of the facilities which the Exchange offers for "short selling."⁴ As all stock

³ The dealers reserve the right to refuse an order, but in practice this is never done except in rare cases where there is evidence of the splitting of a round-lot order or other improper practice on the part of a customer. (Compare p. 38.)

⁴ Under the rules of the SEC and the Exchange a short sale of a round lot can be made only at a price which is higher than the last preceding sale made at a different price. This rule does not apply to a short sale made by an odd-lot dealer either to offset odd-lot orders of customers or to liquidate a long position which is less than the unit of trading, provided, in the latter case, that the net change in the position of the odd-lot dealer after such a short sale is not more than the unit of trading. Odd lots may be sold short by dealers on customers' buying orders without restriction. Odd-lot short sales by customers to dealers can be made only when the effective round-lot sale which establishes the price is at a price higher than the last preceding round-lot sale made at a different price. During most of the period covered by this study it was much easier for a speculator to sell short in odd lots than in round lots. From 1931 to 1938 a short sale of a round lot could not be made at a price lower than the preceding round-lot sale, while there was no restriction on short selling of odd lots. In February 1938 the restrictions on short selling were tightened by a provision that no short sale could be made except at a price higher than the preceding round-lot sale. If, for instance, the last round-lot sale was 50, only the first sale at $50\frac{1}{8}$ could be a short sale; after that no short sale could be made below $50\frac{1}{4}$ and so on. This gave so great an impetus to short selling of odd lots that in June 1938 the short-selling rule was extended to apply to sales of odd lots by others than odd-lot dealers. There was still an incentive, however, to use the odd-lot market for short-selling purposes because in the odd-lot market any number of short sales could be made simultaneously by different

sold is delivered on the second following full business day, short sales which are not "covered" the same day by purchases necessitate the borrowing of stock for delivery. The net balance of any particular stock which has been borrowed and sold is treated as a "short inventory." Besides its convenience in enabling an odd-lot house to fill customers' buying orders without regard to the state of its inventory, the short selling system enables the house to hedge itself against fluctuations in the value of the inventory. On its long inventory the house takes the risk of loss from a price decline and makes a profit if the price advances; on its short inventory it loses if the price advances and makes a profit if it declines. With an inventory partly long and partly short the effects of market movements are minimized.⁵

Like all other stock exchange firms, the odd-lot houses are unincorporated. Each consists of from 10 to 17 active partners. There are also some inactive partners, who furnish capital but do not participate actively in the management.

As was stated in Chapter I, the three dealers handle

speculators if the orders were made effective by a single round-lot sale at a price higher than the preceding one—regardless of whether the round-lot sale was a short sale or not. In March 1939 the round-lot short-selling rule was amended and now provides that any number of short sales may be made at the same price, if that price is higher than the last round-lot sale made at a different price. This change, which went into effect while the present study was in press, seems to remove most of the special incentive to use the odd-lot market for short-selling purposes. However, there is still an informal rule that if there is more stock for sale in round lots at a given price than is bid for, sellers of long stock are given precedence over short sellers. Since the odd-lot dealers assure execution of all orders that are elected by a given round-lot sale, regardless of the preponderance of orders on one side of the market, it will still be somewhat easier to execute short sales in odd lots than in round lots.

⁵Data covering long and short inventories, on a month-end basis, are shown in table 3, App. D.

over 97 per cent of the odd-lot business of the New York Stock Exchange. The remaining fraction consists of the operations of eight "specialists"⁶ who supplement their round-lot operations by buying and selling odd lots of the stocks in which they specialize, and in one or two cases some other stocks also. Three of these specialist odd-lot dealers confine their operations to Post 30, which is the trading place for 267 very inactive stocks that are handled in 10-share units. These three dealers compete with one another, but not with the other odd-lot dealers. The other five specialists confine their odd-lot operations to comparatively few stocks. They are in competition with the three large odd-lot houses, but not with one another, as they do not handle the same stocks. The rest of the odd-lot business is handled in approximately equal proportions by the three principal odd-lot houses. They compete with one another in all listed stocks excepting (1) those handled at Post 30, which they do not handle at all; and (2) certain inactive stocks which are actually traded by only one dealer, though the other two accept orders in them and settle the trades with the customer firms.⁷

The odd-lot dealer system originated in 1873, and has been used for the bulk of the odd-lot trading ever since.⁸ Formerly there were four principal odd-lot houses, the fourth house having been dissolved in 1927. The system is a specialized mechanism of such magnitude as to constitute virtually an exchange within the Exchange; in fact the number of shares handled by the three firms is much larger than the volume handled by

⁶ For description of the functions of the specialist and fuller description of the work of the specialist odd-lot dealer, see Chap. VIII.

⁷ Compare pp. 51-52.

⁸ For the early history of the odd-lot system, see App. A.

any stock exchange in the country outside of New York City. The maximum number of shares handled by the three dealers in one year was in 1929, when they bought 140 million shares in odd lots and sold 156 million. In 1938, 47 million shares were bought and 48 million shares were sold. This was the smallest volume since 1924, except that of 1934.

Each of the three odd-lot dealers is represented on the floor by 35 to 40 "associate brokers." These are members of the Exchange who devote their time exclusively to the service of the odd-lot houses with which they are respectively associated. They have two principal functions: first, to see to it that each odd-lot order is reported promptly and at the correct price; and, second, to keep track of the inventory position of the house in the stocks which they handle, and to buy and sell round lots to liquidate inventories (long or short) which result from the odd-lot trading. In the majority of cases the broker does not make the round-lot trade himself, but gives it to a specialist.⁹ In addition to the associate brokers, each firm employs a total staff of from 450 to 800 people.

EXECUTION OF AN ODD-LOT ORDER

The character of the odd-lot business can best be made clear by tracing the course of a customer's odd-lot order. When a commission house receives an odd-lot order, it telephones the order to its own clerk in a booth at the edge of the Stock Exchange trading floor. Here the order is written out, time-stamped, and handed by the commission firm's telephone clerk to a Stock Exchange employee who sends it by tube to the proper post on the Exchange floor. At the post the order is again time-

⁹ Compare pp. 115-17.

stamped—this time by an Exchange employee—and placed by him or an assistant on a clip inside the post, for the odd-lot associate broker. The broker generally takes it from the clip himself, but sometimes an Exchange employee takes it from the clip to the broker, wherever he is standing at the trading post.

If the order is a “market” order it is executed on the next sale after it reaches the broker’s hands. If it is a “limited” order it is held until there is a sale which permits the execution within the limit stated.¹⁰ Except in rare instances the broker who represents the odd-lot house does not negotiate with a representative of the customer; he simply writes a report of the transaction and drops it in a receptacle at the post, or gives it to a Stock Exchange page-boy to do so. Stock Exchange attendants time-stamp the reports, sort them according to the location of the booths of the commission firm, and send them by tube to the telephone clerks of the proper commission houses. At the booth tube station, the reports are distributed by a Stock Exchange employee to a rack containing a compartment for each commission firm which uses the booth. The commission house telephone clerk takes the reports from the rack and telephones them to his New York office. From there they are relayed to the customers. In all, an out-of-town order and the resulting report will normally pass through 17 to 19 hands before getting back to the customer, as follows:

¹⁰ A “market” order is an order to buy or sell stock immediately at the best price obtainable. A “limited” order is one which specifies the maximum to be paid on a buy order or the minimum on a sell order. An order is “made effective” (colloquially “touched off”) by any round-lot sale at a price $\frac{1}{8}$ point or more below the limit fixed by the odd-lot customer in the case of an odd-lot buying order, or $\frac{1}{8}$ above the limit in the case of an odd-lot selling order. An order to buy or sell an odd lot “at the market” is made effective by the next round-lot sale regardless of price.

1. Order clerk of commission house branch office
2. Wire operator of commission house
3. Wire operator in New York office of commission house
4. Order clerk in New York office
5. Commission firm's telephone clerk on the floor of the Stock Exchange
6. Stock Exchange tube man who sorts the orders according to the post at which the stocks are traded¹¹
7. Stock Exchange attendant who forwards order by tube to the post¹¹
8. Tube man at post who empties the carriers¹¹
9. Stock Exchange attendant who time-stamps orders and sorts them by odd-lot dealers¹¹
10. Odd-lot broker
11. Stock Exchange attendant at post who clocks report
12. Stock Exchange attendant who sorts orders by booths
13. Stock Exchange tube man at booth
14. Stock Exchange attendant who distributes orders at the booth
15. Broker's telephone clerk
16. Order clerk in broker's office
17. Wire operator in broker's office
18. Wire operator in branch office
19. Customer's man or clerk who reports transaction to the customer

Under the most favorable conditions these operations have been performed and a report received by a customer outside New York in 2 minutes from the time the order was placed. Such a result is possible, however, only under exceptional circumstances, since in an active market the sorting operations may require considerable time, and in an inactive market a round-lot sale on which the order can be executed is not likely to occur immediately after the broker receives the order.¹²

PROTECTION OF THE CUSTOMER

Since the odd-lot dealer is trading on his own account, and with rules and practices largely fixed by himself,

¹¹ Numbers 6 and 7 may be the same man; also numbers 8 and 9.

¹² The writer timed two orders from booth to post and back again with report, in a fairly quiet market. The intervals were respectively 1 minute 10 seconds and 2 minutes. These were orders to sell on the bid; hence did not have to wait in broker's hands for a round-lot sale.

and with the operation of which he has long familiarity, it is important that there be adequate protection of the customer's interest in the determination of the prices at which trades are executed.

In the customers' rooms of brokerage houses one occasionally meets a trader who professes to believe that the odd-lot houses discriminate against their customers by reporting the customers' purchase on the highest, and their sales on the lowest, of any price that may be reported close enough together to make the report plausible. It is not surprising that such accusations should be current, regardless of their justification. The customer has nothing but the ticker tape to go by in forming an opinion as to the price to which he is entitled, and the tape is anywhere from 30 seconds to 2 minutes behind the market, even when it is not officially "late" at all.¹⁸ Indeed, even if the tape report of a sale always reached the public momentarily after the sale took place, a customer could not know accurately how long it took for his order to reach the odd-lot broker.

It would, of course, occasionally be possible for an odd-lot dealer to add to his profits by reporting on the basis of the second succeeding round-lot sale if it was more favorable to him, when the sales occurred at about the same time. And it is impossible to prove categorically that this never occurs. The writer is convinced, however, that the odd-lot dealers make every effort to insure that the trades are reported correctly in accordance with the rule, and that as a long-run matter it would be very bad business policy for them to do otherwise. This is true for several reasons. In the first place, the character of the competition for business is such as

¹⁸ For detailed discussion of tape-lateness, compare pp. 147-48.

to bring great pressure on the dealer to report a transaction accurately and promptly. The three odd-lot dealers' constituency is limited to about 450 commission houses.¹⁴ Since the only way that any one of these dealers can expand his volume of business is to get customers away from the other two, and since profits depend primarily on volume, the competition for business is very keen. It is impossible for this competition to express itself in price concessions, because any attempt of one house to expand its business by cutting the differential would be met immediately by the other two houses, unless the cut was ruinously great. The competition takes the form of service and the service consists largely of speed and accuracy of operation and promptness and fairness in adjusting complaints.

Each of the three dealers maintains a so-called "order room"¹⁵ with a staff of 75 to 100 people, the principal functions of which are to assure accuracy and speed in checking executions, to adjust complaints, and to furnish sales data and similar information to customer firms.

Since the commission houses' competition for business is also in the form of service, commission houses are always ready to transmit the complaints and inquiries of their customers to the odd-lot dealer, and to do all they can to protect their customers' interests. It is the business of the clerks in the order rooms of the odd-lot

¹⁴ There are 286 firms which place odd-lot orders directly with odd-lot dealers, and 171 which transmit orders through other dealers. (Jan. 1, 1939.)

¹⁵ The name "order room" is a misnomer as no orders come here either for execution or for transmission to the floor. As was noted above, all orders go directly to the floor of the Exchange and are executed at the trading posts before the order room begins to function. The name originated in the fact that the department renders service to commission firms' order rooms.

dealers to handle these complaints and inquiries by reconstructing the circumstances surrounding the execution of the order in question. Such a reconstruction is possible because in the order room of each odd-lot dealer a separate record is kept for each stock showing the hour and minute at which each successive round-lot sale appeared on the tape, and the price. These records are transcribed to "sales sheets" as fast as they are printed on the tape during the day. The sheets afford an up-to-the-minute record of the trading history of each stock as reported by the ticker.¹⁶

When a broker calls an odd-lot dealer to check a price, the clerk in the odd-lot dealer's order room telephones to the sheet-writers' table and obtains a schedule of the times and prices at which round-lot sales appeared on the tape, for comparison with the time when the commission firm's clerk claims to have entered the order. Frequently this information, together with the post time stamped on the order, is sufficient to enable the odd-lot clerk and the commission firm's clerk to see whether the order was properly executed. But sometimes, because of the lag of the tape behind the market, the case is doubtful. When this is the case the odd-lot clerk must get from the original order the time when it was

¹⁶ One of the firms has the public ticker tape broken down for its use, by the New York Quotation Company, into the constituent records of which it is made up at the ticker printing station. The speed of the present ticker is maintained by dividing the 1,254 listed stocks among three tape-punching machines. Round-lot sales printed at these three stations are combined by a master ticker into the stream of reports which appears on the public ticker tape. The dealer firm referred to has 17 separate tapes, each printed by one of the three ticker machines. This does not change the sequence of transactions in the same stock, as all transactions in a given stock are on the same tape. It does, however, greatly reduce the labor of the girls who read the tapes in the odd-lot order rooms and transcribe on sheets the record of the stocks assigned to them.

time-stamped at the post. One other piece of information is also usually available. When the broker receives an order he ordinarily writes on it the price of the last sale of stock before the order was received, though sometimes, because of pressure of work, this record is not made. The clerk in the odd-lot dealer's order room looks for this sale in the series on the sheet. If this sale can be located, the next one is the one on which the order should have been filled. Sometimes the record of sales is also checked with those of the other two odd-lot houses.

In addition to their use in the adjustment of claims arising in connection with the business of the odd-lot houses, the sales sheets of the odd-lot dealers are an important source of the information used by commission houses and other Exchange members in adjusting claims which arise in connection with their round-lot business, and in answering their customers' requests for information. The data contained in the sheets are not available anywhere else. Requests for information of this character give rise to a large part of the work of the clerical staff of the odd-lot dealers' order rooms. The odd-lot dealers are also called upon by their customers to furnish a wide variety of information that has nothing to do with the correction of errors. For instance, some commission houses get from the odd-lot dealers' order rooms the closing market for long lists of stocks immediately after the close, this service being quicker than can be obtained from the Stock Exchange itself. Miscellaneous items of information with regard to the prices of stocks on past dates, volume of trade, and other historical data, some of them requiring considerable research, are furnished by the order rooms.

The telephone services involved in the maintenance of these three order rooms are among the largest installations in the United States. Ten thousand requests for sales information are an average day's work, and as high as 30,000 have been handled in a single order room in times of unusual market activity. Peak loads of this sort are handled by bringing in from other departments clerks who have been trained for order-room work.

Because of the sheer size of the odd-lot business any systematic attempt to shave eighths and quarters off the customer's price would involve a prohibitively large amount of collusion between different employees. Conceivably, in a small organization clerks might cover up a small number of wrong transactions, but one can hardly visualize an organization so perfect as to conceal the collusion of a broker, his own clerk, and any one of 50 clerks in the order room who might handle complaints concerning his trades. Moreover, it is the practice of a considerable number of commission houses to rotate their business periodically among the three houses, or divide it by trading posts, so that any significant difference in the number of complaints arising from trading with different dealers, or any considerable difference in their practice with regard to making adjustments, would be detected quickly by the commission house.

The adjustment of complaints is a source of annoyance and expense, both to the broker and to the odd-lot dealer, and it is simply inconceivable that the possible profit from "chiseling" could be deemed sufficient to justify such a practice. The customer is protected both by the bigness of the dealer system and by the vigilance of the commission broker. In fact, competition is so keen

that a considerable proportion of errors are adjusted, for the sake of the customers' good will, in cases where the error was made by an employee of the customer firm.

Another possible abuse against which customers need protection is the manipulation of the actual round-lot prices by the odd-lot dealer with a view to establishing lower prices when he has to buy more odd lots than he has to sell, and higher prices when he has more to sell than to buy. Cases sometimes arise in which it would be possible for an odd-lot dealer to force the round-lot market to his own advantage. The possibility may be illustrated by concrete examples. Let us assume that the market in a fairly inactive stock is quoted 20 bid, 22 asked. An odd-lot dealer has 90 shares to sell at the market and none to buy. If he buys a round lot in the market the sale will make effective the odd-lot orders for 90 shares. He will realize a gross profit of $\frac{1}{8}$ point on the 90 shares and will increase his position, if it is long, or reduce it if it is short, by ten shares. In this case his interest is the same as that of his customer; that is, to buy 100 shares as cheaply as possible. If, however, he has 175 shares to sell instead of 90, it would be to his profit to buy a round lot at the highest possible price instead of the lowest, to the detriment of the customers, since the trade would result in his selling a net balance of 75 shares at the higher price. He could accomplish this by simply accepting the offer of stock at 22 which is already entered on the specialist's book, instead of bidding a lower figure which might be accepted. The customer would have no way to protect himself, since he would not know that the round-lot sale shown on the tape at 22 was the odd-lot dealer's pur-

chase, much less whether the dealer could have bought the stock at a lower price.

The odd-lot houses have voluntarily devised a system designed to protect the public from such practices. Whenever an associate broker has to sell more than 100 shares in odd lots at a price fixed by his own round-lot purchase, or to buy more than 100 shares at a price fixed by his own round-lot sale, he is not allowed to execute the round-lot order himself, but must give it to the specialist, to be executed by the latter as a broker.¹⁷ Under the rules of the Exchange, the specialist must execute these round-lot orders in the usual way; that is, try to buy for his customer as cheaply as possible, or to sell as high as possible. Ordinarily, in such a case the odd-lot associate broker is not allowed to trade directly with the specialist in the latter's capacity as a dealer, because the specialist and the odd-lot dealer would have a common interest in establishing a price adverse to the interest of the odd-lot customer. In rare cases, however, when no bid (or offer in the converse case) is available from any one else, the odd-lot dealer may trade directly with the specialist acting for himself. In such cases the broker (or the odd-lot firm partner to whom he would ordinarily report the situation) and the specialist are required by the odd-lot dealer firms to submit the case to a governor of the Exchange for approval of the price at which the round-lot transaction is to be completed.

SELLING THROUGH THE LIMIT

A detail of the odd-lot pricing system which has been the occasion of some public dissatisfaction is the method of pricing employed when a limited odd-lot order is

¹⁷ Compare pp. 115-16.

made effective by a round-lot transaction in which the price is more favorable to the customer than the one he has fixed as his limit. This situation rarely arises in the active stocks, because successive trades are usually at small price differences. Until very recently the rule was that if a limited odd-lot order was made effective by a round-lot order which was executed at a price more favorable to the customer than the one fixed in his limit, the odd-lot order was executed at the limit unless (1) the effective round-lot sale was the next one after the order was received by the odd-lot dealer, or (2) the round-lot sale was the opening sale of the day. For instance, a customer placed an order to buy 50 shares of a certain stock at 40, the last sale before the order reached the odd-lot dealer having been at 41. If the next sale in the round-lot market was at 39 the customer would get his stock at $39\frac{1}{8}$. If, however, there was an intervening sale, say at $40\frac{1}{2}$, on which the limited order could not be executed, and then a sale at 39, the customer would pay, not $39\frac{1}{8}$ but 40, his limit price.

The reason for having this rule, or some similar one, is to keep the customer from getting a better execution as an odd-lot buyer or seller than he would have received if he had been trading in the round-lot market. If, in the case just cited, he had placed an order to buy 100 shares at 40, the stock which actually sold at 39 would presumably have been sold to him at 40. His bid of 40 standing on the book of the specialist would have made it unnecessary for the seller of the stock to take a lower figure than that. If, however, the next sale after entry of the odd-lot order had been at 39, there would have been a presumption that if he had been buying a round lot he would not have had to pay 40. His broker,

before placing the order with a specialist, would have endeavored to buy the stock for him at the best price available. At the worst he would have bought it at $39\frac{1}{8}$ before allowing some one else to get it at 39.¹⁸ The intervening sale at $40\frac{1}{2}$ shows that the broker could not have bought it at 40 or less at the time the order was placed. He would presumably have left a standing bid of 40 which would have kept the price from going to 39 on the next round-lot sale.

The same reasoning holds if, instead of comparing the results of a 50-share limited order with that of a 100-share order, we compare them with what would have happened if the unit of trading had been 50 shares. The intervening sale of $40\frac{1}{2}$ shows that there were bids higher than 40 at the time the order was placed. After these bids had been filled, the customer's bid of 40 would have become the high bid. The round-lot seller who actually got a price of 39 for 100 shares would have received 40 for 50 shares and 39 for the other 50. The round-lot buyer who paid only 39 would have been able to buy only 50 shares at that price, unless there were other offers at 39 which failed of execution. It is clear, therefore, that the extra profit which the odd-lot house sometimes makes because of the rule on selling through the limit is not at the expense of its own customer but at that of a round-lot seller who would have received a better price for half his stock if the unit of trading had been 50 shares instead of 100.

This analysis is based on the assumption that there

¹⁸ In the case of sales at the opening, the situation is similar to that existing at the moment the order is placed. A new market is made at the opening. If the order had been placed in the round-lot market, the customer would have been able to buy the stock at the opening price, even though his limit was higher.

are no other odd-lot bids competing with the two used as an illustration. If there were other 50-share bids, say at $40\frac{3}{4}$, these bids with a 50-share unit might have absorbed all the stock offered for sale below $40\frac{1}{2}$ so that the limited order at 40 would not have been filled at all. As has been pointed out previously, the odd-lot system guarantees execution on all bids above 39 if a single round-lot sale is made at that price, regardless of differences in the amounts offered and bid for.

To give an odd-lot trader assurance of execution at better than his limit price on the basis of a more favorable price which may be registered in the round-lot market would give him an advantage over round-lot traders and create an incentive to split round-lot limited orders in inactive stocks into odd-lot orders, which is contrary to the policy and rules of the Exchange.

While the case for the limit rule was logical enough, it was very difficult for the odd-lot public to understand and was the cause for much complaint. Moreover, it was so drastic that it sometimes put an odd-lot trader in a slightly worse position than he would have been as a round-lot trader, since occasionally a broker is able to get a better price than the limit for his customer, even though there is an intervening sale at which the order cannot be executed.¹⁹ For these reasons, the rule was modified on November 14, 1938. The new rule provides that on a sale below the limit on a buy order or above the limit on a sell order (other than the next sale or an opening sale) the odd-lot customer is given either

¹⁹ For instance, he may withdraw the customer's bid and accept an offer which may come in above the next highest bid. If he does so, however, there is a risk that he may miss a market to which his customer is entitled.

his limit or a price one point away from the actual sale if above 40, or $\frac{1}{2}$ point away if it is at or below 40, whichever is more favorable to him.²⁰ The effect of the new rule is to put the odd-lot buyer or seller in a slightly more favorable position than a round-lot trader, as he is guaranteed execution not more than $\frac{1}{2}$ point or one point away from his limit and no such guarantee is available in the round-lot market.

THE BASIS MARKET

To meet the difficulty in executing orders in inactive stocks, the three odd-lot houses announced on November 14, 1938 that customers would be offered the option of execution of orders in what is to be known as the "basis market." The rules governing the market were revised as of March 6, 1939. Under the revised rules orders for the basis market must be entered before two o'clock and must be designated before the close as "basis orders." After the close of the market representatives of the odd-lot houses meet and compare the basis orders. In all stocks in which (1) there are basis orders, (2) there has been no sale during the trading session, and (3) the closing bid and offer are more than two points apart, the dealers establish a "basis price" between the bid and the offer, and execute the basis orders at the usual differential from this price. The rule on selling through the limit is not applied to such orders. This rule, if customers take advantage of it, should alleviate the difficulty in execution of odd-lot orders in inactive stocks. However, it is only in the cases where most of the

²⁰ To bridge the gap at the breaking point, odd-lot sell orders are filled at $39\frac{1}{2}$ on limits of $39\frac{1}{2}$ or lower, if the effective sale is at 40, $40\frac{1}{8}$, $40\frac{1}{4}$, or $40\frac{3}{8}$.

odd-lot orders can be matched that a buyer or seller can expect to realize a price through the basis market substantially better than he could get by trading on the bid and asked prices.²¹ If the basis orders in a given stock all run one way, or if the limits of the buy orders are below those of the sell orders, there is no reason to expect the odd-lot houses to quote a better price in the basis market than that at which they can liquidate in the round-lot market.

²¹ Compare p. 10.

CHAPTER III
ROUND-LOT TRADING AND DEALERS'
INVENTORIES

There are four ways in which an odd-lot house may sell the stock which it has bought in odd lots, or replace what it has sold in odd lots. First, an odd-lot buying order may pair off directly against an odd-lot selling order that is made effective by the same round-lot transaction. It is only rarely, however, that there is an exact pair-off between orders that are made effective by a given round-lot transaction so that no change in the inventory position of the odd-lot house results. Frequently all the orders that are made effective by a given round-lot sale run the same way. Secondly, a certain number of odd-lot orders are made effective by the odd-lot dealer's own round-lot transactions. If the odd-lot dealer's round-lot sale makes effective a customer's odd-lot selling order (or vice versa for a round-lot purchase), there is a direct pair-off of all or part of the odd lots against the round-lot transaction. Thirdly, the inventory (long or short) resulting from the execution of an odd-lot order may be carried forward until it is liquidated automatically by transactions resulting from later odd-lot orders. Fourthly, when a long or short position reaches 100 shares it may be liquidated by selling a round lot to close out a long position or buying one to close out a short position. Positions of less than 100 shares cannot, of course, be closed in this way but a position of over 50 shares can be reduced by trading a round lot against it. For example, a long position of

75 shares can be changed to a short position of 25 shares by selling one round lot.

Only a very small proportion of odd lots bought or sold can be disposed of in the first two ways mentioned above. About 20 per cent of the volume of stock bought or sold is offset against later purchases or sales in the round-lot market.¹ For the three odd-lot houses, the bulk of the trading volume consists of odd-lot purchases that are liquidated by later odd-lot sales and odd-lot short sales that are liquidated by later odd-lot purchases. The proportion of round-lot trading to odd-lot trading varies with the degree of one-sidedness of public odd-lot trading. Markets with a heavy balance of either buying or selling permit a lower percentage of odd-lot pair-offs and thus necessitate more round-lot trading.

The proportion of direct pair-offs is beyond the control of the odd-lot dealer² but the proportion liquidated in the round-lot market as compared with that which is liquidated through later odd-lot orders depends upon the policy of the house with respect to the accumulation of inventories.

ROUND-LOT TRADING AND INVENTORY POSITION

The following cases, worked out by the writer from the records of an odd-lot house for 1933, are intended to show the close relationship that exists between the volume of round-lot trading and the inventories that have to be carried.

Case I is an actual record of the volume of the range

¹ In 1936 the proportion was 19.6 per cent; in 1937, 20.5 per cent.

² Except through syndication (compare pp. 51-52) and occasionally by making a round-lot trade for the purpose of making effective an accumulation of odd-lot orders that will pair off against one another or against the round lot.

of the position and the amount of round-lot trading, for one odd-lot house, in one stock, in four months of 1933. The "range of position" is the range of the daily closing positions, no record of the range within a given day being available. The data for round-lot trading are totals of net daily round-lot balances; they consequently understate the volume to the extent that round lots may have been both bought and sold on the same day, but there probably were no such cases.

RELATIONSHIP BETWEEN ROUND-LOT TRADING AND INVENTORY POSITION

Case	Range of Position (In shares)	Shares Traded in Round Lots				
		March	April	May	June	Total
I. . .	592 short to 422 long	400	1,700	4,000	7,100	13,200
II. . .	100 short to 100 long	1,000	2,200	4,800	9,100	17,100
III. . .	1,000 short to 1,000 long	0	300	300	4,400	5,000

Cases II and III are hypothetical. They show the amounts of round-lot trading that would have been necessary to keep the positions within ranges of 100-100 and 1,000-1,000 respectively.⁸ In all three cases the trades for June include the amount of stock that would have had to be bought or sold in round lots on June 30 to make the position approximately the same as it was at the opening on March 1.

The data from which these computations were made relate to a stock which the public was alternately buying and selling on balance, except in June when there was

⁸ These amounts were computed by the author from the ledger record of daily net sales of odd lots bought or sold. If it had been possible to use a chronological record of individual sales instead of the daily balances, a few additional round-lot trades might have been found to be necessary to keep within the stated positions, but the difference from the figures shown would be very small.

a heavy excess of public buying. This is the reason that June shows a comparatively small difference between the volume of round-lot trading necessary to maintain a small position and a large one. In a "one-way" market the relationship between inventory policy and round-lot volume is not nearly as close as in a balanced trade. If there is a steady excess of public buying over public selling, the volume of round-lot buying soon has to equal the net balance of public absorption, regardless of the inventory carried.

The practice of the odd-lot houses with regard to inventory accumulation involves interesting questions, both of business management and of public policy, for an understanding of which it is necessary to describe in some detail the methods by which the inventories are controlled.

THE TECHNIQUE OF ROUND-LOT TRADING

As the odd-lot trading list comprises nearly 1,000 stocks handled by over 100 brokers,⁴ it is obvious that the great majority of round-lot transactions must be governed by simple rules which will reduce the operations to routine. The brokers or the partners who supervise them can, of course, exercise some discretionary control, especially in the most active stocks and in those inactive stocks where mechanical trading gives especially bad results. But it would be very difficult to maintain an adequate organization for continuous discretionary handling of the positions in all stocks. What is done is to furnish each associate broker with a schedule of permitted positions for each stock in which he trades and with specific rules which limit his discretion in regard to

⁴ The combined number of "positions" handled by the three dealers is over 1,600.

varying the positions within the prescribed limits or exceeding the limits. The policy varies somewhat from one odd-lot house to another, but in general the associate brokers are allowed very little discretion. Office control is exercised chiefly by modifying the size of the permitted positions as market conditions change rather than by controlling specific transactions on a discretionary basis.

The size of the permitted positions varies according to the activity of the stock. In a very large proportion of stocks, comprising those which are relatively inactive, the basis is very narrow. It may be stated as 85-85, meaning from 85 shares long to 85 shares short, or 100-100. Such a basis amounts to an instruction to keep the position as close to zero as possible. Other stocks are handled on such bases as 200-200, 300-300, 500-300, 500-500, 1,000-1,000 or even 3,000-3,000. The larger bases are for the market leaders in which a single round-lot sale may put into effect odd-lot resting orders for several thousand shares.

This does not mean that the broker has unlimited freedom to buy and sell round lots inside his basis. The general rule is that round-lot trades must be related directly to odd-lot transactions. Two of the houses state that their associate brokers are allowed no discretion in observing the limits of their positions; that whenever the position goes above its upper limit or below its lower limit they must sell or buy, as the case may be, enough round lots to put them back within the position and no more. The only discretion is that the broker has some leeway as to whether he will trade "at the market" or put in a limited order in the hope of being able to buy below the top of the spread or sell above the bottom.

One house allows some of its brokers discretion to shift the bases for certain stocks between 85-85 and 200-200 or 300-300. What this amounts to is that if the broker begins accumulating stocks from odd-lot trades, it is left to him to decide whether he will sell it out in round lots as fast as it accumulates so as to keep within the 85-85 position, or will let it run to the 200-share or 300-share limit. When the wider limits are passed, he has discretion as to whether to trade barely enough round lots to put him within the 200 or 300 limit or enough to put him back in the 85-85 range. Even in this case, however, he is not allowed to trade back and forth in round lots. The round lots must undo positions created by the odd lots or make effective a substantial volume of odd-lot trades. Stock is never sold in round lots when the position is already short. The rule is not quite so strict as to buying round lots when the position is already long, but such a transaction would be allowed only in order to restore a long position which has been reduced by public odd-lot buying.

One rather frequent case requires special treatment, namely, the situation which results from the habit of the public of thinking in round numbers.⁴⁸ When, in the course of movement either upward or downward, the price of a popular stock reaches a round figure that has not been duplicated for a long time, there is almost certain to be a bunching of odd-lot orders which do not pair off. If the movement is downward, there will be a block of resting orders to buy at the round-number price; if it is upward, there will be a similar concentration of selling orders. If the odd-lot broker waits until these orders

⁴⁸ One dealer reports that in 20 active stocks, in 1937, these cases amounted to 20 per cent of total share volume.

become effective before trading round lots against them, he is likely to be seriously embarrassed. Indeed, there is no way to handle this situation which does not involve considerable risk. Assume that the price of a market leader is moving downward toward 50, and that there is an accumulation of buying orders, both round lots and odd lots, at that figure. The price cannot go to $49\frac{7}{8}$ until all the round-lot buy orders at that figure are filled. But if the price breaks through and a single round lot sells at $49\frac{7}{8}$, the odd-lot houses will have to fill all the odd-lot buying orders at 50. The only odd-lot resting orders to sell will be a few stop-loss orders.

There may be sales in round lots of only a few hundred shares at $49\frac{7}{8}$, and if the round-lot selling pressure then lets up it may be necessary for the odd-lot dealer to pay a considerably higher figure for round lots of stock to replace the stock he has sold in odd lots at the round price, or else stay short on the rising market. If the odd-lot dealer buys the needed stock in round lots at 50 in anticipation of the orders' becoming effective he eliminates the risk of a large loss. But if the stock breaks through, he will have to sell odd lots at exact cost, losing his outlay for commissions and other expenses. If the stock does not break through he will realize a profit on the stock bought in round lots at 50. If, on the other hand, he does not protect himself by buying round lots at 50 and the market goes through, he will be put short of a large amount of stock beyond the line which he normally carries. He will probably not be able to cover this at once without forcing the market up. If he holds off, he may ultimately reap either a profit or a loss, but the risk is much greater than is normally undertaken.

