

NEW YORK STOCK EXCHANGE

MEMORANDUM

May 27, 1963

TO: Mr. A. James Meigs
 FROM: Norman C. Miller
 SUBJECT: SEC Data in Chapter 1 - Report #4

This is probably my final report in this series on the data in Chapter 1 of the SEC's Special Study.... It deals with the volume of stock trading in the over-the-counter market.

Summary

1. The OTC market in stocks (listed and unlisted combined) has not grown significantly faster than exchange volume (all exchanges) since World War II, although it had grown more rapidly up to that time.
2. The apparent relative growth in the OTC market from 1949 to 1961 -- from 31% to 38% of total stock sales -- was due largely to differences in the stock market cycle. The OTC proportion would tend to be low in a depressed market (1949) and high in a speculative market (1946 and 1961). Thus, from 1946 to 1961 the OTC proportion grew only slightly -- from 36% to 38%.
3. Our own estimates of OTC sales for recent years other than 1961 confirm these conclusions. For example, in 1962 OTC sales were only 32% of total stock sales -- not much different from 1949 (31%) and well below 1946 (36%).
4. Furthermore, the NYSE proportion in 1962 (59%) was higher than in 1949 (58%).

Accuracy of SEC Data on OTC Market

The Special Study reports on page 29 in Chapter 1 "that in 1949, (OTC) volume was \$4.9 billion, compared with \$38.9 billion in 1961, a gain of almost eight times." Over-the-counter volume includes both listed and unlisted stocks.

Both the 1949 and 1961 figures on OTC volume were estimated by the SEC from information collected in their questionnaires. Although much of the other data in Chapter 1 is subject to some doubt as to accuracy, these OTC figures do not look too bad:

1. 1949 - The 1949 figure of \$4.9 billion is very close to the Wharton School estimate of \$5.0 billion reported in their book The Over-the-Counter Securities Markets (by Friend, Hoffman and Winn, 1958). The latter estimate was made from federal transfer tax data.
2. 1961 - In making our own estimates of OTC volume in recent years for this report, we found that OTC sales in New York State alone in 1961 were an estimated 38% of total OTC sales of \$38.9 billion for the whole nation, as reported by the SEC. This proportion is somewhat higher than the New York State proportions in the last five Public Transaction Studies in which we collected geographical information on NYSE public volume. New York State proportions ranged from 28.9% to 31.7% in these PTS's. In earlier studies, they ranged from 36.4% to 37.4%. My intuition tells me that New York State would tend to account for a larger proportion of total OTC sales than of NYSE volume. Therefore, the 38% appears to be reasonable.^{1/}

New OTC Volume Data

A combination of Wharton School and SEC data on OTC vs. exchange sales shows the following proportions accounted for by the OTC market:

1920	6%	1939	23%
1926	7%	1946	36%
1929	14%	1948	34%
1935	12%	1949	31% ^{2/}
1937	21%	1961	38%

A question you raised was whether or not 1961 was such an unusual year in the OTC market that the choice of some other recent year might produce a different comparison with 1949. However, before examining this it should be noted that the 1961 OTC proportion (38%) was not much higher than in 1946 (36%), a year manifested by relatively substantial speculation and public interest in the market, plus 100% margin requirements. This suggests that the chief difference between 1949 and 1961 is in the nature of the market -- high yields and low p/e ratios (1949) vs. low yields and high p/e ratios (1961). These differences are accompanied by differences in relative volume levels between the two market categories. It would appear that the relative growth that took place in the OTC

^{1/} The New York State proportion might also tend to be higher for the OTC data for certain technical reasons described in the Appendix.

^{2/} Based on SEC figure of \$4.9 billion for OTC volume. If Wharton School figure of \$5.0 billion is used, the proportion is 32%.

market prior to World War II stopped after the war, or at least slowed down noticeably. The peak years 1946 and 1961 show little difference in the relative importance of the OTC market.

To further clarify this picture, we have estimated OTC volume (in both listed and unlisted stocks) for 1959, 1960 and 1962. These are shown in Table 1 with 1946, 1949 and 1961 and in contrast to exchange volume.

