extent of, a net inflow of money from the net-sale of new own shares, or adds to total portfolio sales to the extent of a net outflow of money from the net repurchase of own shares. The reduction of the total portfolio transactions by $\Sigma/N/I$ in the formula, therefore, reduces the volume of transactions, which are related to the average asset base, to the average of those sales and purchases of securities which represent the liquidation and reinvestment of values, thus affording a measure of the residual and complete turnover activity.

(b)
$$R_2 = \frac{[\Sigma P + \Sigma S - (\Sigma I - \Sigma O)]}{(\Sigma A_1 + \Sigma A_2)}$$

where the variables remain as described in the formula R_1 except:

I = Total inflow of money resulting from the sale of own shares by all funds in any given group

O = Total outflow of money resulting from the repurchase of own shares by such funds

The effect in this case is once again to consider that only the net capital change affects the volume of portfolio activity, but here the net overall capital change of the group of funds as a whole is considered, as would be the case if the group were regarded as one large fund for inflow and outflow purposes, rather than aggregating the net capital change for each individual fund as in the preceding case. It will be seen subsequently, on the basis of table IV–72, that this difference in the R_1 and R_2 turnover formulas does not cause very much difference in the two measures in actual fact, but it is useful to retain both measures for purposes of comparison with the rates derived from the remaining two formulas.

(c)
$$R_3 = \frac{\left[\Sigma P + \Sigma S - \left(\Sigma I - \frac{\Sigma O}{2}\right)\right]}{(\Sigma A_1 + \Sigma A_2)}$$

where the variables remain as described in the formula R_2

In this case the assumption has been made that a portion of the total outflow of money from the funds, resulting from the repurchase of their own shares, is financed by the liquidation of portfolio securities. This differs from the preceding cases in that in the former it was implied that all such outflow was financed from the proceeds of the sales of new own shares, leaving only the balance of such proceeds available for portfolio investment. In the present formula the assumption has been made that one-quarter of the outflow is financed by security sales. This implies that three-quarters of the outflow would be financed by inflow proceeds, leading algebraically to a reduction factor in

the turnover rate formula of $I - \left(\frac{30}{4} - \frac{0}{4}\right) = \left(I - \frac{0}{2}\right)$. Its eemed reason-

able, on an inspection of the industry's inflow and outflow data, to expect that only a fairly small percentage of outflow would give rise to security sales, as inflow consistently exceeded outflow by a wide margin during the study period. Outflow for the total universe of funds included in this study was 34 percent of inflow in 1953, and

between 1954 and 1958 the corresponding percentage declined annually
from 37 percent to 24 percent. An outflow portfolio impact of 25
percent was, therefore, assumed as a reasonable small figure for pur-
poses of comparative analysis. If, alternatively, it had been assumed
that one-half of the outflow was financed by portfolio security sales,
the reduction factor in the present turnover formula would have

become equal to $I-\left(\dfrac{0}{2}-\dfrac{0}{2}\right)=I$. For reasons which will become clear

immediately, however, it was thought necessary to supplement this
formula by R_4, employing rather more stringent assumptions as to the
portfolio impact of capital changes.

(d) $$R_4=\frac{(\Sigma P+\Sigma S-\Sigma I-\Sigma O)}{(\Sigma A_1+\Sigma A_2)}$$

where the variables remain as described in formula R_3.

In this case the assumption is made that the total gross capital
changes affect portfolio activity. It is assumed that the total port-
folio purchases include the investment of the total inflow, and that
portfolio sales include sales necessary to finance the whole of the out-
flow. The reduction factor in the turnover rate formula therefore
becomes the sum of the inflow and outflow $(I+O)$. Probably these
assumptions and the present formula do have a high degree of em-
pirical applicability in funds which adopt a policy of remaining con-
tinually fully invested, effecting, that is, only marginal changes in the
relative importance of their total cash position as a percentage of total
investible assets. Recalling, moreover, that the turnover rate analysis
in this chapter has been based on total assets rather than on total
portfolio, and that portfolio purchases and sales have been taken to
include transactions in Government securities of all maturity dates
and other near-liquid portfolio items, the empirical relevance of the
turnover rate R_4 may well be enhanced in certain types of funds.
But the matter clearly cannot be settled on anything other than an
ad hoc investigation of each fund's affairs, owing to the manner in
which the timing of inflows in relation to outflows may differ on a
daily, weekly, or other periodical basis, and owing, in conjunction
with this, to the frequency and timing of portfolio decisions and their
implementation.

