

A more detailed analysis of the variations in the funds' portfolio turnover rates against the background of changing market conditions is provided in table IV-57. Turnover rates are shown for the principal type and size classes of funds for each of the half years in 1957 and for the first half year and the third quarter of 1958. These time periods correspond to fairly well defined phases of stock market price movements: an upward movement in the first half of 1957, a fall in the second half of that year, and a resumed upward trend in 1958. In 1957 a rather wide cycle of stock prices developed. Between early February and early July the general level of the market, as measured by the Dow-Jones industrial average, rose by 14.50 percent, and between July and the last week of October the same market average declined again by 19.39 percent. The movement between October 1957 and September 1958 was fairly steadily upward, with both higher turnover volumes and more rapid price increases in the later months. Between October 1957 and September 1958 the Dow-Jones industrial average rose by 26.75 percent. These movements, together with the associated changes in the senior securities and other fixed-interest markets, led to the changes in portfolio activity summarized in the following paragraphs.

TABLE IV-57.—Combined portfolio turnover rates, all funds, balanced funds, and common stock funds, by size¹ of fund, 1956 to 3d quarter of 1958

[In percent]

Type and size of fund	Turnover rates on annual equivalent basis				
	1956	1st half of 1957	2d half of 1957	1st half of 1958	3d quarter of 1958
All funds, total.....	18.3	19.9	21.1	22.7	25.8
Funds with net assets less than \$10,000,000.....	32.1	42.1	56.2	52.1	49.5
Funds with net assets \$10,000,000 and less than \$50,000,000.....	27.1	25.8	31.6	27.8	31.6
Funds with net assets \$50,000,000 and less than \$300,000,000.....	20.1	21.5	26.5	27.4	53.4
Funds with net assets over \$300,000,000.....	13.2	15.4	10.8	14.9	16.5
Balanced funds, total.....	20.5	21.1	17.8	22.1	23.6
Funds with net assets less than \$10,000,000.....	38.9	35.4	45.3	50.6	43.8
Funds with net assets \$10,000,000 and less than \$50,000,000.....	29.2	31.1	37.1	25.4	42.8
Funds with net assets \$50,000,000 and less than \$300,000,000.....	19.0	20.9	17.4	21.2	29.8
Funds with net assets over \$300,000,000.....	18.5	19.3	12.8	20.1	16.3
Common stock funds, total.....	17.3	20.4	24.8	24.6	29.1
Funds with net assets less than \$10,000,000.....	30.4	46.4	49.8	51.2	62.2
Funds with net assets \$10,000,000 and less than \$50,000,000.....	27.6	27.7	34.9	31.1	29.3
Funds with net assets \$50,000,000 and less than \$300,000,000.....	22.6	25.9	37.5	35.8	40.2
Funds with net assets over \$300,000,000.....	9.6	12.8	9.4	11.0	16.6

¹ Size as of September 1958.

The data in table IV-57 indicate firstly that throughout these changing market phases the turnover rates for the investment fund industry as a whole maintained the upward secular trend to which attention was drawn previously. Taking the weighted average for all funds combined, the turnover rate increased throughout 1957 and 1958. The rate rose from 18.3 percent in 1956 to 19.9 percent during the first half of 1957, continued upward to 21.1 percent in the second half of the year, and increased further in 1958, reaching an annual rate of

25.8 percent for the third quarter. Different size funds exhibited quite distinct patterns in their portfolio adjustments during these shorter periods, and the differences observable by type of fund are attributable for the most part to differences in size. The largest size funds increased their turnover rates during periods of upswing in stock market prices rather than in periods of downswing. The turnover rates for these funds in the first half of 1957 and the first half of 1958 (both rising market phases) were higher than for the second half of 1957 (falling market phase). This relationship can be observed in the figures for all of the large funds combined, or for the largest size class of either balanced funds or common stock funds. The same general pattern was exhibited by the balanced funds having assets between \$50 million and \$300 million. Balanced funds with assets between \$10 million and \$50 million and common stock funds having assets between \$10 million and \$300 million continued to increase their turnover rates in the downswing of the second half of 1957, but their rates decreased in the recovery of the first half of 1958. The smallest funds (assets under \$10 million) in both the balanced fund and common stock fund classes demonstrated a constant increase in each of these two periods, a pattern produced for all funds combined despite divergent movements of various size classes. By the third quarter of 1958 marked increases had occurred in the turnover rates for most classes of funds, though the pattern of change in this quarter was not uniform in all size groups.