<u>DOLLAR VOLUME OF STOCK SALES BY TYPE OF MARKET*/</u>						
<u>1946, 1949, 1959-62</u>						
	<u>1946</u>	<u>1949</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>
-----billions of dollars-----						
NYSE	\$15.6	\$ 9.0	\$43.5	\$38.0	\$ 52.8	\$47.4
ASE	2.0	0.9	5.0	4.2	6.9	3.7
Regional Exchanges	1.2	0.8	3.5	3.1	4.4	3.7
Subtotal-Exchanges	\$18.8	\$10.7	\$52.0	\$45.3	\$ 64.1	\$54.8
OTC	<u>10.5</u>	<u>4.9</u>	<u>25.2</u>	<u>23.2</u>	<u>38.9</u>	<u>25.9</u>
Total	\$29.3	\$15.6	\$77.2	\$68.5	\$103.0	\$80.7
-----per cent distribution-----						
NYSE	53%	58%	56%	55%	51%	59%
ASE	7	6	6	6	7	4
Regional Exchanges	4	5	5	5	4	5
Subtotal-Exchanges	64%	69%	67%	66%	62%	68%
OTC	<u>36</u>	<u>31</u>	<u>33</u>	<u>34</u>	<u>38</u>	<u>32</u>
Total	100%	100%	100%	100%	100%	100%

*/ Includes rights and warrants. See page 8 in the Appendix for a discussion of this subject.

Sources: All data on volume on exchanges are from the SEC Statistical Bulletin.

OTC Volume data: 1946 - Wharton School OTC Study; 1949 and 1961 - SEC Special Study, Chapter 1; 1959, 1960 and 1962 -- NYSE estimates.


These figures indicate that the choice of 1961 does make a big difference in the comparison with 1949 and 1946. In 1962, the OTC market accounted for 32% of total sales. This is very close to the depressed-market low of 31% in 1949 and well below the 1946 proportion of 36%. Interestingly, the NYSE proportion in 1962 was above that in 1949.

Methodology

The estimating procedure used to determine OTC volume in recent years is described in the attached Appendix. The methods are complicated and require many assumptions. However, we feel the results are reasonable.

New York State Transfer tax data have been used exclusively. Available federal transfer tax statistics are now completely useless for this purpose, contrary to the situation in earlier years.

Needless to say, we cannot estimate OTC volume in listed stocks alone from this information. A later chapter in the SEC report will cover this, based on data obtained by questionnaire.


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Appendix

ESTIMATING OTC MARKET FROM NEW YORK STATE CAPITAL STOCK TRANSFER TAX COLLECTIONS

I. Introduction

The SEC reported that OTC stock resales were \$38.9 billion in 1961, or 38% of the total market. In an effort to determine whether or not 1961 was an unusual year, estimates for 1959, 1960 and 1962 were made using transfer tax data. It was impossible to use federal transfer tax statistics to estimate the OTC market since this information includes many types of transfers other than capital stock, of which no reliable estimates could be made. Therefore, the New York State capital stock transfer tax was used to estimate the OTC competition in New York State, and this was projected to the whole nation.

II. Summary of N.Y. State Capital Stock Transfer Tax Provisions

A. The tax on sales of stock is as follows:

1. \$.01 on each share selling below \$5.00
2. \$.02 on each share selling at \$5.00-\$9.99
3. \$.03 on each share selling at \$10.00-\$19.99
4. \$.04 on each share selling at \$20.00 or over.

However, sales by odd-lot dealers on registered exchanges to public customers are exempt from the tax.

B. The tax on transfers of stock other than sales (e.g., gifts and bequests) is \$.02 per share. However, certain transfers where no actual change of ownership occurs or which are brought about by a change in capital structure are not subject to the tax. For example, the surrender of preferred stock in exchange for common stock certificates issued to the same stockholder is exempt from the tax.

C. There is no tax on the issuance of new stock.

D. The tax is imposed on sales, agreements to sell, memoranda of sales, deliveries and transfers of shares or certificates. If more than one of these events occurs in New York State, only one tax is payable.