It will be clear from the foregoing discussion of alternative assump-
tions implicit in the turnover rates that the relationship $R_2 \geqslant R_1 > R_3 >$
R_4 can be expected to obtain. This is confirmed by the summary data
in table IV–72. The table exhibits turnover rates based on the fore-
going alternative assumptions and confirms clearly the principal con-
clusions adduced from the earlier analysis.

TABLE IV-72.—*Annual portfolio turnover rates under varying assumptions as to the portfolio impact of transactions in own shares, all funds, balanced funds, common stock funds, and all funds, by size [1] of fund, 1953, 1957, and 1958*

[In percent]

Type and size of fund	1953				1957				1958 (9 months) [2]			
	R_1	R_2	R_3	R_4	R_1	R_2	R_3	R_4	R_1	R_2	R_3	R_4
All funds_____	17.6	18.0	16.6	12.2	21.4	21.7	20.5	16.7	23.6	23.9	22.7	19.2
All funds:												
Size (a)_____	46.7	51.9	48.7	38.9	47.0	50.9	48.3	40.6	44.2	46.2	44.1	37.7
Size (b)_____	32.0	33.6	31.2	23.9	28.8	30.1	28.2	22.4	28.5	30.4	28.3	22.1
Size (c)_____	18.4	18.5	17.2	13.1	25.4	25.4	24.1	20.4	28.8	28.9	27.7	24.3
Size (d)_____	10.9	10.9	9.7	6.2	13.7	13.7	12.8	9.8	15.5	15.5	14.6	11.8
All balanced funds_____	20.8	21.1	17.1	15.7	20.1	20.3	19.2	15.7	22.1	22.3	21.3	18.1
All common stock funds__	15.3	15.5	14.1	10.0	23.9	23.9	22.8	19.5	26.3	26.4	25.3	22.1

[1] Size as of September 1958.
[2] 9 months' equivalent annua lrate.

NOTE.—See the following:

$$R_1 = \frac{(\Sigma P + \Sigma S - \Sigma/NI/)}{(\Sigma A_1 + \Sigma A_2)}$$

$$R_2 = \frac{[\Sigma P + \Sigma S - (\Sigma I - \Sigma O)]}{(\Sigma A_1 + \Sigma A_2)}$$

$$R_3 = \frac{\left[\Sigma P + \Sigma S - \left(\Sigma I - \frac{\Sigma O}{2}\right)\right]}{(\Sigma A_1 + \Sigma A_2)}$$

$$R_4 = \frac{(\Sigma P + \Sigma S - \Sigma I - \Sigma O)}{(\Sigma A_1 + \Sigma A_2)}$$

(a) = Funds with net assets less than $10,000,000.
(b) = Funds with net assets $10,000,000 and less than $50,000,000.
(c) = Funds with net assets $50,000,000 and less than $300,000,000.
(d) = Funds with net assets over $300,000,000.
See text for a full explanation of the formulas.

It is noted that these various assumptions regarding the portfolio impact of the funds' capital changes, while they do diminish the turnover rates in the manner already indicated, do not affect the turnover rates of all size groups of funds uniformly. In each of the years 1953, 1957, and 1958 the turnover rate for all funds combined was about 5 percentage points higher in terms of the weakest inflow-impact assumption (R_1 or R_2) than under the most stringent inflow-impact assumptions (R_4). The comparable difference in percentage points is larger for the smallest size class of funds, however, and the difference diminishes noticeably as the size of fund increases. On the other hand, the relative decline in the rate is larger for the larger funds. The 7-percentage-point decline between R_1 and R_4 for the smallest size class of funds in 1958 represented about 15 percent of the R_1 rate, while the 4-percentage-point decline in the case of the largest funds represented about 24 percent of the R_1 rate. The tendency for these changes in inflow-impact assumptions to exert a relatively greater effect on the turnover rates of the larger funds would be produced if these funds had a greater tendency to invest inflows in temporary near-liquid positions, rather than move their increasing amounts of capital, resulting from net inflows, directly into corporate portfolio securities. A relatively higher turnover of shorter term securities for this reason would then be associated with the fact (to be noted more fully in the following section) that these larger funds maintained

a rather lower than average rate of turnover of the equity sections of their portfolios. For the largest size group of funds the rate of equity portfolio turnover stood at 7.7 percent in 1953 and 9.5 percent in 1958, compared with equity turnover rates of 22 and 26.9 percent for the same years for the smallest size class of funds.

