first 2 years showed 26 percent of the observations in the lowest quartile and 30 percent in the top quartile, with the remainder (44 percent) in the middle. As in the previous division, the results suggested the new funds performed no better or no worse than the older ones.

VARIABILITY IN PERFORMANCE BY INDIVIDUAL FUNDS

Data have been presented in the preceding sections which show the variability of performance for certain groups of funds and for all funds combined during various periods of the study and for the entire 5¾ years. In this section, the amount of variability for individual funds is considered. For this purpose, the 152 funds in continuous existence were divided into quartiles with respect to the cumulative composite performance and also with respect to the composite performance for each year. The distribution of the funds within each year was then compared to the rankings of the cumulative figures. The analysis thus examined the relative performance of specific funds with respect to the other funds [56] for each time period and for the entire time period.

The analysis shows that the funds with the superior cumulative performances (top quartile) recorded particularly good years in 1954, 1955, 1956, and 1958, all of which were periods of rising stock market prices. In 1957, a year in which the stock market declined, they performed worse than other funds. In 1953 when the market changed very little, these funds were distributed rather evenly among the four quartiles. As shown in table V–27, 25 of 38 funds in the top quartile in cumulative performance were also in the top quartile in 1954. The figures for 1955 and 1956 were 23 of 38 and 26 of 38, and although the number dropped to 18 in 1958, 35 of 38 were in the top 2 quartiles. In 1957, on the other hand, only 6 of 38 were in the top quartile. Despite the generally superior performance of these funds in the bull-market years, there was at least one fund in the lowest quartile in every year. Two funds, which were in the highest cumulative quartile (both in the specialty fund classification), were in the lowest quartile in 2 consecutive years of the 1954–56 rise, but their performance in the remainder of the period was sufficiently superior to yield a good cumulative record.

[56] The initial analysis covers all funds. Later in the section, specific subgroups are examined.

TABLE V-27.—*Distribution of funds among annual performance quartiles (funds classified by quartile in cumulative performance), 1953–58*

Quartile	1953	1954	1955	1956	1957	1958
LOWEST QUARTILE IN CUMULATIVE PERFORMANCE						
1st	9	29	26	26	9	22
2d	9	5	8	8	4	8
3d	9	2	2	2	9	6
4th (highest)	11	2	2	2	16	2
SECOND QUARTILE						
1st	8	7	7	5	9	11
2d	11	23	21	18	8	18
3d	13	6	7	12	14	4
4th (highest)	6	2	3	3	7	5
THIRD QUARTILE						
1st	13	----------	3	5	11	4
2d	10	9	8	10	11	10
3d	5	20	15	16	7	11
4th (highest)	10	9	10	7	9	13
HIGHEST QUARTILE						
1st	8	2	2	2	9	1
2d	8	1	1	2	15	2
3d	11	10	12	8	8	17
4th (highest)	11	25	23	26	6	18

The funds in the lowest quartile with respect to cumulative performance revealed the opposite pattern. During periods of rising market prices (1954–56 and 1958) most of them were in the lowest quartile for annual performance, but they performed in an above average manner in the market decline of 1957 when 16 of 38 were in the top quartile of annual performance measures. Superior records in some years by some of these funds can be seen in the fact that there were at least two of them in the top quartile in every year, and one specialty fund was in the top quartile in each of the 3 years from 1954 through 1956. The extremely poor record of this latter fund during 1953 and 1957, and a below average performance in 1958 served to place it 14th (from the bottom) of 152 funds in the cumulative relative.

The records for the funds in the second and third quartiles were consistent with the figures for the funds in the first and fourth quartiles. Funds in the third quartile for cumulative performance tended to exhibit better than average records during the market increases of 1954–56 and 1958, though not as much above average as the funds in the fourth quartile. In 1957 these funds performed below average. Funds in the second quartile tended to perform below average during the periods of market increase and slightly better than average during the decline.