Under these conditions, the odd-lot houses do not follow the usual mechanical system but use their best judgment as to trading round lots against the odd-lot resting orders before or after they become effective. In the case of a large bunching of orders, the house would ordinarily hedge its risk by buying a substantial fraction of the stock at the round-number price, that is $\frac{1}{8}$ above the "touch-off" price, in the case of limited orders to buy in a downward market, or selling from inventory at $\frac{1}{8}$ below the "touch-off" price against odd-lot selling orders in a rising market. There is some difference of opinion among the partners of odd-lot houses as to the proper procedure in disposing of an inventory which is obtained in this way, if the market fails to break through the round price and make the odd-lot orders effective. It is generally said that the stock should be liquidated in odd lots but there seems to be no definite rule as to what will happen if the market moves away from the bunched orders and the balance of public trading is such as to increase the long or short inventory still further. Presumably, any excess above the customary limits would be disposed of in the round-lot market, when it became apparent that execution of the bunched orders was no longer imminent.

Floor partners of odd-lot houses do not usually trade on the floor except as relief men. They exercise supervision over the activities of the brokers and make decisions in unusual cases which come up from time to time. They are allowed somewhat greater leeway than is granted to brokers but under the same general restriction that all trading in round lots shall be for the purpose of liquidating actual or anticipated odd-lot balances and not for speculation or investment. At two of the

three principal houses, control is exercised almost entirely by changing the brokers' permitted position⁵ from time to time. One house maintains a control room equipped with a ticker and quotation board similar to those commonly displayed in customers' rooms of brokerage houses. A partner remains in this room throughout the trading day in telephone communication with the associate brokers. He exercises discretion with regard to closing out positions inside the regular bases and handles such cases as that described above where decisions must be made as to buying or selling on account of congestion of orders at the round number prices. Aside from these comparatively infrequent cases, his activities are chiefly concerned with the disposition of balances of inactive stocks which cannot be traded at the market without serious loss on account of the wide spread between bid and asked.

In this connection it is to be noted that every odd-lot house finds that certain inactive stocks require especially close watching if they are not to be continuing sources of loss. Sometimes, for instance, it is noted that orders for a certain stock come in regularly from the same brokerage house and that these orders generally involve the odd-lot house in selling at the bottom and buying at the top of the minor swings of the market. Such orders will not be refused unless there is evidence that they involve violation of the trading rules of the Exchange. Special precautions may be taken, however, to avoid carrying positions in these stocks. Because the odd-lot house stands ready to guarantee the execution of every odd-lot order without regard to the balancing of buy

⁵ Compare pp. 32-33.

orders and sell orders, it has to guard itself with some care against sharp practice.⁶

EFFECT OF ONE-SIDED PUBLIC TRADING ON DEALERS' INVENTORIES

The result of this method of handling inventories is that when the public is buying odd lots on balance, the odd-lot houses tend to have smaller long inventories, or be short, and when the public is selling odd lots they tend to accumulate larger long inventories and smaller short positions. When the public has been selling on balance for some time, so that the permitted long inventories are generally established, round-lot sales will tend to fluctuate back and forth over the upper limits of the bases and round-lot selling of dealers will be approximately equal to their net odd-lot purchases. When the public shifts to the buying side, round-lot purchases will for a time be less than odd-lot sales. The positions will drift to the lower limits of the bases and then fluctuate back and forth over those limits with the dealers' round-lot buying approximately equal to their odd-lot sales. In a market in which public buying and selling are evenly balanced, with only brief spurts of excess buying and excess selling, the inventories will take up the slack

⁶ For instance, if it were permitted, a speculator might choose an inactive stock in which there was, say, a 4-point spread between the bid and asked prices quoted by the specialist and place orders with each of three brokerage houses to buy 75 shares at the market, then sell 100 shares in the round-lot market at the bid price. This would establish a price at the bottom of the spread and give him 225 shares $\frac{1}{8}$ above that price. Then, reversing the transaction, he might establish a price at the top of the spread by buying a round lot at the offered price and sell 225 shares at a price $\frac{1}{8}$ lower. Disregarding taxes and commissions, he would lose \$400 on his two round-lot trades and make \$843.71 on his six odd-lot trades. Such a procedure would violate the Exchange rule against the splitting of round lots into odd lots.

and there will be comparatively little need for round-lot trading.

The accompanying table shows for the years 1932-37

RELATIONSHIP BETWEEN CHANGES IN ODD-LOT DEALER INVENTORIES AND CHANGES IN THE DIRECTION AND VOLUME OF PUBLIC BUYING, 1932-37

Year and Month	Net Balances of Public Buying or Selling (Tens of thousands of shares)		Changes in Dealer Inventories (Thousands of shares)	Year and Month	Net Balances of Public Buying or Selling (Tens of thousands of shares)		Changes in Dealer Inventories (Thousands of shares)
	Amount ^a	Change ^b			Amount ^a	Change ^b	
1932				1935			
January	+115	- 59	- 52	January	- 14	- 5	+ 18
February	+ 60	- 55	+118	February	- 13	+ 1	- 27
March	+ 67	+ 7	+ 5	March	+ 5	+ 18	- 59
April	+ 54	- 13	+ 21	April	- 26	- 31	+ 24
May	+ 0.1	- 54	+ 68	May	- 62	- 36	+ 32
June	+ 43	+ 43	- 83	June	- 52	+ 10	+ 15
July	+ 5	+ 38	+133	July	- 51	+ 1	+ 39
August	- 11	- 16	+ 25	August	- 48	+ 3	- 55
September	+ 41	+ 52	- 44	September	- 25	+ 23	+ 13
October	+ 37	- 4	- 25	October	- 71	- 46	+108
November	+ 9	- 28	- 82	November	- 45	+ 26	- 69
December	- 9	- 18	+ 80	December	- 35	+ 10	- 27
1933				1936			
January	+ 6	+ 15	+ 12	January	+ 19	+ 54	+ 3
February	+ 54	+ 48	- 90	February	+ 27	+ 8	+ 2
March	+ 37	- 17	+ 29	March	- 4	- 31	+ 27
April	-124	-161	+239	April	+ 22	+ 26	- 94
May	-115	+ 9	- 10	May	+ 8	- 14	+105
June	- 49	+ 66	+ 48	June	- 21	- 29	+ 16
July	+187	+236	-466	July	- 9	+ 12	- 55
August	- 0.4	-187	+256	August	+ 1	+ 10	+ 19
September	+ 25	+ 25	- 47	September	- 15	- 16	+ 37
October	+ 34	+ 9	- 61	October	- 64	- 49	- 16
November	- 36	- 70	+167	November	+ 63	+127	- 78
December	- 32	+ 4	+ 60	December	+ 6	- 57	- 26
1934				1937			
January	- 60	- 28	+119	January	+ 62	+ 56	- 2
February	- 40	+ 20	+ 24	February	+ 49	- 13	+ 39
March	+ 13	+ 53	- 97	March	+ 68	+ 19	- 49
April	- 39	- 52	+ 58	April	+ 88	+ 20	- 91
May	+ 26	+ 65	-134	May	+ 50	- 38	+112
June	- 14	- 40	+ 78	June	+ 54	+ 4	-122
July	+ 7	+ 21	-139	July	+ 49	- 5	+ 51
August	+ 19	+ 12	- 2	August	+ 42	- 7	- 28
September	+ 2	- 17	- 15	September	+153	+111	-166
October	- 8	- 10	- 18	October	+290	+137	- 9
November	- 6	+ 2	+ 72	November	+165	-125	+ 34
December	- 9	- 3	- 45	December	+ 97	- 68	+ 68

^a Net balances of public buying are shown by plus signs; net balances of public selling by minus signs.

^b Increases in the amount of public buying and decreases in the amount of public selling are indicated by plus signs; and the converse cases by minus signs.

the close relationship between the changes in dealer inventories and the change in the volume and direction

of the net balance of public trading. It will be noted that in 47 of the 72 cases the signs of the corresponding items in columns 2 and 4 are opposite, which indicates that dealer inventories increased when the public was selling on balance, or decreased when it was buying. In cases in which the change of dealer inventories amounted to 50,000 shares or more this relationship appeared in 25 out of 35 cases.

Even closer was the relationship between changes in the inventories and *changes* in the size of the net balance of public buying and selling. In 51 out of 72 cases the signs of the corresponding items in columns 3 and 4 are opposite, which indicates that dealer inventories increased on an increase of net public selling (or decrease of net public buying), and that inventories decreased in the converse case. In the cases in which the change of dealer inventories amounted to 50,000 shares or more this relationship showed itself in 31 out of 35 cases.

The table on page 41 shows this relationship in less detail for a longer period. It will be noted that of the 132 months covered by the table, there were only 41 in which dealer inventories increased on an increase of public buying or decreased on a decrease of public buying. In the decisive cases in which the net balance of public trading changed by 100,000 shares or more, the usual relationship appeared in all but 4 out of the 22 cases.

In the 19 years covered by our records, there were 57 months in which the public shifted from buying to selling on balance or vice versa, and in 48 of these cases the inventories increased for the month on public selling or decreased on public buying. In each of the other nine cases the inventory change was less than 21,000 shares.

The tables show that even when the public has been

selling on balance steadily for some time, a sharp increase of the balance of public selling will usually lead to an increase of the net long inventory, or a decrease of the net short inventory. The converse also holds for increases of public buying in years when the balance is continuously on the buy side. Some readers may be puzzled by this fact. Why, in accordance with the explanation we have offered above, should dealers' inventories, once they

RELATIONSHIP BETWEEN CHANGES IN NET PUBLIC BUYING OR SELLING OF ODD-LOT BALANCES AND CHANGES IN DEALERS' INVENTORIES, BY MONTHS, 1928-33^a

Change in Balance ^b	Change in Inventories of Three Dealers ^c												Total		
	Decrease						No Change	Increase							
	Over 199	100-199	50-99	25-49	10-24	1-9		1-9	10-24	25-49	50-99	100-199		Over 199	
Increase:															
Over 199 ..	1	—	—	1	—	—	—	—	—	—	—	—	—	—	2
100-199 ..	4	2	1	—	—	1	—	1	—	—	—	—	—	—	9
50-99 ..	—	2	6	2	—	1	—	3	2	1	1	—	—	—	18
25-49 ..	—	2	6	1	1	—	—	1	—	—	—	1	—	—	12
10-24 ..	—	—	3	2	1	1	—	—	5	1	—	—	—	—	13
1-9 ..	—	—	3	1	1	1	—	3	—	1	2	—	—	—	12
Decrease:															
1-9 ..	—	1	—	4	—	—	—	—	1	1	—	3	—	—	10
10-24 ..	—	—	1	—	2	1	—	1	2	4	2	1	—	—	14
25-49 ..	—	1	1	1	1	1	1	—	4	3	3	3	—	—	19
50-99 ..	—	—	1	—	1	—	—	—	1	2	3	4	—	—	12
100-199 ..	—	—	1	2	—	—	—	—	—	1	—	3	3	—	10
Over 199 ..	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1
Total	5	9	22	14	7	6	1	11	14	13	15	12	3	—	132

^a Data are the respective number of cases in which a change of the net balance, of the magnitude shown at the left, in a calendar month, was accompanied by a change in dealer inventories of the magnitude shown at top. Vertical scale readings are in units of 20,000 shares; horizontal readings in units of 1,000 shares.

^b "Increase" means an increase of net public buying, or a decrease of net public selling, or a shift from net selling to net buying. Vice versa for "decrease."

^c "Increase" means an increase of net long inventories, or a decrease of net short inventories, or a shift from a net short to a net long position. Vice versa for "decrease."

have been filled up, be affected by changes in the *volume* of public buying and selling, so long as the direction of public trading is the same?

There are two explanations. First, a large increase in the volume of public trading in a particular stock will often make it advisable for the dealer to increase the size

of the permitted inventory, in order to keep down the cost of round-lot trading. A much more important explanation, however, is the fact that the net balance does not run in the same way in all stocks at the same time. Some stocks are being bought on balance by the public in periods when the totals reflect public selling, and vice versa. An increase in the total balance of public selling does not reflect merely an increase in the amount of public sales of stocks of which the odd-lot balance is already on the sell side. It also reflects the shifting of other stocks from the public buy side to the public sell side, with consequent increases in the long inventories of those stocks. A strong one-way movement continuing steadily for a few weeks, however, will fill up the permitted positions of the odd-lot dealers and then their round-lot trading will approximate the balance of odd lots bought or sold. This is the reason why the correlation between the balance of public trading and changes in dealers' inventories is not as close as that between *changes* in the balance of public trading and changes in dealers' inventories.⁷ This is illustrated by the data for the 3-month period beginning with September 1937. Public buying increased sharply in that month and remained at a high level through October and November. Dealer inventories fell sharply in September, but changed only slightly in October and November.⁸

It may also occur to some readers that since the public has bought stock on balance in 155 out of the 228 months for which we have a record, the odd-lot houses should have been short most of the time. In fact, however, the

⁷ For 1932-37 the correlation coefficients are respectively -0.429 and -0.768.

⁸ For another case in point, compare p. 72.

net month-end position has been long in all but 14 of the months for which we have reports. The writer has secured no very satisfactory explanation of the anomaly. Mechanically, it is partly to be explained by the fact that there are numerous stocks in which one or more houses set the lower limit of the position at zero and other cases in which the short limit is smaller than the long limit, but the writer has not been able to secure an adequate explanation as to why the positions are arranged so as to give such a strong bias to the long side.⁹ One reason is that very low priced stocks are generally long, and the inventories of these stocks tend to be large as measured in shares, though not in dollar value. Another explanation offered by some members of the odd-lot houses is that both partners and brokers have an inveterate bias in favor of the "bull" side, which seems to imply that brokers do exercise more discretion than the rules allow.

However, the general effect of a system of control by fixed bases is perfectly obvious in the statistics. Changes in the inventory position of the odd-lot houses are determined primarily by the behavior of the odd-lot public, though the range of fluctuation is determined by the policy of the house with respect to round-lot trading. When the customers of an odd-lot house increase the amount of stock they are buying as compared with what they are selling, the long inventories of the house decline and the short inventories increase for a few weeks, though by amounts that are much smaller than the change in the odd-lot balance, then fluctuate about a new level. A further increase of public buying will us-

⁹ In some inactive stocks there is a preference for a long position because of the difficulty in borrowing stock.

ually cause another decrease of total long inventories so long as it involves a shift of additional stocks from the public selling side to the public buying side. When the public turns seller, the long inventories will increase, again by a much smaller amount than the change in the net balance, and then fluctuate around a relatively high level. During the transition period round-lot purchases of the odd-lot houses are smaller than the odd-lot sales of the public.

Thus within limits fixed by the inventory policy of the house, fluctuations in the round-lot buying and selling of odd-lot houses lag behind the corresponding fluctuations in the net balance of public purchases and sales of odd lots. This lag is of interest from two standpoints: first, the effect of the lag on the profits of the odd-lot business; and, second, its effect on the accuracy with which the round-lot market translates changes in the public appraisal of stock values into actual prices. The first of these questions is considered in Chapter IV, while the question of public interest is deferred to Chapter V.

CHAPTER IV

RELATIONSHIP OF ROUND-LOT TRADING POLICY TO COSTS AND PROFITS

No problem of management arises in connection with the cases where there is a direct pair-off between odd-lot orders that are made effective by the same round-lot trade. In such cases, the gross trading profit is the full differential, or $12\frac{1}{2}$ cents on the purchase and $12\frac{1}{2}$ cents on the sale, and there is no expense for the execution and clearance of round-lot trades or for transfer taxes.¹ When odd-lot orders are paired directly against dealers' round lots, the house makes $12\frac{1}{2}$ cents gross on the odd lots only, and must cover out of this the costs arising from both the round-lot and odd-lot transactions. With respect to trades that do not pair off at once, the question is one of balancing the costs of round-lot trading against the costs and risks of carrying an inventory (long or short) in the hope that it will be liquidated later by odd-lot orders. If the orders do pair off ultimately, the costs of round-lot trading are saved but there is an unpredictable gain or loss from any change in price which may have occurred.

THE COSTS OF ROUND-LOT TRADING

Aside from the possible profits and losses due to inventory appreciation, which will be discussed later, it is very much less profitable to trade odd lots against round lots than to trade both ways in odd lots. The following comparison makes this clear.

¹ The sale is subject to transfer tax but, as was noted on p. 10, the practice is to pass this on to the customer.

ODD-LOT TRADING

COMPARATIVE RESULTS OF TRADING ODD LOTS AGAINST OTHER
ODD LOTS AND AGAINST ROUND LOTS^a

Case	Shares Bought			Shares Sold			Gross Profit	Com-missions	Trans-fer Taxes	Gross Profit after Com-missions and Taxes
	Quantity		Price	Quantity		Price				
	In Odd Lots	In Round Lots		In Odd Lots	In Round Lots					
I.....	100		49½	100	50½	\$25.00	\$4.00	None	\$21.00	
II.....		100	50	100	50½	12.50	4.70	None	7.80	
III.....	100		49½		50	12.50	4.70	\$9.00	1.20 ^b	

^a The commission rate varies with the price of the stock and the tax varies both with price and with par value (compare Chap. VI). The average federal and New York state tax on all round lots sold total probably below 7 cents a share. The figures in the illustrations are for stock of \$100 par or no par. Transfer taxes on odd lots are disregarded because they are charged to the customer.

^b Loss.

If we combine the results of Cases II and III, we get a gross profit after commissions and transfer taxes of 3.3 cents per odd-lot share traded, which is not enough to cover operating costs and other taxes on reasonable volume, without any allowance for trading losses. Moreover, the odd-lot house cannot count on making the full differential of 12½ cents before commissions and taxes on odd lots traded against round lots at a different time, as we shall show below.

The following hypothetical cases bring out the direct costs and losses which result from a volume of round-lot trading approximating that actually done. We shall assume first that a certain stock sells on several successive days, always at 40, and that the house had no position in the stock at the beginning of the period. Odd-lot orders are handled in the manner indicated by the table on page 47.

In Case I the total gross profit is \$125.00 and the outlay for commissions \$20.00. The gross profit after commissions is 10.5 cents per share, as in Case I of the preceding table. But if, as in Case II, the long inventory was liquidated on Monday by selling 100 shares at 40,

and on Wednesday 100 shares were bought at 40 to avoid going short, the gross profit would have been the same but the commission expense would have been increased by \$5.40 and transfer taxes of \$9.00 would have

RESULTS OF ODD-LOT TRADING COMBINED WITH ROUND-LOT TRADING TO THE EXTENT OF 20 PER CENT OF ODD-LOT VOLUME

Case and Item	Monday	Tuesday	Wednesday
Case I			
Bought in odd lots	275 shares at $39\frac{7}{8}$	50 shares at $39\frac{7}{8}$	175 shares at $39\frac{7}{8}$
Sold in odd lots...	175 shares at $40\frac{1}{8}$	50 shares at $40\frac{1}{8}$	275 shares at $40\frac{1}{8}$
Closing position—			
long.....	100 shares at 40	100 shares at 40	Even
Gross profit.....	\$56.25	\$12.50	\$56.25
Outlay for commissions.....	\$9.00	\$2.00	\$9.00
Outlay for transfer taxes.....	None	None	None
Case II			
Bought in odd lots	275 shares at $39\frac{7}{8}$	50 shares at $39\frac{7}{8}$	175 shares at $39\frac{7}{8}$
Sold in odd lots...	175 shares at $40\frac{1}{8}$	50 shares at $40\frac{1}{8}$	275 shares at $40\frac{1}{8}$
Bought in round lots.....	100 shares at 40	None	None
Gross profit.....	\$56.25	\$12.50	\$56.25
Outlay for commissions.....	\$11.70	\$2.00	\$11.70
Outlay for transfer taxes.....	None	None	\$9.00

been paid on the round-lot sale, leaving a balance of \$90.60. Round-lot trading of 20 per cent of odd-lot volume thus cuts the gross profit per odd-lot share, after commissions and taxes, from 10.5 cents to 9.06 cents.

However, in practice the loss attributable to round-lot trading is greater than these cases show. Our cases have become unrealistic because we have ignored any effect that the round-lot sale and purchase may have exercised on the round-lot market. If we stick to the assumption that there was no change in the general market situation, so that in the absence of odd-lot house trading in the

round-lot market the price would have been unchanged, we must assume that the round-lot sale on the first day would have tended to depress the market and the round-lot purchase on the third day would have tended to advance it. Let us assume that between the sales at 40 the market stood at $39\frac{7}{8}$ bid and $40\frac{1}{8}$ asked. When, on Monday, the odd-lot house sold a round lot "at the market," it theoretically would have had to sell at $39\frac{7}{8}$, and Wednesday it would theoretically have had to buy at $40\frac{1}{8}$. This would have cut the gross profit from \$125.00 to \$100.00, and the gross after commissions and taxes from \$90.60 to \$65.60. The difference between a gross profit after commissions of 10.5 cents and one of 6.56 cents per odd-lot share is due to the cost of round-lot trading of 20 per cent of odd-lot volume, plus the adverse effect of a spread of only $\frac{1}{4}$ point between bid and asked prices.

This is not a mere academic hairsplitting, though it does overstate the case. It is true that in an individual trade of only one round lot, the odd-lot house might be able to undercut the offer and find a buyer without going as low as the bid price. But in general those who come to the market as forced buyers and sellers must expect to pay the difference between the bid and the asked price as the cost of getting into and out of the market. And unless the liquidating trades of odd-lot houses are pressed as market orders, there is no certainty that the inventory will be liquidated. Of course, the practical question is not the effect of a single round lot in a big market but of substantial volumes.² On July 18, 1933,

² As we shall see later, it is precisely because the forcing of round lots on the market causes price changes that critics have objected to the "withholding" of stock from the round-lot market.

one odd-lot house bought 27,300 shares of Standard Brands in round lots, or 6 per cent of total reported round-lot sales of that stock for the day.

A spread as small as we have assumed in our illustration is found only in very active stocks. In inactive stocks, where the spread is frequently several points wide, the loss from trading round lots at the market may run to many times the odd-lot differential without any change in market conditions other than the odd-lot operations themselves. It is only because many odd lots balance against other odd lots that it is possible to make a profit out of the turnover at a differential of $\frac{1}{8}$ point.³

EFFECT OF MARKET ACTIVITY ON DEALERS' PROFITS

Because of the extent to which speculative activity tends to concentrate in market leaders, a very large number of stocks contribute a very low proportion of total volume, though the concentration is not as great as it was a few years ago. In one odd-lot house at present about 10 per cent of the odd-lot volume is accounted for by 5 of the most active stocks, and 10 per cent more by 7 stocks, while at the other extreme 10 per cent is contributed by 295 of the least active stocks. The last figure includes over 200 stocks which are carried only by the one house (compare pp. 51-52). In 1931, 3 stocks amounted to 10 per cent of volume and 4 stocks for another 10 per cent.⁴

³ The gross profit actually realized averages considerably less than 12.5 cents. Compare p. 55.

⁴ While these estimates are based on data from records of one house, the proportions do not vary significantly at the other houses. The decrease in concentration is probably due in part to the decline of odd-lot speculation and in part to syndication (see pp. 51-52). It may also be due to the "seasoning" of stocks, a very great number of new listings having been made in 1928-29.

ODD-LOT TRADING

From the standpoint of the odd-lot houses, inactive stocks are much more difficult to handle profitably than are the active stocks. One house reports that for the 7-year period June 1, 1930 to June 1, 1937 its gross trading profit (before commissions and taxes) varied with the activity of the stock as follows:⁵

Activity Ranking	Gross Profit per Share
1	.096
2	.108
3	.103
4	.099
5	.095
6	.085
7	.077
8	.074
9	.068
10	.059

It will be noted that with the exception of the first class, which comprised in most years only three or four stocks, the gross profits decreased steadily with the activity of the stock. There are several reasons for this. In the first place, the small volume of odd-lot trade means that there is almost no opportunity for pairing off purchases and sales of odd lots on the same effective round-lot transactions. There is also a marked tendency for the trade to run one way, so that balances tend to accumulate and a much larger percentage of round-lot trading to odd-lot trading is necessary. Second, it is the policy of all three houses to carry only small positions in inactive stocks, which again makes more round-lot transactions necessary. Third, the thinness of the round-

⁵ The stocks ranked (1) are the most active stocks contributing 10 per cent of total volume, class (2) the next most active stocks contributing 10 per cent of volume, and so on. The gross profit per share is figured on odd lots and round lots combined, which is the accounting practice followed by this house.

lot market and the width of the price spread make it more difficult for the dealer to liquidate balances in the round-lot market without forcing the price against himself.⁶ Fourth, the divisor used in figuring gross profit per share includes a larger proportion of round-lot trading in the lower than in the upper brackets. As no differential is earned on round lots, the profit per share declines with declining activity more rapidly than the profit per odd-lot share. Finally, it is probable that in the inactive stocks the odd-lot dealers are more likely to be dealing with a trader who has some inside information as to current developments that will influence the price of the stock.

Syndication. One device which the odd-lot houses have found useful in minimizing the difficulty of handling inactive stocks is what is called "syndication." This means the consolidation of the business of all three houses in a single stock. About 640 of the least active 100-share stocks, which contribute only about 6 per cent of the total odd-lot volume, are divided between the three houses.⁷ Each house carries positions in its own portion of the list, and gives to the other two houses any orders it may receive for the stocks allotted to them. The house which carries the position in a given stock executes all trades in that stock and makes the profit or accepts the losses which may be involved. Settlement with the customer and delivery of stock are made by the house which receives the order, so that customer firms do not have to pay any attention to the division of business or make settlement with more than one odd-lot

⁶ Compare pp. 47-48.

⁷ Eight stocks are carried by one of the specialist odd-lot dealers, all three houses sending orders to him.

house.⁸ Syndication tends to increase the proportion of pair-offs and decrease the size of the inventories that have to be carried in proportion to the volume of business. The current opinion in the odd-lot houses is to the effect that a gain in gross profit of roughly one cent a share is effected by syndication. The tendency in recent years has been to increase the number of stocks handled in this way from year to year. This is attributed to the declining volume of total business rather than to a change of policy. If the activity of the New York stock market should increase in the near future, the number of "syndicated" stocks would probably decrease.

EFFECT OF PRICE FLUCTUATIONS ON GROSS PROFIT

The analysis just presented would suggest that from the standpoint of the financial interest of the odd-lot house, the wise thing to do would be to trade no round lots except those that are necessitated by a long-continued excess of public buying over selling, or vice versa. Such a policy, however, would involve carrying very large inventories, and the inventory gain or loss would change the results unpredictably. The question of the volume of round-lot trading thus boils down to a balancing of risks against costs. Over any period in which total odd-lot purchases and sales are approximately equal, a policy of making minimum round-lot trades and carrying correspondingly larger inventories would be the most economical, aside from the results of changes in stock prices. The larger the inventories, the longer the period in which there is an opportunity for odd-lot balances to offset one another. But if inventories increase, the speculative element in the trade is correspondingly increased.

⁸ A brokerage house rarely trades a given stock with more than one odd-lot house at the same time.

On the one hand, to trade round lots on a much larger scale would cut the differential profits⁹ and pile up commissions and transfer taxes. On the other hand, to accumulate inventories on a much larger scale and count on offsetting price depreciation in some years against appreciation in others would mean great irregularity of income, with heavy surtaxes on the incomes of partners in the good years and no corresponding savings in bad years. It would also make for bad internal management and extravagance in prosperous years, with no chance of sufficient offsetting economies in poor years, and a constant risk that the losses would occur in the years when the commitments were largest. If a run of bad years came first, partners' capital would be depleted and positions necessarily contracted. If the good years came first, there would be either a distribution of funds that were needed later as reserves or a tendency to expand inventories more and more as capital increased and the results seemed to justify the practice. Then, when the unfavorable years came, commitments would be at the maximum and inventory losses would mount up faster than inventory profits had accumulated at the lower level of commitments.

There remains the question of the possibility of speculation in inventories; that is, of trying to adjust the inventories from day to day or from month to month so as to be long when the market advances and short when it declines. If an odd-lot house were in the unique position of knowing how to forecast these price swings accurately and how to adjust its inventory accordingly, it could make enormous profits (as could any one who had

⁹ Because of the tendency of round-lot trades to force the market against the dealer.

such knowledge). However, several points are worth noting. First, as was shown above, the size of odd-lot dealers' inventories cannot be controlled by a dealer firm, so long as it confines its round-lot trading to the liquidation of odd-lot balances, but depends in large measure on the direction and volume of public odd-lot trading. Second, a firm organized as a partnership with a dozen members is not a suitable organization for large-scale speculation. Third, the risks of large-scale speculation are so great in comparison with the steady income which results from a huge volume of small trades for small profits that an odd-lot firm with an established clientele would be very foolish to risk its capital in speculative operations.

If it were possible it would be of considerable interest to segregate the profit derived from the differential from the profit or loss due to inventory appreciation or depreciation. It is impossible to do that, however, because in most cases the differential is not a realized income, but simply a pricing advantage, which influences the profit or loss realized from buying stock at one time and selling it at another time. As was pointed out above, when odd-lot purchases and sales are matched against one another on the same round-lot transaction, there is a gross profit of 25 cents on each share which is thus bought and sold simultaneously; and when a customer's odd-lot purchase order is made effective by the odd-lot firm's own round-lot sale, or a customer's odd-lot sell order is made effective by the firm's own round-lot purchase, there is a gross profit of $12\frac{1}{2}$ cents on each odd-lot share. But when, as is true in the overwhelming majority of cases, odd-lot trades are liquidated by later trades, either in odd lots or in round lots, there is no differential that can be

measured directly; there is only a tendency for the differential to increase the profits or diminish the losses that are realized from the change of price. In the case of odd-lot trades that are ultimately liquidated by other odd-lot trades, the result depends more on the customer's skill or luck in buying low and selling high than it does on the differential. In the case of odd-lot purchases and sales that are offset by later round-lot trades, the result depends partly on the question whether the customers are trading with or against the trend of the

GROSS TRADING PROFIT OF THREE ODD-LOT HOUSES, 1929-38
(In cents per share traded)

Year	Amount of Profit	
	Per Odd-Lot Share	Per Share Traded ^a
1929.....	11.8	9.8
1930.....	10.0	8.5
1931.....	10.0	8.4
1932.....	9.9	8.5
1933.....	10.3	9.0
1934.....	6.7	5.7
1935.....	11.9	9.8
1936.....	11.1	9.2
1937.....	8.7	7.1
1938.....	9.8	8.2

^a Including round lots bought and sold.

market, partly on the judgment of the odd-lot houses as to whether balances should be liquidated quickly or allowed to accumulate, and partly on the extent to which round-lot trades force the round-lot price against the odd-lot dealer. As is shown in the accompanying table, the full differential has not been realized by the three houses in any year since 1928. The average gross profit¹⁰ per odd-lot share for 1929-33 was 10.6 cents; for 1934-38, 9.7 cents; and for the whole period 1929-38, 10.2

¹⁰ Before commission and transfer taxes.

cents. Clearly, therefore, there was a slight tendency to buy stock at times when the round-lot market was higher than it was when the stock was sold. Our data do not answer the question as to the causes of this tendency because we have only monthly figures, and the profit results may be dominated by the day-to-day changes rather than the longer swings. It will be of interest nevertheless to see what relationship there was between the fluctuations of prices and the changes in dealer inventories which resulted from the alternations of net public buying and public selling as revealed by monthly data.

**RELATIONSHIP BETWEEN CHANGES IN THE BALANCE OF
PUBLIC BUYING AND SELLING AND THE FLUC-
TUATIONS OF STOCK PRICES**

It was shown in Chapter III that there is a pronounced tendency for the odd-lot houses to accumulate long inventories when customers are selling on balance, and to have smaller inventories or go short when the public is buying on balance. This tendency leads to the conclusion that an odd-lot house will tend to make more money if its customers' judgment of the immediate trend of the market is bad than it will if their judgment is good. If customers buy most at the top of the market swings and sell most at the bottom, the position of the odd-lot house will be relatively short near the top and long at the bottom. Vice versa, if the customers sell at the top and buy at the bottom, the odd-lot house will tend to accumulate stock at the top and sell it at the bottom.

The simplest way to test this point is to compare the balance of public buying and selling month by month with an index of stock prices. Using this method and throwing together the data for all years, it appears that over the period 1920-38 as a whole the public has come

out very badly. The average price at which stocks were sold by the public in the months of net selling is about 14 per cent lower than the price at which they were bought in the months of net buying, and the present market valuation of the unliquidated balance is 10 per cent lower than the average price at which it was bought.²¹ This phenomenon of course is not strange. Odd-lot buyers, like round-lot buyers, are still loaded up with stock that was bought at the high levels of 1928-29, and in 1930-31, when prices were falling but were still far above the present level. The averages are dominated by the very heavy concentration of public buying in the last years of the boom and the first years of the decline.

An analysis merely on the basis of annual totals does not suggest any explanation for the changes of the balance of public odd-lot buying and selling in accordance with the trend of the market. The public bought odd lots heavily in the boom years 1928 and 1929 and just as heavily in the bear years 1930 and 1931. Nor is there any clear explanation of changes in the balance in terms of the level of stock prices as compared with that of previous years.

But when we use monthly figures, comparing the balances of public buying with the short-term movements of prices, the showing is quite different. If we compare the balances month by month with the movement of prices over the months immediately preceding, we discover a very strong tendency for the odd-lot public to buy on breaks and sell on advances. This is equally evident whether we compare the balances with the movements of

²¹ Calculations based on the Standard Statistics index of average prices of 419 stocks. For 1925-38 the percentages are 28 and 23 respectively.

prices in the same months, or with the movements of prices over the preceding 3-month periods. Even in such years as 1929 the buying showed a tendency to be concentrated in the months when prices were low relatively to the months immediately preceding.