III. Summary of Method

A. The estimated tax paid on NYSE and ASE stocks, rights and warrants was subtracted from the total New York State capital stock transfer tax. Taxes on transfers other than

sales were omitted, since they are small and difficult to estimate. The residual was assumed to be the tax paid on OTC stock resales.

- B. It was assumed that the price per share distribution on OTC stocks was the same as that on ASE stocks. Therefore, the relationship between the ASE tax and the market value of ASE stocks was applied to the OTC tax to obtain the market value of New York State OTC stock resales.
- C. Based on the SEC figure of \$38.9 billion for OTC trading in 1961, the New York State OTC market was 38% of the national OTC market. This percentage was used to estimate the national OTC market in 1959, 1960 and 1962.

IV. Details of Method

A. Estimating NYSE Quarterly Tax on Shares of Stock

1. Total round-lot sales and customers odd-lot sales were obtained quarterly from the SEC Statistical Bulletin.
2. The quarterly price breakdown (percentage of shares selling below \$5, \$5-\$9.99, \$10-\$19.99 and \$20 or over) was obtained by averaging the weekly percentages in the NYSE records.
3. The percentage in each price group was multiplied by the total number of shares for the quarter.
4. The number of shares in each price group (from 3 above) was multiplied by the tax per share. For example,

First Quarter 1961

	<u>% of Shares</u>	<u>No. of Shares (000)</u>	<u>Tax Per Share</u>	<u>Total Tax (000)</u>
Under \$5	1.8%	6,222	\$.01	\$ 62
\$ 5-\$ 9.99	5.5	19,010	.02	380
\$10-\$19.99	16.9	58,413	.03	1,752
\$20 and over	75.8	<u>261,996</u>	.04	<u>10,480</u>
		345,641		<u>\$12,674</u>

B. Estimating ASE Quarterly Tax on Shares of Stock

1. The procedure used was the same as the NYSE except for the percentage of shares in each price group. This was obtained by examination of the annual 1961 trading in

the Bank and Quotation Record. The classification of price depended on the annual price range; if the range covered more than one classification (e.g. \$4-\$13), the number of shares was split among the classifications by arbitrary decision. The percentage distribution obtained in 1961 was used for all quarters from 1959 to 1962.

C. New York State Capital Stock Transfer Tax Collections

1. For the years prior to 1961, the New York State tax collection data were available only on a fiscal year basis ending 3/31. These were converted to calendar years based on the NYSE and ASE estimated quarterly tax on shares of stock. Rights and warrants were not used since they are not available on a quarterly basis. Since the NYSE taxes account for approximately half the tax collected by New York State, and the OTC market probably follows the ASE, (the ASE) was given the same weight in summing NYSE and ASE taxes (thus weighted ASE = ASE + OTC).

- a) The estimated NYSE tax on shares of stock for the 4 fiscal quarters was totaled, as was the estimated ASE tax.
- b) The estimated quarterly ASE tax was weighted by the percentage that the NYSE fiscal year tax was of the ASE fiscal year tax.
- c) The estimated NYSE tax and weighted ASE tax were totaled quarterly and for the fiscal year.
- d) Each quarter as a per cent of the total fiscal year was computed.
- e) The quarterly percentage was applied to the New York State fiscal year tax collection to obtain the quarterly tax collections. For example:

FISCAL 1961 (000 \$)

	<u>Est. Tax on NYSE Shares</u>	<u>Est. Tax on ASE Shares</u>	<u>Estimated Weighted Tax on ASE</u>	<u>Total Tax on NYSE & Weighted ASE Tax</u>	<u>Q. as % of Total</u>	<u>Total Tax Collec- tions</u>
2nd Q. 1960	\$ 8,598	\$1,794	\$ 8,079	\$16,677	22.6%	\$14,655
3rd Q. 1960	7,551	1,645	7,408	14,959	20.3	13,164
4th Q. 1960	8,013	1,611	7,255	15,268	20.7	13,423
1st Q. 1961	<u>12,675</u>	<u>3,130</u>	<u>14,095</u>	<u>26,770</u>	<u>36.4</u>	<u>23,604</u>
TOTAL	<u>\$36,837</u>	<u>\$8,180</u>	<u>\$36,837</u>	<u>\$73,674</u>	<u>100.0%</u>	<u>\$64,846</u>