FREQUENCY DISTRIBUTIONS OF PORTFOLIO TURNOVER RATES

Frequency distributions of portfolio turnover rates by the principal type and size classes of funds are presented in tables IV-58 through IV-66. The first three of these tables present distributions of the universe of funds under examination classified by the same four size groups as considered previously, for each of the years 1953, 1957, and 1958 (the latter representing 9 months data presented on an annual equivalent rate basis). Tables IV-61 through IV-63 examine comparable distributions for each of the same 3 years for all balanced funds combined, and tables IV-64 through IV-66 describe comparable data for the common stock funds.

Turnover rates of the various funds within the industry demonstrated wide dispersion throughout the period covered by the study. In 1955 the industry had its lowest combined turnover rate (17.6 percent; see table IV-54), but 9.2 percent of all funds had rates greater than 50 percent. In every other year more than 10 percent of the funds turned over the equivalent of half or more than half of their portfolio holdings, and 20.3 percent of the funds were in this category in 1958 (see table IV-67). At the other extreme, there were many funds with quite low turnover rates. In 1958, when the industry had the highest combined turnover, the weighted average rate for all funds combined reaching 23.6 percent (table IV-54), 15.1 percent of all funds had rates below 10 percent. The percentage of funds in this category remained rather steady from 1955 through 1958, after a high of 22.5 percent in 1953 and a low of 9.0 percent in 1954.

TABLE IV-58.—Frequency distribution of open-end investment funds, by annual turnover rate, by size¹ of fund, 1953

Turnover rate (percent)	Total		(a)		(b)		(c)		(d)
	Number of funds	Cumulative percent	Number of funds	Cumulative percent	Number of funds	Cumulative percent	Number of funds	Cumulative percent	Number of funds
Less than 10.....	32	22.5	17	32.7	7	15.6	4	10.5	4
10 and less than 20.....	40	50.7	9	50.0	11	40.0	18	57.9	2
20 and less than 30.....	30	71.8	11	71.2	10	62.2	9	81.6	-----
30 and less than 40.....	17	83.8	6	82.7	7	77.8	3	89.5	1
40 and less than 50.....	4	86.6	-----	-----	3	84.4	1	92.1	-----
50 and less than 60.....	2	88.0	-----	-----	-----	-----	2	97.4	-----
60 and less than 70.....	4	90.8	2	86.5	2	88.9	-----	-----	-----
70 and less than 80.....	5	94.4	3	92.3	2	93.3	-----	-----	-----
80 and less than 90.....	2	95.8	-----	-----	1	95.6	1	100.0	-----
90 and less than 100.....	1	96.5	1	94.2	-----	-----	-----	-----	-----
100 and less than 125.....	2	97.9	2	98.1	-----	-----	-----	-----	-----
125 and less than 150.....	-----	-----	-----	-----	-----	-----	-----	-----	-----
150 and less than 200.....	2	99.3	1	100.0	1	97.8	-----	-----	-----
200 and over.....	1	100.0	-----	-----	1	100.0	-----	-----	-----
Total.....	142	-----	52	-----	45	-----	38	-----	7

¹ Size as of September 1958.

NOTE.—See the following:

- (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.

TABLE IV-59.—Frequency distribution of open-end investment funds, by annual turnover rate, by size¹ of fund, 1957

Turnover rate (percent)	Total		(a)		(b)		(c)		(d)
	Number of funds	Cumulative percent	Number of funds	Cumulative percent	Number of funds	Cumulative percent	Number of funds	Cumulative percent	Number of funds
Less than 10.....	28	16.8	11	16.7	8	15.1	8	19.5	1
10 and less than 20.....	51	47.3	14	37.9	15	43.4	18	63.4	4
20 and less than 30.....	31	65.9	12	56.1	12	66.0	5	75.6	2
30 and less than 40.....	22	79.0	9	69.7	10	84.9	3	82.9	-----
40 and less than 50.....	8	83.8	5	77.3	3	90.6	-----	-----	-----
50 and less than 60.....	3	85.6	-----	-----	-----	-----	3	90.2	-----
60 and less than 70.....	6	89.2	3	81.8	1	92.5	2	95.1	-----
70 and less than 80.....	4	91.6	3	86.4	-----	-----	1	97.6	-----
80 and less than 90.....	4	94.0	2	89.4	2	96.2	-----	-----	-----
90 and less than 100.....	3	95.8	3	93.9	-----	-----	-----	-----	-----
100 and less than 125.....	2	97.0	2	97.0	-----	-----	-----	-----	-----
125 and less than 150.....	1	97.6	-----	-----	1	98.1	-----	-----	-----
150 and less than 200.....	2	98.8	2	100.0	-----	-----	-----	-----	-----
200 and over.....	2	100.0	-----	-----	1	100.0	1	100.0	-----
Total.....	167	-----	66	-----	53	-----	41	-----	7