PORTFOLIO TURNOVER RATES FOR EQUITY SECURITIES AND COMPARISON WITH MARKET AVERAGE RATES

The foregoing analysis exhibits the structure of turnover patterns within the differing size and type class sectors of the investment company industry. The structural patterns which have emerged will be useful in the subsequent analysis of the funds' investment performance, considered in the light of their varying turnover experience. But for purposes of assessing the portfolio behavior of the funds as compared with other investors in the stock market, it is necessary to consider the rates at which the funds have turned over the equity sections of their portfolios, as distinct from the turnover of their portfolios as a whole. The results of such an analysis are summarized in table IV–73.

Again it is necessary to confront the methodological problem of the adjustment of the funds' total purchases and sales of stocks to account for the portion which might have resulted from the investment in stocks of new money inflows from the sale of the funds' own shares, or from the liquidation of stock investments to meet an outflow of funds caused by the repurchase of such shares. It is not known to what extent, or with what timing, such capital changes exert a direct impact on equity portfolio positions. For this reason alternative formulas were employed in table IV–73 in defining equity turnover rates for all funds combined. In the first case, T_1, it was assumed that a portion of the net annual inflow to the funds (defined as the average percentages indicated in the formula) was reflected in the total purchases of stocks. The percentage of net inflow thus diverted was assumed to be equal to the annual ratio between net stock purchases and total net inflow. The inflow reduction factor employed in formula T_1 is thus analogous to that adopted in the earlier discussion of total portfolio turnover rates under the assumptions contained in formula R_2.[43]

$$T_1 = \frac{(P_e + S_e - kI)}{(E_1 + E_2)}$$

where P_e = Total purchases of equity stocks (common plus preferred) by all funds of a given class during a given period of time.

S_e = Total sales of equity stocks during the same period.

k = The ratio, during the same period, of aggregate net stock purchases to aggregate net inflow. For the present analysis, based on the data in table IV–79, the figures were rounded to 60 percent for 1958, 1957, and 1953, and to 50 percent for 1956, 1955, and 1954.

I = Aggregate net inflow during the period to all funds of a given class, interpreted as the sum of all funds' gross inflow less the sum of all funds' gross outflow.

[43] See table IV–72 and the relevant text.

E_1 = Total value of equity holdings as the beginning of the period.[44]

E_2 = Total value of equity holdings at the end of the period.[44]

The difficulties inherent in the inflow-adjustment assumptions are handled differently in formula T_2 below by comparing the total stock purchases and the total stock sales of a class of funds, and assuming, as in the present case where purchases consistently exceed sales, that the net difference between them represents the volume of purchasing which can be deemed to result from changes in the funds' net inflow experience. If sales had exceeded purchases, the differences might have been explained by the funds' outflow experience or by policy changes in portfolio structures.

$$T_2 = \frac{x}{(E_1 + E_2)/2}$$

where the variables have the same meaning as in the preceding case, except x equals the lesser of total purchases or sales of stocks during the given period of time by all funds of a given class.

The effect in this case is to regard a turnover of equity holdings as having occurred to the extent that purchases of stocks represent the reinvestment of the proceeds of equity sales, or the reestablishment of overall equity positions previously liquidated. In every case examined in table IV–73, gross purchases of stocks exceeded total sales, and the sales figures were thus employed in the computations. The formula T_2 was also employed in computing turnover rates for each of the three size groups of funds indicated in the table. It is noted that the two methods of computing the turnover rates T_1 and T_2 give closely similar rates for all funds combined in each of the years studied.[45]

The conclusions to be drawn from table IV–73 generally confirm those of the earlier total portfolio turnover rate analysis and can be stated briefly. Firstly, the equity turnover rates, while they are in general lower than the comparable total portfolio turnover rates, exhibit a similar and pronounced negative relation between investment fund size and the rate of turnover of stock portfolios. Secondly, the turnover rates for all funds combined and for each of the size groups of funds increased sharply during the upward movement in the stock market in 1954 and, as was noted also in the earlier total portfolio analysis, they returned to lower levels again in the following year. Similarly, the strong upward movement in 1958, following the market price cycles of 1956 and 1957, was also accompanied by higher investment fund turnover rates. In 1958 the equity turnover rates for all size groups of funds increased.