- f) After this was done for each fiscal year, the quarterly New York State tax collections were totaled on a calendar basis.
- For the year 1961, total tax collections were available on a calendar year basis in NYSE files (Tax Division, Dept. of Research and Statistics).
 - The state tax collections for the first half of calendar 1962 were available in NYSE files. The last 6 months were estimated by using the per cent change in estimated NYSE and ASE taxes, again giving ASE the same weight as NYSE. For example:

CALENDAR 1962
(000 \$)

	<u>Est. NYSE Tax</u>	<u>Est. ASE Tax</u>	<u>Weighted ASE Tax</u>	<u>Total Est. NYSE Tax & Weighted ASE Tax</u>	<u>2nd Half as % of 1st Half</u>	<u>New York State Tax Collections</u>
1st Half	\$20,738	\$4,133	\$22,308	\$43,046		\$36,951*
2nd Half	<u>19,102</u>	<u>3,248</u>	<u>17,532</u>	<u>36,634</u>	85.1%	<u>31,445#</u>
Total Year	\$39,840	\$7,381	\$39,840	\$79,680		\$68,396

* From NYSE Files

Estimated by 85.1% of First Half

D. Rights & Warrants

1. NYSE -

- The total number of rights was obtained annually from the SEC Statistical Bulletin. All units under "Rights & Warrants" were considered rights, since there are no warrants listed on the NYSE.
- It was assumed that all rights sold under \$5
- The number of units was multiplied by \$.01 to obtain the total tax: e.g.

	<u>No. of Rights (000)</u>	<u>Tax per Share</u>	<u>Total Tax (000 \$)</u>
1961	100,293	\$.01	\$1,002.9

2. ASE -

- The total number of rights and warrants were obtained

from the SEC Statistical Bulletin.

- b) The total number of warrants and the price distribution for 1961 was determined by examination of the annual 1961 trading in the Bank and Quotation Record in the same manner as ASE stock (see IV B 1 above).
- c) The total number of rights for 1961 was obtained by subtracting warrants from "rights and warrants"

	<u>Total Rights & Warrants*</u> (000)	<u>Warrants#</u> (000)	<u>Rights</u> (000)	<u>Rights as % of Total Rights & Warrants</u>
1961	22,872	11,498	11,374	49.7%

* From SEC Statistical Bulletin

From Bank and Quotation Record

- d) It was assumed that rights as a percentage of rights and warrants was the same in 1959, 1960 and 1962 as in 1961 (49.7%). Therefore, this percentage was used in breaking down rights and warrants for the other years.
- e) It was assumed that all rights sold under \$5.
- f) The tax on warrants was computed in the same manner as the tax on ASE stocks using the price distribution applicable to warrants.

1961

	<u>% in Each Price Group</u>	<u>No. of Warrants</u> (000)	<u>Tax Per Share</u>	<u>Total Tax</u> (000)
Under \$5	60.9%	7,002	\$.01	\$ 70.0
\$ 5-\$ 9.99	11.0	1,265	.02	25.3
\$10-\$19.99	22.0	2,530	.03	75.9
\$20 and Over	6.1	701	.04	28.0
TOTAL		11,498		\$199.2

- g) The number of rights was multiplied by \$.01 to obtain the total tax on rights.
- h) The taxes on rights and warrants were totaled.

