

I. SIZE, GROWTH AND PERFORMANCE OF REGISTERED INVESTMENT COMPANIES

1. Introduction

In this section, the investment performance of a group of open-end registered investment companies is examined. For each fund being evaluated, a standard portfolio having the same average market volatility is constructed for purposes of comparison as described in section F. The difference between the rate of return¹⁵⁹ realized by the fund and the rate of return realized by the standard portfolio, the so-called "excess return" (or alpha) is the basic measure of performance used in this section. Another important measure computed for each fund is the degree of diversification (R^2), defined as the percentage of variation in monthly rates of return for the fund which can be accounted for by movements in the market itself, in this case by rates of return on the Standard and Poors 500 Stock Index.

In Part 3 of this section the relationship between these performance measures and various other characteristics of the funds and their advisory firms are examined. Specifically, relationships between performance measures and portfolio turnover, fund and adviser sizes, net sales of fund shares, sales loads and the existence of performance fee arrangements are evaluated using regression analysis.

2. Volatility Adjusted Measurement of Investment Performance.¹⁶⁰

In this section the investment performance during the period 1960-1969 is examined for a group of 236 open-end registered investment companies. The purpose of the section is to measure the extent to which fund managers have been able to outperform standard portfolios having the same degree of volatility, and to examine the extent to which such fund portfolios are diversified.

The sample of mutual funds examined consists of 236 companies of which 125 had complete investment return data over the 10-year evaluation period. As of June 1965, the total net assets of the 236 funds was \$36 billion, which represented approximately 90 percent of industry assets at the time.

The rate of return, performance and diversification measures for the sample of funds are presented in Tables IV-103 through IV-112. These statistics have been computed for the total sample of 236 funds and for the subsample of 125 with complete data for the entire 10-year period. Performance measures for the funds with incomplete data were computed for the period for which data were available. To examine the stability of performance measures, the 10-year interval was divided into two five-year subperiods and the same calculations performed for each period.

¹⁵⁹ Return as used in this section, unless otherwise stated, includes dividends and capital distributions plus unrealized capital appreciation, before taxes.

¹⁶⁰ Although volatility and risk ordinarily are associated with one another in persons' minds, arguments can be (and have been) made that the latter (risk) is a *substantive* assessment of uncertainty about possible *future* occurrences while the former (volatility) is an *objective* measure of *historical* experience. Conceptually, the two can be quite different. Changes in circumstances could render a formerly volatile security much less risky in the future, or vice versa. For practical purposes, however, the link between the two probably is close enough to make such distinctions unnecessary. Thus, terms such as risk and volatility, or risk adjusted and volatility adjusted measures can be, and sometimes are, used virtually interchangeably below.

Table IV-103 presents summary data for the 125 funds. The funds are stratified into volatility range groups and unweighted average values of the measures for the groups are presented to examine differences between funds grouped in different volatility ranges.

The 125 funds represent funds that were in existence prior to January 1960. Thus, this subsample is composed of the older and typically larger funds from the 236 fund sample. From the volatility measures in Table IV-103, they are seen to have been less volatile than the market index during the complete 10-year period as well as the two five-year subintervals. However, their average volatility increased substantially between the two subperiods, from an average of 0.85 to 0.99 of market volatility.

The performance measures (alphas) for the 10-year period indicate that funds on the average outperformed the volatility adjusted performance standards. In a typical month during the 10-year evaluation period, the average fund had excess investment returns of 0.05 percent, or total returns 0.05 percent greater than returns on standard portfolios of equivalent volatility (0.60 percent on an annualized basis). When the average performance measures for the various volatility ranges are examined, the more volatile funds are seen to have performed better on average during the period.

As indicated below, however, risk adjusted performance measures by individual funds or groups of funds do not tend to be consistent from one period to the next. Thus, during the first five-year period the funds as a group had lower average returns than the standard portfolios. The average monthly excess return during this period was -0.107 percent per month (-1.28 percent per year, annualized). The situation is reversed during the 1965-1969 period, during which the funds tended, on average, to outperform the standard portfolios. The average performance measure for this period is 0.25 percent per month (3 percent per year, annualized), which differs significantly from zero (see Table IV-112).