There was no fund which appeared in the highest quartile in every year of the study nor was there any fund in the lowest quartile in every year. There were seven funds in the upper half throughout the study, with all seven finishing in the upper quartile in cumulative performance. One of these funds was in the top quartile in every year except 1958 and finished as the fund with the fifth best cumulative record. There were six funds in the lower half throughout the study, and all except one finished in the lowest quartile in cumulative performance.[57]

The findings with respect to individual funds indicate two conflicting features of the performance records. There were funds that succeeded in achieving better than average performances with some consistency, but these same funds did not record superior results in every year. There were other funds that performed below average rather consistently, but they were not always inferior. If chance alone generated the distribution of the funds between the two halves in performance, and if each fund were considered to have an equal likelihood of being in either half, the distribution of 152 funds for 6 years would be as shown in the third column of table V–28. The actual distribution (second column) reveals that fewer funds had 3 years in each half than would be expected from chance alone and that there were more funds at the two extremes than would be expected (under the indicated homogeneity assumption). These discrepancies from theoretical expectations suggest that there were funds that revealed a tendency toward better performances and others with a tendency toward poorer performances. If on the other hand the "superior" funds possessed a strong "superiority" one should expect them to demonstrate greater consistency in performance. For example, if the 38 funds in the top quartile in cumulative performance really had a strong tendency to appear in the top quartile annually, some of them should have appeared there in each of the 6 years. As was noted above, no fund did achieve such a record.[58] The findings do, of course, suggest a more consistent performance by specific individual funds in years with the same direction of stock market price movements.

TABLE V–28.—*Distribution of investment funds by number of years in which each fund was in upper half with respect to performance, 1953 to September 1958*

Number of years in upper half	Number of funds	
	Actual	Theoretical
0	6	2.38
1	15	14.25
2	41	35.62
3	31	47.50
4	36	35.62
5	16	14.25
6	7	2.38
Total	152	152

Examinations of individual funds within the common stock fund group and individual funds within the balanced fund group did not reveal as much consistency in performance, when each type of fund is considered separately, as was revealed in the analysis of all funds

[57] Three of these funds were in the lowest quartile for each year except one, and finished 5th, 6th and 15th, respectively. The first 2 were bond funds and the last was a preferred stock fund.

[58] Assuming as an indication of strong superiority a probability of 0.75 that each of these funds would finish in the top quartile for any one year, one would expect 6.76 of the 38 to finish in the top quartile in each of the 6 years.

combined. Only one fund in each group was in the upper half of that group with respect to performance in each of the 6 years, and no fund was in the lower half in each year. The relative success in the years of stock market advances, however, was again a good indicator of relative position in cumulative performance. Among the common stock funds in the highest quartile in cumulative performance for all common stock funds, no fund was in the lowest quartile in 1954, 1956, or 1958, years of stock market advance, and only one was in that quartile in 1955. Among the common stock funds in the lowest quartile in cumulative performance, only one fund achieved the top quartile in 1954 or 1956 and none achieved that position in 1955. The figures for the balanced funds did not reveal as sharp a division in the years of market advance, but the comparisons were of the same general pattern.

TABLE V-29.—*Distribution of common stock funds and balanced funds by number of years in which each fund was in upper half with respect to performance*

Number of years in upper half	Number of balanced funds		Number of common stock funds	
	Actual	Theoretical	Actual	Theoretical
0	0	0.8	0	1.1
1	6	4.5	9	6.4
2	10	11.2	18	15.9
3	14	15.0	16	21.2
4	15	11.2	15	15.9
5	2	4.5	9	6.4
6	1	0.8	1	1.1
Total	48	48.0	68	68.0

Distributions similar to those of table V-28 were constructed for both common stock funds and for balanced funds and are presented in table V-29. The actual and theoretical distributions for balanced funds are very similar. This comparison suggests that these funds were not distributed between the upper and lower halves over the 6 years in such a way as to indicate any strong and consistent superior or inferior performances. Common stock funds demonstrated a greater departure from the theoretical distribution, but not to as great an extent as did all funds combined.[59] The slight differences observed for common stock funds again suggest that there were very few funds that recorded superior performance with any consistency and very few that were consistently inferior.

[59] The appropriateness of a statistical test of significance may be questioned since these are the complete results for the period of time. If a chi-square test were employed for these data, the differences between the theoretical and actual distributions would be statistically significant at a 5-percent level for all funds combined, but not for the common stock funds or balanced funds considered separately. The result for the two types of funds considered separately is the more meaningful since the required homogeneity assumption is more closely met.