RELATIONSHIP BETWEEN MONTH-TO-MONTH MOVEMENT OF STOCK PRICES AND NET BALANCES OF PUBLIC ODD-LOT TRADING, 1928-38^a

Price Change (In points)	Public Net Sales				None ^b	Public Net Purchases						Total
	Over 49	25- 49	10- 24	1-9		1-9	10- 24	25- 49	50- 99	100- 199	Over 199	
Advance:												
Over 15.	—	—	1	1	—	—	—	—	—	—	—	2
13-15...	1	—	1	—	—	—	—	—	1	—	—	3
9-12...	—	1	—	1	—	—	1	3	—	—	—	7
8.....	—	1	—	—	—	—	1	—	—	—	—	2
7.....	—	—	—	—	—	—	1	—	2	—	—	3
6.....	1	1	1	—	—	—	3	—	—	—	—	6
5.....	3	—	1	—	—	1	—	1	—	—	—	6
4.....	1	1	1	1	—	1	1	—	1	—	—	7
3.....	2	1	—	2	—	1	—	1	2	2	—	11
2.....	1	3	2	—	—	1	—	2	1	2	—	12
1.....	—	2	2	1	—	1	—	1	3	2	—	12
No change	1	—	1	1	—	1	1	—	1	1	—	7
Decline:												
1.....	—	1	1	2	—	—	—	2	3	1	—	10
2.....	—	—	—	1	1	2	—	1	1	—	—	6
3.....	—	—	1	1	—	2	1	—	1	—	—	6
4.....	—	—	—	—	—	—	2	—	3	—	—	5
5.....	—	—	—	—	—	—	—	1	—	—	—	1
6.....	—	—	—	—	2	—	—	1	1	—	—	4
7.....	—	—	—	—	—	—	—	1	2	—	—	3
8.....	—	—	—	—	—	1	—	1	1	2	—	5
9-12...	—	—	—	—	—	—	—	—	2	1	2	5
13-15...	—	—	—	—	—	—	—	—	—	3	1	4
Over 15.	—	—	—	—	—	—	—	—	—	1	4	5
Total.....	10	11	12	11	3	10	6	18	25	19	7	132

^a "Price changes" are changes of the Standard Statistics index of 419 stocks from the month before; public net sales and purchases are the net balances of the three odd-lot houses in units of 10,000 shares. Each case in the table refers to one month in which the price movement was as shown in the left-hand stub and the net balance of trading was as shown in the column heading.

^b Balance less than 5,000 shares.

The table on page 58 compares for 1928-38 the net balance of public buying and selling with the changes in the average of stock prices for the month from the average for the preceding month, as shown by the Standard Statistics average of prices of 419 stocks. It will be noted that out of 44 months in which the public sold stock on balance 34 were cases in which the average price was higher than the month before, and 3 more were months in which the average did not change. Out of 85 months in which the public bought on balance 44 were cases in which the average price was lower than the month before and 4 were months in which the average was unchanged. If we consider only the decisive cases in which the change of average prices was 5 points or more, the public sold on balance on advances 14 times and never on declines. It bought on advances 15 times and on declines 25 times. Moreover, the relationship is most pronounced in the cases where the net balance was largest. A net balance of 500,000 shares or more was bought 7 times on advance of 5 points or more and 20 times on declines of this amount. Balances of this size were sold 5 times on price advances of 5 points or more, 5 times on smaller advances or no change, and never on declines of any sort. The 7 cases in which the public bought as much as 2 million shares on balance all occurred in months in which the price average was 9 points or more below that of the preceding month.

Another way in which we can show the relationship of the balance of public buying to recent changes in stock prices is by computing the average changes of prices over short periods preceding the months in which the public bought or sold balances of differing amounts. This com-

ODD-LOT TRADING

parison is made in the first five columns of the accompanying table. Columns 1 to 3 show the number of months in which the odd-lot public bought or sold net balances of specified size groups. Column 4 shows the

RELATIONSHIP BETWEEN NET BALANCE OF PUBLIC ODD-LOT TRADING AND THE MOVEMENT OF STOCK PRICES, BY MONTHS, 1928-38

Balance ^a	Number of Cases	Total Stock ^a	Weighted Average of Price Changes ^b			
			From Month Preceding	From Third Month Preceding	Till Following Month	Till Third Month Following
Public bought:						
Over 499.....	1 ^c	577	-51.0	-67.0	+ 3.0	+14.0
200-499.....	6	1,492	-16.5	-13.6	-19.3	-20.7
100-199.....	19	2,795	- 2.4	-10.6	- 3.9	-10.1
50- 99.....	25	1,648	- 1.1	- 3.4	- 3.4	- 7.4
25- 49.....	18	641	+ 1.4	+ 1.6	+ 0.1	- 2.7
10- 24.....	6	112	+ 1.9	+ 2.5	+ 0.8	+ 2.5
1- 9.....	10	51	- 1.7	- 5.3	+ 1.7	+ 5.8
Public sold:						
1- 9.....	11	74	+ 2.2	+ 0.6	+ 1.9	- 6.9 ^d
10-24.....	12	181	+ 4.0	+ 5.4	+ 3.7	+ 7.0
25-49.....	11	401	+ 4.2	+ 2.3	+ 2.4	+ 5.8
50-99.....	8	474	+ 3.8	+ 6.5	+ 6.0	+10.8
Over 99.....	2	239	+ 8.8	+ 6.0	+13.6	+23.9
No net balance ^e	3	—	—	—	—	—

^a In tens of thousands of shares.

^b Changes of Standard Statistics index of 419 stocks, weighted by size of net balance.

^c November 1929.

^d Only nine cases in average.

^e Less than 5,000 shares.

average change of prices in each of these months from the preceding month, the average being weighted according to the amount of stock sold in each case. This tabulation brings out clearly the tendency of the public to buy in months when the price of stocks has recently declined, and to sell in months when it has advanced. The larger the price changes, the larger the balances with which they are associated. Column 5, in which the balances are com-

pared with the respective changes of price from the third preceding month, shows the same relationship.¹²

The comparisons so far made tell us nothing as to the relationship between the size and direction of balances and the movement of prices in the weeks or months which followed them. This relationship is tested in the table on page 62, and in the last two columns of the table on page 60. The table on page 62 shows the number of cases in which stock prices advanced or declined by specified amounts in the month following that in which the purchases were made.¹³ Columns 6 and 7 of the table on page 60 show the average of the price changes over the following month, and the following three months respectively, for net balances of different sizes bought and sold. It will be seen that the relationship is very similar to that shown in columns 4 and 5. In general unless either the net balance or the price change was very small, the public net sales were followed by price advances, and public net purchases were followed by price declines.¹⁴

This phenomenon has been observed frequently

¹² As a check on the calculation just presented, another test was made using a different price index and covering a longer period, and computing the coefficients of correlation between the net balance of public trading and the change of prices from the preceding month and from the third month preceding. For the period from Jan. 1, 1925 to June 30, 1938, the coefficient of correlation of the balance of public buying with the change of prices for the current month is -0.61 . Comparing the balance in each month with the change of prices from the third month preceding, the correlation is -0.63 . (*New York Herald-Tribune* average of monthly closing prices of 100 stocks.)

¹³ The change of price is tested, as before, by the Standard Statistics average of the prices of 419 stocks.

¹⁴ The most important exception was the month of largest net purchases, which was November 1929. Columns 6 and 7 of the table compare the huge purchases of this month with the prices that were made in the rally of December, and in the short-lived upswing of the spring of 1930.

enough to give rise to a tradition that "the public is always wrong," or is wrong so often that the movements of the odd-lot balance furnish a serviceable forecaster

RELATIONSHIP BETWEEN MONTHLY NET BALANCES OF PUBLIC ODD-LOT TRADING AND THE MOVEMENT OF STOCK PRICES DURING THE SUCCEEDING MONTH, 1928-38^a

Price Change (In points)	Public Net Sales				None ^b	Public Net Purchases						Total
	Over 49	25-49	10-24	1-9		1-9	10-24	25-49	50-99	100-199	Over 199	
Advance:												
Over 15.	—	1	—	—	—	1	—	—	—	—	—	2
13-15...	1	—	1	—	—	—	—	—	1	—	—	3
9-12...	1	—	2	1	—	—	—	2	—	1	—	7
8.....	1	—	1	—	—	—	—	—	—	—	—	2
7.....	1	—	—	1	—	—	—	1	—	—	—	3
6.....	1	1	1	—	—	1	1	1	—	—	—	6
5.....	1	2	2	—	—	1	—	—	—	—	—	6
4.....	3	—	—	1	—	—	1	1	1	—	—	7
3.....	—	—	1	1	—	—	1	2	3	2	1	11
2.....	1	1	1	2	—	1	1	1	2	2	—	12
1.....	—	2	—	1	2	1	—	3	1	1	—	11
No change	—	1	—	3	—	1	1	—	2	—	—	8
Decline:												
1.....	—	—	—	—	—	2	—	1	3	4	—	10
2.....	—	—	2	—	—	—	—	—	3	1	—	6
3.....	—	1	1	1	—	—	—	2	—	1	—	6
4.....	—	1	—	—	—	2	—	—	—	1	1	5
5.....	—	—	—	—	—	—	—	1	—	—	—	1
6.....	—	—	—	—	1	—	—	—	2	1	—	4
7.....	—	—	—	—	—	—	—	2	1	—	—	3
8.....	—	1	—	—	—	—	1	—	1	1	1	5
9-12...	—	—	—	—	—	—	—	—	3	1	1	5
13-15...	—	—	—	—	—	—	—	1	1	1	1	4
Over 15.	—	—	—	—	—	—	—	—	1	2	2	5
Total.....	10	11	12	11	3	10	6	18	25	19	7	132

^a Price changes are month-to-month changes of the Standard Statistics average of 419 stocks; public net sales and purchases are the net balances of the three odd-lot houses, in units of 10,000 shares.

^b Balance less than 5,000 shares.

of stock prices. In the writer's judgment, however, the correlations have little or no real forecasting value, because a forecast based on the behavior of the odd-lot public would be substantially the same as one based on

the movements of the market itself. Our comparisons reflect two facts: first, the the public usually buys on breaks and sells on advances that are big enough to show in the monthly averages; and, second, that swings of this magnitude generally run in the same direction for a

RELATIONSHIP BETWEEN PRICE CHANGES IN SUCCESSIVE MONTHS, 1928-38

Price Change Current Month ^a	Price Change Next Month			Average ^a
	Number of Cases			
	Increase	Decrease	No Change	
Increase:				
Over 15.....	2	—	—	+ 8.5
13-15.....	3	—	—	+ 4.7
9-12.....	5	1	1	+ 1.8
8.....	2	—	—	+ 4.0
7.....	2	1	—	+ 8.7
6.....	3	3	—	+ 2.2
5.....	5	1	—	+ 3.8
4.....	5	2	—	+ 1.6
3.....	6	4	1	+ 1.5
2.....	6	4	2	+ 0.4
1.....	6	6	—	- 0.3
No change:	3	3	1	+ 1.3
Decrease:				
1.....	7	2	1	+ 2.4
2.....	3	3	—	- 0.2
3.....	3	2	1	+ 0.5
4.....	1	3	1	- 2.0
5.....	—	1	—	- 1.0
6.....	2	2	—	- 3.0
7.....	1	2	—	- 0.3
8.....	3	2	—	+ 1.0
9-12.....	—	5	—	-12.2
13-15.....	—	4	—	- 6.8
Over 15.....	2	3	—	-12.0
Total.....	70	54	8	

^a In points of Standard Statistics index of 419 stocks.

number of months, so that the average results are dominated by the cases when the public bought in the first part or middle of a downswing and sold in the first part or middle of an upswing. If, for instance, the stock market averages decline for 5 successive months, and

the public buys more than it sells in each of these months there will be 4 cases out of 5 in which the purchases will be associated with lower prices in the next month, and in at least 2, probably 3, they will be associated with lower prices 3 months later. The longer the swings the higher will be the proportion of such cases. The table on page 63 shows that there is a strong tendency for price movements in one month to be followed in the next month by changes in the same direction, and that this tendency is strongest when the price changes are largest. Thus the tendency of the odd-lot public to be wrong, if its trading results are tested by the price movements of the next few months, is largely accounted for by the tendency of prices to change in the same direction for several consecutive months, coupled with the propensity of the public to buy on breaks and sell on advances.¹⁵

CONCLUSION

We return now to the problem raised on page 56 as to why the odd-lot houses usually earn a gross profit of less than 12½ cents an odd-lot share traded. It was pointed out in that connection that an odd-lot house will tend to make more money if its customers' judgment of the immediate trend of the market is bad than if it is good, because when customers are buying on balance the odd-lot house tends to have small long inventories or go short, and when the public is selling it tends to have larger long inventories. The data thus far presented, instead of clearing up the situation, make it more anoma-

¹⁵ It would require a much more detailed statistical analysis than we have made to show whether this is the complete explanation. The negative correlation between the changes in the net balance of public buying and selling and the movement of prices over the succeeding month is slightly higher than the positive correlation between price changes in one month and price changes in the next month.

lous than ever. As the public tends to take stock away from the odd-lot houses before a decline and sell it to them before an advance, one would expect to find the houses making gross profits of more than $12\frac{1}{2}$ cents a share.

Apparently one or both of two conditions must be present. Either the prices realized by the odd-lot houses in their round-lot trading must be higher in the case of purchases and lower in the case of sales than would be expected from the stock market indexes (presumably because of the tendency of round-lot trades to force the price against the dealers), or else some other component of the odd-lot public is more successful than the one which accounts for the swings of the monthly balances. The former condition is to be expected, but since round-lot trading equals on the average only 20 per cent of odd-lot volume, the losses from this source can hardly account for the major part of the discrepancy between the theoretical differential and that which is actually realized.

It appears probable that the chief explanation of the anomaly is to be found in a difference between the short-run success of the odd-lot public which trades on the longer swings of the market and of those who trade on short swings. From 80 to 95 per cent of the volume of the odd-lot houses apparently comes from trades that are turned over within a month and have comparatively little effect on the monthly net balances. The odd-lot houses' own inventories are also turned over very rapidly. It is the movement of prices over the next few days after a balance is accumulated, rather than over the next month or three months, that generates an inventory profit or loss, and it is quite possible that the

public which trades on these short swings tends to buy when the round-lot market is slightly lower than it is when it sells. Whether it actually makes a profit by so doing is another question, the result depending on whether the favorable differences are large enough to offset commissions, taxes, and the odd-lot differential.

To test the point statistically it would be necessary to compare the day-to-day shifts in the odd-lot balance with the day-to-day swings of the market. Data for such a study are not available. This much is clear, however: the odd-lot houses will tend to make more money in periods when the market moves fairly steadily in one direction than they will when it swings back and forth in a narrow range. The shorter the swings the more the public's habit of buying on breaks and selling on advances will tend to bring the public into the market at the bottom and out at the top, and the more the odd-lot house will tend to be short at the bottom and long at the top. This fact helps to account for the variation in the gross trading profit. The years 1928, 1935, and 1936, when the price trend was strongly in one direction throughout the year, yielded relatively high gross profits, while 1934 and 1937, which were years of two-way markets, yielded low gross profits. The principal exceptions are 1929, which in spite of wide variations in the price trend showed a gross profit higher than average, and 1930 and 1931, in which profits were slightly below average although the price trend was steadily downward.

CHAPTER V

WITHHOLDING

Until a few years ago, the accepted doctrine, both in Stock Exchange circles and in public opinion generally, was that any one was free to turn his money into securities or his securities into money, according to his own judgment of his own interests, so long as transactions were made honestly in accordance with the rules under which others had to trade and so long as there was no falsification of reports or manipulation of the market by monopolistic practices or deliberately concentrated purchases and sales designed to cause market fluctuations and force others to trade against their preference.

In accordance with the prevailing philosophy, odd-lot dealers considered that their inventory policy was a question of internal business management quite as much as the inventory policy of any trading business. This view was nowhere seriously challenged. However, because of their highly specialized position, the odd-lot dealers had developed among themselves, even before the recent appearance of a more critical type of public opinion, a customary standard of practice under which their round-lot trading was substantially confined to the liquidation of balances resulting from the purchase and sale of odd lots. While there were occasional exceptions to this rule, in general the control exercised by the odd-lot dealers was limited to the determination of the size of the position, long or short, which was permitted to accumulate as a result of odd-lot transactions before offsetting round-lot transactions were executed. In recent

years, the practice has become more rigid with regard to the restriction of round-lot trading to the liquidation of odd-lot balances, until at present, as was stated in Chapter III, the odd-lot code bans all in-and-out trading in the round-lot market.

However, as we have shown, the practice is to accumulate long or short positions of considerable size, especially in the more active stocks. The effect of this practice is to cushion the impact on the market of changes in the direction and size of net balances of public odd-lot trading. When the public is selling odd lots on balance, odd-lot dealers usually do not sell round lots in the same volume until their long inventories are filled up, and when the odd-lot public turns buyer, the dealers generally do not buy round lots in equal volume until their long inventories have become exhausted and the limits of the permitted short positions are reached. This lag in the adjustment of dealer round-lot volume to public odd-lot volume constitutes what is called "withholding." The practice has recently been the subject of semi-official criticism, and it raises issues of sufficient importance to warrant careful analysis of both the theory and the facts.

THE THEORIES OF WITHHOLDING

The current criticism of dealer withholding embodies two quite distinct theories. One line of criticism holds that the test of the beneficial or harmful character of dealer trading is found in its tendency to stabilize or destabilize the market. If dealers buy more than they sell when the market is declining or sell more than they buy when it is advancing, their activity is held to be stabilizing and is approved. In the contrary case, it is classed

as unstabilizing and is disapproved. This may be called the cushion theory of withholding. Withholding is held to be useful to the extent that it cushions the market against the impact of sudden shifts in the demand and supply situation.

The second line of criticism assumes, on the contrary, that all cushioning of the market by professional dealers or traders is undesirable. It assumes that the ideal is for dealers to be wholly neutral toward the market, transmitting to it as quickly as is reasonably possible all the influences which express themselves in a shifting balance of buy and sell orders from their customers. This is called the "conduit" theory. So far as the writer knows, the assumptions of the conduit theory have never been applied to the specialist dealers in the round-lot market and of course the theory has no applicability to the floor trader. In the case of the odd-lot dealer, however, both assumptions have appeared in current critical discussion.

First, as to the cushion theory: The stabilization test, of course, requires some assumption as to the length of the period of fluctuations which is to be taken into account. The market may be declining, if it is tested by comparing one day's close with the previous day's close, or one hour's prices with the previous hour's prices. At the same time, it may be advancing, if tested on the basis of a month-to-month comparison and declining on the basis of a year-to-year comparison. Critics of dealer withholding have not specifically discussed the question as to which test is the most relevant one. In the Segregation Report¹ the dealer activities of specialists and of

¹ Securities and Exchange Commission, *Report on the Feasibility and Advisability of the Complete Segregation of the Functions of Dealer and Broker*, June 20, 1936, pp. 24, 35-36, 128, 142.

TRADING OF ODD-LOT DEALERS, JULY-OCTOBER 1935

Week Ending	Bought in Odd Lots Minus Sold in Odd Lots	Sold in Round Lots Minus Bought in Round Lots	Net Odd Lots Bought in Excess of Net Round Lots Sold	Net Round Lots Sold in Excess of Net Odd Lots Bought	Cumulated Net Position of Odd-Lot Dealers ^a	Stock Price Index at Close ^b	Percentage Change in Stock Price Index
July 3.....	58,367	61,500	—	3,133	S 3,133	82.2	+1.5
" 10.....	109,788	89,000	20,788	—	L 17,655	84.4	+2.7
" 17.....	110,153	121,600	—	11,447	L 6,208	84.7	+0.4
" 24.....	125,790	117,200	8,590	—	L 14,798	86.1	+1.7
" 31.....	141,306	124,700	16,606	—	L 31,404	88.0	+2.2
August 7.....	93,436	116,500	—	23,064	L 8,340	88.8	+0.9
" 14.....	171,907	165,000	6,907	—	L 15,247	92.7	+4.4
" 21.....	156,536	157,000	—	464	L 14,783	91.7	-1.1
" 28.....	54,103	77,600	—	23,497	S 8,714	88.1	-3.9
September 4.....	-1,576	18,400	—	19,976	S 28,690	90.2	+2.4
" 11.....	101,891	72,000	29,891	—	L 1,201	94.6	+4.9
" 18.....	59,088	66,100	—	7,012	S 5,811	93.9	-0.7
" 25.....	31,988	42,000	—	10,012	S 15,823	92.1	-1.9
October 2.....	75,744	69,800	5,944	—	S 9,879	88.1	-4.3
" 9.....	79,890	69,100	10,790	—	L 911	91.4	+3.7
" 16.....	177,434	141,700	35,734	—	L 36,645	94.6	+3.5
" 23.....	177,039	129,900	47,139	—	L 83,399	97.9	+3.5
" 30.....	216,818	216,000	818	—	L 83,217	98.2	+0.3

^a Position of odd-lot dealers at beginning of period not reported. "S," Short; "L," Long.

^b Standard Statistics Company, 90 stocks.

floor traders were tested on the basis of their stabilizing or non-stabilizing influence on day-to-day fluctuations and certain conclusions were reached on the basis of this analysis as to the value of dealer activity.

DR. KEMPER SIMPSON'S CRITIQUE

The earliest public criticism of withholding by the odd-lot dealers which has come to the writer's attention was embodied in the first draft of the Segregation Report as prepared by Dr. Kemper Simpson, who was then economic adviser to the Securities and Exchange Commission and had charge of the segregation studies with reference to organized exchanges.³ In this report, the cushion theory is applied to week-to-week changes. In the section of this report which dealt with the odd-lot dealers, the author analyzed the trading of odd-lot dealers for a period of 18 weeks. He reached the conclusion that "odd-lot dealers tend to trade with the market and thereby widen the amplitude of price fluctuations in the same manner, though to a much smaller extent, than do floor traders." The data presented in this report are shown in the table on page 70.

Dr. Simpson's analysis of these data may be summarized as follows. He compares the net purchases and sales of odd-lot dealers, as shown in columns 4 and 5, with the change in the stock price index as shown in column 8, and finds that "during certain weeks when the market was strong odd-lot dealers were accumulating stock" and that "during some of the weeks that the market was weak and declined they reduced their hold-

³ In this form, the document was not adopted by the SEC as its report but was given publicity in mimeographed form. Compare reference in letter of transmission, Segregation Report, p. iii.

ings and even went short, assuming they had no considerable long position at the beginning of the period.”⁸ Statistically this is correct. In four out of the five weeks in which stock prices went downward, the odd-lot dealers were net sellers (that is, they reduced their long inventories or increased their short positions). Of the 13 weeks in which prices advanced, they were net buyers in 9 weeks. There is thus a decided positive correlation between increases of dealer inventory and week-to-week increases in the average of stock prices. This, it will be remembered, is in harmony with our computations based on monthly data and covering a much longer period.

However, Dr. Simpson’s further conclusions rest on inadequate analysis of the data. He goes on, after noting that the net positions at any one time do not seem to be large, to say that “while the market was rising the odd-lot dealer usually did not immediately resell all the odd lots sold him by the public, but when *at a higher level*⁴ the market was weak or off he unloaded a part of his accumulations.” A little further on he designates these changes in inventory as “speculative purchases and sales.”

In the first place, the fact that the odd-lot dealers bought in weeks when the market rose, and sold in weeks when the market fell, does not show that they sold at a higher level than they bought. That conclusion must rest on an assumption, not stated or proved, that the purchases in the weeks when the market rose were made

⁸ Our data show that just before the beginning of the period, the odd-lot dealers in fact had a net long position of 245,786 shares, which is far more than the maximum short position shown in the table on the basis of a zero position at the outset. This, however, is of no importance from the standpoint of the argument.

⁴ Italics ours.

in the first part of the respective weeks, and that the sales in the weeks when the market was weak were also made in the first part of the week. If a market rises smoothly for one week and then falls smoothly for the next week by the same amount and a trader buys in the strong week and sells in the weak week, distributing his trades evenly through the time, the profit will be exactly zero. The same result follows if he buys in the week of declining prices and sells in the week of advancing prices. The proper test is not whether stocks were bought or sold when prices were rising or falling but whether the sales were made at a higher or lower average price than the purchases. We may make a rough test by comparing inventory changes and price changes for the first 15 weeks, during which period purchases and sales were almost equal. If we assume that in each week the balance was bought at a price midway between the previous week's close and the current week's close, and if we also assume that the fluctuations of the index corresponded to those of the prices of stocks in the inventory, we find that the dealers did make a profit of about $\frac{7}{10}$ point (probably about 20 cents a share) on the volume of shares that was withheld in one week and liquidated in a later week.⁵

The important question, however, is not whether the dealer made or lost money on the transactions but what the data indicate as to the way in which the inventories are actually handled. The difficulty in Dr. Simpson's analysis is the failure either to relate the movement of odd-lot balances to the movement of public trading, or to relate the movement of public trading to the move-

⁵ Excess purchases for the 15 weeks totaled 99,516 shares at an average of 88.46 and excess sales totaled 98,605 shares at an average of 89.15. A point in the index usually corresponds to from a quarter to half a point in the average price of stocks in dealer inventories.

ment of prices. What the data really show is, first, that when the odd-lot public increased its selling rate, dealers' inventories went up, and when it decreased its selling rate they went down; and secondly, that as a rule the odd-lot public sold most in the strong weeks and sold less (in one case bought) in the weeks of declining prices. The behavior of the odd-lot trading public was contrary to that of the round-lot trading public which dominated the price movements. Hence, the trades of the odd-lot public were "against the trend" and tended to stabilize the market, in so far as they were translated into round-lot transactions. The lag of the dealers' round-lot transactions caused by the cushioning effect of the inventories automatically put the dealers "with the trend." Odd-lot dealers' trading was not an independent factor making for instability, but their technique did lessen slightly the stabilizing effect of the behavior of the odd-lot public.

This analysis is based on the fact that the connection between the volume of public odd-lot selling and the movement of dealers' inventories, and also between the volume of public selling and the price movement, is closer than that between the movement of dealers' balances (withholding) and the movement of prices. In every week in which the odd-lot public decreased its net sales, odd-lot dealers' inventories declined; in every week in which the odd-lot public increased its net selling rate, except the week of July 17, odd-lot dealers' inventories increased. The exception was a week in which the increase of public buying was only about 0.4 per cent. And there were only 3 cases out of 17 in which the public failed to increase its sales in a week of rising prices and decrease them in a week of falling prices.⁶

⁶ Compare pp. 57-59.

The facts brought out here, and more fully in Chapters III and IV, with regard to the close relationship between the fluctuations in the net absorption of stocks by the odd-lot public and the changes in odd-lot dealers' inventories may be interpreted as either a defense or a criticism of the odd-lot dealers' procedure, according to the point of view of the critic. They constitute a defense against the charge that the size of the inventories is determined by speculative considerations rather than by the automatic operation of the system, because they indicate that the increases and decreases of inventory are preponderantly the automatic result of the behavior of the public. On the other hand, the facts just brought out support the charge that changes in dealers' inventories exert a slight unstabilizing tendency, since they show that when the odd-lot public is trading against the short-run trend, as it generally does, the odd-lot dealers tend to trade with that trend, though to a much smaller extent, and thereby reduce the stabilizing influence of the behavior of the odd-lot public. The merits of the criticism and the quantitative importance of odd-lot dealer activities will be considered below, after we have considered briefly the other line of criticism, which is based on the conduit theory.

This latter school of critics disregards the stabilization test and urges that the published quotations of a security at any time should reflect accurately the balance of opinion of buyers and sellers as to the value of the stock. Because odd-lot dealers, instead of translating the balances of odd-lot orders immediately into round-lot trades, maintain a reserve stock of securities, filling some orders out of this reservoir when the public is buying and adding to it when the public is selling, the impact of a change of attitude on the market is delayed and soft.

ened. The view of these critics is that dealers in the odd-lot market should do nothing but combine the small trading units into larger units, without themselves exercising any avoidable influence on the market.⁷

In short, the underlying assumption in Mr. Simpson's report and in the discussion of the activities of specialists and floor traders in the Segregation Report is that all price changes are bad; that trading against the trend is helpful and trading with it harmful. In the Segregation Report, this assumption is applied to day-to-day price changes; in the Simpson report, to week-to-week changes. The conduit theory, in this respect, is just the opposite. It assumes that all price changes are good, except those that are due to professional buying and selling.

So far as the writer is aware, the conduit doctrine has never been applied by critics to dealer activity in the round-lot market or in any other field of commerce. On the stock exchanges it is generally considered to be the function of the specialist to maintain an orderly market, timing his buying and selling so that his inventories will serve as a cushion, protecting the market from disturbance during a temporary excess of bids over offers or vice versa. It was generally regarded as a public service that the commercial banks came to the rescue of the market during the crash of 1929 (in this case with the support of the Federal Reserve banks) and that they had done the same thing in previous crises. Outside the field of stock exchange trading, it is generally believed that one of the functions of dealer inventories is to even out fluctuations in consumer buying and transmit a more

⁷ Compare statement issued by Chairman William O. Douglas of the Securities and Exchange Commission, Nov. 23, 1937.

even flow of orders to the producers. This, as has been noted, is the point of view of the Segregation Report with regard to professionals in the round-lot market. Why the odd-lot dealer should be estopped from performing the function and enjoined to be entirely neutral is not clear.

QUANTITATIVE SIGNIFICANCE OF WITHHOLDING

Let us consider next the quantitative significance of the stabilizing or unstabilizing effect of odd-lot dealer activities. It will probably be agreed that the important issue, if there is one, does not relate to the major swings of the market. No reservoir of stock or of funds to buy stock exists which could possibly protect the market from the impact of long-continued waves of selling or buying. In July 1929, at the top of the market, the odd-lot dealers held net long inventories of about 500,000 shares. In the next three years the odd-lot public bought on balance about 44 million shares or nearly 50,000 shares a day. At the end of the period net dealer inventories had been reduced by about 250,000 shares, an average of less than 300 shares a day.

With reference to the shorter swings, three distinct questions are involved: first, the influence of dealer withholding on the ordinary week-to-week and month-to-month fluctuations of prices in general; and, second, its influence on the temporary fluctuations in prices of stocks that have thin markets; and, third, the influence on panic situations. With respect to the ordinary fluctuations, it is clear that while the influence of dealer withholding is more often unstabilizing than stabilizing (because the influence of the balance of odd-lot buying is more often stabilizing than unstabilizing), the amounts involved are absolutely insignificant. All that dealer withholding does

is to cause a short lag in the impact on the market of reversals in the direction of the balance of public odd-lot buying and selling. There is a considerable irregularity in the relationship and, in the case of the smaller changes, the shift in dealer inventories is sometimes the reverse of what would be expected, tending slightly to reinforce the effect of public trading instead of neutralizing a fraction of it. The bigger changes, however, are almost invariably associated with reversals of the direction of net trading of the odd-lot public, or with major changes in volume.⁸ A review of the record may be of interest.

In June 1933, the odd-lot public sold 489,000 shares of stock more than it bought. In the next month, it bought 1,874,000 shares more than it sold. Measured in absolute figures, the response of the odd-lot dealer inventories to this shift was by far the largest on record, being a net decrease of 466,000 shares or somewhat less than one-fifth of the change in the monthly balance of public trading. In the next month, the public again reversed itself and sold a small amount on balance. Dealer inventories increased by 190,000 shares or about 10 per cent of the change in the balance of public buying and selling. In May 1934 dealer inventories decreased by 134,000 shares, which was about one-fifth of the change in the movement of the odd-lot balance. In May 1937 dealer inventories increased by about 112,000, which was about 30 per cent of the net decrease of public buying. In the next month, dealer inventories decreased by 121,000, with only a 45,000 share increase in public buying. In the violent market of September 1937, dealer inventories decreased by 166,000 against an increase of public buying of more than 1 million shares. These are

⁸ Compare tables on pp. 58, 60.

the only instances in the last six years in which dealer inventories changed by more than 100,000 shares in a calendar month. In the markets of 1928-31, the largest change in dealer inventories in one month was about 250,000 shares. Compared with total round-lot volumes, which ranged from 18 million to 125 million shares in the months mentioned, the influence of these changes in dealer inventories on month-to-month changes of price must have been trivial.

With respect to day-to-day fluctuations there are two situations in which odd-lot dealer withholding may have a significant influence on the market. One of these relates to inactive stocks in which the forced sale or purchase of a comparatively small number of round lots may have a considerable influence on the price; the other relates to panic days when both odd-lot trading and dealer round-lot trading are so heavy and the price movements so violent that the public interest is involved to an unusual degree.

WITHHOLDING IN INACTIVE STOCKS

In the case of the inactive stocks, the absolute amount of dealer withholding is small, because it is the policy of all three dealer firms to carry small inventories in these stocks. Compared with the total volume of trade, however, even a small volume of round-lot trading may have a considerable influence on the price, and the nature of the market is such that the dealers are compelled to do more than the normal proportion of withholding in order to avoid substantial losses. Assume, for example, that the market in an inactive stock is quoted at 30 bid, 33 asked. A customer places an order with a commission house to buy 175 shares at 32 or better. The commission house places the 75-share order with an odd-lot house

and begins bidding for the 100-share lot at prices above 30, and succeeds in buying at $31\frac{7}{8}$ the round lot that was previously offered at 33. The odd-lot house automatically sells the 75 shares at 32. If the odd-lot associate broker immediately covers this sale by buying a 100-share lot at the market he will probably have to pay 33, perhaps more. The figures are arbitrary, but in the case of inactive stocks it will be necessary much more often than not to pay a price higher than the last sale in order to buy another round lot immediately. Rather than accept such a loss, the odd-lot house may elect to put in a bid at $31\frac{7}{8}$ or 32 and wait for the market. By thus "withholding," it may be able later to buy a round lot at a price which nets it a fractional profit on the 75-share sale, or at least avoid a loss. Or, the stock may come in in odd lots without any round-lot trading.

Of course, the situation does not always arise, because the house may happen to be long of the stock and willing to reduce its position or there may be 200 shares available in the round-lot market at the same price as 100, but in many cases these conditions do not exist and unless the dealers are free to withhold odd-lot balances from the market until they can be disposed of without forcing the price they will continuously be in the position of buying just after their customers have bought and selling just after their customers have sold, and are bound to lose on the turn of the market much more than they gain through the odd-lot differential.⁹ Dealer withholding under such circumstances is presumably approved under

⁹ The odd-lot house might try to protect itself against such a loss by buying the round lot before the order became effective, so that the odd-lot order would pair off against the round-lot order. To do this it would have to top the customer's bid in the round-lot market; that is, bid against his broker and run the price up to a point where two round lots would be forthcoming, or the customer's limit was passed. There is some feeling among commission brokers that the odd-lot house

the cushion theory since it is bound to be stabilizing in character, but it is condemned under the conduit theory. In the case of active stocks a similar situation exists in theory, but it is relatively unimportant because the spreads are narrower, the volumes involved are small in proportion to the round-lot turnover,¹⁰ and the balance of public trading is not so one-sided.

WITHHOLDING ON PANIC DAYS

We turn finally to the effect of dealer withholding in panic markets. When the volume of trade is abnormally heavy, dealer withholding is likely to be abnormally high. When stock comes in and goes out in big volume on a single round-lot transaction, the positions that are carried in ordinary times are constantly exceeded.