¹ Size as of September 1958.

NOTE.—See the following:

- (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.

TABLE IV-60.—Frequency distribution of open-end investment funds, by annual turnover rate, by size¹ of fund, 1958²

Turnover rate (percent)	Total		(a)		(b)		(c)		(d)
	Number of funds	Cumulative percent	Number of funds	Cumulative percent	Number of funds	Cumulative percent	Number of funds	Cumulative percent	Number of funds
Less than 10.....	26	15.1	12	16.9	7	13.2	6	14.6	1
10 and less than 20.....	37	36.6	17	40.8	9	30.2	7	31.7	4
20 and less than 30.....	45	62.8	15	62.0	16	60.4	12	61.0	2
30 and less than 40.....	21	75.0	4	67.6	10	79.2	7	78.0	
40 and less than 50.....	8	79.7	3	71.8	4	86.8	1	80.5	
50 and less than 60.....	8	84.3	3	76.1	3	92.5	2	85.4	
60 and less than 70.....	8	89.0	3	80.3	2	96.2	3	92.7	
70 and less than 80.....	4	91.3	4	85.9					
80 and less than 90.....	4	93.6	2	88.7	1	98.1	1	95.1	
90 and less than 100.....	2	94.8	1	90.1			1	97.6	
100 and less than 125.....	6	98.3	4	95.8	1	100.0	1	100.0	
125 and less than 150.....	3	100.0	3	100.0					
Total.....	172		71		53		41		7

¹ Size as of September 1958.

² 9 months equivalent annual rate.

NOTE.—See the following:

- (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.

TABLE IV-61.—Frequency distribution of balanced funds, by annual portfolio turnover rate, by size¹ of fund, 1958

Turnover rate (percent)	Total balanced funds		(a)	(b)	(c)	(d)
	Number of funds	Cumulative percent	Number of funds	Number of funds	Number of funds	Number of funds
Less than 10.....	3	6.5	1		1	1
10 and less than 20.....	13	34.8	3	3	7	
20 and less than 30.....	13	63.0	7	3	3	
30 and less than 40.....	7	78.3	4	2		1
40 and less than 50.....	2	82.6		2		
50 and less than 60.....	1	84.8			1	
60 and less than 70.....	2	89.1	1	1		
70 and less than 80.....	2	93.5	2			
80 and less than 90.....						
90 and less than 100.....	1	95.7	1			
100 and less than 125.....	1	97.8	1			
125 and less than 150.....						
150 and less than 200.....						
200 and over.....	1	100.0		1		
Total.....	46		20	12	12	2

¹ Size as of September 1958.

NOTE.—See the following:

- (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.

TABLE IV-62.—*Frequency distribution of balanced funds, by annual portfolio turnover rate, by size¹ of fund, 1957*

Turnover rate (percent)	Total balanced funds		(a)	(b)	(c)	(d)
	Number of funds	Cumulative percent	Number of funds	Number of funds	Number of funds	Number of funds
Less than 10.....	1	2.0		1		
10 and less than 20.....	19	39.2	5	4	9	1
20 and less than 30.....	12	62.7	7	2	2	1
30 and less than 40.....	6	74.5	5	1		
40 and less than 50.....	3	80.4	1	2		
50 and less than 60.....	1	82.4			1	
60 and less than 70.....	3	88.2	2	1		
70 and less than 80.....	2	92.2	2			
80 and less than 90.....	1	94.1		1		
90 and less than 100.....	1	96.1	1			
100 and less than 125.....	1	98.0	1			
125 and less than 150.....						
150 and less than 200.....	1	100.0	1			
Total.....	51		25	12	12	2

¹ Size as of September 1958.

