

TABLE V-14c.—Contingency table of portfolio turnover rates and performance relatives, by size of fund,¹ 1955

(i) FUNDS WITH ASSETS LESS THAN \$10,000,000

Performance relative (percent)	1955 portfolio turnover rates (percent)			Total number of funds
	Less than 15	15 and less than 30	30 and over	
	<i>Number</i>	<i>Number</i>	<i>Number</i>	
Less than 115.....	8	7	14	29
115 and less than 120.....	8	5	4	17
120 and over.....	6	2	4	12
Total number of funds in size class.....	22	14	22	58

(ii) FUNDS WITH ASSETS \$10,000,000 AND LESS THAN \$50,000,000

Less than 115.....	3	8	7	18
115 and less than 120.....	7	4	4	15
120 and over.....	8	6	3	17
Total number of funds in size class.....	18	18	14	50

(iii) FUNDS WITH ASSETS \$50,000,000 AND OVER

Less than 115.....	4	6	2	12
115 and less than 120.....	7	5	3	15
120 and over.....	12	5	3	20
Total number of funds in size class.....	23	16	8	47

(iv) ALL FUNDS COMBINED

Less than 115.....	15	21	23	59
115 and less than 120.....	22	14	11	47
120 and over.....	26	13	10	49
Total number of funds.....	63	48	44	155

¹ Size classification is based upon net assets on Sept. 30, 1958.

TABLE V-14d.—Contingency table of portfolio turnover rates and performance relatives, by size of fund,¹ 1956

(i) FUNDS WITH ASSETS LESS THAN \$10,000,000

Performance relative (percent)	1956 portfolio turnover rates (percent)			Total number of funds
	Less than 15	15 and less than 30	30 and over	
	<i>Number</i>	<i>Number</i>	<i>Number</i>	
Less than 100.....	5	7	2	14
100 and less than 110.....	11	14	13	38
110 and over.....	4	1	5	10
Total number of funds in size class.....	20	22	20	62

(ii) FUNDS WITH ASSETS \$10,000,000 AND LESS THAN \$50,000,000

Less than 100.....	1	3	3	7
100 and less than 110.....	9	7	11	27
110 and over.....	6	7	6	19
Total number of funds in size class.....	16	17	20	53

(iii) FUNDS WITH ASSETS \$50,000,000 AND OVER

Less than 100.....	3	2	5
100 and less than 110.....	9	14	27
110 and over.....	8	4	16
Total number of funds in size class.....	20	18	48

(iv) ALL FUNDS COMBINED

Less than 100.....	9	10	7	26
100 and less than 110.....	29	35	28	92
110 and over.....	18	12	15	45
Total number of funds.....	56	57	50	163

¹ Size classification is based upon net assets on Sept. 30, 1958.

TABLE V-14e.—Contingency table of portfolio turnover rates and performance relatives, by size of fund,¹ 1957

(i) FUNDS WITH ASSETS LESS THAN \$10,000,000

Performance relative (percent)	1957 portfolio turnover rate (percent)			Total number of funds
	Less than 15	15 and less than 30	30 and over	
Less than 85.....	7	2	5	14
85 and less than 95.....	10	10	18	38
95 and over.....	2	5	8	15
Total number of funds in size class.....	19	17	31	67

(ii) FUNDS WITH ASSETS \$10,000,000 AND LESS THAN \$50,000,000

Less than 85.....	3	6	4	13
85 and less than 95.....	6	12	9	27
95 and over.....	4	4	5	13
Total number of funds in size class.....	13	22	18	53

(iii) FUNDS WITH ASSETS \$50,000,000 AND OVER

Less than 85.....	6	4	2	12
85 and less than 95.....	7	12	7	26
95 and over.....	5	4	1	10
Total number of funds in size class.....	18	20	10	48

(iv) ALL FUNDS COMBINED

Less than 85.....	16	12	11	39
85 and less than 95.....	23	34	34	91
95 and over.....	11	13	14	38
Total number of funds.....	50	59	59	168

¹ Size classification is based upon net assets on Sept. 30, 1958.