Whether dealer withholding in a panic market will have a stabilizing or unstabilizing tendency depends on the behavior of the odd-lot public. If odd-lot buyers are motivated by the same considerations as are the round-lot public, and consequently dump stocks on the market in great quantities at declining prices, dealer withholding

ought not to bid against a customer in this way, but there is really no other way by which the odd-lot house can avoid being put at a disadvantage. For the odd-lot house to concede priority in all such cases to the customer's bid would mean that the public was guaranteed an opportunity to buy 199 shares at a price which represented the true state of the round-lot market for 100 shares, plus $\frac{1}{8}$ for the other 99. If such a guarantee were available, the customer who wanted 200 shares of an inactive stock would always find it to his advantage to buy 199 instead, since he would get practically 200 shares at a price which was influenced by his demand for only 100.

¹⁰ A study made by one odd-lot house indicated that in the three years 1935-37 its withholding in eleven market leaders averaged 186 shares an issue a day. Odd lots withheld with the trend of prices averaged 239 shares an issue of 44.6 per cent of days; those withheld against the market averaged 193 shares a day on 30.5 per cent of days. The withholding in these stocks averaged 1.5 per cent of stock exchange round-lot volume (1.9 per cent on the days of withholding with the trend). (DeCoppet and Doremus, *The Odd-Lot Dealer System*, Brief submitted to the Securities and Exchange Commission, July 1, 1938.)

will be stabilizing in character. If, on the other hand, the odd-lot public does not share in the panic, but follows its usual practice of buying on breaks, withholding on the part of the dealers will tend to lessen the benefit which the market would otherwise derive from the support of the odd-lot public.

The writer has been told by odd-lot dealers that on the first day of a severe panic the odd-lot public does not as a rule trade against the trend, but sells heavily while the market is crashing. A day or two later, while prices are still low, the odd-lot public turns buyer.¹¹ The round-lot public may or may not still be selling enough to depress prices further. When such a sequence of odd-lot selling and odd-lot buying occurs, dealer withholding will have a beneficial effect on the market. Stock which the dealers accumulate in odd lots on the first day will be sold in odd lots on the succeeding days instead of being sold in round lots on the first day and brought back in round lots on the other days. Congestion on the floor and at the ticker station will be lessened, and the market will be relieved of selling pressure at the critical stage before the outside public has come to its relief. A case in point has been described by one of the odd-lot houses as follows:

Before the opening on the morning of the 19th [of October 1937], this firm was practically even in its net position. It was 3,879 shares short. It had been as close to even as 646 shares long, on the 13th.

¹¹ Presumably this phenomenon is to be explained by a difference in the composition of the odd-lot public which makes the market on the first day of the panic from that which determines the balance on later days. It may be conjectured that the odd-lot public which sells at the beginning of the panic consists predominantly of speculators who are watching the market closely, while on succeeding days the odd-lot balance is dominated by the buying of investors and long-swing speculators who do not get the news so promptly, or who hold off until the price break has reached considerable proportions.

The signs of a crucial day were present before the market opened. The firm determined to take all the odd-lots offered.

During the first hour, it bought approximately 125,000 shares in odd-lots, representing something over \$3,000,000 in value. Totals of 3,000 to 5,000 shares each of popular leaders were brought by us in odd-lots and withheld in this panic opening, the hour of sharpest price decline. After a decline of \$3.62 from the previous close, the market rallied and closed with a decline of only 20 cents for the day. During the day, we sold from the long inventory acquired in the first hour. Only a part of it was sold, however, and we ended the day 53,633 shares long.

On the next day, the 20th, in the reverse rush of buying by the odd-lot public, our brokers were physically unable to buy the necessary hundreds to fill the odd-lot demand. We sold out the total long inventory of the day before against this extreme rush of buying, in a total advance for the day of \$4.25 in the *Herald-Tribune* averages. We were practically forced to supply the balance of the buying demand from the short inventory thus created by this demand and ended the day 50,532 shares short. Sheer physical inability of the brokers to get the necessary hundreds carried the firm beyond the limit of its desire to end the day not more than 25,000 to 30,000 short.²³

The experience of the other two odd-lot houses was similar to that described in the quotation. Data were compiled for the writer by all three odd-lot houses covering the two trading days referred to in the quotation above. For the three firms the net odd-lot purchases on October 19, 1937 amounted to 170,229 shares, and only 23,800 shares net were sold in round lots, so that the combined long positions were increased by 194,029 shares. On the next day, on a strongly rising market, 573,947 shares were sold to the public in odd lots and 319,100 were bought in round lots. The net change of positions for the two days was only 61,000 shares, and

²³ DeCoppet and Doremus, *The Odd-Lot Dealer System*, pp. 27-28.

on both days the withholding was against the price trend.¹³

In large part the explanation of the heavy odd-lot dealer withholding in panic is the physical inability of brokers to keep up with the market. The total number of trades made by the associate brokers of the three houses on October 20 must have been at least as high as 50,000.¹⁴ The physical capacity of the odd-lot houses for making and reporting trades is bound to be strained by such tremendous concentration of trading in a short period.¹⁵

Since the odd-lot associate broker's first responsibility is to his odd-lot customers, he must see that all his odd-lot trades are properly reported before he can give any

¹³ In the statement referred to in the footnote on p. 76 an erroneous impression is given, first because data for October 20 are cited without reference to the compensating effect of dealer withholding on one side on the nineteenth and on the other side on the twentieth; secondly because the statement gives the impression that October 20 was a day of declining prices when in fact prices moved upward very rapidly.

¹⁴ The writer has data for the net balances only, not the total turnover. The net balances represent 3,191 round-lot trades and probably nearly 20,000 odd-lot trades. If the odd lots bought amounted to 50 per cent of those sold, the total number of odd-lot trades alone would be over 50,000. There must also have been some round-lot trades on the sell side.

¹⁵ The writer has seen some data concerning the odd-lot trade in the extreme panic situations of October-November 1929 which indicate that the situation was similar to that on October 19, 1937. That is, they show heavy public selling of odd lots in the early stages of the panic and buying in later stages. The volumes involved were even larger than in the 1937 case. It was impossible, however, to secure complete data covering these panics. A number of persons who were associated with the odd-lot houses during this period have expressed doubt as to the accuracy of any day-to-day records that could have been made under the conditions which prevailed in those markets. It has therefore seemed unwise to attempt a statistical analysis of withholding in the panics of 1929. Such figures as are available indicate that there was especially heavy dealer withholding on the days when the odd-lot public was selling on falling markets, but that there were few such days. Data were furnished the writer by the three odd-lot houses for the violent markets of July 19-25, 1933 and September 13-15, 1937. On both these occasions the odd-lot public bought heavily from the beginning of the break, and the dealers' round-lot buying, as usual, lagged behind.

attention to round-lot trading. Moreover, the specialist to whom he would ordinarily entrust his round lots for execution will be swamped with business. Indeed the crowds around the posts may be so dense that it is impossible even to get in touch with the specialist. It has happened on several panic days that odd-lot brokers completely lost track of their positions and found, after the close, that their positions were thousands of shares out of line with those they had tried to maintain.

CONCLUSIONS

Our conclusions as to the market influence of dealer withholding may be summarized as follows. In general the changes in odd-lot dealer inventories tend slightly to damp the price effect of changes in the market behavior of the odd-lot public. In the case of the active stocks this tendency is due to the cushioning effect of the permitted fluctuations in dealer inventories; in the case of inactive stocks it is accentuated by the necessity of protection against losses that would otherwise arise from forcing a thin market against the dealer. In the case of the inactive stocks dealer withholding is stabilizing in tendency. In the case of the active stocks it is more often unstabilizing than stabilizing because the odd-lot public tends to be on the opposite side of the market from that element in the round-lot market which dominates the price movements. In normal markets the effect of dealer withholding is insignificant except in the case of the inactive stocks; in markets that are changing violently the effect may be more significant. In the worst panic situations the dealer withholding is against the trend and has a stabilizing tendency; in more moderate collapses it is with the trend, and unstabilizing in effect. A certain amount of dealer withholding is necessary, under the present system, (1) because of the impossibility of matching all odd lots evenly against round lots; (2)

because of the direct costs of round-lot trading; (3) in the case of inactive stocks, because of the tendency of forced trades to affect the round-lot price against the dealer; and (4) because of the inability of brokers to keep up with the market under panic conditions.

Finally, there is a basic question of principle. Not all price changes are bad; the public interest is not merely in having the price stabilized, but in having it change as conditions change. It has been said that withholding on the part of a dealer disfranchises the odd-lot public by nullifying its votes as to the appropriate valuation of the securities it is buying or selling. The conduit theory would disfranchise the odd-lot dealer at all times; the cushion theory would disfranchise him except when his judgment was opposite to that of the public in general. If odd-lot dealers' positions were controlled more by speculative considerations than they seem to be, and less by the automatic working of the system by which public buying and selling falls first on the inventory, their interest would be to trade with the trend when they judged that it was due to fundamental factors making for permanent change, and to trade against it when they believed it was due to the technical condition of the market or a temporary wave of public opinion. If the dealer's judgment was correct, the effect of such trading would be to stabilize slightly against temporary fluctuations and to accelerate slightly the changes that occurred in response to more permanent conditions. Is there any reason why the dealer's judgment as to the temporary or permanent character of the factors which are changing the market should be eliminated? If his position gives him any advantage in gauging the trend of the market and in distinguishing technical disturbances from changes in the underlying values, his vote would be all the more valuable in fixing the "right price."

CHAPTER VI

TAXATION OF STOCK TRANSFERS

All trading in securities, whether odd lots or round lots, involves the payment of a federal tax amounting to 5 cents per \$100 of par value or fraction thereof, or 5 cents per share of no par value, if the stock sells for \$20 or more, and 4 cents in each case if it sells for less than \$20.¹ Five of the states have similar taxes. In Pennsylvania and Massachusetts the rate is 2 cents per \$100 par value or per share of no par value; in South Carolina 4 cents; and in Florida 10 cents. New York follows the federal precedent by differentiating between shares selling above and below \$20, but its tax takes no account of par value. The New York rate is 4 cents a share on stock selling for \$20 or more and 3 cents a share on stock selling below that figure. The tax in all cases is payable by the seller.

It will be noted that none of the states that have stock exchanges except Massachusetts, New York, and Pennsylvania, levy a transfer tax, and that in Massachusetts and Pennsylvania the rate is considerably lower than in New York. The difference is especially important in the case of stock having a par value of less than \$100. For instance, on a sale of 100 shares of General Motors common (\$10 par) at 50, the state transfer tax in New York

¹ In preparing this chapter and the one which follows I have drawn heavily on *The Problem of Stock Transfer Taxation in the State of New York* (Preliminary Report of the Committee for the Study of Stock Transfer Taxes, 1939). I have also profited by discussion of the problem with Dr. Paul Studenski, director of research of the committee, while that report was in the process of preparation.

is \$4, while in Massachusetts and Pennsylvania it is 20 cents. The federal tax in this case is 50 cents. On the other hand, on a sale of United States Steel common (no par) or of Western Union (\$100 par), the New York tax is again \$4, as compared with state taxes of \$2 in Massachusetts and Pennsylvania and a federal tax of \$5.

These taxes are of especial importance in the case of odd-lot sales made through stock exchanges because the effect of the dealer systems used on all the exchanges is to double the tax. A round-lot sale may be made directly by one investor to another² but in the case of an odd-lot the first investor sells to a dealer and the second buys from the dealer.

On the New York Stock Exchange and on most if not all outside exchanges, the rule is that the tax is passed on by the dealer to the odd-lot buyer so that in effect the odd-lot trader pays both the federal and the state tax when he buys and again when he sells, whereas the round-lot trader pays only when he sells. Prior to 1932, odd-lot dealers on the New York Stock Exchange absorbed the tax on stock sold, but when in that year both the federal and the New York taxes were increased from 2 cents a share to their present levels, the dealers agreed to charge the tax against the odd-lot buyer. At about the same time the odd-lot differential, which formerly had been $\frac{1}{4}$ point on a considerable list of stocks, was made uniform at $\frac{1}{8}$ point.

The transfer tax, both federal and state, is subject to two general criticisms, and the New York tax involves a third issue of considerable importance from the stand-

² About 8 per cent of round-lot shares which pass through the New York stock market are bought by specialists and resold by them.

point of that state and of those who trade through its stock exchanges. The first general criticism relates to the flagrantly regressive character of both federal and state taxes. The regression arises first from the failure to recognize difference in value of shares (except in the abrupt break in the federal and New York rates at \$20), and secondly from the doubling of the tax when transactions pass through dealers' hands, the bulk of such cases being odd-lot transactions. The treatment of no-par stock as equivalent to \$100 par is also regressive in effect, as many no-par stocks originated through the splitting of \$100 stocks.³

The second general criticism is more debatable. The objection is that the tax falls on the processes of exchange rather than on either production or consumption. It is paid not merely once a year like a property tax, or once for all like a tax on income or consumption, but over and over again whenever property of a specific kind changes hands. Aside from the revenue which it yields, its only effect is to discourage trade, or possibly to drive it abroad. It is one of the causes, although probably not the most important cause, of the growing thinness of the stock markets and consequent illiquidity of listed shares.

American policy in this regard is exactly the opposite of that which is followed in the leading countries of Europe. Holland exempts from the stock turnover tax

³ Partly as a result of this tax some companies have changed their stock from no-par to a low par value, with either no increase or an actual reduction in shares. In 1938 Cities Service Company changed its common stock from no par to a \$10 par value, one share of \$10 par value stock being exchanged for ten shares of the old no-par stock. In this connection the company stated: "A sale of 1,000 of the present common shares costs \$120 in brokerage fees and Federal and New York State transfer taxes. After the proposed change the expense of selling 100 of the new shares would be \$15.90." (Annual report of the corporation for 1937.)

all transactions by dealers and brokers except those which they execute on a commission basis. England levies a negligible tax on trades which do not result in a transfer on the books of the corporation and grants a low rate on transfers to dealers if they get rid of the stock within two months. In France, the turnover tax on margin transactions is one-half that on outright purchases. This difference between American and European tax practices is probably due in part to the fact that dealer operations are more important as compared with commission brokerage in Europe than in America. In addition, however, it reflects a fundamental difference in public policy with regard to speculation with suspicion of hostility. The fact that transfer taxes tend to reduce the volume of stock exchange transactions is regarded as an argument in their favor. So long as public policy in other matters, rightly or wrongly, reflects this viewpoint, the imposition of special taxes on sales of stock is logical and consistent. Investment operations and even speculation for the long swing are probably not seriously handicapped by the tax at present levels.

In the writer's judgment, the taxes—both federal and state—should be amended by substituting for the present stamp tax an *ad valorem* tax based on market price and computed from brokers' and dealers' records.⁴ This need not involve a change in the total amount levied, but would correct the undue burden on low-priced stocks. It would furthermore effect a very material saving of labor and other costs. It would also be desirable, in order to eliminate double taxation of small transactions, to exempt odd-lot sales by dealers of small organized exchanges, with the restrictions necessary to

⁴ Provision would have to be made, as it is now, for assessment through the transfer office in the case of stock not listed on exchanges or handled by registered over-the-counter dealers.

prevent any possible abuse of the exemption through dealers' splitting round lots in their own speculative operations. If it were administratively practicable, it would be logical to exempt dealer sales of round lots also, in so far as they are a legitimate exercise of the dealer function. However, it would be difficult to distinguish dealing with the public from personal speculation on the part of the dealers, especially where the odd-lot business is not separated from other types of security dealing, and the volume of business which would be affected is probably not large enough to make the change worthwhile. There is something to be said in favor of dealer exemption in the over-the-counter markets but here there would be even greater administrative difficulty in distinguishing bona fide dealer operations from speculation. In view of the present trend of government policy toward the encouragement of organized as against unorganized trading, the case for such exemption is not very strong.

The duplication of federal and state taxes on identical transactions is unfortunate. Five states levy taxes on stock market transactions, presumably on the theory that they constitute intrastate business. The federal tax is probably to be regarded as an excise and consequently as constitutional irrespective of the intrastate or interstate character of the business. But the regulation of stock exchanges under the Securities Exchange Act of 1934 is based on the theory that these transactions constitute interstate commerce. Although it may be possible to find warrant in constitutional law for both state taxation and federal regulation, it appears to the layman as though one authority or the other is operating outside its proper jurisdiction.

Without presuming as a layman to forecast the de-

cision of the Supreme Court in the event that such an issue should be presented to it squarely, the writer wishes to point out that economically the state tax, especially in the case of New York, is to a large extent a levy on out-of-state business. In the days between the American Revolution and the adoption of the present federal constitution the states were free to tax interstate commerce passing through their jurisdictions. No small part of the dissatisfaction with the Acts of Confederation arose from the fact that states with important seaports like Massachusetts, New York, and Pennsylvania were levying import duties on goods destined for consumption in other states. The inclusion of the interstate commerce clause in the Constitution was intended, among other things, to deprive these states of this privilege. The case of taxation of stock transfers is analogous in economic significance, if not in constitutional law. New York derives 8 to 10 per cent of its state revenue from the stock transfer tax, and more than half of it certainly falls on sellers of securities who are outside the state.⁵ While the seaboard states have no such advantage of location as they had in the case of imported goods mentioned above, it is obviously in the interest of the whole economy that the business of trading in identical stocks be concentrated in large markets. Since the stock exchanges presumably already pay their proportionate share of the cost of maintaining the state governments, in the form of business and property taxes on the exchanges and in the income taxes of their members, there is no equity in the state governments' practice of levying special taxes on the business, largely interstate, which is done through the exchanges.

⁵ Estimates of the proportion of sales on the New York Stock Exchange that originate outside the state run from 60 to 80 per cent.

CHAPTER VII

INTERSTATE COMPETITION

In addition to the issues discussed in Chapter VI, the New York state tax on stock transfers is subject to another criticism which, though it concerns primarily the fiscal authorities of that state and the stock exchanges located in the state, is also of considerable interest to the larger public which does its buying and selling of securities through the New York Stock Exchange and the New York Curb Exchange. This issue is the effect of the high level of New York state transfer taxes on the competitive position of the New York Stock Exchange and to a less extent that of the curb market, in relation to stock exchanges located outside the state of New York.

TECHNIQUE OF TRADING IN DUALY LISTED STOCKS

During the last two years there has been a substantial diversion of trade, especially the odd-lot trade, from the New York Stock Exchange to exchanges in other states, as will be shown below by data relative to the volume of trading in stocks that are listed both in New York and in one or more other stock markets. As the issue involves some other factors in addition to the difference in taxes, an understanding of it requires a survey of the method by which dually traded stocks are handled on exchanges outside New York. The following method is generally used:

When an odd-lot order is placed with an odd-lot dealer on one of these exchanges, he transmits it to a representative on the floor of his own exchange. This

representative, who may be either a broker or the dealer himself, waits 3 minutes and then buys or sells the stock at a price $\frac{1}{8}$ point away from the next round-lot sale price which appears on the New York Stock Exchange ticker.¹ On some exchanges a customer has the option of trading in this way or at a price established by the next round-lot trade on the local exchange. In practice, however, the use of the New York tape is generally preferred because in most stocks that have a New York listing the volume of round-lot business which is transacted on the floors of the smaller exchanges is too small to furnish an acceptable basis for fixing the odd-lot price. Round-lot customers prefer to have their trades executed in New York, and in the absence of a continuous local round-lot market, odd-lot customers naturally also prefer an execution based on the New York tape.² Moreover, since the local odd-lot dealer does not have a good local round-lot market, he generally does much of his offsetting round-lot trading in the New York market.

THE DEVELOPMENT OF INTERSTATE COMPETITION

The primary factor in the development of outside competition has been the influence of the New York state transfer taxes. As was stated above, these amount to 3 cents a share on stocks selling below \$20 and 4 cents on stocks selling above that figure, while the state tax in Massachusetts and Pennsylvania is 2 cents per \$100 of par value, and in other states which have stock exchanges there is none. Thus on a 50-share transaction in a stock

¹ Because the time-stamping devices that are used record only even minutes, this means 3 minutes from the beginning of the minute in which the order is received. The waiting time might be as short as a minutes and 1 second, or as long as 3 minutes and 59 seconds.

² Of course this does not apply to those stocks for which the local market is the principal market.

selling for \$30 per share, a speculator by trading in Chicago can escape paying a \$2 transfer tax to the state of New York on his purchase and the same amount on his sale.

This system of out-of-town trading against New York quotations has had the approval of the Securities and Exchange Commission,³ without which an outside exchange could neither introduce a new technique of trading nor expand the list of stocks that are traded on an unlisted basis.⁴

Active efforts on the part of out-of-town exchanges to develop a trade in stocks that had active markets in New York appear to have begun in the spring of 1937, immediately after a favorable ruling by the Securities and Exchange Commission on the applications of the Pittsburgh and Boston Stock Exchanges for the grant of unlisted trading facilities in a considerable list of New York stocks.

³ Securities and Exchange Commission (Securities Exchange Act of 1934), Releases Nos. 1139, 1298, 1312 (1937); 1634, 1658, and 1817 (1938).

⁴ Prior to the passage of the Securities Exchange Act of 1934, the New York Stock Exchange was able to control such competition through its control over the ticker device. While the Exchange did not use its control to prevent unlisted trading on other exchanges in stocks that were listed in New York, on the basis of the New York tape, it did in at least one case enforce the requirement that such trading be limited to the stock of corporations which had given their consent. If trading on the New York tape had grown to such proportions as to constitute a serious problem of competition it would have been a question of policy for the New York Stock Exchange to decide whether quotations should be supplied for this purpose. While there may be some question as to whether the control over the ticker service which is vested in the Securities and Exchange Commission by the act of 1934 is broad enough to restrict the freedom of the New York Quotation Company to choose its own customers, as a practical matter it is, of course, impossible for the Exchange to use its ownership of the stock of the quotation company to block the development of a type of trading which is approved by the Commission.

In May 1937 the Chicago Stock Exchange issued a booklet in which attention was called to the saving in taxes which a customer would make by trading odd lots in Illinois. The Boston Stock Exchange has carried on an especially vigorous campaign. State officials of Massachusetts cooperated with the exchange by enclosing with income tax blanks a leaflet emphasizing the savings that investors would make by specifying that their orders be executed in Massachusetts. Expanded facilities for odd-lot trading, in each case on the basis of the New York tape, have been established at Detroit, Philadelphia, Cleveland, and in other exchanges. In some cases the odd-lot business is done by specialists who trade odd lots of the stocks in which they specialize. In other cases there are a few odd-lot dealers, each of whom handles a long list of stocks. They do not, however, limit themselves to the odd-lot business and as a rule they do not compete with one another in the same stocks.

On April 12, 1938, the Chicago Stock Exchange offered free listing to about 60 corporations whose stocks were already listed in New York and waived the requirement for the maintenance of a transfer agent and registrar in Chicago. The letters in which this invitation was extended stressed the fact that on the Chicago Exchange the stockholder would be able to sell odd lots "and eventually we hope round lots" without paying state transfer taxes.⁵ By September 19, 1938, 29 of the corporations addressed had accepted the invitation to list their stock in Chicago. While many of these are corpora-

⁵ Since there is no state tax in Illinois on round lots, the deferment of the prospective saving on round-lot transactions indicates that the Chicago Exchange did not expect to be able to develop a round-lot market in the immediate future sufficiently broad to justify stockholders in using it for the sake of the saving in taxes.

tions whose main office is in Chicago, the list also includes such corporations as American Telephone and Telegraph, Chrysler, Goodyear Tire and Rubber, Western Union, General Motors, and Westinghouse.

The accompanying table gives some idea of the extent to which the out-of-town exchanges have succeeded in expanding their business in shares which are listed in New York and are traded on one or more outside exchanges.

PERCENTAGE OF VOLUME OF TRADE IN STOCKS LISTED IN NEW YORK TO TOTAL STOCK VOLUME OF EXCHANGES NAMED

Exchange	1937	1938	
	Year	First 6 Months	Year
Boston.....	64.9	78.8	79.9
Chicago.....	14.5	23.3	22.5
Cleveland.....	5.2	6.3	10.5
Detroit.....	30.0	42.1	46.9
Los Angeles.....	8.7	13.4	16.8
Philadelphia.....	72.6	72.6	81.6
Pittsburgh.....	8.0	14.5	14.4
San Francisco.....	22.5	26.8	39.6

The writer estimates from the figures given in the table that the total diversion, most of which is in odd lots, amounted to approximately 1 million shares in the first half of 1938, and nearly 4½ million for the year.⁶ This is over 4.5 per cent of the New York odd-lot dealers' volume for the year.

The difficulty which the New York odd-lot houses

⁶This conclusion is not quite valid because some of the diverted trade was in round lots. Published data do not make it possible to show odd-lot and round-lot volume separately, but the round-lot volume in mutually listed stocks is known to have been a small fraction of the total. Moreover, some of the growth was new business developed by the local exchanges, or diverted from their local issues. On the other hand, the comparison is between 1938 and 1937 and the ratios in 1937 were already affected by the diversion.

face because of outside competition is somewhat more serious than is indicated by the bare figures for the percentage volume of business already lost. This is true, first, because it is apparently growing rapidly, and, secondly, because of the character of the business that is being diverted. As was noted in Chapter IV, odd-lot operations in active stocks are very much more profitable for the dealers than those in inactive stocks. Indeed, a considerable proportion of the less active stocks do not yield on the average a gross profit sufficient to carry their proportionate share of the overhead cost of doing business. The business lost to the outside exchanges is concentrated in the most active and profitable securities, since the outside exchanges naturally tend to select for trading those New York stocks in which there is a prospect of a substantial volume of business. It is only the three New York houses that offer the public a complete service in all New York stocks (except those traded in 10-share lots), and these houses are naturally concerned about the growth of a type of competition which threatens to siphon off the profitable business and leave them to handle the unprofitable.

COMPARATIVE MERITS OF THE TWO SYSTEMS

The position taken by New York opponents of this system is, first, that odd-lot trading in outside exchanges on the basis of the New York tape is parasitical, that is, that the New York Exchange is fairly entitled to the odd-lot business which is directly dependent on its price-determining machinery; and, second, that the system of trading on the tape on the 3-minute rule provides an inferior odd-lot market and one which would not develop unless fostered by artificial means.

The first argument obviously is sound as far as it goes,

but would probably not be a controlling consideration if the diversion of business to outside exchanges carried with it demonstrable advantages to the trading public. The second argument is the crucial one, and is valid. The New York system of odd-lot trading is technically superior to that used on the outside exchanges in two respects. First, it makes provision for odd-lot trading in all stocks, whereas the odd-lot dealers on the outside exchanges provide service only in a restricted list of stocks selected on the basis of profitability. Unrestricted development of this type of competition might easily necessitate much higher differentials on the inactive stocks which are not traded elsewhere, partly because they are now subsidized to some extent by the trade in active stocks, and partly because the loss of volume involved in scattering the trade in active stocks among a number of exchanges would greatly increase the overhead cost per share of maintaining facilities, whether in New York or elsewhere, for trading in the inactive stocks.

Secondly, the New York system of trading odd lots on the basis of the price of the first round-lot sale after the order reaches the dealer affords the customer the maximum protection against the risk that the round-lot sale to which his odd-lot trade is geared will be influenced, to the odd-lot dealer's advantage and the customer's disadvantage, by the dealer's own round-lot trading. Suppose, for example, that an odd-lot dealer finds that he has a large number of customer's sell orders on which he will have to buy stock at $\frac{3}{8}$ point below the first quotation appearing on the tape after 3 minutes. He also finds that he already has several hundred shares of the same stock which he wants to sell. If he forces all

of his excess long inventory on the market immediately he may sell it all within 3 minutes and cause the effective price to be lower than it would otherwise be. If, on the other hand, he has to sell more odd lots than he has to buy on the basis of the next effective transaction, he can hold off his round lots and allow a higher price to be established. Under the New York system all that a dealer can do to influence the price at which he will execute a customer's order is to make one round-lot transaction or refrain from making it. Under the 3-minute rule he can influence the market to the extent of all the trades he can make within the 3-minute period.

ISSUES OF PUBLIC POLICY

The most obvious remedy for the situation from the New York standpoint would be the repeal or reduction of the New York transfer taxes or, failing that, remission of taxation on sales by dealers. A bill to repeal the transfer tax on odd-lot dealer sales was passed by the New York legislature early in 1938 but was vetoed by the governor. Passage of such an act is recommended in the report cited above.⁷

Readers of this study presumably are not primarily interested in the relative success of New York dealers and dealers elsewhere in getting business away from one another. However, aside from the whole question of competitive interest, the public has a direct interest in the policy of the Securities and Exchange Commission in sponsoring listed and unlisted trading on the smaller exchanges in stocks already having a good market in New York. It is interested in the maintenance of an adequate odd-lot market in all stocks and has a right

⁷ Footnote on p. 87.

to expect that a well-established and satisfactory market will not be undermined by the development of a new system, under official protection, unless the new system can offer a better service.

The issue may appear to be more important in regard to odd lots than round lots from the standpoint of the competitive position of the New York Stock Exchange, because so far the volumes involved have been larger. From the standpoint of the public interest, however, the implications of the position taken by the Securities and Exchange Commission with regard to round lots are even more significant. The position taken in the earlier decisions which permitted odd-lot trading on exchanges outside of New York on the basis of the New York tape were apparently based on the assumption that it makes no great difference to the odd-lot public (tax considerations aside) where its trades are executed. It was assumed that the gain or loss from trading on the next sale, as compared with the next sale appearing on the tape after 3 minutes, was a random factor.

This is not correct, for, as we have pointed out above, the New York odd-lot system affords the customer a better check-up on the price and protects him better against the possibility that the dealer will influence the round-lot market to his disadvantage. It is probably true, however, that for the average investor or speculator there are not many cases in which he loses because of these defects in the geared system of trading. And, as the Commission pointed out in several of its earlier rulings, the basic process of price-making on the primary exchange is not seriously affected by the diversion, since under either system the dealers' balances are liquidated in the New York round-lot market. The major issues of

public interest are: first, the danger of impairment of the service and increase of cost through diffusion of the business among too many agencies; and, second, the ethics of governmental action designed to influence the allocation of business between competitors.

In recent months, however, the Commission has taken a position with regard to round-lot trading which threatens a more serious impairment of the price-making mechanism. An understanding of the issues which have arisen in regard to odd lots requires a consideration of the whole issue of dual trading in securities which have a good primary market.

The Securities Exchange Act of 1934 contemplated the abolition at an early date of all trading in unlisted securities on registered stock exchanges. The Securities and Exchange Commission was empowered, however, to permit exchanges to continue trading in unlisted securities until June 1, 1936. The Commission was also empowered to grant additional unlisted trading privileges until July 1, 1935, in securities which were listed on some other exchange. The idea evidently was that since listing on one exchange would give the investor access to the information which the corporations are required to make public in their applications, unlisted trading on other exchanges would not involve the disadvantages that attach to unlisted trading in general.

Early in 1936, in its *Report on Trading in Unlisted Securities*, the Commission recommended the indefinite continuance of unlisted trading privileges, subject to the control of the Commission. The act was amended accordingly. Between April 14, 1937 and April 21, 1938, the Commission granted 49 applications from six exchanges for permission to trade on an unlisted basis in

stocks that were listed in New York. Of these permissions, 21 were for odd-lot trading only.

The important issue does not relate to the question whether the outside trading is on a listed or unlisted basis. Whether the smaller exchanges attract trade away from New York by offering free listing, as in Chicago, or by expanding the number of stocks traded dually on an unlisted basis, is an unimportant detail. The requirements of the public for publicity of assets, liabilities, and earnings are met as well in one case as in the other. In either case, it is the listing application filed with the New York Stock Exchange which gives the information.

The attitude of the Securities and Exchange Commission toward unlisted trading has apparently been growing more liberal. Whereas at first the Commission seemed to be primarily interested in preventing the diversion of trade to the over-the-counter market and in subsidizing local markets for local securities, it seems now to believe that dispersion of the trade in national securities into a number of local markets is a good thing in itself. This issue is raised sharply by the recent action of the Commission in approving the application of the Boston Exchange for the privilege of unlisted trading in round lots in 13 stocks,⁸ a decision which goes farther than previous rulings in the direction of breaking up the established system of centralized trading. Indeed, the Commission's findings in this case seem to the writer to go not only beyond the dictates of public policy but beyond the intent of the statute.

The Securities Exchange Act of 1934, as revised in 1936, authorizes the Commission to grant unlisted trad-

⁸ Securities and Exchange Commission (Securities Exchange Act of 1934), Release No. 1817 (1938).

ing privileges only when an applicant exchange shows "that there exists in the vicinity of such exchange sufficiently widespread public distribution of such securities and sufficient public trading activity therein to render an extension of unlisted trading privileges therein necessary or appropriate in the public interest or for the protection of investors." This restriction must mean that the grant to a given exchange of unlisted trading privileges in a given stock should be based on the existence of a clientele which prefers to trade in that stock on that exchange. It does not sanction the extension of unlisted trading privileges merely in order to break down the central market or to subsidize more expensive facilities for trading in local stocks, without any showing that there is any need for a change from the standpoint of investors and traders in the securities in question. Yet the Commission in the Boston case concedes that "investors do not wish execution at a price determined in the local auction market and demand a price established in New York." The Commission holds that the demands of the statute are met if "the local exchange supplies the facilities and encourages the use of an independent auction market," whether or not there is any willingness on the part of traders to use such a market! Because investors do not wish to trade in Boston on Boston prices, they are to be given facilities for buying and selling round lots in Boston at prices geared to the New York prices.⁹

⁹ The same, p. 7. The gearing of prices is done in several ways. The dealer may quote a price subject to the qualification that the order will not be executed at a price worse for the customer than the current bid or offer or last sale in New York by more than $\frac{1}{4}$ point; or, the dealer may quote a price and give the customer the option of trading at the price fixed by the next sale in New York. Or he may simply agree to trade at the next New York quotation. Finally he may accept an order which is simultaneously placed in New York as a limited order

There seem to be three distinct purposes back of the present policy of the Securities and Exchange Commission in fostering the development of the smaller exchanges at the expense of New York. They are: first, a desire to strengthen the local markets for local securities by subsidizing the trade in them at the expense of a wealthier exchange; second, the hope that individuals living in the area adjacent to the smaller exchange may enjoy a more satisfactory market in the securities of the corporations now traded in New York, if trading facilities are provided near at hand; and, third, a desire to weaken the preeminent position of New York as the leading center, not only of stock exchange activity but of corporate finance in general. Each of these issues requires separate examination.