[44] At each benchmark date, December 1952, December 1955, December 1957, and September 1958, the market value of the equity section of the portfolio was approximately 86 percent of net assets. For purposes of computing the equity turnover rates, E_1 and E_2 in the above formulas were assumed to be equal to 86 percent of net assets as of the relevant dates. A similar procedure was employed to establish E_1 and E_2 for the various size groups. The percentages employed were as follows: Funds with assets less than $50,000,000, 80 percent; funds with assets between $50,000,000 and $300,000,000, 86 percent; and funds with assets over $300,000,000, 90 percent.

[45] The two formulas will yield precisely the same results if net purchases of equities are equal to net inflow multiplied by k.

TABLE IV-73.—*Open-end investment fund annual portfolio turnover rates for equity securities,[1] by size [2] of fund, 1953–58*

[In percent]

	1953	1954	1955	1956	1957	1958 [3]
All funds:						
T_1	13.1	19.1	15.6	15.4	13.7	16.8
T_2	12.4	18.3	15.1	15.1	13.5	16.9
Size (a) and (b), T_2	22.0	32.7	25.1	25.5	26.2	26.9
Size (c), T_2	14.2	20.7	16.5	17.0	15.2	20.9
Size (d), T_2	7.7	11.7	10.4	9.8	7.7	9.5
New York Stock Exchange	12.0	16.9	17.4	14.0	13.2	12.9

[1] Equity securities include both common and preferred stocks.
[2] Size as of September 1958.
[3] 9 months' equivalent annual rate.

NOTE.—See the following:

$$T_1 = \frac{(P_s + S_s - kI)}{(E_1 + E_2)}$$

$$T_2 = \frac{x}{(E_1 + E_2)/2}$$

(a) = Funds with net assets less than $10,000,000.
(b) = Funds with net assets $10,000,000 and less than $50,000,000.
(c) = Funds with net assets $50,000,000 and less than $300,000,000.
(d) = Funds with net assets over $300,000,000.
See text for a full explanation of the formulas.

Thirdly, it is significant that in each of the years examined except 1955 the equity turnover rate for all funds combined was higher than the comparable turnover rate on the New York Stock Exchange for all stocks listed in that market. The funds' combined rate of 12.4 percent (T_2) in 1953 was only fractionally higher than the New York Stock Exchange rate, but in 1954 the heavier equity activity of the funds widened the gap between the two rates to 1½ percentage points. The funds' combined rate fell below the market in 1955, the only year in which such a relation existed, and following a leveling out in 1956 and 1957 the heightened activity of 1958 again widened the gap between the funds rate and the market rate to 4 percentage points, 16.9 percent compared with 12.9 percent.

The New York Stock Exchange turnover rate employed in this comparison was computed by dividing the total value of stocks sold during a given period by the average value of stocks listed during the period. In making the present comparisons between this rate and the funds' equity turnover rates, it should be noted that the New York Stock Exchange rate is probably understated to some extent, owing to the existence of off-the-board trading in listed securities. On the other hand, the turnover rate for public (i.e., nonmember) traders on the exchange is considerably lower than that for total trading used as a basis for comparison with mutual funds.

When the investment funds are reclassified by size classes in the same groups as adopted throughout this report, it is found that the smallest size class of funds, those whose assets as of September 1958 were less than $50 million, had turnover rates greater than the market in every year of the study. The second largest size class of funds, those with assets between $50 and $300 million, also had turnover rates greater than the market in each year except 1955 in which, it was noted, turnover rates fell throughout the investment funds as a

whole. It was once again in the small number (7) of the largest size class of funds, those holding assets at September 1958 of more than $300 million, where the turnover rates were below the market rates. This relationship held consistently for this size class of funds throughout the study period. The gap between these large funds' rates and the market rate did not show any tendency to narrow during these years, moreover, until the upward movement of 1958. In that year the investment fund rates as a whole increased, due principally to the higher turnover rates of the largest two size classes of funds, while the market rate registered a slight decline.