TABLE V-14f.—Contingency table of portfolio turnover rates and performance relatives, by size of fund,¹ 1958²

(i) FUNDS WITH ASSETS LESS THAN \$10,000,000

Performance relative (percent)	1958 portfolio turnover rates (percent)			Total number of funds
	Less than 12	12 and less than 25	25 and over	
	Number	Number	Number	
Less than 120.....	6	9	7	22
120 and less than 130.....	12	10	15	37
130 and over.....	6	1	5	12
Total number of funds in size class.....	24	20	27	71

(ii) FUNDS WITH ASSETS \$10,000,000 AND LESS THAN \$50,000,000

Less than 120.....	3	5	2	10
120 and less than 130.....	8	15	10	33
130 and over.....	2	4	4	10
Total number of funds in size class.....	13	24	16	53

(iii) FUNDS WITH ASSETS \$50,000,000 AND OVER

Less than 120.....	2	4	1	7
120 and less than 130.....	6	12	8	26
130 and over.....	6	6	3	15
Total number of funds in size class.....	14	22	12	48

(iv) ALL FUNDS COMBINED

Less than 120.....	11	18	10	39
120 and less than 130.....	26	37	33	96
130 and over.....	14	11	12	37
Total number of funds.....	51	66	55	172

¹ Size classification is based upon net assets on Sept. 30, 1958.

² First 9 months of 1958.

TABLE V-15a.—Contingency table of portfolio turnover rates and performance relatives, balanced funds and common stock funds, 1953

BALANCED FUNDS

Performance relative (percent)	Funds with assets less than \$50,000,000 ¹			Funds with assets \$50,000,000 and over ¹			All funds in specified type class		
	Portfolio turnover rates (percent)		Total	Portfolio turnover rates (percent)		Total	Portfolio turnover rates (percent)		Total
	20 or less	Greater than 20		20 or less	Greater than 20		20 or less	Greater than 20	
100 or less.....	3	9	12	4	5	4	7	9	16
Over 100.....	7	13	20	5	5	10	12	18	30
Total number of funds in size class.....	10	22	32	9	5	14	19	27	46

COMMON STOCK FUNDS

100 or less.....	7	11	18	7	6	13	14	17	31
Over 100.....	8	12	20	8	4	12	16	16	32
Total number of funds in size class.....	15	23	38	15	10	25	30	33	63

¹ Size classification is based upon net assets on Sept. 30, 1958.

TABLE V-15b.—Contingency table of portfolio turnover rates and performance relatives, balanced funds and common stock funds, 1954

Performance relative (percent)	Funds with assets less than \$50,000,000 ¹		Funds with assets \$50,000,000 and over ¹			All funds in specified type class			
	Portfolio turnover rates (percent)		Total	Portfolio turnover rates (percent)		Total	Portfolio turnover rates (percent)		Total
	20 or less	Greater than 20		20 or less	Greater than 20		20 or less	Greater than 20	
	140 or less.....	5	23	28	3	7	10	8	30
Over 140.....	1	4	5	-----	4	4	1	8	9
Total number of funds in size class.....	6	27	33	3	11	14	9	38	47

COMMON STOCK FUNDS

140 or less.....	4	7	11	1	4	5	5	11	16
Over 140.....	9	20	29	13	7	20	22	27	49
Total number of funds in size class.....	13	27	40	14	11	25	27	38	65

¹ Size classification is based upon net assets on Sept. 30, 1958.

TABLE V-15c.—Contingency table of portfolio turnover rates and performance relatives, balanced funds and common stock funds, 1955

BALANCED FUNDS

Performance relative (percent)	Funds with assets less than \$50,000,000 ¹		Funds with assets \$50,000,000 and over ¹			All funds in specified type class			
	Portfolio turnover rates (percent)		Total	Portfolio turnover rates (percent)		Total	Portfolio turnover rates (percent)		Total
	20 or less	Greater than 20		20 or less	Greater than 20		20 or less	Greater than 20	
	117 or less.....	11	18	29	7	5	12	18	23
Over 117.....	1	4	5	1	1	2	2	5	7
Total number of funds in size class.....	12	22	34	8	6	14	20	28	48

COMMON STOCK FUNDS

117 or less.....	1	6	7	2	3	5	3	9	12
Over 117.....	23	12	35	14	8	22	37	20	57
Total number of funds in size class.....	24	18	42	16	11	27	40	29	69

¹ Size classification is based upon net assets on Sept. 30, 1958.