Promotion of local exchanges. As to the first point, the writer believes it is neither sound policy nor the intent of Congress that the regulatory powers created by the Securities Exchange Act be used to divert well-established trade to new centers, merely in order to subsidize another kind of business. He also questions whether it has suddenly become impossible for the smaller exchanges, after many years of successful operation, to meet their legitimate operating expenses connected with trading in local securities out of the revenue which such trade will yield. If exchanges find themselves saddled with over-extensive facilities and an excessive burden of overhead costs because of expansion in days of prosperity, the proper remedy is not a governmentally fostered expan-

agreeing to cancel his own trade if the limited order is executed in New York on the next transaction and to trade at the price fixed by the next transaction if it does not execute the limited order. In the latter event, the New York limited order would be canceled.

sion of business at the expense of competitors who happen to be better financed, but a readjustment of their own financial structures. The list of exchanges which have operated in the United States for years includes a considerable number of local organizations whose volume of business has always been much smaller than that of the exchanges to which business of nationally traded stocks is being diverted from New York; hence it is clear that no specific volume large enough to be relevant to the issue can be assigned as essential for the maintenance of a stock exchange.

Service to the public. The second reason for the Commission's policy is the hope of improving the market service available to the public in stocks that already have an active market in New York by establishing additional facilities for trading in them. This is a proper objective, but it does not seem to be promoted by the policy which we are discussing. The Commission has repeatedly stated that it does not consider that the public interest or the protection of investors, within the meaning of the statute, are affected by variations in the incidence of the tax laws of different states. But aside from tax savings no material improvement in service to customers is cited in favor of the multiplication of markets. The most that is claimed is that the new service will be as good as the old. The economies of communication and transportation of securities, sometimes mentioned in this connection, are trivial and apply only to a fraction of the trade in question.¹⁰ As was shown above, the odd-lot market afforded under the 3-minute rule is technically inferior to that

¹⁰ As was pointed out above, corporations are not required to maintain local transfer registration offices in connection with listing at Chicago, and of course the same thing is true with regard to exchanges where securities are traded on an unlisted basis.

which is maintained in New York.¹¹ Moreover, as we have shown, the inevitable effect of an indefinite extension of this process of dividing up the trade will be to impair the odd-lot market in New York. The total cost of maintaining the system will become greater as it is broken up and the cost must be borne, in the long run, by the trading public.

The prime consideration, to either the investor or the speculator, is that he be able to trade in a market in which the maximum number of potential buyers compete when he wants to sell and the maximum number of potential sellers compete when he wants to buy. The ideal situation is one in which there is only one market for identical securities and in which that market is readily accessible to all who wish to bid or to make offers. This situation can be approximated if there are several markets which are tied together, either by arbitrage or by some system of mechanical gearing. But the best that can be hoped for from any such system of related multiple markets is that the market will be almost as good as it would be if there were one fully concentrated market. It is not clear to the writer, therefore, that investors or speculators who wish to trade in securities that already have a national market stand to gain anything (tax considerations aside) from the multiplication of markets for such securities.

This does not mean that it is necessary that all trading in all stocks should be conducted at the same center, nor that it is desirable to freeze permanently the present distribution of securities between different exchanges by

¹¹ The Commission cannot be censured seriously for its uncritical acceptance of the claims of the outside exchanges in this regard, since the New York Stock Exchange has never seen fit to appear at the hearings in opposition to the applications in question.

preventing exchanges from establishing facilities for trading in securities which have established listings elsewhere. Some of the diversion complained of by members of the New York Stock Exchange is a transfer of business to the place where it belongs, for in the past the New York Stock Exchange has sometimes listed stocks which enjoyed a good local market with the hope of creating a national market, or cutting in on the local market, rather than because there existed a broader demand than the local exchanges could well satisfy.

However, from the standpoint of those who buy and sell stocks, it is desirable that all trading *in the same stock* should be conducted at one center. The ideal distribution of function between the stock exchanges would involve allocation of different stocks to different markets, not a sharing of the business in the same stock. And if this principle is accepted, it seems obvious that the proper division of the business is for the local exchange to seek its expansion, not in *all* stocks for which the local trading constituency constitutes a respectable minority, but in those in which the principal interest is in its area, leaving the national exchange to handle those stocks in which there is a substantial nationwide trading interest, with no high concentration at one local center.

To avoid freezing the distribution and to afford opportunity for a local market to demonstrate its superiority, it is desirable that duplicate listing, or local unlisted trading, in stocks that are listed in New York, should be permitted experimentally, on the application of an outside exchange located in the area which, because of the location of the corporation's main place of business or the residence of the majority of its stockholders, has a plausible claim to be considered the most satisfactory

trading center. It does seem to the writer, however, that the same security should never be traded on more than two exchanges at once and should continue to be traded on more than one only long enough to determine which is the better market.

Financial decentralization. The third reason for the decentralization policy is hostility toward the concentration of stock exchange trading in New York. This is merely one phase of the hostility toward the financial dominance of New York which runs very far back in our history. The same attitude played a prominent part, for example, in the formation of the Federal Reserve System, and many critics have been disappointed that under this system the money markets of the country have not been decentralized as fully as was hoped. A full discussion of the pros and cons of this broad issue would carry us far beyond the scope of the present study. It is to be pointed out, however, that the merits or demerits of financial centralization are not identical for all types of financial activity. It is obviously desirable that there be a wide dissemination of commercial banking facilities, because a large part of the banking business is local in character and ready access to a banking office is almost a necessity for everyone who handles any considerable amount of money. The same considerations apply to building and loan associations. On the other hand, the concentration of life insurance business in New York and Connecticut and a few other states seems to have been in the public interest. The service to be rendered to the individual customer is so highly standardized that it can be handled adequately by local offices of distant concerns, leaving questions of general policy and investment management to large centralized offices. State

regulation of insurance in the public interest is rendered more economical and efficient by concentration in a few states.

The case of stock exchange trading is more nearly analogous to that of insurance than to that of banking. The contacts of a commission house with its customers involve principally a standardized type of operation which can be conducted efficiently by local offices of large wire houses or by local correspondents of firms located at the primary market, while the important business of price-determination can best be accomplished at a single center where the forces of demand and supply converge from the widest possible area.

Decentralization of investment banking. Our conclusions so far have been based almost entirely on the assumption that a marketing system should be planned to give the best service to those who buy and sell through that system. But it may be urged that the question whether the securities of a given corporation are most appropriately bought and sold in New York or in some one of the small exchanges involves larger issues than merely the best service to the trading public. It is bound up with the whole question of centralization or decentralization of underwriting and commercial banking. Is it worth while to sacrifice something in the way of efficiency in the stock market itself in order to bring about a better national distribution of financial power? The question is worth consideration because of the comparatively undeveloped state of our local agencies of investment finance.

In the field of short-term credit the American financial structure is fairly well balanced. There are strong local banks throughout the country tied together by a system of correspondent relations and by common access to the

national bond market. Funds flow back and forth from one section of the country to another in response to fluctuating local needs. Inter-bank borrowing, purchase and sale of bonds by banks in the national bond market, and the sale of commercial paper make it possible to adapt the local supply of funds to the local needs.

In the case of investment banking the financial structure is less symmetrical. The market for new securities of corporations with a national reputation is one of the best in the world, but facilities for providing equity capital and long-term and intermediate-term credit for borrowers who do not have access to the national stock and bond markets are not so well developed. The strong preference of investors for the securities of the best-known corporations, and those commanding the best market, tends to draw investment funds away from local centers into the national market, and the investment banking institutions of the national market have shown more interest in financing big combinations (and in the past in finding foreign opportunities for placing funds in large blocks) than they have in developing facilities for placing them in smaller blocks with smaller borrowers in this country.

A strong national money market is essential for the proper financing of great national industries. The development of strong local institutions is equally advantageous from the standpoint of the financing of local industries which are not well enough known to market securities outside their own territory. The development of stronger local stock exchanges is an integral and essential part of any program looking to the strengthening of local money markets and of better facilities for the financing of local industries.

The distinction between a local and a national corpora-

tion is easy to draw in theory, though there are borderline cases in which it is difficult to apply it. There are many corporations which carry on their productive operations, sell their goods, employ their labor, and do their borrowing all within a restricted area. Outside that area they are little known and cannot attract the funds of investors or borrow from banks, no matter how good their financial records. There are other corporations which, in an economic sense, have no local domicile. The leading railroads, public utilities, holding companies, insurance companies, and industrials are truly national institutions. In many cases they carry on productive operations in many communities or market their products in a nationwide market. Their stockholders are scattered throughout the country. To raise new capital they must seek the services of investment bankers who have access to a reserve of funds contributed by investors throughout the nation. They maintain financial offices in New York City, not because they are local New York institutions, but because they are national institutions and the banks, investment houses, and stock exchanges of New York constitute a truly national financial organization. If, because of the size of its operations or the diversity of its clientele, a business organization finds it most advantageous to do its borrowing and its banking in the national market, the appropriate place to centralize transactions in its securities is on the national stock exchange.

On the other hand, if a corporation, because of the concentration of its activities in a limited area, or because of its small size, can do its financing better in its local money markets, that corporation's securities can most appropriately be traded on a local stock exchange. From the standpoint of the corporation's interests—as distinguished from those of its individual stockholders—the

only advantage of listing—aside from a certain amount of advertising—is the fact that an active market facilitates the raising of funds. Listed securities are acceptable as collateral at banks on a better basis than those which have no ready market. Securities listed on local exchanges command this advantage at local banks, but do not have it to anything like the same extent if the borrowing is done in banks in other localities.

The present situation can probably be improved by the development of stronger local investment banking institutions which can finance local needs out of local sources better than by drawing the nation's savings into the New York market and then distributing them back to the local industries. In the development of such a program, the local stock exchanges may play an essential role. But the success of the program will not be promoted by encouraging the local stock exchanges to seek their expansion in diverting from New York the trade in securities of corporations which look for their financial support to the national market. Such corporations as the Pennsylvania Railroad, General Motors, United States Steel, American Telephone and Telegraph, General Electric, North American, Standard Oil of New Jersey, Anaconda Copper, and Sears Roebuck and Company are national institutions, whether viewed from the standpoint of their customer relationships and financial operations, or the distribution of ownership of their stocks.

To split up the business of trading in the stocks of these national corporations among half a dozen stock exchanges will not give the corporations any better facilities for carrying on their financial business; it will not improve the liquidity of the securities or make them more attractive to stockholders, nor will it in any way check the tendency of the New York money market to

draw to itself a high proportion of the liquid funds of country banks and local investors. The only conceivable way in which it tends to promote the development of local financial institutions is by giving some additional revenue to the broker members of the smaller stock exchanges. But just in proportion as it does this, it diverts the energies of the members of these exchanges from their real business in developing local markets for local securities. Some spokesmen for the local exchanges have urged that the increase in the proportion of their trading which is in dually listed securities reflects the development of new local business in these issues rather than a diversion of trade from New York. To the extent that this is true it probably means a diversion of the interest of local speculators and investors from local securities into national securities—a tendency which runs counter to the primary purpose of the whole policy. And to the extent that the increase of business on the local exchanges does represent a diversion from New York it means that the national securities market is being impaired without a corresponding improvement in facilities elsewhere.

The writer's view is that the primary function of a stock exchange is to serve the holders of existing securities, and that its principal secondary function is to serve the corporations whose securities are listed. The local stock exchanges are entitled to some protection against the transfer to New York of the market for stocks for which the local facilities are adequate from the stockholders' standpoint, and the issuing corporation's financial interests are in the local money market. If the exchanges do not have and cannot develop a sufficient volume of this sort of business to support themselves there is no economic justification for an indefinite continuation of their existence.

CHAPTER VIII

SPECIALIST ODD-LOT DEALERS

It was noted in Chapter I that a small proportion of the odd-lot business on the New York Stock Exchange is handled by members who combine the functions of the odd-lot dealer with those of the specialist in the round-lot market. An understanding of this method of dealing in odd lots requires a brief description of the operations of the specialist.

THE WORK OF THE SPECIALIST

A specialist is an Exchange member who confines his trading to a particular stock or group of stocks in which he is registered as a specialist. With reference to these stocks, he combines the functions of a broker and a dealer. As a dealer, he makes transactions for his own account, while as a broker, he is entrusted by other members with the execution of various types of orders, chiefly limited price orders and stop-loss orders.¹

Many situations arise which lead Exchange members to entrust their orders to the specialist for execution on a brokerage basis. The price named in a limited or stop-loss order is frequently remote from the current price, and may not be reached for hours or days. By entrusting such orders to the specialist who always stays at the post where his stocks are traded, another member may relieve himself of the burden of waiting at that post until the market reaches a designated price. As a broker may hold limited and stop-loss orders for stocks that are

¹ See App. C for explanation of these terms.

traded at widely separated posts, it is virtually necessary that he depend on the specialist for execution of such orders. Even in the case of "market" orders, a broker with orders to buy and sell stocks that are traded at various posts on the large floor will often find it advisable to entrust part of the orders to specialists for execution, especially at the opening of the market. For the execution of orders taken as a broker, the specialist receives the commission regularly charged by brokers on trades executed for other members of the Exchange.

In addition to his activities as a broker, the specialist buys and sells round lots as a dealer and is expected to "make a market" by putting in a bid and an offer whenever no bids or offers are made by other members at a reasonable "spread." In inactive stocks, the quoted bid and asked prices are very frequently those quoted by the specialist; in the case of active stocks, other bids and offers generally predominate. By making a market in this way the specialist, if he is skillful in judging the market for his particular security, can make a profit out of the differential between the bid and asked prices. When a commission broker receives an order to buy a round lot "at the market" he may begin by bidding $\frac{1}{8}$ above the standing bid, but if no one accepts his bid he will bid successively higher prices until he obtains the stock. If no better price can be obtained, he buys at the offered price. Likewise, a market order to sell must be executed at the bid price unless it can immediately be executed at a higher price. Thus the trader or investor who places round-lot orders "at the market" tends to buy at the top of the "spread" between the bid and asked prices and sell at the bottom, while the specialist by filling such orders on his own account tends to buy at the bottom of the

spread and sell at the top. He will lose on some transactions but the price spread is always working in his favor. The less active a stock and the better his judgment of the market, the wider the spread on which he can operate.

There are now 322 specialists on the New York Stock Exchange. In the majority of stocks there is only one specialist, although in the case of some active stocks there are three or four. Only three specialists deal in the inactive stocks which are traded at Post 30, where the unit of trading is 10 shares.

SPECIALIST ODD-LOT DEALERS

On the New York Curb Exchange and on most other American stock exchanges, there are no dealers who operate exclusively in odd lots. The market in odd lots is made by round-lot specialists. Frequently the specialist confines his odd-lot dealings to the stocks in which he is registered as a round-lot specialist, but on some exchanges this is not true. The specialist odd-lot dealer, like the odd-lot dealer firms, stands ready to sell odd lots at a fixed differential above, or buy them at a differential below, the price registered in the next round-lot sale.² On some exchanges, he guarantees a market; on others, he may refuse to buy or sell at the differential if he wishes.

On the New York Stock Exchange, the specialist odd-lot dealer system is used at Post 30, where three broker-dealers compete with one another in the full list of 10-share stocks, both as round-lot specialists and as odd-lot

² This statement applies to odd-lot transactions in stocks which have a primary round-lot market on the exchange in question. For discussion of the method of trading odd lots of dually listed stocks used on most exchanges outside New York, see Chap. VII.

dealers. The differentials at Post 30 are higher than those charged in the 100-share market, ranging from $\frac{1}{4}$ point on stocks selling at from \$1 to \$10 up to 2 points on stocks selling above \$200. In the 100-share market there are five specialists who are registered as odd-lot dealers, each trading in a limited number of stocks. In general, these are the stocks in which the specialist-dealer acts as a round-lot specialist, though one

ODD-LOT TRANSACTIONS ON THE NEW YORK STOCK EXCHANGE

Date	Number of Shares (Purchases plus sales)				Percentage of Total		
	Segregated Odd-Lot Dealers	Specialist Odd-Lot Dealers	Post 30 Special- ists	Total	Segregated Odd-Lot Dealers	Specialist Odd-Lot Dealers	Post 30 Spe- cialists
1936: March 2 to December 31	104,736,805	1,955,777	76,826	106,769,408	98.10	1.83	.07
1937: January 1 to December 31	131,665,125	2,661,570	79,547	134,406,242	97.96	1.98	.06
1938: January 1 to August 31	61,520,154	1,422,897	31,525	62,974,576	97.69	2.26	.05

or two specialists handle odd lots of certain other stocks as well. These specialist odd-lot dealers do not compete with one another but they are, of course, in competition with the three odd-lot houses. Four of these independent dealers have been in the odd-lot business for over 25 years, while the fifth was registered in August 1938. The most active stocks that are handled in this way are United States Steel and Chrysler. The differential charged by the odd-lot dealer specialists is uniformly $\frac{1}{8}$ point.^a The accompanying table shows the distribution of the odd-lot business in recent years among

^a Until recently, however, one firm absorbed the transfer tax on its odd-lot sales, which, as was noted in Chap. I, is passed on to the customer by all the odd-lot dealers on the New York Stock Exchange, as it is by odd-lot dealers on most other exchanges.

the three odd-lot dealer houses, the four odd-lot dealer specialists, and the three specialists at Post 30.

COMPARISON OF THE TWO SYSTEMS

While the two systems have been operating side by side for many years, special interest attaches to a comparison between them at the present time because of the issuance by the Board of Governors of the Federal Reserve System, in March 1938, of credit regulations which seem to encourage the further development of the system. It will be remembered that under the Securities Exchange Act of 1934, the Board of Governors of the Federal Reserve System was given control over the margin requirements of brokers on registered stock exchanges and over the amount of credit that may be extended by banks on the collateral security of stocks that are listed for trading on such exchanges. In addition to the well-known regulations governing the margins required of private individuals who deal through brokers, the Board has issued an extensive series of detailed regulations concerning the credit that may be extended in connection with transactions between professional dealers and brokers. These rules are brought together under Regulation T of the Board of Governors of the Federal Reserve System, which deals with credit extended by others than banks, and Regulation U, which covers credit extended by banks. Under these regulations, all odd-lot dealers, including odd-lot specialist dealers, are exempted from the usual credit restrictions with respect to borrowing operations which arise from the necessities of their odd-lot business.⁴

⁴ This exemption is based primarily on the fact that the odd-lot dealer must carry a large "box" of stock certificates over and above his trading inventory for the purpose of "making change" in stocks. That is, he must be prepared to deliver odd lots of stock to those who have bought

This feature of the regulations has not given rise to any controversy. On March 21, 1938, however, an amendment to Regulation T was issued under which specialist odd-lot dealers operating joint accounts with other exchange members are exempted as to all their business in stocks in which they are registered as odd-lot dealers and not merely as to their odd-lot business.⁵ Prior to that time, the regulations had required that in joint adventures each participant must be responsible for a proportion of the financing corresponding to his proportion of the profits in the venture. With respect to this required proportion, his borrowings were restricted in accordance with the general regulations covering the extension of credit to dealers. Under the revised regulation, a specialist who is registered as an odd-lot dealer may be financed by another exchange member without reference to his share in the profits. The effect of the change has been to give to specialists who are also odd-lot dealers an advantage in the financing of their round-lot business which is denied to the other specialists. This advantage accrues to any specialist who is registered

from him, without waiting in every case to receive delivery of stock which has been sold to him and convert it into certificates of the proper size. To protect himself against fluctuations in the value of the box, an odd-lot dealer borrows the stock which he needs to carry above his normal inventory, putting up cash collateral. Thus the profit or loss from fluctuations in the value of the box accrues to the lenders of the stock, not to the dealers. Credit obtained for these purposes is not regarded as speculative. Hence, it is exempted from the scope of regulations which are intended to control the volume and character of speculation. Of course the odd-lot dealer also must carry "long" inventory of part of the stocks in which he deals, especially when the public is selling on balance, but the amount of credit used for this purpose, at least in the case of the segregated dealer firms, is not sufficient to make exemption from Regulations T and U necessary.

⁵Regulation T of the Board of Governors of the Federal Reserve System, sec. 4 (f), par. 2.

as and acts as an odd-lot dealer, no matter how small the proportion of his odd-lot business is to his round-lot business. As a consequence, at least two specialists applied for registrations as odd-lot dealers on the New York Stock Exchange and one such request was granted in August 1938.

There is no indication that either the Governors of the New York Stock Exchange or the Board of Governors of the Federal Reserve System would look with favor on an indiscriminate granting of odd-lot trading privileges to specialists, especially in view of the known unfriendliness of Washington authorities toward the combination of dealer and broker functions.⁹ Regulation T does, however, unquestionably put a premium on such a development.

Although the volume of odd-lot business transacted by dealer-specialists on the New York Stock Exchange is only a small fraction of the total, the granting of a new application in the summer of 1938, the incentive to such applications given by Regulation T, and the increase of the proportion of business done by the specialist odd-lot dealers from 1936 to 1938 make a comparison of the intrinsic merits of the two systems of more importance than it would have been a year or two ago. Of course, such a comparison of the advantages of the two systems from the standpoint of public interest does not necessarily imply that the system which seems better should be introduced everywhere to the exclusion of

⁹ Compare Segregation Report. It seems probable that the amendment of Regulation T was due to conditions on other exchanges where the specialists and odd-lot dealer functions are not separated, and that the specialist odd-lot dealers on the New York Stock Exchange, who were not regarded as an important part of the machinery, more or less accidentally got the benefit of the ruling.

the others. Established institutions which are functioning in a reasonably satisfactory manner need not be uprooted for the sake of small gains, even though a better scheme could be set up if one were starting afresh to plan the whole system. Moreover, conditions differ on different exchanges. For instance, it may well be true, as is claimed, that the odd-lot specialist dealer system is a practical necessity on some stock exchanges because there is not a sufficient volume of business to support completely specialized odd-lot dealer firms, a condition which of course does not exist on the New York Stock Exchange.

The exercise by the specialists of both broker and dealer functions in the round-lot market has been criticized severely because it is assumed that the specialist's confidential information as to the state of resting orders gives him special advantages as a dealer, and because his interest as a dealer must sometimes conflict with the interests of his brokerage customers. Whatever merit there is in this criticism applies still more to the combination of brokerage functions with the business of the odd-lot dealer. For in the round-lot market, the specialist does not act as both dealer and broker in the same transaction and he cannot "trade with his book" (that is, execute a customer's order by buying or selling the stock for his own account as a dealer) without first announcing the trade and giving preference to any one else who wants it. But if he is both a round-lot specialist and an odd-lot dealer in the same stocks, his manner of executing his brokerage round-lot orders affects the volume of odd lots he will have to take or sell at a given price. Consequently, conflicts arise from time to time between the interests of his round-lot brok-

erage customer and his own interest as an odd-lot dealer.

For instance, if in his capacity as a broker he has a round-lot order to sell at the market and also has customers' orders to sell odd lots at the market, he will have to buy stock in odd lots at $\frac{3}{8}$ below the price at which he sells the round lot. In this case, his interest as an odd-lot dealer is to execute his customer's round-lot sale at as low a figure as he can, whereas as a broker his obligation is to execute it at as high a price as he can. His interest conflicts with those of both his brokerage round-lot customer and his odd-lot customers. It was pointed out in Chapter II that, even under the segregated system, a conflict of interest sometimes arises between an odd-lot dealer and his odd-lot customers with regard to the execution of a round-lot sale, and that a special rule covering such cases has been adopted by the three dealer firms.⁷ This situation arises only when the odd-lot dealer has to take on balance more than 100 shares in odd lots at a price determined by his own round-lot sale, or to sell on balance more than 100 as a result of his own round-lot purchase. In the case of the specialist odd-lot dealer, the conflict arises not only in this case but also whenever he has to take more odd lots than he sells as a result of the execution of a brokerage customer's round-lot selling order, or sell more odd lots than he buys as the result of executing a customer's round-lot buying order. In such a situation, the specialist has a conflict of interest with both his round-lot brokerage customer and his odd-lot customer.

In short, the specialist odd-lot dealer must act both as agent and as principal in transactions that are so closely

⁷ See pp. 22-23 for discussion of this rule.

interrelated as to create a conflict of interest of a type which is somewhat inconsistent with the general principles of the law of agency. When he acts as an agent in a round-lot transaction that fixes the price at which he deals on his own account in the odd-lot market, the transactions in which he acts as principal and as agent are technically independent of one another. But as a dealer his interest in the odd-lot market is nevertheless inextricably entangled with the results of his operations in the round-lot market as a broker.

Another point sometimes urged against the specialist odd-lot dealer system is that a specialist odd-lot dealer has an unfair advantage in his round-lot trading because of his knowledge of the state of the odd-lot book. This point has much less application to the operation of the specialist odd-lot dealers on the New York Stock Exchange than it has on the smaller exchanges, because on the smaller exchanges the specialist odd-lot dealer may have the entire odd-lot book in a given stock whereas in New York he has only a small fraction of it. A more important criticism of the combination of functions is that the specialist's knowledge of the round-lot book gives him special advantages in disposing of the round-lot balances which he accumulates in his odd-lot operations. For example, if there is a large round-lot stop-loss order to buy above the market and he has a balance to sell, he may postpone his own sale until the stop-loss order is "touched off" and then sell his stock at a better price, though by selling his balance first he might prevent the stop-loss order from becoming effective. On the other hand, he is sometimes put at a disadvantage in his round-lot trading because he must

give his brokerage orders priority over his own balances at the same price.

From the standpoint of operating costs, the concentration of business in a few large dealer firms apparently has the advantage. It is certainly more economical from the standpoint of the commission houses since it enables them to settle their odd-lot trades in all stocks with the same house. If the Stock Exchange clearing house were used for odd-lot settlement, as would probably be necessary if the bulk of the odd-lot business were in the hands of specialists, one clearing firm which had sold a large amount of stock in odd lots would be likely to receive instructions from the clearing house to deliver smaller odd lots to a number of other members. This would involve an increase in clerical work in making deliveries and also additional work both for commission houses and for transfer offices in supplying certificates in the proper denominations³ because of the large amount of work involved in making and accepting deliveries of odd amounts of stock. Settlements with one house result in very important savings to commission houses.

So far as the odd-lot dealers' operating expenses are concerned, the writer is unable to say which of the two systems, as they are now conducted, is the more costly. However, any economy which is effected by the specialist odd-lot dealers as compared to the dealer firms must be due largely or entirely to a difference in service rendered. As was pointed out in Chapter II, the segregated dealer firms incur very heavy expenses in compiling permanent records, for each stock, of the price and the hour and minute at which successive round-lot transac-

³ See App. B.

tions are reported on the ticker tape and making the information contained in these records available to customer firms. No similar service is available on exchanges where the business is split up among a large number of specialists.

One other point which apparently has been overlooked in the current discussion is perhaps worth noting. Anyone who accepts the conduit theory of the desirable characteristics of odd-lot dealers' round-lot trading necessarily must favor the segregated odd-lot dealer system over the specialist odd-lot dealer system. For, according to the conduit theory, an odd-lot dealer should be entirely neutral toward the market, transmitting to it as quickly and as fully as possible the price influence exerted by shifts in the balance of public odd-lot buying and odd-lot selling. A specialist, on the other hand, is responsible for maintaining an "orderly market," which means that he must protect the price structure against sharp fluctuations due to alternations in the balance of public buying and selling. Withholding is objectionable on the part of the odd-lot dealer and it is mandatory on the part of the specialist. As was noted in Chapter V, the writer is not convinced of the validity of this approach, but it may be worth consideration by critics who are more impressed than he is by the arguments for the conduit theory.

Finally, it is to be noted that although the specialist odd-lot dealer system would split the business among a larger number of dealers, it would actually decrease the amount of competition. Under the present system, there is keen competition among the three houses for business in the stocks which furnish over 90 per cent of the odd-lot volume. Under the specialist odd-lot dealer

system, as it is operated in New York, no stock is handled by more than one specialist dealer (except at Post 30). In many stocks, there is only one specialist, and only a very few of the most active stocks are handled by more than three specialists. It seems certain therefore that the loss of stability and financial responsibility which goes with large size would not be offset by any gain from the standpoint of competition.

Against these elements of superiority of the specialized dealer system over the scattering of the business among the round-lot specialists, two advantages which are claimed for the specialist system must be considered. First, the splitting of business in all stocks among three separate dealer firms results in a failure to realize the maximum offset of odd lots against other odd lots. There is thus necessitated more round-lot trading than would be necessary if all odd lots in the same stock were handled by the same firm. This fact is not important in the case of the active stocks, which furnish the bulk of the business, but it is of some significance with reference to the less active stocks. In the case of the least active stocks, constituting about two-thirds of the number of stocks but contributing only about 6 per cent of the volume, this difficulty is met by the three segregated dealer firms by the system of syndication described in Chapter IV. Syndication involves a certain amount of expense for accounting between dealer firms, since the clearing is done by the house which receives the order, not the one which actually buys or sells the stock. Syndication also creates some extra work in the correction of errors and the adjustment of claims. This direct expense, which is a very minor item, would be saved if the specialist odd-lot dealer system became the standard method.

Secondly, the competition or potential competition of specialists is a check on any possible tendency toward undesirable monopolistic practices on the part of the large dealer firms. This is not an argument for registering specialists as odd-lot dealers all along the line because, as was pointed out above, such a change would actually reduce the amount of competition. But it does qualify the conclusion which might be drawn from the preceding discussion in favor of abolishing specialist odd-lot dealers entirely.

The writer sees no reason to suggest any disturbance in the present situation so far as the New York Stock Exchange is concerned. The odd-lot dealer system requires large volume in order to operate successfully but it is not jeopardized by the present competition of five specialist odd-lot dealers doing less than 3 per cent of the business. With the exception of one firm, the specialist odd-lot dealers have long experience in the odd-lot business, and the writer has heard no serious criticism of the part they play in the market mechanism. If, however, the round-lot specialists should begin to seek registration as odd-lot dealers in such numbers as to threaten impairment of efficiency or the disintegration of the present dealer system, it would be necessary for the Stock Exchange to review its policy and take account of such considerations as those discussed above.

CHAPTER IX
COMPARISON WITH ALTERNATIVE
SYSTEMS

The basic principles of the odd-lot dealer system, as it is operated by the three principal dealers, may be summarized as follows:

1. Odd-lot bids and offers are not matched directly against one another as they are in the round-lot market; instead, the public trades only with registered odd-lot dealers.

2. Prices for odd lots are determined automatically by the prices made in the round-lot market. The effective round-lot transaction is the next round-lot sale after a customer's order is received by the odd-lot dealer.

3. A differential of $12\frac{1}{2}$ cents a share is added to the round-lot price on public odd-lot buy orders, and subtracted from the price on odd-lot sell orders. The transfer taxes on dealers' sales of odd lots are also charged to the buyer.

4. Execution of orders is assured, regardless of the volume that may be involved and the extent to which orders run in the same direction, in case there is a round-lot sale which establishes a price at which the order is effective.

5. The dealers are engaged exclusively in the odd-lot business.

6. The dealers offer service in all stocks in which the unit of trading is 100 shares.

7. The dealers provide an elaborate system of re-

ording the tape time and price of every round-lot trade so that the customer may be assured that his order has been properly executed.

These features, which are closely interrelated, combine to form a system which is in many respects a model of commercial efficiency. It is planned well and administered well. The principal purpose of this chapter is to consider whether it is practicable to secure for the public even better service than it is now offered.

An appraisal of the merits of the odd-lot dealer system, if it leads to any definite conclusions, must compare the system with some definite alternative which may be either a purely hypothetical organization, a system used elsewhere, or the present system with modifications of some of its details. We shall consider first the probable advantages and disadvantages of a complete reorganization involving the creation of an auction market for odd lots, and in the second section the possible gains and losses from reducing the amount of trading in the round-lot market so as to reduce the proportion of odd-lot trading. In the third section we shall comment on the merits of the present organization as compared with those of other odd-lot dealer systems. In Chapter X consideration will be given to the possibility of improving details of the present system.

AN ODD-LOT AUCTION MARKET

It would be possible to organize, alongside the round-lot market, a secondary auction market with a 1-share unit of trading in which bids and offers in odd lots would be matched directly against one another.¹ The prices

¹ Such a market has been suggested by Dr. Kemper Simpson (*The Margin Trader*, p. 27). However, the only advantage claimed for such a market by Dr. Simpson is that it would discourage speculation by af-

in such a market would be made independently of the round-lot market, but could not get far out of line with the round-lot prices because if they did floor traders and outside speculators would be quick to snatch a profit by buying in the market that was lower and selling in the one that was higher. Some stock exchange firms would probably specialize in such arbitrage operations, either in all stocks or in a few, and other traders, both members and non-members, would engage in them intermittently. As all bids and offers would be competitive no odd-lot arbitrage would have any established clientele or any responsibility to maintain a continuous market. Professional dealing would be purely a "scalping" business, and there would be no guarantee of the execution of an order in case of a difference between the amount of stock offered in odd lots and the amount bid for. The average profits earned in arbitrage would have to be higher than those now needed by the odd-lot houses because the volume handled by an individual operator would be much smaller. In some cases (usually in inactive stocks) the public would be able to save the cost of the odd-lot differential because buy orders and sell orders would match directly in the odd-lot auction inside the spread of the round-lot market. In other cases the difference would be greater than $\frac{1}{8}$ point. The differential cost to the public of trading in odd lots would be concealed in the spread between bid and asked prices, which would ordinarily be wider in the odd-lot than in the round-lot market, though in the case of inactive stocks it would occasionally be narrower.² This cost

for a poorer service. If this is what is desired there are a great many possible ways to go about it.

² Obviously the quoted bid and asked prices in a 1-share market would not be very informative as to the true state of the market.

would fluctuate with the activity of the stock and the keenness of competition between arbitrage operators. The difficulty of executing orders would be serious in the case of inactive stocks, because, as was noted in Chapter IV, the odd-lot trade in these stocks tends to run one way much more than in the active stocks, and because arbitrage operators would have to take greater risks if they made a continuous market by trading back and forth between the odd-lot and the round-lot market than they would in stocks with a close round-lot market. The public could not gain more than it would lose under such a plan unless (1) there was very extensive competition among arbitragers, and (2) the total operating cost was lower than it is under the present system.³ The amount of competition that would develop is conjectural, but something can be said about the costs.