Finally, it may be assumed that the computations of equity turnover rates employed in this section would be empirically more significant if they were adjusted to incorporate more stringent assumptions regarding the portfolio impact of inflows and outflows of money, in the manner previously analyzed in connection with the total portfolio turnover rates. At this point, of course, the same methodological difficulties remain. It is not known what reasonable assumption might best be made regarding the extent to which the outflow of money necessitates the liquidation of equity investments. Even if liquidation of security investments is made in order to finance a part of outflow, it would seem from the absolute dollar values involved in the inflow and outflow data, and from the fairly regular periodicity of both the inflow and outflow streams, that any security liquidations called for might well be confined to near-liquid terms. For this reason it was taken as a reasonable most stringent assumption for the portfolio impact of capital changes (inflows and outflows) that 60 percent of gross inflow was placed directly in equity securities, but that outflows did not call for any equity liquidations. A calculation of equity turnover rates for all funds combined was accordingly made on this basis:

$$T_3 = \frac{P_e + S_e - kIg}{E_1 + E_2}$$

where the variables have the same meaning as in formula T_1 above, except Ig=gross inflow.

Table IV-74 summarizes the findings of the analysis.

TABLE IV-74.—*Open-end investment fund equity turnover rates under varying inflow-adjustment assumptions,*[1] *1953–58*

[In percent]

Year	T_1	T_2	T_3	New York Stock Exchange
1953	13. 1	12. 4	11. 1	12. 0
1954	19. 1	18. 3	16. 9	16. 9
1955	15. 6	15. 1	13. 6	17. 4
1956	15. 4	15. 1	13. 8	14. 0
1957	13. 7	13. 5	11. 9	13. 2
1958	16. 8	16. 9	15. 2	12. 9

[1] See text for explanation of formulas.

It emerges that the more stringent inflow-adjustment assumption (T₃) gives a combined funds' equity turnover rate higher than the comparable rate on the New York Stock Exchange in the final year of the study (1958), a rate equal to the New York Stock Exchange rate in 1954, and slightly lower rates than the market rate in each of the remaining years except 1955. In that year, previously recognized as one of generally falling fund turnover rates, the combined funds' rate (T₃) fell nearly 4 percentage points below the market average.

PORTFOLIO TURNOVER OF SAMPLE 30 STOCKS

An analysis was made also of the portfolio turnover rates for each of the 30 sample stocks referred to throughout this report. These turnover rates were calculated for all investment funds combined and for the funds comprising the largest size group (those whose assets exceeded $300 million as of September 1958). It was possible on the basis of the data available for this study to compute such rates for the 9 months January through September 1958, and for the 2-year period 1956 through 1957. In both cases the resultant turnover rates were converted to an annual equivalent basis, and in tables IV–75 and IV–76 the rates are compared with the corresponding rates of turnover of the same stocks on the New York Stock Exchange.

In constructing the most appropriate measure of turnover rates for an individual stock, certain methodological problems arise analogous to those confronted in the preceding sections relative to the funds' total portfolio activity. The question may be raised as to whether, and if so to what extent, portfolio activity in a particular stock during any given period may have been due to the direct impact of the inflow or outflow of money in the manner previously discussed. On the assumption that such an impact may have occurred, a series of turnover rates was computed on the basis of what is referred to in the final columns of tables IV–75 and IV–76 as the "alternative formula." This assumes that in the case of a net inflow to the funds the amount of purchases of a particular stock to which this would give rise would be represented by a fraction of the inflow equal to the average ratio between the funds' holding of that stock and their total assets. The formula therefore derives as follows:

$$T_a = \frac{P_a + S_a - I\left(\dfrac{V_{a_1}}{A_1} + \dfrac{V_{a_2}}{A_2}\right)/2}{V_{a_1} + V_{a_2}}$$

where T_a=Turnover rate for stock "a"
$\quad P_a$=Total purchases of stock "a"
$\quad S_a$=Total sales of stock "a"
$\quad I$=Net inflow to the fund or group of funds
$\quad V_{a_1}$=Value of the holdings of stock "a" at the beginning of the period
$\quad V_{a_2}$=Value of the holdings of stock "a" at the end of the period
$\quad A_1$=Assets of the fund or group of funds at the beginning of the period
$\quad A_2$=Assets of the fund or group of funds at the end of the period