TABLE V-15d.—Contingency table of portfolio turnover rates and performance relatives, balanced funds and common stock funds, 1956

Performance relative (percent)	Funds with assets less than \$50,000,000 ¹			Funds with assets \$50,000,000 and over ¹			All funds in specified type class		
	Portfolio turnover rates (percent)		Total	Portfolio turnover rates (percent)		Total	Portfolio turnover rates (percent)		Total
	20 or less	Greater than 20		20 or less	Greater than 20		20 or less	Greater than 20	
	105 or less.....	4	15	19	6	3	9	10	18
Over 105.....	4	12	16	3	2	5	7	14	21
Total number of funds in size class.....	8	27	35	9	5	14	17	32	49

COMMON STOCK FUNDS									
Performance relative (percent)	Funds with assets less than \$50,000,000 ¹			Funds with assets \$50,000,000 and over ¹			All funds in specified type class		
	Portfolio turnover rates (percent)		Total	Portfolio turnover rates (percent)		Total	Portfolio turnover rates (percent)		Total
	20 or less	Greater than 20		20 or less	Greater than 20		20 or less	Greater than 20	
	105 or less.....	1	4	5	2	2	4	1	6
Over 105.....	17	23	40	16	9	25	33	32	65
Total number of funds in size class.....	18	27	45	16	11	27	34	38	72

¹ Size classification is based on net assets on September 30, 1958.

TABLE V-15e.—Contingency table of portfolio turnover rates and performance relatives, balanced funds and common stock funds, 1957

Performance relative (percent)	Funds with assets less than \$50,000,000 ¹			Funds with assets \$50,000,000 and over ¹			All funds in specified type class		
	Portfolio turnover rates (percent)		Total	Portfolio turnover rates (percent)		Total	Portfolio turnover rates (percent)		Total
	20 or less	Greater than 20		20 or less	Greater than 20		20 or less	Greater than 20	
	90 or less.....	2	4	6	4	1	5	6	5
Over 90.....	8	23	31	6	3	9	14	26	40
Total number of funds in size class.....	10	27	37	10	4	14	20	31	51

COMMON STOCK FUNDS									
Performance relative (percent)	Funds with assets less than \$50,000,000 ¹			Funds with assets \$50,000,000 and over ¹			All funds in specified type class		
	Portfolio turnover rates (percent)		Total	Portfolio turnover rates (percent)		Total	Portfolio turnover rates (percent)		Total
	20 or less	Greater than 20		20 or less	Greater than 20		20 or less	Greater than 20	
	90 or less.....	8	17	25	9	8	17	17	25
Over 90.....	7	15	22	5	5	10	12	20	32
Total number of funds in size class.....	15	32	47	14	13	27	29	45	74

¹ Size classification is based on net assets on Sept. 30, 1958.

TABLE V-15f.—Contingency table of portfolio turnover rates and performance relatives, balanced funds and common stock funds, 1958¹

Performance relative (percent)	BALANCED FUNDS								
	Funds with assets less than \$50,000,000 ²			Funds with assets \$50,000,000 and over ²			All funds in specified type class		
	Portfolio turnover rates (percent)		Total	Portfolio turnover rates (percent)		Total	Portfolio turnover rates (percent)		Total
	18 or less	Greater than 18		18 or less	Greater than 18		18 or less	Greater than 18	
125 or less.....	11	20	31	3	7	10	14	27	41
Over 125.....		6	6	3	1	4	3	7	10
Total number of funds in size class.....	11	26	37	6	8	14	17	34	51

COMMON STOCK FUNDS									
Performance relative (percent)	Portfolio turnover rates (percent)		Total	Portfolio turnover rates (percent)		Total	Portfolio turnover rates (percent)		Total
	18 or less	Greater than 18		18 or less	Greater than 18		18 or less	Greater than 18	
125 or less.....	9	7	16	3	2	5	12	9	21
Over 125.....	12	23	35	7	15	22	19	38	57
Total number of funds in size class.....	21	30	51	10	17	27	31	47	78

¹ First 9 months of 1958.² Size classification is based upon net assets on September 30, 1958.