The operating costs of the commission houses in handling their odd-lot business would be very materially increased over what they now are. In the first place odd-lot orders would have to be sent to brokers who would bargain with other brokers on the floor, whereas now they are simply transmitted to an odd-lot house for automatic execution. In the second place, clearing house sheets and tickets would have to be prepared and odd-lots would have to be delivered to and received from a great number of other commission houses and floor traders. The cost of effecting an odd-lot transaction on the floor and the clearance cost would be the same as that of a round-lot transaction, but the delivery cost would be higher per transaction because of the added

³ There would be some saving in transfer taxes because some sales would be made directly by one investor or speculator to another without an intermediate sale through a dealer.

work involved in procuring certificates for odd amounts. All classes of cost would of course be much higher per share than in the round-lot operations. Undoubtedly, therefore, the commission rates per share would have to be considerably higher than they are at present.

In the writer's opinion, considerations of cost are decisive against any such plan. The cost to the public might seem to be lower, but that would be because the differential would be concealed in the price. The service would be inferior except in the most active stocks because of the uncertainty as to whether orders would match and the absence of any agency which would have a responsibility to maintain continuous and satisfactory service. Moreover, in times of crisis, when the commission houses are swamped with business, they would tend to curtail the odd-lot customers' service or neglect it in favor of the round-lot trade. It is only because of the presence in the market of strong dealer firms with a permanent stake in the odd-lot business that it has been possible for the odd-lot public to obtain continuous service, almost unimpaired in efficiency, in such markets as those of October-November 1929 and September-October 1937.

THE SIZE OF THE UNIT OF TRADING

The suggestion is frequently made that the Stock Exchange could improve its service by making more effort to adapt the unit of trading to the volume of trading or the price of the stock. As it stands now, except for the very inactive stocks which are traded in a 10-share unit at Post 30, the unit is 100 shares, regardless of whether the price is \$1 a share or \$200 a share, and regardless of whether the volume averages 100 shares a

day or 10,000 a day. Might it not be worth while to have one or more 50-share posts, or 25-share posts, or both, making it possible for less than 100-share units to be traded in directly?

To facilitate study of the probable effects of a change in the unit of trading, the three odd-lot houses compiled for the writer a summary of the number of shares of different priced stocks bought and sold in blocks of different sizes during selected weeks. The periods chosen were the weeks which ended respectively November 14, 1936, September 11, 1937, and June 11, 1938. The results are summarized in the table in Appendix D, pages 182-88.

The following conclusions are evident: First, as was to be expected, the higher the price of the stock, the smaller is the typical lot. For the three sample weeks, 7.5 per cent of the transactions in stocks priced at less than \$5 were in lots of more than 50 shares, and 4.7 per cent were in lots of less than 10 shares. In the case of stocks priced at \$100 or over, only 2.5 per cent of the transactions were in lots of over 50 shares, while 31.5 per cent were in lots of less than 10 shares.

Secondly, a very heavy proportion of the odd-lot business is concentrated in 50-share units. For the three weeks for which we have data, 50-share lots accounted for 41.5 per cent of share volume, and 22.5 per cent of transactions. If we assume that with a 50-share unit of trading, every transaction involving more than 50 shares would be broken into a 50-share round lot and an odd lot, the transfer of volume from the odd-lot to the round-lot market would be 48.6 per cent of present odd-lot volume, while the reduction in the number of odd-lot transactions would be only 22.5 per cent. The

actual decrease, both in the number of odd-lot transactions and in the volume, would presumably be slightly greater since some of those who bought or sold blocks close to 50 shares might have traded exactly 50 shares if that had been the unit of trading.

Several advantages are claimed for a reduction in the unit of trading, especially in high-priced and inactive stocks. In the first place, in the case of inactive stocks the spread between the quoted bid and asked prices would be narrowed, since the customers' bids and offers of 50-share or 25-share units would enter the auction. In very inactive stocks the spread between the bid and asked prices in the round-lot market is nearly always wide, and the price varies considerably between sales, though the range of prices over a long period is not necessarily any greater than it is with the active stocks. Because of the width of the price spread, if an odd-lot customer places an order to be executed "at the market" on the next round-lot sale there is considerable uncertainty as to the price at which it will be executed. On the other hand, if he places his order at a limit there is uncertainty as to whether he will get an execution unless the limit is very low on a sell order or very high on a buy order.

When the bid and asked prices for 100-share lots are respectively 50 and 54, but one customer is offering 50 shares at 52 or less and another is bidding 52 or more for 50 shares, these two orders would be matched directly if the unit of trading were 50 shares. Under the present system they cannot be executed till there is a round-lot trade to establish a price, and even then they may not both be executed.⁴ If one is offering 50

⁴ This situation has now been met, in large part, by the establishment of the basis market described above, pp. 27-28. Moreover, any consider-

shares at 53 and another is bidding 52, the trades would not be executed, but the market would be quoted 52 bid and 53 asked, instead of 50 bid and 54 asked, which, it is argued, would give inquirers a better idea of the market situation.

Besides an improvement in the market for inactive stocks, two other advantages from a lower unit of trading have been suggested. One is that it would result in a saving to the 50-share or 25-share trader of the differential which he now pays to secure an odd-lot execution. The other is that a larger proportion of trades would go through the clearing house instead of being settled directly between the brokerage firm and the odd-lot house, which, it is claimed, would result in a higher percentage of pair-offs in stock deliveries and obviate some use of checks in settling cash balances.

While there is some force in these arguments, there are counter-considerations which are perhaps less obvious. In the first place, assuming that the present price differentials are reasonable,⁵ the elimination of the differential on 50-share trades would not result in a net saving of cost to the public as a whole, except in so far as the change would reduce the total cost of operating the odd-lot system. Aside from actual savings in cost, the loss of income to the dealers would have to be made up by higher differentials on the smaller orders that were still handled as odd lots. The cost of handling a 5-share order, aside from taxes and commissions, is the same as that of a 99-share order, but the gross profit is proportionate to the number of shares handled. Small

able accumulation of orders within the price spread is likely to be translated into round-lot bids or offers made by an odd-lot house. Compare Chap. III.

⁵ Compare pp. 152-55.

round-lot trades are subsidized now at the expense of large ones, but the shifting of this burden is not an important factor in the question of lowering the unit of trading.

In the second place, the differential is not a net loss to the trader. If a round lot of stock sells at 65, an odd-lot trader who sells for $64\frac{7}{8}$ naturally considers that he has been penalized $\frac{1}{8}$ point for trading in odd lots; but this is not necessarily the case, for he cannot be certain that he could have sold at 65 if his order had been placed in the round-lot market. Frequently a round-lot execution results from several offers at the same price, and only a single bid, in which case priority is determined by the time when the bids were filed, or by tossing a coin.⁶ An odd-lot trader who places a market order is certain of an execution $\frac{1}{8}$ point away from the next round-lot trade, no matter how great may be the preponderance of odd-lot orders on the same side of the market.

This factor is particularly important when the price breaks through a round figure which has not been touched recently because of the tendency for limited orders to concentrate at those prices. When General Motors common sold at $50\frac{1}{8}$ in August 1938 the three odd-lot houses had to buy an aggregate of about 10,000 shares in odd lots at 50, and sold practically none at $50\frac{1}{4}$. It is certain that most of the odd lots which were sold to the odd-lot houses at 50 could not have been sold in the round-lot market for $50\frac{1}{8}$, no matter how small the round lot might have been. Only 800 shares⁷

⁶ In case the offer involves a block of more than 100 shares, a bid for an amount as great as the offer has precedence, under certain conditions, over a bid of the same price for a smaller amount.

⁷ Plus "stopped stock" not reported on the ticker, of which there is known to have been at least 400 shares.

sold at $50\frac{1}{8}$, and this price was not reached again till October.¹

Indeed, it does not appear probable that all those who were offering 50 shares or more would have been able to sell, even at a price of 50. The total amount sold at 50 (including that bought in odd lots by the odd-lot houses) was much larger than the total amount that was bought by others than odd-lot houses at 50 and $50\frac{1}{8}$ combined, so that presumably some of those who actually sold blocks of 50 shares or more at 50 to the odd-lot houses would have missed the market if the unit of trading had been 50 shares. None of the orders to sell lots of less than 50 shares at 50 could have been executed because the round-lot price would not have gone to $50\frac{1}{8}$.

In short, the lower unit of trading would by no means guarantee that a trader would be able to buy or sell at a price $\frac{1}{8}$ better than he gets under the present system. The price to the odd-lot trader is $\frac{1}{8}$ point away from the price that is actually made in the round-lot market, not from the price that would be made if the odd-lot bids and offers were directly registered in it. Certainty of execution is part of what the trader pays for in the differential.²

The next consideration is that of operating cost. On the face of it there should be some saving in eliminating the odd-lot machinery on the larger odd-lot trades. But this saving would certainly be less than appears at first glance. The most important phase of the question relates to the clearing costs. With a 50-share unit of

¹ That this is of substantial value is shown by the fact that the exchanges find it necessary to maintain a rule against the splitting of round-lot orders into odd lots.

trading, some trades which are now settled by the odd-lot houses would go through the clearing house. But this would increase the work of the commission houses, which under the present system can obtain delivery of stock already split up to suit their needs, since they would have to take delivery in bulk from other members through the clearing house, sometimes from more than one house. Sixty-share trades would have to be split for trading purposes—50 shares going to the clearing house and 10 shares to the odd-lot house—which would double the clearing work from the standpoint of the commission house and increase that of stock clearing corporations, without decreasing that of the odd-lot house. It is only for trades which would fit exactly the new unit of trading that there would be even a theoretical reduction in clearing costs. For units between 50 and 100 the costs would be increased, and for smaller units they would of course be unchanged. Moreover, there would be a further increase of both floor work and office work owing to the splitting of 100-share lots into 50's.

The volume of round-lot work to be done by brokers on the floor would be increased. The trading of round lots by odd-lot houses would be of smaller volume, but not proportionately to the decrease in odd-lot volume because lower volumes decrease pair-offs more than proportionately. The round-lot trading of commission houses would be increased, without any increased return from commissions (unless commission rates were increased on 50-share lots).

As to other costs, while total operating expenses of odd-lot houses would be reduced, their cost per transaction would be increased. So far as can be judged from

the sample data shown in Appendix D (the only data on the size of odd-lot transactions that have ever been published) the odd-lot houses' loss of volume with a 50-share unit of trade would be nearly 49 per cent, and the reduction in the number of transactions 22.5 per cent. Naturally it is the number of transactions which determines the office cost, while it is the share volume which determines the gross profit from the differential. It is practically certain, therefore, that a general substitution of a 50-share for a 100-share unit would necessitate a higher differential on the odd-lot business that was left.⁹

With a smaller unit of trading the market would at times be closer and more representative for small lots, since, as was pointed out above, some orders would pair off which now are impossible of execution because they are inside the spread of the round-lot market.¹⁰ But it would also be less satisfactory for the handling of very large orders. There is a very pronounced tendency now for those who want to sell large blocks of stock to sell them by negotiation in the over-the-counter market, rather than offer them in the auction where they must accept the best offer for 100 shares. This tendency, which is certainly not in the public interest, would be accentuated if the seller had to accept the best offer for 50 shares or less.

The congestion of the ticker service, which is already a serious problem in busy markets, would be increased

⁹ At Post 30, where all odd lots are of less than 10 shares, the differential ranges from $\frac{1}{4}$ point to 2 points according to the price of the stock. On stock selling for \$10 to \$50 the differential is $\frac{1}{2}$ point, and from \$50 to \$100 it is 1 point.

¹⁰ See above, pp. 27-28, for discussion of new rule intended to improve the market in this regard.

by the necessity of reporting prices for small lots, which would be only an imperfect indication of the true state of the market. Likewise, the bid and asked quotations, if they referred to smaller lots, while they would sometimes be closer together, would be a poorer indication than they are now of the price at which any considerable volume of trade could be effected.

Aside from the possibility of a smaller unit in all stocks, there are two possible bases for selection of a limited number of stocks for trading at a 50-share or 25-share post, namely price and activity. The suggestion is most often advanced with regard to the highest priced stocks, because these are the ones in which the 100-share unit is most expensive and the proportion of odd lots to round lots is consequently the highest. However, the highest price stocks are the ones in which the differential is of the smallest importance in the total price. On stocks selling at \$100 it is equivalent to a differential of $1/80$ on a \$10 stock traded in equal dollar volume. Moreover, these are the stocks in which the reduction of the unit to 50 or 25 shares would be of possible benefit to the smallest proportion of those who patronize the odd-lot market. One-half the number of transactions and 20 per cent of the volume in stocks selling for \$100 or more are in blocks of 10 shares or less. Less than 15 per cent of the transactions are in blocks of 50 shares or more.

The case for selecting stocks for trading at a 50- or 25-share post on the basis of inactivity is stronger than on the basis of price, but is not conclusive. It is only in the inactive stocks that there is any difficulty because of a failure of bids and offers to meet. The disruption of the established system of odd-lot trading because of the

assignment of less active stocks to a post with a low unit of trading would be much less serious than that involved in a general lowering of the unit of trading because, as was noted above, these stocks are less profitable and the volume of trading involved is comparatively small. On the other hand, it must be remembered that it would still be necessary to maintain or provide odd-lot facilities for trades smaller than the new unit. The decreased volume of odd-lot trading would undoubtedly necessitate higher differentials on odd lots of less than the new unit, if service was maintained and if it carried its own cost. As was noted above, the differentials at Post 30, the 10-share post, average very much higher than $\frac{1}{8}$ of a point. Moreover, actual improvement of the market would probably be small. Only a few orders between the round-lot bid and asked prices actually fail of execution for lack of round-lot trades.

Experience with stocks transferred to Post 30 seems to indicate that lowering the unit of trading does not result in narrowing the spread between the bid and asked prices. Two surveys bearing on this question were made by the statistical department of an odd-lot house in 1935, one covering 20 stocks and the other 22. In each case, half the stocks had been transferred from 100-share posts to Post 30, and half had been transferred from Post 30 to 100-share posts. The data covered two full years, one at Post 30 and one at the 100-share post, for each stock. In one sample, the trading at Post 30 was 56 per cent of that at the 100-share posts, and in the other sample it was 29 per cent, the data being adjusted in each case for variations in total stock exchange volume.¹¹ Such a loss of volume would prob-

¹¹ Data assembled by an odd-lot house; checked by the author.

ably more than offset any tendency to narrowing of the price spread resulting from registering odd-lot orders directly in the auction market. This conclusion is confirmed by a one-day comparison of the price spreads of all stocks on Post 30 with those of the least active 100-share stocks. On June 11, 1938, the spread at Post 30 averaged \$5.19 and that of the 100 least active stocks in the 100-share list averaged \$3.15.

The place where the present system seems to the writer least satisfactory is in the very low-priced stocks. The differential is a high percentage of the total. Commissions are high (on a percentage basis) and transfer taxes are based on shares traded so that the market mechanism is very costly. Moreover, the fact that quotations are in eighths means that even the minimum spreads constitute a high percentage of the price, making it expensive to get into and out of the market. These stocks are also expensive for the odd-lot dealer to handle because, as was noted above, the public tends to sell much more than it buys in odd lots of the very low-priced stocks. This means that a disproportionate amount has to be liquidated in the round-lot market where, as was shown in Chapter IV, commissions and transfer taxes cut deeply into the odd-lot dealers' differential.

In part this cost is unavoidable. The real cost (per dollar of volume) of trading in small quantities of low-priced stocks is high, and nothing can be done about it except by subsidizing the trade. It is suggested, however, that it would help if a 1,000-share unit instead of the 100-share unit were established in active stocks selling below \$3 or \$5, with round-lot quotations breaking in units of $1/32$ or $1/16$. Then a differential might be established by odd-lot dealers of $1/16$ or $1/32$ on the

new type of odd lots of 100 shares to 999. A differential of $1/32$ would allow considerably more gross profit from transactions on odd lots of over 99 shares than is realized now on odd-lot trades which average less than 50 shares, and the costs, except commissions, do not depend on the size of the order. It should be possible in this case to reduce the commission rates in the round-lot market as well as those paid by odd-lot dealers to associate brokers.¹² The closer quotations would improve the round-lot market and there would be less congestion on the floor and at the ticker in busy markets. The cost of handling odd lots would be decreased because of the additional volume in the 100-999 range and a better ratio of pair-offs. Against these advantages is to be weighed the fact that transactions of 100 to 999 shares would have to bear double the present burden of taxation. The increase would amount to 4 cents a share on stock of \$100 par value, or no par. The prospective gain to the public from a closer market seems to the writer to be greater than this added cost.

ALTERNATIVE TYPES OF DEALER ORGANIZATION

In Chapters VII and VIII we have already stated our conclusion that the present odd-lot dealer system is technically superior to the 3-minute system which is used on the smaller exchanges for trading in dually listed stocks, and also to the specialist odd-lot dealer system which is used on the New York Curb and in the smaller exchanges for dealing in their local stocks. In its main outlines the present system seems to the writer to serve the public interest better than any alternative dealer

¹² The associate broker now gets 1 cent a share on stocks selling below \$5.00. A flat rate of \$1.00 on all odd lots of more than 99 shares would seem to be ample, since the work involved is the same regardless of the size of the lot.

system which he has heard suggested. The complete separation of odd-lot dealings from commission brokerage and from round-lot dealing (except for liquidation of balances resulting from odd-lot trading) gives the customer the maximum protection against possible conflicts of interest between a dealer's odd-lot responsibilities and other parts of his business. The fixed differential gives the customer exact advance knowledge as to what he will pay or receive for his stock in relation to the round-lot market.¹³ The fact that prices are geared to the next round-lot sale is an extremely important protection to the customer because it minimizes the opportunity for the dealer to exercise an influence on the round-lot market which would be adverse to the customer's interests. No broker can trade against a customer's order till he gets it, and then he can make only one round-lot trade before the order, if placed "at the market," becomes effective. The fact that service in all 100-share stocks is offered by the same dealer reduces the expense of the commission houses and gives assurance of a market in the inactive stocks that is often better than that in the round-lot market.¹⁴ Finally the concentration of odd-lot business in a few very large houses alone makes possible the elaborate system of recording the time and price of round-lot trades which enables the customer to check on the propriety of the price that is reported to him. And the sheer size of the odd-lot dealer firms, their permanence in the market, and the value to them of customers' good will are the surest safeguard against petty "chiseling."

¹³ A question is raised below (pp. 150-52) as to the soundness of the uniform differential for all stocks and for all sizes of orders.

¹⁴ Because execution can be secured on odd-lot orders which are not matched by other orders, whenever there is a trade in the round-lot market.

CHAPTER X

POSSIBILITIES OF IMPROVEMENT WITHIN THE SYSTEM

It remains to consider certain details of the present system with regard to which further improvement may seem to be possible. These are: (1) the employment of brokers on the floor to execute odd-lot trades; (2) the uniformity of the differential; (3) the size of the differential; and (4) the number of odd-lot houses.

NECESSITY OF SERVICES OF ASSOCIATE BROKERS

In any attempt by an outside critic to appraise the efficiency of the odd-lot dealer system, a question is certain to be raised concerning the necessity of employing odd-lot associate brokers to execute the trades on the trading floor. Since the broker does not bargain with a representative of the commission house, and has no discretion as to accepting or rejecting the order or fixing the price, could not his services be dispensed with entirely and orders handled in the office of the odd-lot dealer?

The question is not as simple as it appears, and involves the whole question of the necessity of basing the price in every transaction on the next round-lot sale as against other methods of gearing the odd-lot market to the round-lot market. So long as the present method of gearing is maintained, there is no way, at least none that would effect any economy, by which the services of the broker can be dispensed with. It is only by working at the post that any one can know precisely the time relationship between the receipt of an order and the oc-

currence of the next effective round-lot sale. If reports were to be made up in the office of the dealer, or as has been suggested, in an impartial office administered by the Stock Exchange, reliance would necessarily be placed upon the ticker tape record of round-lot sales. Since prices frequently fluctuate over a considerable range in a short time, trading on the tape would frequently result in different prices from trades executed on the basis of the broker's knowledge of the time of the receipt of an order at the post and of the execution of the next effective sale.

Discrepancies between prices reported from the floor and prices estimated from the tape have several sources. In the first place, as is well known, in active markets the tape frequently lags by several minutes behind the market. Corrections could be made for the delay so far as it was officially recorded, but such adjustments are very rough. The reported tape-lateness is the average discrepancy between the time that reports of sales are received at the ticker sending station and the time they get on the tape. The interval between the actual execution of the order and the time the report reaches the ticker sending station is not included in the computation of tape-lateness. The delay involved in writing a report of the price and sending it by tube from the floor to the ticker room ranges from 30 seconds to 1½ minutes. The difference between the time of printing the report of sales which occur simultaneously on different parts of the floor may amount to a minute when the tape is officially on time.¹

¹ The writer, standing by the post, timed the interval in a quiet market, and noted two successive sales of General Motors common stock appearing on the tape 40 seconds and 70 seconds after the respective transactions.

When the tape is officially late, the reported lateness is an average of the lateness of reports of individual round-lot transactions. Since transactions from different posts cannot appear simultaneously on the tape, the lateness of individual transactions varies considerably around the average figure which is posted as representing the lateness of the tape. Moreover, no tape-lateness is measured or announced in the first 10 minutes of the day when the burden on the ticker is always abnormally heavy. Finally, announcements of tape-lateness do not take account of changes of less than 1 minute, and no announcement is made unless the lateness averages as much as 1 minute. When the lateness of the tape has officially been announced at 1 minute, it must become as great as 1 minute 59 seconds, or as small as 1 second, before a change in official lateness is reported.

It is clear, therefore, that under any system of trading on ticker quotations the odd-lot market would be behind the actual round-lot market by anywhere from $\frac{1}{2}$ minute to 2 minutes, even when the tape was officially on time. Official tape-lateness would be eliminated by subtracting the official delay from the time when the trade appeared on the ticker, but this correction would be only approximate.

This point is important, for one thing, because the odd-lot dealer can control his position only through the round-lot market. The dealer would be at a serious disadvantage if he had to execute trades on the basis of the records of sales as they appeared on the tape and make his offsetting round-lot trades on the basis of the market 2 minutes later. Indeed, if the houses were to trade on the tape it would theoretically be possible for an alert trader, in a case where the price changed materially be-

tween sales, to scalp an illegitimate profit at the expense of an odd-lot house. He could do this by placing an order which would be executed on the basis of a trade which he had witnessed, or made himself, but which had not yet appeared on the tape. In any case, since the round-lot transactions would have to be executed several minutes after the odd-lot transactions which gave rise to the balance, the speculative element in the odd-lot business would be increased.

There would also be at least a theoretical possibility that an odd-lot house would influence the market in a way adverse to a customer's interest, when the market was officially late, say by 2 minutes, but actually late by $\frac{1}{2}$ minute more or less. There would also be friction because of discrepancies between the prices reported for the round-lot and the odd-lot portions of a market order for, say, 150 shares, as there would be no assurance that the customer's round-lot trade would be the first to appear on the tape after his order was placed.

Another reason for the employment of brokers on the floor is in connection with the buying and selling of round lots to offset their odd-lot trades. In ordinary markets this could be done without the use of specialized odd-lot brokers, by telephoning orders to the specialists on the floor, but in busy markets some buying and selling would have to be done by partners or brokers. The number of brokers needed on the floor for this purpose would be small, but the office control would require the services of a considerable number of responsible employees.

Finally, the public gains protection against improper practices from the fact that the broker who reports the price is not an employee of the odd-lot house but is a

member of the Stock Exchange, and subject to Exchange discipline. Exchange authorities regard this point as very important, as a part of the whole system of organized responsibility which the Exchange has built up over many years, and is now endeavoring in various ways to strengthen. Even if definite money savings could be shown, it is very doubtful whether the Stock Exchange would sanction any system of trading which did not keep the price-making procedure on the floor and in the hands of Exchange members, in order that the Exchange might meet its own responsibilities to the public.

THE UNIFORMITY OF THE DIFFERENTIAL

In Chapter VIII, with reference to the competition of outside exchanges, and again in Chapter IX with reference to competition between the principal odd-lot dealers and the specialist odd-lot dealers on the New York Stock Exchange, we have mentioned the tendency of competition to center in the most active and most profitable stocks, leaving the dealers who offer a complete service to carry the business in the stocks that are relatively inactive. In the writer's judgment this difficulty is partly of the odd-lot dealers' own making, and might be remedied by action on their own part. As was noted in Chapter VII, before 1932 the practice of the odd-lot houses was to charge a $\frac{1}{4}$ -point differential on certain stocks. By making the differential uniform the dealers have widened the difference in profitability of dealing in inactive stocks and in active stocks. Thus they expose themselves to a type of competition which concentrates on the fraction of the business that yields more than an average profit and leaves them to handle the unprofitable end of the business.

In addition to considerations of convenience and simplicity, the uniform schedule is defended by spokesmen of the odd-lot business on the basis of a general principle of public utility rate-making; namely, that a monopoly or quasi-monopoly should accept unprofitable business as a compensation to the public for the advantage it enjoys with regard to the profitable business. To the writer, however, it seems that in this particular case the principle is carried to an unnecessary extreme. Public utilities do not as a rule charge a completely uniform price for all types of service, regardless of the cost of performance. Even the postal service while charging a flat rate on matter of the higher classes, scales the parcel post rates in accordance with distance. Telephone companies charge different rates for suburban and for central locations, for business and private telephones, and so on; and electric companies scale their prices in accordance with the volume and character of the business offered. Except in cases where an absolute monopoly exists, a price schedule which takes no account of differences in the cost of performing different types of service inevitably stimulates the growth of competition in the profitable area.

The question is raised therefore whether a scale of differentials which would reduce the cost of trading in the active issues and increase that in the inactives would not be more equitable, constitute a legitimate defense against the competition of the outside exchanges, and encourage the development of business of a more profitable character. There would be logic also in a higher differential on small orders than on large, but there is no competitive pressure for such a change and it probably would not be worth while to complicate matters

by introducing it, in view of the small amount of revenue which would result from a differential on very small orders.

It must be recognized that there are serious technical difficulties in the way of any adjustment which would eliminate the difference in profitability of different classes of stocks. The Stock Exchange practice of quoting prices in units of $\frac{1}{8}$ point, while it gives a flexible enough market in round lots (except for very low-priced stocks), gives a very rigid unit for the differential. The high degree of concentration of the trade in a small number of stocks also makes it difficult to work out a scale of increased differentials which would compensate for even so small a reduction as the absorption of the state tax on the active stocks. Moreover, active stocks frequently become inactive, and vice versa, so that a sliding scale would need rather frequent revision, with resultant confusion which would be distasteful to the commission houses and their customers. It is evident, therefore, that the introduction of a sliding scale would require very careful planning and presumably some experimentation before the results would be satisfactory.

THE SIZE OF THE DIFFERENTIAL AND THE RATE OF PROFIT

If the fairness of the odd-lot differential is appraised by a comparison with charges on other stock markets, the New York differential of $\frac{1}{8}$ point on 100-share stocks appears very moderate. On the Curb market the differential ranges upward on a sliding scale from $\frac{1}{8}$ to $\frac{1}{2}$ point and less than one-fourth of the stocks are traded at $\frac{1}{8}$. At Post 30 the differentials are scaled according to the price of the stock from $\frac{1}{4}$ to 2 points, except for stock selling below \$1.00, on which the differential is fixed by negotiation. However, the volume of odd-lot

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trade in 100-share stocks on the New York Stock Exchange is so much larger than elsewhere that the cost of service is very much lower.

The only ways to judge of the reasonableness of the charge are, first, to see what part of the cost of buying or selling a share of stock consists of dealers' profit, and

NET PROFITS OF THREE ODD-LOT DEALER FIRMS, 1929-38

Year	Profit (In cents)	
	Per Share Traded	Per Odd-Lot Share Traded
1929.....	4.51	5.45
1930.....	2.36	2.79
1931.....	2.07	2.46
1932.....	2.62	3.07
1933.....	4.30	4.91
Five-year average.....	3.34	3.95
1934.....	0.30 ^a	0.35 ^a
1935.....	3.90	4.75
1936.....	3.92	4.70
1937.....	1.92	2.33
1938.....	2.41	2.90
Five-year average.....	2.50	3.00

^a Loss.

second, to compare the profit per dollar of investment that is actually realized by the odd-lot houses with what is realized in other comparable fields of business.

On page 55 we presented data showing the gross trading profit per share realized by the three principal odd-lot houses over the years 1929-38, from which it appears that in every year since 1928 the trading profit actually realized was smaller than the theoretical differential of $\frac{1}{8}$ point, and that the average for the ten years was 10.2 cents per odd-lot share traded. From this there had to be deducted commissions to associate brokers of 2 cents per share (1 cent on stock selling below \$10.00), commissions on round-lot trades and transfer taxes on

round lots sold, and, until 1932, transfer taxes on odd lots sold, before anything was available for the costs of operating the odd-lot dealers' own organizations or for profit. Data furnished to the writer by the three leading houses concerning their net profits are summarized in the table on page 153.

These figures make it clear that the net profit of the odd-lot dealers is a comparatively small item in the total cost to the public of its odd-lot operations. For the last five years it has averaged considerably less than the transfer taxes which state and federal governments impose upon odd-lot transactions.

The net return on partner's capital, as reported by the three odd-lot dealer firms, is shown in the accompanying table.

NET PROFITS^a OF THREE ODD-LOT DEALER FIRMS, 1934-38
(As percentage of invested capital)

Year	Percentage
1934.....	1.2 ^b
1935.....	18.3
1936.....	21.6
1937.....	10.7
1938.....	10.6
Five-year average.....	11.7

^a The profits figures used in this calculation include the amounts paid to partners as salaries and as interest on capital.

^b Loss.

In comparing the yield on investment with the published profits of corporations, several differences must be borne in mind. In the first place the data for three successful firms are obviously not comparable with published averages for large groups of corporations which include the failures as well as the successful corporations. In the second place the investment base on which the percentages are figured comes much closer to being

the net liquidation value of the investment than is the case with any other compilation of investment data with which the writer is familiar. The bulk of the investment is in cash (largely posted as collateral for stocks borrowed)² and in listed stocks, the book value of which is adjusted daily to the market. There is very little investment in physical equipment, the valuation of which for the purpose of determining capital investment might be subject to question. There are no doubtful receivables, in short, practically no items the valuation of which is discretionary.³ In the third place, whereas a corporation's net profits are figured after income tax (at present 16 per cent of net income) and capital stock tax, in the case of a partnership there is no corresponding item in the firm's accounts, but all the net profits are figured as partners' income for tax purposes. In the fourth place, in our figures no deduction is made for salaries of from 34 to 38 partners who participated actively in the management of the business.

If for purposes of comparison the figures are adjusted by deducting federal taxes on comparable incorporated businesses, and allowance is made for salaries of active partners at rates no higher than are paid by the odd-lot firms to employed executives, the net profits for the past five years work out at an average of about 7 per cent on net sound capital.

COMPETITION OF ODD-LOT HOUSES

In view of the fact that differentials are uniform between the odd-lot houses and the duplication of effort

² Compare pp. 11-12.

³ The only important slow asset other than furniture and fixtures consists of loans to associate brokers secured by the value of their Stock Exchange seats, which in some cases has depreciated materially since the seats were bought in the boom era.

involved in the maintenance of the three organizations, the question may be raised as to whether it would not be in the public interest to have the business consolidated in a single house.

It was noted above that the only customers of the odd-lot houses are the commission houses which do business on the New York Stock Exchange. Of these commission houses some give all their trade to one house; some alternate at quarterly or similar intervals among the three houses, or between two of them; and a few divide their business by stocks, giving the stocks traded at certain posts to one or another house. Commission houses almost always give all their business in any particular stock to the same house, as this minimizes the work of settlement.

Because an odd-lot house can increase its volume only by getting business away from other houses, competition is very keen. This competition takes the form first of the order-room service described in Chapter II, and secondly of the kind of personal relationships and exchange of favors which generally characterize the kind of salesmanship that is directed toward business executives rather than ultimate consumers. The opportunity for exchange of business arises chiefly in connection with the round-lot business of the odd-lot houses, most of which is allocated to specialists. Although customers are frequently changing over from one house to another, the changes tend to compensate each other, so that the proportion done by each house changes only slowly.

The order-room service described on pages 18-22 is expensive, and some fraction of it illustrates the costliness of a competitive economic system. Undoubtedly a monopolistic combination of the three odd-lot houses, if protected against the growth of new competing agencies, could and would cut down some of the costs that

are now made necessary by competition. This economy would include the elimination of some of the accommodation services that are performed for customers to keep their good will, some reduction of expenses that are incurred in order to give the quickest possible service in adjusting complaints, and probably, if we can judge by other monopolies, less liberality in adjustments. The order rooms now are keyed to the task of enabling each house to keep the customers it has and if possible to get customers away from the other two (though incidentally their size and costliness serve to discourage possible efforts to establish new odd-lot dealer firms). The savings which could be effected in the order rooms by consolidation would be of two classes, namely, those due to the elimination of services that are not essential to the performance of the dealer's functions but are performed for competitive reasons to attract and hold customers; and, second, those due to the elimination of duplicate operations. Only the second class would constitute a net social gain; the first would simply push back to customer firms certain costs that are now carried by the odd-lot dealers.

Aside from the savings which could be made at the expense of customers because of the greater independence which a monopoly would enjoy, the economies of consolidation would lie chiefly in the transcription of sales sheets from the tape, and in the cost of stand-by telephone equipment.* The bulk of the order-room cost is for handling inquiries and complaints and this cost would not be reduced by consolidation unless the service was impaired.

*The amount of equipment in actual service would not be reduced, but some equipment is rented on a yearly basis for communication with houses which run part of the year with one house and part with another.

Some increase of gross trading profit might result. Consolidation would increase the proportion of trades paired off in the odd-lot trading, since one house is sometimes buying when another is selling. This would decrease both the volume of round-lot selling and the size of the necessary inventories, neither one of which can be reduced under the present system without increasing the other. The less active a stock the more important these gains would tend to be. As was noted in Chapter IV, the gains of consolidation have already been realized with respect to about 600 of the less active stocks, the addition to profit being estimated at 1 cent a share. The gain would be much less in the case of active stocks, since the dealers already effect a greater proportion of the maximum possible offsetting of odd-lot sales against odd-lot purchases.