Application of the above formula led to spurious results for several stocks. In those cases in which the stock represented an unusually large percentage of the funds' assets, or where the funds had little market activity in the stock, the formula gave rise to a negative turnover rate, as the formula's reduction factor exceeded the total of portfolio activity in the stock. In other cases, where the funds were particularly active in either buying or selling a specific security, the formula yielded rates that seemed rather high.

A second formula was designed to overcome the weaknesses of the formula discussed above (referred to in the tables as the "alternative formula") and was employed for the principal analysis of this section. A "turnover" according to this formula is said to have occurred when a portfolio position in the stock was liquidated and subsequently reestablished during the period examined, or, alternatively, when a portfolio position was established and subsequently liquidated. The accumulation of a portfolio position or the liquidation of one without offsetting transactions of the opposite nature are not classified as a "turnover." Corresponding to this concept, the following formula was adopted:

$$T_a = \frac{x}{(V_{a_1} + V_{a_2})/2}$$

where the variables retain the same meaning as in the preceding formula except:

$x=$ the value of the purchases of stock "a" or the sales of stock "a" during the period, whichever of these quantities is the lesser

A turnover rate of 100 percent on the basis of this formula would indicate, for example, that a portfolio position equal in value to one previously liquidated had again been established.[46] The computation of the turnover rate for the stock exchange employed a similar formula:

$$T_{ma} = \frac{P_a}{(V_{ma_1} + V_{ma_2})/2}$$

where $T_{ma}=$ the market's turnover rate in stock "a"

$P_a=$ the total value of market sales of stock "a"

V_{ma_1} and $V_{ma_2}=$ the total listed values of stock "a" in the market at the beginning and end of the period respectively

For purposes of the computations in this section the value of the investment funds' acquisitions of stocks by purchase of rights issues or by the exercise of conversion options attaching to other securities was deducted from the changes in book value of the holdings of the stocks in every case in which the funds' data had been supplied in this form. This was done in order to obtain, as the basis for analysis, the values of the funds' actual open market operations in the stocks.[47]

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[46] As used in this analysis, turnover rates are employed for groups of funds, not individual funds. The turnover rates of individual securities for individual funds would normally be considerably less than those of a group of funds, since the individual fund usually concentrates its transactions in either purchases or sales.

[47] Unless otherwise indicated the following analysis refers only to the turnover data in the first three columns in tables IV-75 and IV-76.

TABLE IV-75.—*Portfolio turnover rate of sample 30 stocks for all funds, largest funds, and New York Stock Exchange, average annual rates, 1956–57*

[Percent]

Stock	New York Stock Exchange	All funds	Funds whose assets exceed $300,000,000 [1]	All funds (alternative formula)
All 30 stocks	5.5	9.8	5.7	4.7
Aluminium Ltd	13.1	8.7	.4	8.2
Amerada	18.3	3.5	(*)	6.8
American Telephone & Telegraph	4.6	16.1	9.4	22.7
Armco Steel	13.0	7.2	6.4	6.2
Atchison, Topeka & Santa Fe	10.8	5.7	3.5	6.7
Bethlehem Steel	23.6	8.7	3.6	4.6
Central & South West	4.8	2.3	1.6	Neg.
Continental Oil	5.2	4.3	3.3	Neg.
Du Pont	2.0	9.3	1.5	4.0
Firestone	4.0	3.4	.6	Neg.
General Electric	3.4	8.7	3.9	2.2
General Motors	2.7	6.6	4.1	7.0
General Public Utilities	5.0	1.7	.1	Neg.
Goodrich	6.3	6.1	.8	.5
Goodyear	7.8	5.2	.2	2.2
Gulf Oil	10.4	12.3	4.9	13.0
International Business Machines	8.2	11.6	6.5	10.9
International Paper	7.4	5.7	.8	Neg.
Kennecott Copper	10.1	15.8	7.6	10.1
National Lead	6.8	4.2	.1	.3
Phillips Petroleum	10.9	14.8	6.9	8.5
Shell Oil	2.2	5.1	3.0	Neg.
Socony Mobil	5.5	11.0	11.4	9.7
Standard Oil (California)	10.0	7.2	1.5	1.0
Standard Oil (Indiana)	8.7	7.6	1.9	11.2
Standard Oil (New Jersey)	3.8	4.4	.3	Neg.
Texas Co	3.4	2.2	.8	Neg.
Union Carbide	3.4	8.0	2.0	4.2
United States Steel	11.6	7.1	5.5	7.0
Westinghouse Electric	19.2	24.5	19.8	20.7