NOTE.—See the following:

- (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.

TABLE IV-63.—*Frequency distribution of balanced funds, by annual portfolio turnover rate, by size¹ of fund, 1958²*

Turnover rate (percent)	Total balanced funds		(a)	(b)	(c)	(d)
	Number of funds	Cumulative percent	Number of funds	Number of funds	Number of funds	Number of funds
Less than 10.....	2	3.8		1	1	
10 and less than 20.....	9	21.2	6		2	1
20 and less than 30.....	20	59.6	6	6	7	1
30 and less than 40.....	4	67.3	2	1	1	
40 and less than 50.....	3	73.1	2		1	
50 and less than 60.....	5	82.7	2	3		
60 and less than 70.....	3	88.5	2	1		
70 and less than 80.....	2	92.3	2			
80 and less than 90.....	1	94.2				
90 and less than 100.....	1	96.1	1			
100 and less than 125.....	3	100.0	3			
Total.....	52		26	12	12	2

¹ Size as of September 1958.² 9 months equivalent annual rate.

NOTE.—See the following:

- (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.

TABLE IV-64.—*Frequency distribution of common stock funds, by annual portfolio turnover rate, by size¹ of fund, 1953*

Turnover rate (percent)	Total common stock funds		(a)	(b)	(c)	(d)
	Number of funds	Cumulative percent	Number of funds	Number of funds	Number of funds	Number of funds
Less than 10.....	14	21.9	5	5	1	3
10 and less than 20.....	16	46.9	1	4	9	2
20 and less than 30.....	12	65.6	1	6	5	-----
30 and less than 40.....	10	81.2	2	5	3	-----
40 and less than 50.....	2	84.4	-----	1	1	-----
50 and less than 60.....	1	85.9	-----	-----	1	-----
60 and less than 70.....	2	89.1	1	1	-----	-----
70 and less than 80.....	3	93.8	1	2	-----	-----
80 and less than 90.....	2	96.9	-----	1	1	-----
90 and less than 100.....	-----	-----	-----	-----	-----	-----
100 and less than 125.....	1	98.4	1	-----	-----	-----
125 and less than 150.....	-----	-----	-----	-----	-----	-----
150 and less than 200.....	1	100.0	-----	1	-----	-----
Total.....	64	-----	12	26	21	5

¹ Size as of September 1958.

NOTE.—See the following:

- (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.

TABLE IV-65.—*Frequency distribution of common stock funds, by annual portfolio turnover rate, by size¹ of fund, 1957*

Turnover rate (percent)	Total common stock funds		(a)	(b)	(c)	(d)
	Number of funds	Cumulative percent	Number of funds	Number of funds	Number of funds	Number of funds
Less than 10.....	11	14.9	3	3	4	1
10 and less than 20.....	18	39.2	2	7	6	3
20 and less than 30.....	15	59.5	2	9	3	1
30 and less than 40.....	11	74.3	2	6	3	-----
40 and less than 50.....	3	78.4	2	1	-----	-----
50 and less than 60.....	2	81.1	-----	-----	2	-----
60 and less than 70.....	3	85.1	1	-----	2	-----
70 and less than 80.....	2	87.8	1	-----	1	-----
80 and less than 90.....	2	90.5	1	1	-----	-----
90 and less than 100.....	2	93.2	2	-----	-----	-----
100 and less than 125.....	1	94.6	1	-----	-----	-----
125 and less than 150.....	1	95.9	-----	1	-----	-----
150 and less than 200.....	1	97.3	1	-----	-----	-----
200 and over.....	2	100.0	-----	1	1	-----
Total.....	74	-----	18	29	22	5

¹ Size as of September 1958.

NOTE.—See the following:

- (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.