In 1954, on the other hand (table V-14b), there emerged a stronger tendency for the funds showing a lower portfolio turnover rate to record a better-than-average performance. Of the 145 funds examined for 1954, 42 had turnover rates of less than 15 percent, and it was found that twice as many of these funds recorded superior performances, greater than 150 percent, as fell within the lowest performance class, less than 130 percent. For the funds which recorded the highest turnover rates, greater than 30 percent, there were slightly more in the lowest performance class than in the highest performance class. The funds in the 15- to 30-percent turnover class occupied an intermediate point in this negative relation between performance and turnover.

These relationships can be examined further by noting the comparable data for the size classes of funds also shown in table V-14 for each year, and as will be done more conveniently in table V-15, by considering the strength of such relations for the principal type classes of funds, balanced funds and common stock funds. In the present case, the separate size classes of funds offer some confirmation of the moderate negative relation between turnover rate and performance for 1954. The smallest size class of funds, those with assets less than \$10 million as of September 1958, showed funds with the lowest turnover rates recording generally higher, rather than lower, performances. The highest turnover rate funds in this size class again showed some tendency to fall in lower performance classes, though here, as in the case of all funds combined, most of the funds appear in the large modal class of average performance funds. The figures for the second size class, assets between \$10 and \$50 million, also suggest a somewhat poorer performance by the higher turnover funds.

The 1954 figures for the larger common stock funds (table V-15b) also suggest a negative relation between turnover and performance.⁴² Fourteen of these funds had turnover rates below 20 percent and 13 of them were in the higher of the performance classes, but only 7 of 11 funds with turnover rates in excess of 20 percent were in this performance class. The evidence for balanced funds was not convincing, but was in the direction of a positive rather than negative relation.

This moderate negative relation between turnover rates and performance was not observed in each year of the study period. But in 1955, which resembled 1954 in that it witnessed a continued advance in stock market values, the relationship was again confirmed. While the stock market continued to advance in 1955, the funds' turnover rates were generally lower than in 1954. But it is noted again from the distribution of the total of 155 funds in 1955 (table V-14c) that the 63 funds in the lowest turnover rate class showed a larger number of superior than inferior performances, and that, on the contrary, the 44 funds in the highest turnover rate class showed a larger number of inferior performances. An examination of table V-14c reveals that these negative relations were strongly confirmed for each size class; 14 of 22 high turnover funds in the smallest size class were in the lowest performance class, but only 8 of 22 low turnover funds in this size class were in the lowest performance class. Another illustrative set of figures can be observed among the funds with assets over \$50 million where 12 of 23 low turnover funds in this class recorded performance relatives of over 120 percent and only 3 of 8 funds with high turnover rates had performance relatives of this magnitude.

It will be seen from table V-15c that the negative relation in 1955 was also present among the common stock funds, where a larger percentage of funds with lower turnover rates recorded high performance relatives than did the funds with high turnover rates. The evidence for the balanced funds did not show a very strong relationship, but gave a slight suggestion of a positive relationship between turnover rate and performance: 5 of 28 high turnover funds recorded relatives of over 117 and only 2 of 20 low turnover funds were in this category.

Less decisive relations appeared in 1956 (table V-14d), a year in which two fairly pronounced market price cycles developed, and in 1957 (table V-14e), the first year since 1953 in which the overall trend in market values was downward. Certain segments of the industry appeared to exhibit either positive or negative relations in these years, but the evidence is not uniform or particularly convincing. In 1956, the common stock funds again gave a slight indication of a negative relation, but other groups did not exhibit such a phenomenon. In 1957, the smallest size funds gave evidence of a positive relationship between turnover and performance, but again other groups failed to show a similar pattern.

In 1958, when an upward trend in market values reappeared, there was no concurrent appearance of a general turnover-performance relationship. Overall industry figures and the various size groups failed to display any consistent pattern, although the common stock funds did demonstrate a weak tendency toward a positive relation. Of 47 high turnover funds 38 were in the better performance category,

⁴² The analyses for common stock funds and balanced funds employed only two classes for each variable. The division points selected were approximately the midpoints of the central class of the three divisions employed in the overall industry analyses.

but only 19 of 31 of the low turnover funds were in that performance group. This pattern can be observed in both size groups (table V-15f).

The preceding analysis indicates that there has not been any persistent relationship between annual portfolio turnover rates and performance results of the same period. Indeed, relationships for even short periods or for selected groups of funds were not observed with any great frequency. In those cases where there was a suggestion of a relationship, the direction was negative more often than positive, but the number of occurrences was too few to warrant a generalization. The evidence would thus indicate that funds with high turnover rates did not, in general, achieve superior results, but neither did they perform in a generally inferior manner.