E. Estimating OTC Stock Resales

1. The NYSE and ASE tax on stocks, rights and warrants was subtracted from the total New York State tax to obtain the residual.
2. The price distribution on OTC stocks was assumed to be the same as that on the ASE.
3. Since the tax is not paid on customer odd-lot purchases, it was necessary to estimate the market value of round-lot and customer odd-lot sales on the ASE. The market value and shares of total stock sales as well as shares of round-lot and customer odd-lot sales were obtained from the SEC Statistical Bulletin.
4. The market value of round-lot and customer odd-lot sales was estimated from the percentage that round-lot and customer odd-lot shares is of total shares. For example:

ASE - CALENDAR 1961

	<u>Shares</u>	<u>% of Total</u>	<u>Market Value</u> (000)
Total Sales	525,289		\$6,751,977
Round-Lot and Customer Odd-Lot Sales	509,578	97.01%	6,550,093*

* Based on 97% obtained from share relationship.

5. The market value of rights and warrants and round-lot and customer odd-lot sales was totaled.
6. The ASE tax as a percentage of market value was obtained:

$$\text{ASE 1961 } \frac{\text{Tax}}{\text{Market Value}} = \frac{\$12,084}{\$6,661,226} = .1814\%$$

7. The same percentage was applied to the residual tax, assumed to be OTC:

$$\text{OTC 1961 } \frac{\text{tax}}{\%} = \frac{\$26,980}{.1814\%} = \$14,873 \text{ million in New York State OTC stock resales.}$$

8. Assume the SEC figure of \$38.9 billion for 1961 is correct.

9. The New York State OTC market was estimated to be 38% of the total OTC market:

$$\frac{\text{NYS OTC Market } \$14.9}{\text{Total OTC Market } \$38.9} = 38.3\%$$

10. The New York State percentage of total OTC market was also assumed to be 38% in 1959, 1960 and 1962. This relationship is higher than those in NYSE Public Transaction Studies since October 1957 because it includes certain sales or transfers made in New York State by nonresidents.

V. Assumptions Used - Summary

- A. The price distribution of ASE stocks in 1959, 1960 and 1962 was the same as in 1961.
- B. ASE rights as a percentage of ASE rights and warrants were the same in 1959, 1960 and 1962 as in 1961 (49.7%).
- C. All rights were sold under \$5.
- D. The price distribution for warrants on the ASE was the same in 1959, 1960 and 1962 as in 1961.
- E. The price distribution of New York State OTC stocks was the same as ASE stocks.
- F. The SEC figure of \$38.9 billion for 1961 OTC trading is correct.
- G. The New York State OTC market as a per cent of the total OTC market was the same in 1959, 1960 and 1962 as in 1961 (38%).

VI. Limitations of the Data

- A. The tax on transfers of stock other than sales was not eliminated from the residual. However, this may not be a serious omission, since it is compensated for when determining the percentage that New York State OTC stock sales are of total OTC stock sales in 1961. For example, if the residual New York State tax was lower due to taking out the tax on non-sale transfers of stock, the market value of New York State OTC stock sales would be lower. Therefore, the 1961 New York State OTC market as a percentage of the total (\$38.9 billion SEC figure) would be lower, and this lower percentage would be used in other years instead of 38%.
- B. The New York State capital stock transfer tax is payable

if a sale, delivery or transfer occurs within the State. Therefore, some sales made outside New York State are taxed because the transfer of record ownership on the books of the corporation occurs within New York State. Also, sales by nonresidents of New York State are taxed if the sale occurs within New York State. However, this is taken care of in the same manner as the tax on non-sale transfers of stock in (A) above.

C. The assumptions listed above may not be valid. The following assumptions, in particular, seem subject to question:

1. It is unlikely that the price distribution of ASE stocks for 1959, 1960 and 1962 is the same as 1961, since the latter was a year of heavy activity and high prices. However, the time required to determine these percentages for the other years would be substantial. The error involved is probably not great because the largest percentage of stocks was selling below \$5 even in 1961.
2. It is unlikely that New York State OTC stock sales are a constant percentage (38%) of the total OTC market. Since it is impossible to say whether or not this percentage is higher or lower in other years, 38% was used for all years.

VII. Rights and Warrants -- Wharton School OTC Study

As far as can be determined from the detailed explanation in the Wharton Study, rights and warrants were included in the dollar volume of stock sales. However, the figure of \$18.8 for 1946 Exchanges differs from that of \$18.7 given by the Wharton Study probably because rights and warrants were unintentionally omitted from the latter.