TABLE IV-66.—Frequency distribution of common stock funds, by annual portfolio turnover rate, by size¹ of fund, 1958²

Turnover rate (percent)	Total common stock funds		(a)	(b)	(c)	(d)
	Number of funds	Cumulative percent	Number of funds	Number of funds	Number of funds	Number of funds
Less than 10.....	9	11.5	4	3	1	1
10 and less than 20.....	13	28.2	5	7	3	3
20 and less than 30.....	18	51.3	2	8	4	1
30 and less than 40.....	14	69.2	1	6	6	1
40 and less than 50.....	4	74.4	1	3	2	1
50 and less than 60.....	3	78.2	1	1	2	1
60 and less than 70.....	5	84.6	1	1	3	1
70 and less than 80.....	2	87.2	2	1	1	1
80 and less than 90.....	4	92.3	2	1	1	1
90 and less than 100.....	1	93.6	1	1	1	1
100 and less than 125.....	3	97.4	1	1	1	1
125 and less than 150.....	2	100.0	2	1	1	1
Total.....	78		21	30	22	5

¹ Size as of September 1958.² 9 months equivalent annual rate.

NOTE.—See the following:

(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.

The distributions of the funds' turnover rates were skewed to the right in every year of the study. The few funds with extremely high rates, therefore, were very important in determining the arithmetic mean rate (particularly the unweighted mean, but to some extent the weighted mean also) for all funds in the industry and for each of the principal type classes of funds. The unweighted arithmetic mean for all funds was larger than the median in each year, exceeding the median by 49 percent in 1957 (table IV-55) and by at least 30 percent in every other year.

The amount of dispersion among turnover rates of the individual funds has been referred to earlier, and the varying degrees of dispersion are now summarized in table IV-69 in terms of the interquartile range. This statistic indicates the extent of the difference among the rates of the middle half of the funds, and ignores completely the funds with extremely high or extremely low turnover rates. Even these rather "average" funds have differed by over 20 percentage points in every year except 1954. The data suggest, moreover, that the amount of dispersion has been increasing with the passage of time. The interquartile range increased each year between 1954 and 1958, and exceeded 25 percentage points in 1958. An increase in the percentage of funds with fairly high turnover rates (see tables IV-56 through IV-60 for the detailed distributions and tables IV-67 through IV-69 for summary statistics) was the principal cause of this increase in dispersion. The percentage of funds with low rates (as measured by the percentage with a rate of less than 10 percent or as measured by the value of the first quartile) remained rather constant, but the complementary measures (percentage of funds with a rate over 50 percent or the value of the third quartile) rose during the period of study.

TABLE IV-67.—Percentage of open-end investment funds with annual portfolio turnover rates greater than 50 percent and less than 10 percent, 1953-58

Year	Percentage of investment funds with portfolio turnover rate	
	Greater than 50 percent	Less than 10 percent
1953.....	12.0	22.5
1954.....	16.6	9.0
1955.....	9.2	14.4
1956.....	13.0	14.8
1957.....	16.2	16.8
1958 (9 months) ¹	20.3	15.1

¹ 9 months equivalent annual rate.TABLE IV-68.—Percentage of open-end investment funds with annual portfolio turnover rates greater than 50 percent and less than 10 percent, by size¹ of fund, 1953-58

Year	Percentage of investment funds with portfolio turnover rate—							
	Greater than 50 percent				Less than 10 percent			
	(a)	(b)	(c)	(d) ²	(a)	(b)	(c)	(d) ²
1953.....	17.3	15.6	7.9	0	32.7	15.6	10.5	57.1
1954.....	24.5	17.0	7.9	0	15.1	4.3	5.3	14.3
1955.....	13.8	12.5	.0	0	17.2	12.5	12.5	14.3
1956.....	17.7	9.6	12.2	0	19.4	9.6	9.8	42.9
1957.....	22.7	9.4	17.1	0	16.7	15.1	19.5	14.3
1958 (9 months) ³	28.2	13.6	19.5	0	16.9	13.2	14.6	14.3

¹ Size as of September 1958.² Size (d) is based upon only 7 observations.³ 9 months equivalent annual rate.

NOTE.—See the following:

- (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.

TABLE IV-69.—Interquartile range of annual portfolio turnover rates of open-end investment funds, 1953-58

Year	Interquartile range	1st quartile	3d quartile
1953.....	21.8	10.9	32.7
1954.....	16.4	14.8	31.2
1955.....	20.5	13.0	33.5
1956.....	20.9	13.4	34.3
1957.....	24.2	12.7	36.9
1958 (9 months) ¹	25.4	14.6	40.0

¹ 9 months equivalent annual rate.