[1] Assets as of September 1958.
*Portfolio action did not permit calculation of turnover rate. Neg.: Negative turnover rate (see accompanying text for explanation). See text for explanation of turnover rate formulas.

TABLE IV-76.—*Portfolio turnover rate of sample 30 stocks for all funds, largest funds, and New York Stock Exchange, January through September 1958 at annual rate*

[Percent]

Stock	New York Stock Exchange	All funds	Funds whose assets exceed $300,000,000 [1]	All funds (alternative formula)
All 30 stocks	8.5	12.1	4.6	8.4
Aluminium Ltd	14.1	6.6	3.1	5.6
Amerada	13.2	6.3	(²)	1.4
American Telephone & Telegraph	5.4	24.3	9.3	56.6
Armco Steel	11.8	11.0	2.0	9.3
Atchison Topeka & Santa Fe	12.6	17.9	2.4	10.6
Bethlehem Steel	13.3	7.4	(²)	3.1
Central & South West	4.9	7.6	(²)	2.8
Continental Oil	5.4	12.3	7.8	5.1
Du Pont	1.7	7.7	(²)	4.0
Firestone	4.1	6.0	4.2	3.5
General Electric	3.3	18.5	7.8	11.2
General Motors	2.4	5.8	(²)	10.3
General Public Utilities	4.8	9.3	10.8	3.1
Goodrich	9.8	10.3	.8	18.2
Goodyear	7.0	8.2	(²)	4.2
Gulf Oil	5.1	9.7	4.2	8.8
Interntional Business Machines	6.9	5.2	1.2	3.1
International Paper	6.8	6.7	(²)	2.5
Kennecott Copper	10.6	9.6	1.1	11.6
National Lead	8.3	18.9	2.9	25.5
Phillips Petroleum	8.4	10.3	(²)	6.5
Shell Oil	2.2	9.3	(²)	4.1
Socony Mobil	5.0	16.1	.4	9.9
Standard Oil (California)	3.0	4.4	(²)	1.5
Standard Oil (Indiana)	6.3	2.0	(²)	16.6
Standard Oil (New Jersey)	3.0	6.8	3.1	3.7
Texas Company	3.1	6.9	4.0	6.7
Union Carbide	4.7	24.1	32.6	24.2
United States Steel	11.1	5.8	4.2	6.5
Westinghouse Electric	12.9	16.5	(²)	14.6

[1] Assets as of September 1958.
² Portfolio action did not permit calculation of turnover rate. See text for explanation of turnover rate formulas.

The data in tables IV–75 and IV–76 indicate that in each of the time periods examined the investment funds' combined turnover rate in the total group of 30 stocks exceeded the comparable rate for activity on the New York Stock Exchange: 9.8 percent as against 5.5 percent in 1956–57 and 12.1 percent against 8.5 percent in 1958. This is analogous to the finding of the earlier analysis that the turnover rates for the total portfolios of the funds were in general higher than the comparable New York Stock Exchange rate. Similarly, the present finding relative to the largest funds is also analogous to the earlier conclusions: namely, the turnover rate for these funds in the 30 stocks combined was lower than the industry total in each of the periods, 5.7 percent in 1956–57 and 4.6 percent in 1958.

These relationships did not hold uniformly for each of the 30 stocks considered separately, and no clear pattern of relationship emerged between the ranking of the funds' turnover rates in each of the 30 stocks and the corresponding ranking of the market turnover rates in either of the periods. The rank correlation coefficients of 0.31 in 1956–57 and 0.11 in 1958 do not lend very much support to the hypothesis that investment fund turnover in any one particular stock is noticeably related to the intensity of general market activity in that stock.