Consolidation would also reduce the investment in the "box," that is, the portfolio of certificates needed to "make change" and make delivery of stock sold before receiving stock bought. It would not reduce the labor of clearing and settling odd-lot trades, or of accounting, nor would it substantially reduce the volume of cash turnover, because comparatively few houses now run sheets with more than one odd-lot house at the same time. The number of associate brokers might be reduced slightly, but this would not result in a saving to the dealers or the public if the present scale of brokers' commissions was maintained, since the brokers are paid on the basis of volume.

As in most comparisons of monopolistic with competitive organization, the savings of monopoly have to be balanced against the probable impairment of service arising which would result from the loss of the competitive incentives. In the writer's opinion the public benefits from competition are well worth what it costs.

APPENDIXES

APPENDIX A

HISTORY OF THE ODD-LOT BUSINESS (Contributed by a member of an odd-lot dealer firm)

Before the beginning of the Civil War securities were traded in on a "call" basis. The members of the Stock Exchange gathered daily in a meeting room and the presiding officer would call one stock at a time for bids and offers. Although most of the trading was in 100 share lots, the brokers would make bids and offers in amounts other than 100 shares. There might be a bid of 160 shares and an offer of 180 shares. In this way there was provided a rather loose method of trading in odd lots. During the Civil War there was a tremendous increase in activity which reached such proportions that trading in stocks was carried on in the evening in the lobby of the Fifth Avenue Hotel. Because of this volume, transactions became almost wholly confined to 100-share lots, or multiples thereof, and there was therefore practically no market for odd lots on the floor.

This tendency became accentuated when stock tickers were introduced in 1867. In 1871, when a continuous market was established in place of the call market, and any bid or offer was assumed to be for 100 shares unless specified to the contrary, the opportunity for odd-lot trading became even more restricted. To meet this situation one commission firm offered to make a market in odd lots in their office on an over-the-counter basis. About 1874 it occurred to two members of the firm of Jacquelin & DeCoppet Brothers that there was an opportunity for profit in offering to trade in odd lots on the floor of the Exchange, and that firm accordingly became stock jobbers in this field. The experiment was not

a financial success and the firm was about to abandon it when the anticipation of specie payments after the Civil War changed the situation of prostration in the markets to one of activity. As a result, the odd-lot business in a few years became so well established that the firm withdrew from the commission business and confined its activities solely to odd lots.

When the continuous market first began, trading in all issues was done in one large crowd, but gradually this dispersed into smaller groups, after which posts were introduced fixing the location of the market in individual issues.

About 1879 a member of the Exchange named Boyd broke his leg, and because of this injury was unable to go about the floor executing orders. He decided to remain in one place, which was the Western Union crowd, and do what business he could in that particular issue. He found, to his surprise, that by remaining in one stock he was doing more business than he had been doing by going about the floor. Others, learning of his success, decided to do likewise, and this was the beginning of the specialist system. The increased volume in odd lots made it expedient for the odd-lot firm to have many of its round-lot orders executed by these new specialist brokers, and they accordingly received a large portion of the offsetting orders in the open market. The specialists realized from this the extent of the odd-lot market, and as a result some of them decided to compete in odd lots with the dealers, in addition to their round-lot business. Although in subsequent years the specialists on several occasions complained of the competition from the odd-lot dealers, the odd-lot dealer system was actually in existence before there were any specialists, and the encroachment was on the part of the specialists, not on the part of the odd-lot firms.

When Jacquelin & DeCoppet Brothers first went into this business they made bids and offers in odd lots substantially as in an over-the-counter market. A broker would have an odd lot to buy or sell and would go to the odd-lot firm and make the best arrangement he could as to price. This method was not particularly satisfactory to the customer, and the dealers soon offered to trade on the bid and offer. As the bid and offer could be easily determined, this tended to standardize the method of price determination, with the result that the customers had greater confidence in the justice of the prices they received. As this practice became general it no longer was necessary for the brokers to bring the orders in and make a trade with the dealer. They could send them to the dealer and have the transaction automatically effected. This had the great advantage of relieving the brokers of the detail of a large number of small transactions.

Somewhat later the odd-lot dealers gave the customers the privilege of having the execution based on the next sale in the open market, subject to a standardized differential charge. This became so popular that soon practically all transactions were made on that basis and the bid and offer was resorted to only in inactive issues. This again gave the customer greater confidence in the price, and combined with the relief to the floor brokers from the necessity of personally consummating trades, opened the way for a tremendous expansion in odd-lot trading. A few years after the firm of Jacquelin & DeCoppet Brothers began trading in odd lots, a second firm entered the business. In 1885 the odd-lot firm of DeCoppet and Company was formed, and in 1888 the firm of Jacquelin & DeCoppet Brothers was reorganized as John H. Jacquelin and Company. In 1891 one of the DeCoppets retired from DeCoppet and Company and

entered into partnership with a man named Doremus, forming the firm of DeCoppet and Doremus. Up to this time the firms that were engaged in the odd-lot business did not compete with each other in individual stocks, but divided the list between them. When DeCoppet and Doremus entered the field, the older firms were unwilling to give them many issues to trade in on a non-competitive basis, and the new firm decided to make an odd-lot market in the industrial stocks which were then coming into prominence. The older dealers considered these issues to be too risky and so continued to make a market only in a limited number of standard stocks. Because of the growing importance of the industrials, the firm of DeCoppet and Doremus secured a large proportion of the odd-lot business. In 1899 the firm of C. M. Schott and Company was formed, and traded in odd lots in a limited number of issues.

In 1907 the dealers began the clearance sheet method of settling balances in odd lots which proved of great benefit to the commission firms in that it greatly simplified the settlement of odd-lot trades. It proved to be a great inducement in getting odd-lot business and gave the dealers a tremendous advantage over those who only made a market in relatively few issues. At this time, because of the increase in volume, the dealers began to employ associate brokers who were members of the New York Stock Exchange and represented the dealers on the floor of the Exchange purely on a commission basis. In 1908 the firm of DeCoppet and Doremus had secured such a proportion of the total business that it was evident that there was an opportunity for another large odd-lot house and Mr. Jay F. Carlisle, who had for years been a specialist in American Sugar, formed the firm of Carlisle, Mellick and Company to compete with them.

In 1917 the firms of John H. Jacquelin and Company and DeCoppet and Company consolidated and formed the firm of Jacquelin and DeCoppet. Since that time the firms of DeCoppet and Doremus, Carlisle, Mellick and Company, and Jacquelin and DeCoppet have made an odd-lot market in all 100-share unit issues listed on the Exchange. In 1919 the pneumatic tube system was installed and odd-lot orders were sent by this agency to the dealers' brokers at the posts on the trading floor. In 1927 C. M. Schott and Company was dissolved and the odd-lot field was left to the three dealer firms who are at present engaged in the business, and a few specialists who still do an odd-lot business as well as that in round lots.

APPENDIX B

COST OF CLEARING ODD LOTS

(Contributed by a member of an odd-lot dealer firm)

The clearance of odd lots is by means of clearance sheets with the odd-lot dealer firms. On these sheets are listed all purchases and sales of odd lots with money extensions for each item. The money and stock balances are settled for each issue. There is no exchange of tickets, no exchange of comparisons—and clearing house prices for the settlement of balances are unnecessary. The commission firm makes out its sheet, which is compared with the corresponding sheet made out by the odd-lot dealer. No other method could be simpler.

To clear odd lots through a clearing house by the method used at present for clearing round lots, tickets would have to be prepared in addition to sheets. These tickets would be exchanged by dealers and the commission firms. Both would be required to compare the tickets with their sheets. This would be one operation added to the simple method used at present. Both, also, would be required to price and extend each balance at a clearing house price. This would be a serious increase in work for the larger commission houses. As was explained above, balances are not priced and extended under the present odd-lot system. Rechecking work thoroughly for accuracy, in view of the fines that may be imposed by the corporation, may add more work for many commission firms who are satisfied to await notification of necessary corrections on their sheet which may be discovered through the odd-lot dealer's check.

A clearing house method of clearing would combine and pair off net purchases of many firms against net sales

of many other firms. The result of this would be that instead of each of these firms clearing their net purchases or sales through one odd-lot dealer, they might be required to receive securities from and deliver them to as many as 274 other members of the corporation. One clearing firm might sell a large odd lot of stock and receive instructions from the clearing house to deliver many smaller odd lots to any number of other members. This would involve an increase in clerical work, even if certificates for the small lots were available, and if the delivering member had only a single certificate for the large odd lot sold, the additional work of splitting the certificate into the needed lots would be necessary. Studies which have been made show that the number of balances not multiples of 10, the very smallest possible practical delivery unit, is 51.9 per cent of the total.

In clearing odd lots through a clearing house, the seller on balance would not know in advance what lots were required and therefore would very often be forced to fail to deliver stock for one or more days until the proper certificates were received from the transfer office. This delay would naturally tie up capital, which is unnecessary under the present system.

The odd-lot dealer system of clearance has none of these inconveniences for the commission firms. They know how much of each stock they have to deliver, and to whom. They know they can make the delivery if they have as much or more stock than they have to deliver. If they have a certificate of a greater amount than they have to deliver to the odd-lot dealer, they may receive change in "street name" or by transfer as they wish. They know where their odd lots are coming from and can get them when and as they want them. If odd lots were delivered in the way round lots are, the distribution of some of the odd-lot dealer's "cage work"

among commission firms might be of some benefit to odd-lot dealers, but this small benefit would be inconsequential compared to the increase in work and expense to their customer firms.

The clearing charge made by the corporation would be another expense to commission firms which is avoided by the present odd-lot dealer system of clearance. This charge may in some cases amount to as much as 13 cents for clearing a 10-share lot of stock valued at \$1,000.

APPENDIX C

GLOSSARY¹

Arbitrage. The business of buying a security on one market and selling it on another in an effort to take advantage of the difference in price of the same issue on different markets which sometimes prevails for brief intervals.

Asked price. The price at which a security is offered for sale.

Associate broker. See Odd-lot associate broker.

Basis market. See pp. 27-28.

Bid price. The price which is offered for the purchase of a security.

Broker. As defined by the Securities Exchange Act of 1934 the term "broker" means "any person engaged in the business of effecting transactions in securities for the account of others, but does not include a bank."

Clearing. The process of set-off and settlement by members of the same clearing association of purchases and sales of the same security made during the day and of payments required to be made for all securities purchased and sold during the day. If the amount of a security sold exceeds the amount purchased, a member clearing such transactions is required to deliver to the persons designated by the clearing association only the excess amount of the security; if the amount of a security purchased exceeds the amount sold, a member clearing such transactions receives from the persons designated by the clearing association only the excess amount of the security. Settlement of the money differences to be paid or received is effected with the clearing association.

Commission house. A firm primarily engaged in the business of effecting transactions in securities for the account of members of the public.

Dealer. As defined by the Securities Exchange Act of 1934 the term "dealer" means "any person engaged in the business of buying and selling securities for his own account, through a broker or otherwise, but does not include a bank, or any person in so far as he buys or sells securities for his own account, either individually or in some fiduciary capacity, but not as a part of a regular business."

Differential. A fixed amount which is added to the effective round-lot

¹ Most of the definitions in this glossary are taken either from the Segregation Report (for complete reference see p. 64), pp. 181-86, or from *The New York Stock Exchange—Its Functions and Operations*, published by the Committee on Public Relations of the New York Stock Exchange, April 1936.

price to determine the price at which an odd-lot dealer will sell stock to a customer, or subtracted from the effective round-lot price to determine the price at which the dealer will buy odd lots from a customer. The effective round-lot price may be either the price of the next sale in the round-lot market after the customer's order is received by the dealer's representative on the floor, or it may be the round-lot bid price in the case of a sell order or the round-lot asked price in the case of a buy order, or it may be the basis price fixed by the odd-lot dealers for trading in the basis market.

Limited order. An order to buy or sell a stated amount of a security at a specified price or at a better price if obtainable.

Listed. Approved for admission to trading on the Exchange. Principal requirements: that the company be a going concern having substantial assets and a satisfactory record of earnings; that the issue be sufficiently large to warrant listing and widely enough distributed to permit the maintenance of a free and open market; that the company agree to follow certain procedure regarding corporate practice, form of reports, etc., designed to protect the investor.

Long. One who owns securities is said to be "long" of them. *See* Short.

Market order. An order to buy or sell a stated amount of a security at the most advantageous price as promptly as reasonably practicable.

Member firm. A firm of which at least one general partner is a member of an exchange.

Odd-lot associate broker. A member of an exchange engaged primarily in effecting transactions on the floor of the exchange for the account of the odd-lot dealer firm with which he is associated.

Over-the-counter market. Any market for securities otherwise than on a national securities exchange.

Position. Total amount of a security or securities of which a person or firm is long or short.

Selling through the limit. An expression applied to a case in which an odd-lot order is made effective by a sale in the round-lot market at a price which, after addition or subtraction of the differential, is more favorable to the customer than his limit. *See* pp. 23-27.

Short. One who has sold securities which he does not own, expecting, usually, to repurchase them later at a lower price, is said to be "short." Delivery to the buyer is made on a short sale by borrowing stock. *See* Long.

Spread. The difference between the bid price and the asked price.

Stop order or *stop-loss order.* An order to buy a stated amount of a security at the market if and when a transaction occurs at or above a stated price; or an order to sell a stated amount of a security at the market if and when a transaction occurs at or below a stated price.

Stopped sale or *stopped stock.* A sale effected pursuant to an agreement entered into on the floor of an exchange whereby one member, usually the specialist in such stock, guarantees to purchase or sell to an

other a stated amount of the stock either at the price of the next sale or at a specified price when the stock sells at such price. Stopped sales are not reported on the ticker. Purchases and sales of odd lots by odd-lot dealers, under the system used on the New York Stock Exchange, are in effect stopped sales, but are not customarily so designated.

Syndication. See pp. 51-52.

Ticker. A telegraphic receiving instrument used in reporting stock transactions.

Ticker tape or tape. A strip of paper on which prices and volumes of stock transactions are printed by the ticker.

Unlisted trading privileges. A security admitted to trading on an exchange upon the request of a member as distinguished from the issuer is said to be admitted to "unlisted trading privileges." Such privileges may be granted by an exchange without regard to the preference of the issuer, with the approval of the Securities and Exchange Commission.

Withholding. See p. 68.

APPENDIX D
STATISTICAL DATA

**I. ODD LOTS BOUGHT FROM AND SOLD TO THE THREE LEADING ODD-LOT
HOUSES OF THE NEW YORK STOCK EXCHANGE
(In number of shares)**

Year and Month	Shares Bought	Shares Sold	Net Purchases or Net Sales ^a	Year and Month	Shares Bought	Shares Sold	Net Purchases or Net Sales ^a
1920:				1924:			
Jan.	2,944,280	2,506,801	437,479	Jan.	3,372,437	3,148,824	223,613
Feb.	3,693,917	3,018,766	675,151	Feb.	2,719,323	2,571,296	148,027
Mar.	4,152,460	4,079,053	73,407	Mar.	2,281,043	2,315,646	34,603
Apr.	4,201,253	3,691,542	509,711	Apr.	2,257,268	2,257,489	221
May	2,393,610	2,139,730	253,860	May	1,796,697	1,685,053	111,642
June	1,371,865	1,218,917	152,948	June	2,216,750	2,096,941	119,809
July	1,976,321	1,642,739	333,582	July	3,016,186	3,030,373	14,187
Aug.	2,158,857	1,827,488	331,369	Aug.	2,862,674	2,996,506	133,832
Sept.	2,236,546	2,117,010	119,536	Sept.	2,398,810	2,450,793	51,983
Oct.	2,139,425	1,775,411	364,014	Oct.	2,176,758	2,333,130	156,372
Nov.	3,591,775	2,761,888	829,887	Nov.	4,319,156	5,021,177	702,021
Dec.	4,301,760	3,260,426	1,041,334	Dec.	4,858,525	5,140,995	282,470
Total	35,162,069	30,039,791	5,122,278	Total	34,275,627	35,048,225	772,598
1921:				1925:			
Jan.	3,103,226	2,373,209	730,017	Jan.	5,078,184	4,991,154	87,030
Feb.	1,940,542	1,338,147	602,395	Feb.	4,057,681	3,966,042	91,639
Mar.	2,808,927	2,083,191	725,736	Mar.	4,702,945	4,623,430	79,515
Apr.	2,286,358	2,089,962	196,396	Apr.	3,033,074	3,066,202	33,128
May	2,826,848	2,307,074	519,774	May	4,106,395	4,191,560	85,165
June	2,977,945	2,296,481	681,464	June	3,384,736	3,622,921	238,185
July	1,428,869	1,248,846	180,023	July	3,714,253	3,694,392	19,661
Aug.	1,730,395	1,500,351	230,044	Aug.	3,809,247	3,910,370	101,123
Sept.	1,631,019	1,634,022	16,997	Sept.	4,249,248	4,315,758	266,510
Oct.	1,937,274	1,759,633	177,641	Oct.	6,079,526	6,195,400	115,874
Nov.	2,246,135	2,248,440	2,305	Nov.	5,529,462	5,596,429	66,967
Dec.	2,598,146	2,404,783	193,363	Dec.	4,442,626	4,562,082	119,456
Total	27,535,684	23,284,139	4,251,545	Total	52,187,377	52,935,940	748,563
1922:				1926:			
Jan.	2,548,918	2,216,987	331,931	Jan.	4,622,786	4,521,360	101,426
Feb.	2,492,188	2,315,738	176,450	Feb.	4,475,945	4,477,911	1,966
Mar.	3,694,415	3,333,723	360,692	Mar.	7,413,537	6,540,983	872,554
Apr.	4,442,569	4,372,081	70,488	Apr.	4,037,011	4,021,958	15,053
May	4,066,439	4,029,264	37,175	May	2,767,132	2,873,726	106,594
June	3,560,353	3,466,320	94,033	June	3,952,590	4,354,771	402,181
July	2,277,633	2,151,569	126,064	July	3,941,991	4,026,908	84,917
Aug.	2,837,036	2,650,193	186,843	Aug.	4,893,456	4,664,458	228,998
Sept.	3,083,798	3,065,985	17,813	Sept.	4,126,300	4,051,604	74,696
Oct.	3,568,873	3,626,041	57,168	Oct.	4,452,734	4,213,756	238,978
Nov.	3,112,174	2,942,227	169,947	Nov.	3,413,091	3,426,828	13,737
Dec.	2,671,749	2,488,690	183,059	Dec.	4,160,761	4,281,485	120,724
Total	38,356,145	36,658,818	1,697,327	Total	52,257,334	51,455,748	801,586
1923:				1927:			
Jan.	2,922,971	2,605,709	317,262	Jan.	3,874,777	3,824,819	49,958
Feb.	3,255,061	3,053,347	201,714	Feb.	5,124,320	5,038,655	85,665
Mar.	3,608,377	3,561,327	47,050	Mar.	5,917,798	5,566,528	351,270
Apr.	2,645,685	2,671,232	25,547	Apr.	5,739,117	5,549,792	189,325
May	3,247,396	3,004,815	242,581	May	5,369,911	5,214,276	155,635
June	2,821,575	2,725,549	96,026	June	5,501,430	5,496,538	4,892
July	2,175,086	1,727,650	447,436	July	4,586,665	4,532,933	53,732
Aug.	1,929,826	1,709,491	220,335	Aug.	6,377,118	5,824,470	552,648
Sept.	1,973,819	1,752,986	220,833	Sept.	6,162,999	5,818,469	344,530
Oct.	1,978,942	1,951,652	27,290	Oct.	6,029,511	5,801,487	228,024
Nov.	2,634,005	2,640,504	6,499	Nov.	5,875,931	6,006,615	130,684
Dec.	2,704,475	2,828,445	123,970	Dec.	7,048,184	7,186,005	137,821
Total	31,897,218	30,232,707	1,664,511	Total	67,607,761	65,860,587	1,747,174

^a Net sales are shown in italics.

1. ODD LOTS BOUGHT FROM AND SOLD TO THE THREE LEADING ODD-LOT
HOUSES OF THE NEW YORK STOCK EXCHANGE—Continued
(In number of shares)

Year and Month	Shares Bought	Shares Sold	Net Purchases or Net Sales*	Year and Month	Shares Bought	Shares Sold	Net Purchases or Net Sales*
1928:				1932:			
Jan.	7,272,840	6,768,823	504,017	Jan.	6,070,179	4,920,721	1,149,458
Feb.	6,478,860	6,458,000	20,860	Feb.	5,647,998	5,052,735	595,263
Mar.	10,289,032	10,404,936	115,904	Mar.	4,847,885	4,177,651	670,234
Apr.	10,358,349	10,098,919	259,430	Apr.	5,110,229	4,572,255	537,974
May	10,786,253	10,427,414	358,839	May	3,595,606	3,594,492	1,114
June	8,489,143	7,881,283	607,860	June	3,957,186	3,523,313	433,873
July	8,022,916	4,681,713	341,203	July	3,562,398	3,513,063	49,335
Aug.	7,818,485	7,970,150	151,665	Aug.	11,422,037	11,533,612	111,575
Sept.	11,338,027	11,120,740	217,287	Sept.	9,679,564	9,269,860	409,704
Oct.	11,405,997	11,562,937	156,940	Oct.	5,043,901	4,675,636	368,265
Nov.	14,259,889	13,693,954	565,935	Nov.	3,935,929	3,850,530	85,379
Dec.	12,634,657	11,927,111	707,546	Dec.	3,510,594	3,598,663	88,069
Total	116,154,448	112,995,980	3,158,468	Total	66,383,506	62,282,351	4,101,155
1929:				1933:			
Jan.	15,751,951	14,210,115	1,541,836	Jan.	2,985,836	2,925,158	60,678
Feb.	11,763,571	10,615,217	1,148,354	Feb.	3,613,478	3,069,294	544,184
Mar.	14,071,606	13,070,444	1,001,162	Mar.	3,466,439	3,096,401	372,038
Apr.	10,032,201	10,027,166	5,035	Apr.	6,910,789	8,155,371	1,244,582
May	11,753,631	11,199,752	553,879	May	12,879,473	14,034,391	1,154,918
June	7,912,693	8,442,095	529,402	June	15,788,977	16,278,455	489,478
July	11,316,677	11,337,216	20,539	July	19,008,490	17,134,301	1,874,189
Aug.	11,842,536	11,915,888	73,352	Aug.	6,591,345	6,595,358	4,013
Sept.	13,064,197	11,692,172	1,372,025	Sept.	6,839,997	6,588,279	251,718
Oct.	21,139,452	17,854,299	3,285,153	Oct.	6,260,243	5,924,277	335,966
Nov.	16,160,264	10,590,754	5,569,510	Nov.	4,552,701	4,910,341	357,640
Dec.	11,321,021	9,712,021	1,609,000	Dec.	4,390,868	4,713,515	322,647
Total	156,129,800	140,667,139	15,462,661	Total	93,290,636	93,425,141	134,505
1930:				1934:			
Jan.	8,159,386	7,857,501	301,885	Jan.	6,841,326	7,443,910	602,584
Feb.	9,150,310	8,757,456	392,854	Feb.	7,739,232	8,138,097	398,865
Mar.	12,324,476	11,969,875	354,601	Mar.	4,345,264	4,211,560	133,704
Apr.	13,502,553	12,855,902	646,651	Apr.	4,008,110	4,395,728	387,618
May	10,965,312	10,033,264	932,048	May	4,150,935	3,893,219	257,716
June	12,899,156	10,737,317	2,161,839	June	2,536,245	2,672,663	136,418
July	7,078,664	6,279,264	799,400	July	3,725,996	3,655,728	70,268
Aug.	6,009,121	5,413,790	595,331	Aug.	2,755,346	2,567,945	187,401
Sept.	8,319,195	6,702,596	1,616,599	Sept.	2,077,242	2,057,806	19,436
Oct.	10,163,223	7,885,977	2,277,246	Oct.	2,287,604	2,363,327	75,723
Nov.	7,642,943	6,362,368	1,280,575	Nov.	3,153,280	3,210,209	56,929
Dec.	8,655,142	6,661,423	1,993,719	Dec.	3,211,292	3,299,945	88,653
Total	114,869,481	101,516,733	13,352,748	Total	46,831,872	47,910,137	1,078,265
1931:				1935:			
Jan.	6,882,859	5,374,668	1,508,191	Jan.	2,954,274	3,093,749	139,475
Feb.	9,262,834	8,707,540	555,294	Feb.	2,434,380	2,564,508	130,128
Mar.	10,193,403	8,638,609	1,554,794	Mar.	2,750,299	2,700,413	49,886
Apr.	9,192,559	7,005,590	2,186,969	Apr.	3,088,320	3,349,579	261,259
May	7,410,341	6,183,630	1,226,711	May	3,737,784	4,361,968	624,184
June	8,646,489	8,478,721	167,768	June	2,815,729	3,337,052	521,323
July	5,766,105	4,563,541	1,202,564	July	3,851,817	4,360,969	509,152
Aug.	4,177,112	3,508,664	668,448	Aug.	5,486,374	5,965,956	479,582
Sept.	9,354,367	7,256,267	2,098,100	Sept.	4,490,146	4,743,632	253,486
Oct.	8,892,424	7,378,183	1,514,241	Oct.	5,505,340	6,219,667	714,327
Nov.	6,997,085	6,035,202	961,883	Nov.	6,761,115	7,214,323	453,208
Dec.	8,576,402	6,834,864	1,741,538	Dec.	5,326,646	5,674,271	347,625
Total	95,351,980	79,865,479	15,486,501	Total	49,202,224	53,586,087	4,383,863

* Net sales are shown in italics.

STATISTICAL DATA

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1. ODD LOTS BOUGHT FROM AND SOLD TO THE THREE LEADING ODD-LOT HOUSES OF THE NEW YORK STOCK EXCHANGE—*Concluded* (In number of shares)

Year and Month	Shares Bought	Shares Sold	Net Pur- chases or Net Sales ^a	Year and Month	Shares Bought	Shares Sold	Net Pur- chases or Net Sales ^a
1936:				1938:			
Jan.	8,205,259	8,019,055	186,204	Jan.	4,900,912	3,553,664	1,347,248
Feb.	8,270,396	7,990,623	271,773	Feb.	2,725,027	2,413,453	311,574
Mar.	6,944,304	6,900,991	43,313	Mar.	5,177,419	4,554,271	623,148
Apr.	6,037,247	5,819,254	217,993	Apr.	3,845,419	3,262,705	582,714
May	3,154,267	3,074,724	79,543	May	2,680,808	2,617,128	63,680
June	3,053,721	3,260,490	206,769	June	3,992,458	4,092,642	100,184
July	4,835,962	4,926,623	90,661	July	5,505,634	5,724,385	218,751
Aug.	4,211,630	4,201,365	10,265	Aug.	3,108,016	3,366,622	258,606
Sept.	4,341,135	4,409,993	68,858	Sept.	3,723,130	3,906,087	182,957
Oct.	5,795,183	6,431,604	636,421	Oct.	5,021,397	5,627,855	606,458
Nov.	7,490,250	6,856,100	634,150	Nov.	3,857,007	3,915,794	58,787
Dec.	6,444,693	6,387,249	57,444	Dec.	3,693,629	3,750,724	57,095
Total	68,704,067	68,456,071	357,996	Total	48,210,447	46,785,330	1,425,117
1937:							
Jan.	8,313,684	7,694,693	618,991				
Feb.	7,446,962	6,957,348	489,614				
Mar.	8,324,465	7,643,568	680,897				
Apr.	5,963,399	5,067,911	895,488				
May	3,437,146	2,900,691	536,455				
June	3,203,349	2,662,395	540,954				
July	3,658,179	3,171,859	486,320				
Aug.	3,257,775	2,841,029	416,746				
Sept.	6,542,573	5,015,214	1,527,361				
Oct.	10,430,883	7,535,004	2,895,799				
Nov.	5,692,259	4,039,642	1,652,617				
Dec.	5,306,977	4,414,105	892,872				
Total	71,657,583	60,007,542	11,650,041				

^a Net sales are shown in italics.

ODD-LOT TRADING

2. STOCK BOUGHT AND SOLD IN ROUND-LOTS BY THREE ODD-LOT
 HOUSES, 1928-38
 (In hundreds of shares)

Year and Month	Bought	Sold	Year and Month	Bought	Sold
1928:			1932:		
Jan.....	13,930	9,460	Jan.....	17,266	6,039
Feb.....	9,969	9,491	Feb.....	13,957	6,790
Mar.....	14,999	16,094	Mar.....	12,792	6,091
Apr.....	19,418	16,198	Apr.....	12,672	7,032
May.....	20,870	16,570	May.....	7,282	6,597
June.....	17,271	11,274	June.....	9,195	5,815
July.....	10,367	6,547	July.....	7,260	5,579
Aug.....	13,710	13,786	Aug.....	15,693	16,429
Sept.....	20,362	18,046	Sept.....	15,405	11,959
Oct.....	20,212	21,338	Oct.....	9,686	6,204
Nov.....	28,627	24,280	Nov.....	6,077	6,109
Dec.....	28,435	22,253	Dec.....	6,267	6,624
Total.....	218,170	185,337	Total.....	133,552	91,268
1929:			1933:		
Jan.....	34,770	19,387	Jan.....	5,747	4,889
Feb.....	29,305	17,102	Feb.....	8,531	4,022
Mar.....	28,499	19,545	Mar.....	7,861	3,849
Apr.....	19,647	18,299	Apr.....	7,872	18,021
May.....	24,135	18,399	May.....	16,375	27,886
June.....	13,209	18,729	June.....	21,738	26,186
July.....	23,263	23,694	July.....	32,275	18,402
Aug.....	20,610	21,303	Aug.....	10,282	7,443
Sept.....	38,514	25,951	Sept.....	10,938	8,977
Oct.....	56,743	29,725	Oct.....	8,851	7,010
Nov.....	63,433	10,508	Nov.....	5,916	7,913
Dec.....	31,127	11,046	Dec.....	7,023	8,821
Total.....	383,255	233,688	Total.....	143,409	143,419
1930:			1934:		
Jan.....	17,245	11,811	Jan.....	8,971	13,804
Feb.....	16,490	13,217	Feb.....	9,449	13,181
Mar.....	21,192	16,405	Mar.....	6,461	6,032
Apr.....	25,246	18,248	Apr.....	5,784	9,129
May.....	24,097	13,239	May.....	6,329	5,107
June.....	30,616	11,434	June.....	3,655	4,242
July.....	14,875	7,287	July.....	5,152	5,621
Aug.....	13,600	7,296	Aug.....	5,309	3,738
Sept.....	23,191	7,394	Sept.....	3,683	3,636
Oct.....	30,435	9,260	Oct.....	3,873	4,784
Nov.....	19,036	6,653	Nov.....	5,757	5,699
Dec.....	27,267	6,498	Dec.....	5,732	7,236
Total.....	263,310	128,742	Total.....	70,155	82,209
1931:			1935:		
Jan.....	21,003	5,771	Jan.....	5,425	6,566
Feb.....	17,579	10,242	Feb.....	4,595	6,175
Mar.....	24,780	10,178	Mar.....	6,513	6,598
Apr.....	27,488	6,415	Apr.....	6,904	9,207
May.....	19,570	6,757	May.....	7,075	13,040
June.....	14,337	10,603	June.....	5,162	10,196
July.....	13,771	4,009	July.....	7,600	12,320
Aug.....	10,487	3,867	Aug.....	9,129	14,472
Sept.....	28,071	7,148	Sept.....	8,408	10,812
Oct.....	23,376	8,036	Oct.....	9,607	15,652
Nov.....	16,301	6,344	Nov.....	10,952	16,184
Dec.....	25,316	10,318	Dec.....	8,887	12,647
Total.....	242,079	89,688	Total.....	90,257	133,869

STATISTICAL DATA

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2. STOCK BOUGHT AND SOLD IN ROUND LOTS BY THREE ODD-LOT HOUSES, 1928-38—Concluded (In hundreds of shares)

Year and Month	Bought	Sold	Year and Month	Bought	Sold
1936:			Aug.....	8,676	4,797
Jan.....	16,259	14,350	Sept.....	19,682	6,084
Feb.....	16,908	14,172	Oct.....	36,225	7,356
Mar.....	12,935	13,047	Nov.....	21,048	4,167
Apr.....	11,461	10,219	Dec.....	16,463	6,109
May.....	7,474	5,637			
June.....	6,070	7,945	Total.....	199,723	85,012
July.....	9,490	10,965			
Aug.....	8,646	8,365	1938:		
Sept.....	8,819	9,935	Jan.....	17,097	4,161
Oct.....	9,855	16,380	Feb.....	8,037	3,748
Nov.....	17,001	11,448	Mar.....	12,731	7,062
Dec.....	12,658	12,341	Apr.....	10,365	4,856
Total.....	137,576	134,804	May.....	5,793	5,071
			June.....	7,758	7,789
1937:			July.....	9,180	10,431
Jan.....	18,727	12,580	Aug.....	4,891	7,654
Feb.....	16,348	11,063	Sept.....	5,288	7,898
Mar.....	18,482	12,163	Oct.....	7,943	13,012
Apr.....	14,995	7,174	Nov.....	7,090	7,805
May.....	9,523	4,501	Dec.....	7,658	8,476
June.....	9,130	3,916			
July.....	10,424	5,102	Total.....	103,831	87,963

ODD-LOT TRADING

3. MONTH-END INVENTORY OF THREE ODD-LOT DEALERS, 1920-38
(In shares)

Year and Month	Total Long	Total Short	Net Long or Short*	Year and Month	Total Long	Total Short	Net Long or Short*
1920:				1925:			
Jan.....	99,363	48,081	51,282	Jan.....	213,914	77,623	136,291
Feb.....	108,771	50,703	58,068	Feb.....	211,939	77,629	134,310
Mar.....	122,367	35,496	86,871	Mar.....	202,522	92,435	110,087
Apr.....	125,094	50,509	74,585	Apr.....	208,008	85,596	122,412
May.....	125,079	38,488	86,591	May.....	234,357	78,266	156,091
June.....	116,035	35,774	80,261	June.....	231,705	72,946	158,759
July.....	117,659	45,861	71,798	July.....	242,359	84,701	157,658
Aug.....	114,543	38,728	75,815	Aug.....	242,488	85,054	157,434
Sept.....	109,023	44,786	64,237	Sept.....	254,108	87,398	166,710
Oct.....	85,970	54,013	31,957	Oct.....	271,642	103,479	168,163
Nov.....	79,153	62,046	17,107	Nov.....	257,181	86,194	170,987
Dec.....	101,048	69,261	31,787	Dec.....	296,424	81,747	214,677
1921:				1926:			
Jan.....	82,306	63,260	19,046	Jan.....	242,883	93,734	149,149
Feb.....	78,482	78,990	508	Feb.....	243,829	98,631	145,198
Mar.....	99,574	53,633	45,941	Mar.....	217,378	149,082	68,296
Apr.....	124,594	38,305	86,289	Apr.....	231,790	121,340	110,450
May.....	103,402	56,032	47,370	May.....	255,978	94,514	161,464
June.....	115,699	46,380	69,319	June.....	294,007	81,574	212,433
July.....	114,432	40,689	73,743	July.....	288,358	88,638	199,720
Aug.....	120,334	30,658	89,676	Aug.....	265,202	111,632	153,570
Sept.....	121,024	39,286	81,738	Sept.....	264,526	105,047	159,479
Oct.....	122,368	38,277	84,091	Oct.....	237,827	136,638	101,189
Nov.....	135,684	28,173	107,511	Nov.....	255,438	116,908	138,530
Dec.....	125,460	41,711	83,749	Dec.....	253,745	111,942	141,803
1922:				1927:			
Jan.....	112,912	49,002	63,910	Jan.....	247,678	123,558	124,120
Feb.....	119,867	41,132	78,735	Feb.....	267,205	124,728	142,477
Mar.....	141,898	38,395	103,503	Mar.....	257,811	133,630	124,181
Apr.....	154,864	42,768	112,096	Apr.....	286,600	110,358	176,242
May.....	158,093	45,485	112,608	May.....	290,787	120,165	170,622
June.....	180,312	39,232	141,080	June.....	298,482	117,523	180,959
July.....	167,478	38,852	128,626	July.....	306,024	117,642	188,382
Aug.....	179,139	36,326	142,813	Aug.....	278,957	154,193	124,764
Sept.....	161,596	44,788	116,808	Sept.....	305,338	136,164	169,174
Oct.....	172,172	54,047	118,125	Oct.....	284,989	147,526	137,463
Nov.....	140,361	68,665	71,696	Nov.....	329,656	127,751	201,905
Dec.....	150,239	64,723	85,516	Dec.....	340,007	145,248	194,759
1923:				1928:			
Jan.....	147,377	82,269	65,108	Jan.....	322,429	187,208	135,221
Feb.....	172,013	65,471	106,542	Feb.....	341,641	175,009	166,632
Mar.....	192,829	41,376	151,453	Mar.....	362,703	190,268	172,435
Apr.....	207,172	42,643	164,529	Apr.....	379,344	199,221	180,123
May.....	158,897	54,076	104,821	May.....	389,095	183,499	205,596
June.....	162,961	51,427	111,534	June.....	372,228	189,653	182,575
July.....	118,603	72,477	46,126	July.....	362,445	179,650	182,795
Aug.....	128,657	54,814	73,843	Aug.....	428,953	143,267	285,686
Sept.....	132,082	60,399	71,683	Sept.....	458,253	152,999	305,254
Oct.....	129,372	50,245	79,127	Oct.....	525,119	151,630	373,489
Nov.....	142,919	42,723	100,196	Nov.....	561,550	253,440	308,110
Dec.....	159,660	49,461	110,199	Dec.....	529,636	236,035	293,601
1924:				1929:			
Jan.....	159,861	60,471	99,390	Jan.....	575,181	260,346	314,835
Feb.....	147,856	68,812	79,044	Feb.....	596,120	211,249	384,871
Mar.....	156,978	61,081	95,897	Mar.....	532,324	271,276	261,048
Apr.....	150,850	72,266	78,584	Apr.....	592,511	166,029	426,482
May.....	139,834	69,795	70,039	May.....	610,947	164,357	446,590
June.....	138,806	65,211	73,595	June.....	647,137	152,602	494,535
July.....	172,574	47,463	125,111	July.....	602,451	163,566	438,885
Aug.....	157,233	55,088	102,145	Aug.....	667,623	161,326	506,297
Sept.....	172,175	55,536	116,639	Sept.....	634,241	246,807	387,434
Oct.....	180,450	51,363	129,087	Oct.....	687,469	546,128	141,341
Nov.....	182,802	67,984	114,818	Nov.....	454,493	348,448	106,045
Dec.....	197,752	68,277	129,475	Dec.....	437,930	279,673	158,257

* Net short inventories shown in italics.