The comparison between the distributions of turnover rates of funds of the same size sheds some light on the earlier finding that there was an inverse relationship between the size of funds and annual portfolio turnover rates. No fund in the largest size group had an annual turnover rate above 50 percent in any year (table IV-68). Individual funds in the second largest size group of funds (those holding assets between \$50 million and \$300 million as of September 1958) occasionally had rates exceeding 50 percent, but in no such case did the turnover exceed 100 percent until 1958. In that year one fund in this size

group had an annual rate greater than 100 percent for the first 9 months. There was at least one fund in each of the two smaller size classes, and in some case several such funds, with a turnover rate in excess of 100 percent in every year of the study (tables IV-58 through IV-60). The largest number of funds in this category was reached during the first 9 months of 1958 when 7 of 71 funds in the smallest size class generated turnover rates in excess of 100 percent. In some cases a fund with an extremely high turnover rate had both a large inflow and a large outflow. In these cases a portfolio turnover rate based upon an adjustment for gross inflows and outflows would have been much lower than the rate based upon an adjustment for net inflow, as in the preceding analysis. There were, however, many instances in which either type of inflow adjustment assumption would have yielded high turnover rates.

TURNOVER RATES FOR INVESTMENT FUNDS WITH BROKER AFFILIATIONS

A separate analysis was made of the turnover rates of 25 funds in which the controlling organization and/or individuals of the fund were affiliated with a broker, and the relevant rates were compared with those for the total investment fund industry. The combined turnover rate (weighted average) for these funds was higher than the comparable figure for the total industry in every year 1953 through 1958. (See table IV-70.) The largest disparity occurred in the first year (1953) when the broker-affiliated funds had a rate of 28.2 percent compared with a total industry figure of 17.6 percent, but the differences were appreciable in every year except 1954, when the broker-affiliated funds decreased their turnover rate to 23 percent and the total industry increased to 22.2 percent. In 1955 the funds with broker affiliations increased their turnover again, but the rest of the industry decreased their rates. The former again decreased their turnover in 1956, while the rate for the industry remained relatively stable. The turnover rates for both groups increased in 1957 and again in 1958. Between 1953 and 1958 the disparity between the turnover rate of funds with broker affiliations and the remaining funds in the industry was reduced somewhat. In 1953 the turnover rate for the broker-affiliated funds was 60 percent higher than the industry rate, and in 1955 it was 50 percent higher. In 1956 the rate for funds with broker affiliations was 26 percent higher and in 1958 the difference was only 20 percent. It appears, however, that the different and changing size composition of broker-affiliated and other types of funds greatly influences these results.

TABLE IV-70.—Combined annual portfolio turnover rates of 25 open-end investment funds with broker affiliations, 1953-58

Year	Portfolio turnover rate		Year	Portfolio turnover rate	
	Funds with broker affiliations	All funds		Funds with broker affiliations	All funds
	Percent	Percent		Percent	Percent
1953.....	28.2	17.6	1956.....	23.2	18.3
1954.....	23.0	22.2	1957.....	27.6	21.4
1955.....	26.4	17.6	1958 (9 months) ¹	28.2	23.6

¹ 9 months' equivalent annual rate

Since 13 of these 25 broker-affiliated funds were small funds (assets less than \$10 million as of September 30, 1958), it might seem that the size of fund is the reason for the higher rates. This does seem to be the principal explanation, but there is some evidence that it may not be the entire explanation. In 5 out of 6 years the combined turnover rate for these 13 funds with assets less than \$10 million was higher than that of other funds within the same size class (table IV-71). The larger funds with such affiliations revealed a mixed pattern. Broker-affiliated funds with assets between \$10 and \$50 million had turnover rates greater than other funds of the same size in 4 out of 6 years, but the largest funds with broker affiliations generated turnover rates lower than the comparable industry group in all 6 years. There was some evidence, therefore, that for the smallest size group, the funds with the broker affiliations exhibited higher turnover rates. When these funds with assets less than \$10 million are further subdivided by size, there is no longer a close relation between broker affiliation and turnover rate.⁴¹

TABLE IV-71.—Combined annual portfolio turnover rates of small¹ open-end investment funds with broker affiliations, 1953-58

Year	Portfolio turnover rate		Year	Portfolio turnover rate	
	Small funds with broker affiliations	All small funds		Small funds with broker affiliations	All small funds
	<i>Percent</i>	<i>Percent</i>		<i>Percent</i>	<i>Percent</i>
1953.....	48.8	46.7	1956.....	34.0	32.1
1954.....	46.6	42.2	1957.....	48.9	47.0
1955.....	31.0	38.6	1958 (9 months) ²	54.6	44.1

¹ Assets less than \$10,000,000, September 1958.