Performance measures in given time periods compared with portfolio turnover rates in preceding periods

In tables V-16a through V-16e and V-17a through V-17e an examination, similar to that contained in tables V-14 and V-15, is made of the relations between the performance measures recorded by the funds in given years and the rates at which they turned over their portfolios in the immediately preceding year. The relationship which emerges is more pronounced with the introduction of the time lag, but again there is a need for caution in forming a generalization. The figures, however, show a negative relationship between portfolio turnover rate in one year and performance in the following year, in the analysis based on all funds, in every comparison except that of 1956-57 (table V-16d). This tendency can be observed most easily in the four corner cells of the tables. These cells show the number of funds which had either a high or a low turnover in one period followed by either a superior or inferior performance in the following period. The 1953-54 comparison reveals that low turnover funds recorded 21 superior performances and 8 inferior performances, but the high turnover funds recorded an equal number (10) of good and poor performances. Again, in the 1954-55 period, a lower proportion of high turnover funds recorded a superior performance. The ratio was 22 to 15 against high performance in the case of the high turnover rate funds, but only 16 to 15 against high performance in the case of the low turnover rate funds. The same general pattern was present in the 1955-56 and 1957-58 periods,⁴³ but was not in evidence in 1956-57, when there was almost an equal division between the higher and lower performance classes regardless of portfolio turnover rate.

⁴³ Those funds with annual turnover rates between 15 and 30 did not fit into the generalized negative relationship, but recorded the lowest performances for 1953-54, 1955-56, and 1957-58.

TABLE V-16a.—Contingency table of portfolio turnover rates in 1953 and performance relatives in 1954, by size of fund¹

(i) FUNDS WITH ASSETS LESS THAN \$10,000,000

1954 performance relative (percent)	1953 portfolio turnover rates (percent)			Total number of funds
	Less than 15	15 and less than 30	30 and over	
	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>
Less than 130.....	3	7	4	14
130 and less than 150.....	9	9	9	27
150 and over.....	9	1	2	12
Total number of funds in size class.....	21	17	15	53

(ii) FUNDS WITH ASSETS \$10,000,000 AND LESS THAN \$50,000,000

Less than 130.....	3	4	5	12
130 and less than 150.....	5	9	6	20
150 and over.....	5	2	6	13
Total number of funds in size class.....	13	15	17	45

(iii) FUNDS WITH ASSETS \$50,000,000 AND OVER

Less than 130.....	2	2	1	5
130 and less than 150.....	13	7	5	25
150 and over.....	7	5	2	14
Total number of funds in size class.....	22	14	8	44

(iv) ALL FUNDS COMBINED

Less than 130.....	8	13	10	31
130 and less than 150.....	27	25	20	72
150 and over.....	21	8	10	39
Total number of funds.....	56	46	40	142

¹ Size classification is based upon net assets on Sept. 30, 1953.

TABLE V-16b.—Contingency table of portfolio turnover rates in 1954 and performance relatives in 1955, by size of fund¹

(i) FUNDS WITH ASSETS LESS THAN \$10,000,000

1955 performance relatives (percent)	1954 portfolio turnover rates (percent)			Total number of funds
	Less than 15	15 and less than 30	30 and over	
	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>
Less than 115.....	8	9	12	29
115 and less than 120.....	4	2	8	14
120 and over.....	6	1	4	11
Total number of funds in size class.....	18	12	24	54

(ii) FUNDS WITH ASSETS \$10,000,000 AND LESS THAN \$50,000,000

Less than 115.....	3	6	7	16
115 and less than 120.....	3	6	6	15
120 and over.....	4	7	5	16
Total number of funds in size class.....	10	19	18	47

(iii) FUNDS WITH ASSETS \$50,000,000 AND OVER

Less than 115.....	5	4	3	12
115 and less than 120.....	4	6	6	15
120 and over.....	5	7	6	18
Total number of funds in size class.....	14	17	14	45

(iv) ALL FUNDS COMBINED

Less than 115.....	16	19	22	57
115 and less than 120.....	11	14	19	44
120 and over.....	15	15	15	45
Total number of funds.....	42	48	56	146

¹ Size classification is based upon net assets on Sept. 30, 1958.