STATISTICAL DATA

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3. MONTH-END INVENTORY OF THREE ODD-LOT DEALERS, 1920-38— Concluded (In shares)

Year and Month	Total Long	Total Short	Net Long or Short ^a	Year and Month	Total Long	Total Short	Net Long or Short ^a
1930:				July.....	443,947	192,862	251,085
Jan.....	565,019	171,866	393,153	Aug.....	374,136	124,717	249,419
Feb.....	533,722	212,415	321,307	Sept.....	329,701	95,357	234,344
Mar.....	584,219	184,359	399,860	Oct.....	309,419	93,437	215,982
Apr.....	542,582	252,094	290,488	Nov.....	349,230	61,335	287,895
May.....	632,434	183,475	448,959	Dec.....	320,644	77,648	242,996
June.....	449,432	255,378	194,074				
July.....	383,295	229,316	153,979	1935:			
Aug.....	344,343	191,881	152,462	Jan.....	317,312	55,969	261,343
Sept.....	299,940	213,230	86,710	Feb.....	290,355	56,357	233,998
Oct.....	248,390	277,195	<i>28,805</i>	Mar.....	229,444	54,461	174,983
Nov.....	212,759	292,880	<i>80,121</i>	Apr.....	234,085	35,396	198,689
Dec.....	233,553	261,980	<i>28,427</i>	May.....	261,953	31,362	230,591
				June.....	280,653	34,867	245,786
1931:				July.....	320,142	35,104	285,038
Jan.....	224,774	235,122	<i>10,348</i>	Aug.....	277,896	48,393	229,503
Feb.....	323,909	165,008	158,901	Sept.....	290,779	48,216	242,563
Mar.....	270,459	208,050	62,409	Oct.....	392,073	43,111	350,962
Apr.....	215,297	235,396	<i>20,099</i>	Nov.....	342,381	60,413	281,968
May.....	229,950	201,144	28,806	Dec.....	331,925	76,574	255,351
June.....	347,323	116,991	230,332				
July.....	238,883	236,670	<i>2,213</i>	1936:			
Aug.....	243,604	252,675	<i>9,071</i>	Jan.....	334,811	76,852	257,959
Sept.....	243,737	251,717	<i>7,980</i>	Feb.....	359,731	99,308	260,423
Oct.....	209,500	208,701	<i>799</i>	Mar.....	373,065	86,562	286,503
Nov.....	223,298	189,863	33,435	Apr.....	296,244	102,837	193,407
Dec.....	204,953	164,244	40,689	May.....	367,446	69,150	298,296
				June.....	373,687	59,483	314,204
1932:				July.....	331,820	73,156	258,664
Jan.....	190,675	201,440	<i>10,765</i>	Aug.....	346,574	68,960	277,614
Feb.....	249,806	142,403	107,403	Sept.....	379,039	63,820	315,219
Mar.....	260,143	148,432	111,711	Oct.....	364,659	66,002	298,657
Apr.....	256,806	123,424	133,382	Nov.....	322,716	102,145	220,571
May.....	289,063	88,418	200,645	Dec.....	305,021	109,652	195,369
June.....	240,158	122,333	117,825				
July.....	315,829	65,209	250,620	1937:			
Aug.....	368,835	92,907	275,928	Jan.....	297,165	104,249	192,916
Sept.....	331,244	99,403	231,841	Feb.....	330,200	98,270	231,930
Oct.....	295,965	89,125	206,840	Mar.....	288,734	105,250	183,484
Nov.....	249,492	124,046	125,446	Apr.....	224,492	132,835	91,657
Dec.....	292,370	87,532	204,838	May.....	306,323	102,815	203,508
				June.....	195,629	113,468	82,161
1933:				July.....	217,229	84,340	132,889
Jan.....	296,828	79,848	216,980	Aug.....	198,298	93,501	104,797
Feb.....	254,020	127,459	126,561	Sept.....	107,179	168,196	<i>61,017</i>
Mar.....	260,030	104,144	155,886	Oct.....	97,959	167,712	<i>69,753</i>
Apr.....	450,350	54,946	395,404	Nov.....	98,976	135,149	<i>36,173</i>
May.....	465,205	80,418	384,787	Dec.....	134,356	101,862	32,494
June.....	517,955	85,336	432,619				
July.....	264,114	297,141	<i>33,027</i>	1938:			
Aug.....	399,826	176,704	223,122	Jan.....	109,698	132,487	22,789
Sept.....	387,719	211,349	176,370	Feb.....	170,715	75,463	95,252
Oct.....	347,051	232,004	115,047	Mar.....	145,315	106,895	38,420
Nov.....	433,620	151,830	281,790	Apr.....	97,788	91,332	6,456
Dec.....	496,836	155,042	341,794	May.....	103,866	88,673	15,193
				June.....	164,129	51,393	112,736
1934:				July.....	241,664	36,591	205,073
Jan.....	564,285	102,994	461,291	Aug.....	222,441	34,891	187,550
Feb.....	594,331	108,913	485,418	Sept.....	172,149	62,700	109,449
Mar.....	527,884	140,300	387,584	Oct.....	252,975	44,508	208,467
Apr.....	577,958	132,275	445,683	Nov.....	259,994	44,059	215,935
May.....	483,039	171,489	311,550	Dec.....	249,478	58,245	191,233
June.....	535,722	145,499	390,223				

^a Net short inventories shown in italics.

ODD-LOT TRADING

4. ODD-LOT TRANSACTIONS OF THREE ODD-LOT HOUSES DURING
THREE SELECTED WEEKS^a
At a Price of Less than \$5

Size of Lot (In shares)	Number of Transactions		Number of Shares		Size of Lot (In shares)	Number of Transactions		Number of Shares	
	Bought	Sold	Bought	Sold		Bought	Sold	Bought	Sold
1....	38	9	38	9	51....	6	—	306	—
2....	46	8	92	16	52....	15	1	780	52
3....	43	7	129	21	53....	5	1	265	53
4....	20	7	80	28	54....	6	4	324	216
5....	109	50	545	250	55....	31	8	1,705	440
6....	17	9	102	54	56....	6	—	336	—
7....	13	6	91	42	57....	4	—	228	—
8....	29	6	232	48	58....	2	—	116	—
9....	17	5	153	45	59....	1	2	59	118
10....	452	487	4,520	4,870	60....	98	69	5,880	4,140
11....	16	1	176	11	61....	3	—	183	—
12....	34	9	408	108	62....	4	—	248	—
13....	10	4	130	52	63....	2	—	126	—
14....	13	3	182	42	64....	1	1	64	64
15....	155	135	2,325	2,025	65....	15	19	975	1,235
16....	10	8	160	128	66....	10	—	660	—
17....	17	2	289	34	67....	1	1	67	67
18....	10	6	180	108	68....	4	—	272	—
19....	6	3	114	57	69....	—	—	—	—
20....	393	443	7,860	8,860	70....	37	26	2,590	1,820
21....	5	—	105	—	71....	2	—	142	—
22....	9	4	198	88	72....	8	—	576	—
23....	5	4	115	92	73....	3	—	219	—
24....	7	4	168	96	74....	1	—	74	—
25....	783	781	19,575	19,525	75....	108	77	8,100	5,775
26....	11	9	286	234	76....	1	1	76	76
27....	14	1	378	27	77....	1	1	77	77
28....	9	2	252	56	78....	—	—	—	—
29....	4	—	116	—	79....	—	1	—	79
30....	225	216	6,750	6,480	80....	36	18	2,880	1,440
31....	7	—	217	—	81....	—	—	—	—
32....	9	4	288	128	82....	3	—	246	—
33....	17	8	561	264	83....	1	1	83	83
34....	4	1	136	34	84....	1	—	84	—
35....	62	69	2,170	2,415	85....	6	3	510	255
36....	7	1	252	36	86....	1	—	86	—
37....	3	1	111	37	87....	4	1	348	87
38....	7	3	266	114	88....	3	—	264	—
39....	1	—	39	—	89....	1	—	89	—
40....	175	184	7,000	7,360	90....	6	5	540	450
41....	3	1	123	41	91....	—	—	—	—
42....	10	1	420	42	92....	1	—	92	—
43....	1	2	43	86	93....	1	—	93	—
44....	6	1	264	44	94....	—	—	—	—
45....	22	22	990	990	95....	2	4	190	380
46....	1	1	46	46	96....	3	—	288	—
47....	1	—	47	—	97....	—	—	—	—
48....	1	—	96	—	98....	—	—	—	—
49....	3	2	147	98	99....	—	—	—	—
50....	1,677	1,473	83,850	73,650					
					Total	4,982	4,247	173,056	145,698

^a Weeks ending Nov. 14, 1936, Sept. 11, 1937, and June 11, 1938.

STATISTICAL DATA

4. ODD-LOT TRANSACTIONS OF THREE ODD-LOT HOUSES DURING
THREE SELECTED WEEKS—Continued
At a Price of \$5-\$9½

Size of Lot (In shares)	Number of Transactions		Number of Shares		Size of Lot (In shares)	Number of Transactions		Number of Shares	
	Bought	Sold	Bought	Sold		Bought	Sold	Bought	Sold
1....	87	25	87	25	51....	5	—	255	—
2....	99	20	198	40	52....	10	4	520	208
3....	70	21	210	63	53....	7	—	371	—
4....	62	18	248	72	54....	7	2	378	108
5....	238	223	1,190	1,115	55....	47	17	2,585	935
6....	58	20	348	120	56....	6	2	336	112
7....	43	26	301	182	57....	4	1	228	57
8....	55	24	440	192	58....	3	—	174	59
9....	27	4	243	36	59....	3	1	177	59
10....	1,106	1,581	11,060	15,810	60....	148	108	8,880	6,480
11....	33	20	363	220	61....	1	—	61	—
12....	74	68	888	816	62....	10	—	620	—
13....	28	19	364	247	63....	3	1	189	63
14....	20	13	280	182	64....	9	—	576	—
15....	399	494	5,985	7,410	65....	38	21	2,470	1,365
16....	35	17	560	272	66....	13	—	858	—
17....	20	7	340	119	67....	5	2	335	134
18....	30	16	540	288	68....	5	2	340	136
19....	8	5	152	95	69....	1	2	69	138
20....	1,029	1,307	20,580	26,140	70....	78	51	5,460	3,570
21....	14	3	294	63	71....	—	—	—	—
22....	29	14	638	308	72....	7	—	504	—
23....	15	7	345	161	73....	5	3	365	219
24....	23	6	552	144	74....	3	—	222	—
25....	1,955	2,159	48,875	53,975	75....	184	107	13,800	8,025
26....	12	5	312	130	76....	2	—	152	—
27....	14	5	378	135	77....	1	—	77	—
28....	12	2	336	56	78....	1	—	78	—
29....	9	2	261	58	79....	—	1	—	79
30....	550	668	16,500	20,040	80....	66	50	5,280	4,000
31....	8	—	248	—	81....	1	—	81	—
32....	24	3	768	96	82....	1	—	82	—
33....	23	8	759	264	83....	6	1	498	83
34....	11	8	374	272	84....	—	2	—	168
35....	203	168	7,105	5,880	85....	15	16	1,275	1,360
36....	13	2	468	72	86....	—	1	—	86
37....	24	3	888	111	87....	1	—	87	—
38....	4	6	152	228	88....	—	—	—	—
39....	5	1	195	39	89....	—	—	—	—
40....	380	402	15,200	16,080	90....	25	7	2,250	630
41....	7	1	287	41	91....	2	1	182	91
42....	9	3	378	126	92....	3	2	276	184
43....	1	2	43	86	93....	1	—	93	—
44....	10	—	440	—	94....	—	—	—	—
45....	62	39	2,790	1,755	95....	6	—	570	—
46....	5	4	230	184	96....	2	—	192	—
47....	5	1	235	47	97....	1	—	97	—
48....	9	1	432	48	98....	—	—	—	—
49....	3	1	147	49	99....	—	—	—	—
50....	3,179	3,517	158,950	175,850					
					Total	10,875	11,374	354,000	358,032

ODD-LOT TRADING

4. ODD-LOT TRANSACTIONS OF THREE ODD-LOT HOUSES DURING
THREE SELECTED WEEKS—Continued
At a Price of \$10-\$24 $\frac{1}{8}$

Size of Lot (In shares)	Number of Transactions		Number of Shares		Size of Lot (In shares)	Number of Transactions		Number of Shares	
	Bought	Sold	Bought	Sold		Bought	Sold	Bought	Sold
1....	410	83	410	83	51....	24	6	1,224	306
2....	392	144	784	288	52....	34	7	1,768	364
3....	282	138	846	414	53....	18	4	954	212
4....	281	151	1,124	604	54....	19	2	1,026	108
5....	1,031	1,358	5,155	6,790	55....	85	62	4,675	3,410
6....	231	161	1,386	966	56....	22	5	1,232	280
7....	156	119	1,092	833	57....	18	8	1,026	456
8....	210	161	1,680	1,288	58....	14	5	812	290
9....	82	58	738	522	59....	5	4	295	236
10....	5,047	8,774	50,470	87,740	60....	385	376	23,100	22,560
11....	106	70	1,166	770	61....	5	8	305	488
12....	290	228	3,480	2,736	62....	31	10	1,922	620
13....	101	80	1,313	1,040	63....	9	8	567	504
14....	98	67	1,372	938	64....	11	8	704	512
15....	1,555	2,361	23,325	35,415	65....	109	78	7,085	5,070
16....	132	66	2,112	1,056	66....	23	6	1,518	396
17....	58	62	986	1,054	67....	20	7	1,340	469
18....	68	68	1,224	1,224	68....	16	4	1,088	272
19....	33	29	627	551	69....	5	4	345	276
20....	3,967	7,530	79,340	150,600	70....	162	161	11,340	11,270
21....	48	26	1,008	546	71....	6	5	426	355
22....	72	52	1,584	1,144	72....	15	2	1,080	144
23....	39	41	897	943	73....	10	4	730	292
24....	74	44	1,776	1,056	74....	3	2	222	148
25....	7,106	9,773	177,650	244,325	75....	530	411	39,750	30,825
26....	39	27	1,014	702	76....	6	1	456	76
27....	50	24	1,350	648	77....	9	1	693	77
28....	66	35	1,848	980	78....	10	3	780	234
29....	29	12	841	348	79....	8	1	632	79
30....	1,691	2,409	50,730	72,270	80....	168	150	13,440	12,000
31....	30	13	930	403	81....	4	2	324	162
32....	50	31	1,600	992	82....	13	3	1,066	246
33....	67	32	2,211	1,056	83....	9	2	747	166
34....	39	17	1,326	578	84....	6	5	504	420
35....	444	536	15,540	18,760	85....	40	30	3,400	2,550
36....	41	23	1,476	828	86....	8	2	688	172
37....	50	22	1,850	814	87....	8	4	696	348
38....	28	10	1,064	380	88....	8	2	704	176
39....	10	9	390	351	89....	3	1	267	89
40....	1,161	1,362	46,440	54,480	90....	67	45	6,030	4,050
41....	16	7	656	287	91....	3	2	273	182
42....	24	16	1,008	672	92....	3	2	276	184
43....	27	6	1,161	258	93....	4	2	372	186
44....	26	14	1,144	616	94....	5	—	470	—
45....	175	147	7,875	6,615	95....	23	1	2,185	95
46....	15	7	690	322	96....	7	—	672	—
47....	17	9	799	423	97....	2	—	194	—
48....	18	16	864	768	98....	1	—	98	—
49....	5	5	245	245	99....	2	1	198	99
50....	9,767	11,557	488,350	577,850					
					Total	37,750	49,447	1,132,646	1,386,026

STATISTICAL DATA

4. ODD-LOT TRANSACTIONS OF THREE ODD-LOT HOUSES DURING
THREE SELECTED WEEKS—Continued
At a Price of \$25-\$39 $\frac{1}{2}$

Size of Lot (In shares)	Number of Transactions		Number of Shares		Size of Lot (In shares)	Number of Transactions		Number of Shares	
	Bought	Sold	Bought	Sold		Bought	Sold	Bought	Sold
1....	303	85	303	85	51....	13	4	663	204
2....	335	134	670	268	52....	23	6	1,196	312
3....	189	142	567	426	53....	12	2	636	106
4....	248	131	992	524	54....	14	6	756	324
5....	717	1,077	3,585	5,385	55....	54	30	2,970	1,650
6....	172	111	1,032	666	56....	11	4	616	224
7....	88	88	616	616	57....	9	5	513	285
8....	136	118	1,088	944	58....	9	—	522	118
9....	49	49	441	441	59....	2	2	118	—
10....	3,380	6,020	33,800	60,200	60....	180	199	10,800	11,940
11....	70	38	770	418	61....	10	2	610	122
12....	133	147	1,596	1,764	62....	12	5	744	310
13....	62	49	806	637	63....	7	1	441	63
14....	60	43	840	602	64....	7	2	448	128
15....	887	1,341	13,305	20,115	65....	38	35	2,470	2,275
16....	85	57	1,360	912	66....	15	2	990	132
17....	43	33	731	561	67....	9	5	603	335
18....	43	33	774	594	68....	4	1	272	68
19....	17	15	323	285	69....	1	1	69	69
20....	2,359	3,498	47,180	69,960	70....	90	78	6,300	5,460
21....	23	17	483	357	71....	7	3	497	213
22....	38	28	836	616	72....	8	1	576	72
23....	24	15	552	345	73....	4	4	292	292
24....	27	22	648	528	74....	6	2	444	148
25....	3,992	5,021	99,800	125,525	75....	225	194	16,875	14,550
26....	32	13	832	338	76....	5	1	380	76
27....	20	13	540	351	77....	3	1	231	77
28....	33	18	924	504	78....	—	3	—	234
29....	12	13	348	377	79....	1	1	79	79
30....	896	1,329	26,880	39,870	80....	80	72	6,400	5,760
31....	20	9	620	279	81....	4	2	324	162
32....	36	17	1,152	544	82....	2	1	164	82
33....	33	14	1,089	462	83....	1	1	83	83
34....	19	16	646	544	84....	6	1	504	84
35....	224	329	7,840	11,515	85....	16	13	1,360	1,105
36....	25	9	900	324	86....	6	1	516	86
37....	19	14	703	518	87....	3	3	261	261
38....	15	11	570	418	88....	4	2	352	176
39....	8	5	312	195	89....	1	—	89	—
40....	568	662	22,720	26,480	90....	30	23	2,700	2,070
41....	11	5	451	205	91....	3	1	273	91
42....	12	11	504	452	92....	5	2	460	184
43....	8	3	344	129	93....	1	1	93	93
44....	21	10	924	440	94....	1	1	94	94
45....	84	51	3,780	2,295	95....	8	3	760	285
46....	10	5	460	230	96....	3	1	288	96
47....	9	9	423	423	97....	3	—	291	—
48....	10	6	480	288	98....	1	—	98	—
49....	6	3	294	147	99....	2	—	198	—
50....	4,957	5,723	247,850	286,150					
Total					21,527	27,338	601,103	716,840	

ODD-LOT TRADING

4. ODD-LOT TRANSACTIONS OF THREE ODD-LOT HOUSES DURING
THREE SELECTED WEEKS—Continued
At a Price of \$40-\$99 $\frac{1}{2}$

Size of Lot (In shares)	Number of Transactions		Number of Shares		Size of Lot (In shares)	Number of Transactions		Number of Shares	
	Bought	Sold	Bought	Sold		Bought	Sold	Bought	Sold
1....	720	291	720	291	51....	19	12	969	612
2....	796	475	1,592	950	52....	29	4	1,508	208
3....	483	394	1,449	1,182	53....	17	7	901	371
4....	453	395	1,812	1,580	54....	21	15	1,134	810
5....	1,876	2,879	9,380	14,395	55....	79	63	4,345	3,465
6....	324	385	1,944	2,310	56....	25	11	1,400	616
7....	225	234	1,582	1,638	57....	21	8	1,197	456
8....	296	284	2,368	2,272	58....	28	10	1,624	580
9....	100	113	900	1,017	59....	9	9	531	531
10....	6,896	12,146	68,960	121,460	60....	326	345	19,560	20,700
11....	120	109	1,320	1,199	61....	9	5	549	305
12....	362	351	4,344	4,212	62....	19	9	1,178	558
13....	119	130	1,547	1,690	63....	8	7	504	441
14....	138	131	1,932	1,834	64....	18	3	1,152	192
15....	1,492	2,409	22,380	36,135	65....	63	78	4,095	5,070
16....	152	121	2,592	1,936	66....	17	10	1,122	660
17....	79	90	1,343	1,530	67....	10	5	670	335
18....	97	110	1,746	1,980	68....	12	12	816	816
19....	37	61	703	1,159	69....	4	1	276	69
20....	3,774	5,662	75,480	113,240	70....	151	178	10,570	12,460
21....	60	42	1,260	882	71....	5	7	355	497
22....	89	64	1,958	1,408	72....	13	2	936	144
23....	40	60	920	1,380	73....	6	6	438	438
24....	80	42	1,920	1,008	74....	4	6	296	444
25....	5,722	6,920	143,050	173,000	75....	367	328	27,525	24,600
26....	49	33	1,274	858	76....	11	3	836	228
27....	36	35	972	945	77....	6	3	462	231
28....	48	32	1,344	896	78....	5	2	390	156
29....	38	17	1,102	493	79....	4	4	316	316
30....	1,288	1,730	38,640	51,900	80....	127	136	10,160	10,880
31....	31	22	961	682	81....	7	6	567	486
32....	61	38	1,952	1,216	82....	11	1	902	82
33....	61	40	2,013	1,320	83....	12	4	996	332
34....	34	24	1,156	816	84....	5	3	420	252
35....	288	458	10,080	16,030	85....	33	25	2,805	2,125
36....	32	26	1,152	936	86....	5	2	430	172
37....	34	22	1,258	814	87....	8	5	696	435
38....	27	24	1,026	912	88....	11	6	968	528
39....	20	13	780	507	89....	4	4	356	356
40....	805	1,059	32,200	42,360	90....	47	59	4,230	5,310
41....	15	9	615	369	91....	4	4	364	91
42....	31	26	1,302	1,092	92....	3	3	276	276
43....	15	14	645	602	93....	5	2	465	186
44....	16	11	704	484	94....	—	2	—	188
45....	129	132	5,805	5,940	95....	8	10	760	950
46....	9	19	414	874	96....	7	4	672	384
47....	10	11	470	517	97....	4	1	388	97
48....	22	13	1,056	624	98....	5	2	490	196
49....	8	9	392	441	99....	5	4	495	396
50....	7,817	9,260	390,850	463,000					
					Total	37,082	48,408	963,460	1,184,347

STATISTICAL DATA

4. ODD-LOT TRANSACTIONS OF THREE ODD-LOT HOUSES DURING
THREE SELECTED WEEKS—Continued
At a Price of \$100 and Over

Size of Lot (In shares)	Number of Transactions		Number of Shares		Size of Lot (In shares)	Number of Transactions		Number of Shares	
	Bought	Sold	Bought	Sold		Bought	Sold	Bought	Sold
1.....	844	320		844	51.....	3	—		—
2.....	650	334	1,300	668	52.....	5	3	153	156
3.....	370	300	1,110	900	53.....	3	2	260	106
4.....	265	276	1,060	1,104	54.....	6	2	159	108
5.....	715	1,135	3,575	5,675	55.....	21	16	324	374
6.....	190	232	1,140	1,392	56.....	5	1	1,155	880
7.....	88	136	616	952	57.....	5	1	280	56
8.....	118	124	944	992	58.....	4	1	285	57
9.....	49	62	441	558	59.....	2	3	232	58
10.....	1,595	2,609	15,950	26,090	60.....	47	31	118	177
11.....	69	50	759	550	61.....	2	1	2,820	1,860
12.....	74	129	888	1,548	62.....	1	—	122	61
13.....	38	49	494	637	63.....	—	6	62	—
14.....	49	43	686	602	64.....	3	1	—	378
15.....	277	493	4,155	7,395	65.....	12	11	192	64
16.....	38	28	608	448	66.....	2	2	780	715
17.....	30	28	510	476	67.....	2	2	132	132
18.....	43	48	774	864	68.....	4	1	—	134
19.....	21	15	399	285	69.....	3	1	272	68
20.....	576	998	11,520	19,960	70.....	27	30	207	69
21.....	16	8	336	168	71.....	1	1	1,890	2,100
22.....	31	22	682	484	72.....	1	1	71	71
23.....	15	14	345	322	73.....	2	—	72	72
24.....	15	15	360	360	74.....	2	1	146	—
25.....	779	1,042	19,475	26,050	75.....	63	41	148	74
26.....	4	14	104	364	76.....	5	—	4,725	3,075
27.....	16	13	432	351	77.....	2	—	380	—
28.....	22	22	616	616	78.....	1	1	154	—
29.....	13	7	377	203	79.....	—	3	78	78
30.....	216	334	6,480	10,020	80.....	24	24	—	237
31.....	10	4	310	124	81.....	1	—	1,920	1,920
32.....	7	9	224	288	82.....	—	—	81	—
33.....	17	10	561	330	83.....	4	—	—	—
34.....	12	7	408	238	84.....	1	—	332	—
35.....	59	96	2,065	3,360	85.....	4	8	84	—
36.....	8	5	288	180	86.....	—	—	340	680
37.....	6	4	222	148	87.....	2	—	—	—
38.....	7	8	266	304	88.....	—	1	174	—
39.....	7	5	273	195	89.....	—	—	—	88
40.....	137	207	5,480	8,280	90.....	12	11	—	—
41.....	5	6	205	246	91.....	—	—	1,080	990
42.....	5	4	210	168	92.....	1	—	—	—
43.....	2	3	86	129	93.....	1	—	92	—
44.....	6	5	264	220	94.....	—	—	93	—
45.....	17	21	765	945	95.....	3	1	—	—
46.....	6	4	276	184	96.....	—	—	285	95
47.....	2	2	94	94	97.....	—	1	—	—
48.....	1	9	48	432	98.....	—	1	—	97
49.....	7	1	98	49	99.....	1	—	99	98
50.....	1,107	1,272	55,350	63,600					
					Total	8,935	10,792	164,270	204,622

ODD-LOT TRADING

4. ODD-LOT TRANSACTIONS OF THREE ODD-LOT HOUSES DURING
THREE SELECTED WEEKS—Concluded
At All Prices

Size of Lot (In shares)	Number of Transactions		Number of Shares		Size of Lot (In shares)	Number of Transactions		Number of Shares	
	Bought	Sold	Bought	Sold		Bought	Sold	Bought	Sold
1....	2,402	813	2,402	813	51....	70	22	3,570	1,122
2....	2,318	1,115	4,636	2,230	52....	116	25	6,032	1,300
3....	1,437	1,002	4,311	3,006	53....	62	16	3,286	848
4....	1,329	978	5,316	3,912	54....	73	31	3,942	1,674
5....	4,686	6,722	23,430	33,610	55....	317	196	17,435	10,780
6....	992	918	5,952	5,508	56....	75	23	4,200	1,288
7....	614	609	4,298	4,263	57....	61	23	3,477	1,311
8....	844	717	6,752	5,736	58....	60	16	3,480	928
9....	324	291	2,916	2,619	59....	22	21	1,298	1,239
10....	18,476	31,617	184,760	316,170	60....	1,184	1,128	71,040	67,680
11....	414	288	4,554	3,168	61....	30	16	1,830	976
12....	967	932	11,604	11,184	62....	77	24	4,774	1,488
13....	358	331	4,654	4,303	63....	29	23	1,827	1,449
14....	378	300	5,292	4,200	64....	49	15	3,136	960
15....	4,765	7,233	71,475	108,495	65....	275	242	17,875	15,730
16....	462	297	7,392	4,732	66....	80	20	5,280	1,320
17....	247	222	4,199	3,774	67....	45	22	3,015	1,474
18....	291	281	5,238	5,058	68....	45	20	3,060	1,360
19....	122	128	2,318	2,432	69....	14	9	966	621
20....	12,098	19,438	241,960	388,760	70....	545	524	38,150	36,680
21....	166	96	3,486	2,016	71....	21	16	1,491	1,136
22....	268	184	5,896	4,048	72....	52	6	3,744	432
23....	138	141	3,174	3,243	73....	30	17	2,190	1,241
24....	226	133	5,424	3,192	74....	19	11	1,406	814
25....	20,337	25,696	508,425	642,400	75....	1,477	1,158	110,775	86,850
26....	147	101	3,822	2,626	76....	30	6	2,280	456
27....	150	91	4,050	2,457	77....	22	6	1,694	462
28....	190	111	5,320	3,108	78....	17	9	1,326	702
29....	105	51	3,045	1,479	79....	13	11	1,027	869
30....	4,866	6,686	145,980	200,580	80....	501	450	40,080	36,000
31....	106	48	3,286	1,488	81....	17	10	1,377	810
32....	187	102	5,984	3,264	82....	30	5	2,460	410
33....	218	112	7,194	3,696	83....	33	9	2,739	747
34....	119	73	4,046	2,482	84....	19	11	1,596	924
35....	1,280	1,656	44,800	57,960	85....	114	95	9,690	8,075
36....	126	66	4,536	2,376	86....	20	6	1,720	516
37....	136	66	5,032	2,442	87....	26	13	2,262	1,131
38....	88	62	3,344	2,356	88....	26	11	2,288	968
39....	51	33	1,989	1,287	89....	9	5	801	445
40....	3,226	3,876	129,040	155,040	90....	187	150	16,830	13,500
41....	57	29	2,337	1,189	91....	12	5	1,092	455
42....	91	61	3,822	2,562	92....	16	9	1,472	828
43....	54	30	2,322	1,290	93....	13	5	1,209	465
44....	85	41	3,740	1,804	94....	6	3	564	282
45....	489	412	22,005	18,540	95....	50	19	4,750	1,805
46....	46	40	2,116	1,840	96....	22	5	2,112	480
47....	44	32	2,068	1,504	97....	10	2	970	194
48....	62	45	2,976	2,160	98....	7	3	686	294
49....	27	21	1,323	1,029	99....	10	5	990	495
50....	28,504	32,802	1,425,200	1,640,100					
					Total	121,151	151,606	3,388,535	3,995,565

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