² 9 months' equivalent annual rate.

⁴¹ These conclusions should be interpreted with caution, as the observations available when the funds are classified into smaller size classes and into type groups are not large enough, and do not show sufficient variability, to warrant firm designation of turnover characteristics. The following table supplies data on the turnover rates of broker-affiliated funds for 1958, classified into high and low turnover rate classes, the class limit being set at 33 percent.

Portfolio turnover rates of small funds, 1958

Asset size class (million dollars)	Number of funds							
	All funds				Common stock funds and balanced funds			
	Broker affiliated		Nonbroker affiliated		Broker affiliated		Nonbroker affiliated	
	Low turnover	High turnover	Low turnover	High turnover	Low turnover	High turnover	Low turnover	High turnover
Less than 2.....	2	2	8	2	0	2	0	2
2 and less than 3.5.....	2	1	9	2	1	1	4	2
3.5 and less than 5.....	1	1	6	6	1	1	2	6
5 and less than 10.....	2	2	14	11	2	2	11	10

NOTE.—Any tendency in 1958 for a larger proportion of broker-affiliated funds than nonbroker-affiliated funds to fall into high turnover rather than low turnover rate classes is present in a very much more attenuated form than might be suggested by the time series data in table IV-71.

Two funds with broker affiliations call for special comment. One generated a turnover in excess of 100 percent in each of the 6 years studied. This fund, with assets of \$1.4 million as of September 30, 1958, and an announced "growth" objective, reached a peak rate of 162 percent in 1957. A second fund, with assets of \$27.7 million and also stating a "growth" objective, reached a high rate of 201 percent in 1957 and exceeded 100 percent in 4 out of the 6 years.

A high or a low turnover rate is not, per se, advantageous or otherwise from the viewpoint of the shareholder of the fund. It is the result of portfolio transactions as measured by more fundamental performance criteria that is the important issue for the shareholder. This is true for funds with broker affiliation and for those without such affiliations. The present section has considered only the rate at which funds have made portfolio transactions; analysis of the interaction between turnover and performance will be made in chapter V.⁴²

ALTERNATIVE MEASURES OF PORTFOLIO TURNOVER RATES

It was pointed out in a methodological comment at the commencement of this discussion of portfolio turnover rates that the effective and empirically significant measure would vary according to certain rather crucial assumptions. These assumptions related to the extent of the portfolio impact of the funds' inflows and outflows of money derived from the sale and repurchase of their own shares. In this section an analysis is made (summarized in table IV-72) of the variations in the principal turnover rates used in the foregoing analysis as the assumptions made with regard to inflow and outflow data are varied. It will be useful first to clarify the meaning of each of the four turnover rate formulas.

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

where P = Total purchases of portfolio securities.

S = Total sales of portfolio securities.

NI = The net inflow (or net outflow) during a given period of each fund included in the group for which the turnover rate is being computed.

A_1 = Total assets at the beginning of the period.

A_2 = Total assets at the end of the period.

This formula is the same as that employed throughout the foregoing analysis at every point at which it was necessary to compute a weighted average turnover rate for a total type or size class of funds. It is to be noted that the adjustment for the probable portfolio impact of capital changes is made by assuming that it is only the net capital change for each individual fund in the group which has such an effect: either adds to total portfolio purchases in the case of, and to the

⁴² An analysis of the growth of eight broker-affiliated funds with very high turnover rates did not reveal any pronounced differences from the overall industry figures. Five of the eight grow at a more rapid rate than the industry between 1952 and 1958. Two funds (Institutional Growth Fund and Dreyfus Fund) increased by 2,459 percent and 1,980 percent respectively, but inflow was mainly responsible for this growth. The inflow relatives of these two funds were 2,294 percent and 1,472 percent compared to the industry figure of 248 percent. Two of the other six funds had inflow relatives greater than the industry average, while another had a value of 248 percent, leaving three below the industry figure. The market relative of only two of the eight was higher than the industry average, but the market relative shows only unrealized market appreciation. Funds with high turnover rates, therefore, would not be expected to have high market relatives.