During the period 1960-1964, low volatility funds consistently outperformed standard unmanaged portfolios having equal volatilities, while higher volatility funds did not. During the period 1965-1969 the reverse was true, with higher volatility funds outperforming the standard portfolios. Because the volatility ranking of funds did not change appreciably over the period 1960-1969, it is possible to conclude that those funds which outperformed standard portfolios in the period 1960-1964 underperformed their comparison portfolios during 1965-1969, and vice versa.¹⁶¹

While the performance measure is found to be unstable between adjacent five-year periods, the volatility measures (betas) are found to be quite stable. The data indicate a very strong relationship between measures of volatility for funds in the 1960-1964 period and these same measures during the second subinterval.¹⁶²

Diversification measures (R^2) indicate that a substantial amount of diversifiable volatility exists in mutual fund returns. This is the result

¹⁶¹ The correlation coefficients between the alpha (excess return) and beta (volatility) measures for the 125 funds are:

Period 1960-69	0.30
Period 1960-64	-.52
Period 1965-69	.38

¹⁶² The correlation coefficient between beta measures in adjacent five-year periods equals 0.67, $R^2=0.45$.

of less than perfect diversification of mutual fund portfolios relative to standard portfolios.

The diversification measures presented in Table IV-103 indicate that approximately 60 percent of the variation in monthly fund returns can be explained by movements in the market index (as opposed to 100 percent for the performance standard). The data indicate that the funds were typically diversified more completely during the first five-year subinterval than during the second.¹⁶³

Table IV-104 presents summary performance data for the complete 236 fund sample. Somewhat more caution must be used in interpreting the average values in this case since the performance statistics have been computed for various numbers of months.

Comparisons of Tables IV-103 and IV-104 show that new funds tend to be more volatile than older funds. The average volatility for the 236 fund sample for the 1960-1969 measurement period is 1.08 versus 0.91 for the 125 older funds.¹⁶⁴

Average performance measures for the entire 236 fund sample present substantially the same picture as for the 125 funds. Average excess returns for the 10-year period (alpha) are 0.10 percent per month (1.2 percent per year on an annualized basis). When the statistical significance of the average performance measure or excess return is tested, it is found to be significant at the 5 percent level of significance (see Table IV-112).

When the five-year subintervals are examined, results are similar to those found in the 125 fund case. The funds tended significantly to underperform unmanaged, standard portfolios during the 1960-1964 period and to outperform them during the 1965-1969 period. Average excess returns (alpha) for the first period are -0.20 percent per month; for the second period, 0.27 percent per month. During the first period, the least volatile funds tended to have the best performance, while during the second period the more volatile funds had superior performance.

Diversification measures for the 236 funds indicate a picture similar to that for the 125 funds. Typically, about 60 percent of the variation in monthly fund returns can be explained by market movements, leaving about 40 percent potentially diversifiable risk in fund returns. There is some indication that the newer, smaller and more volatile funds tend to be less well diversified than older funds.

Table IV-105 shows the relationship between stated investment objectives of the funds in the Study's various samples (125, 158 and 236 funds) and portfolio volatility coefficients. The three parts of the Table show all samples of funds over the stated time periods to display very strong relationships (in the expected direction) between stated objectives and portfolio volatility measures—that is, funds having more aggressive, capital gains oriented objectives consistently tend to display higher risk, or volatility measures than do funds having more conservative investment objectives.

¹⁶³ The reader is reminded that the diversification measures are not independent of the interval over which the fund and market rates of return are measured (see appendix to sec. F). In this sense they are relative rather than absolute measures of diversification.

¹⁶⁴ An alternative measure of the degree to which newer funds were more volatile is given by the correlation coefficient between fund volatility measures (beta) and the number of months for which data was available for the fund. The correlation coefficient is -0.57 (236 funds, 1960-1969 evaluation period).

Tables IV-106-108 present distributions of the individual fund performance measures for the 125 funds with complete data for the three evaluation intervals. Tables IV-109-111 present similar statistics for the total group of funds.

3. Relation of Performance to Size, Growth and Turnover

a. Description of data base and definition of variables

Data were compiled which describe ten aspects of open-end registered investment companies, by month, for the years 1965 through 1969. The data were compiled from four basic sources. The first was Study Questionnaire Form I-5. Second, a body of data which includes measures of fund volatility and monthly share appreciation or depreciation for 236 mutual funds was compiled independently from public sources. The third source was a monthly tabulation for over 200 mutual funds maintained by the ICI. Finally, data was taken from the weekly Arthur Lipper mutual fund publication. A detailed description of each of the variables used in this study follows:

(i) Performance (PERF in tables): A volatility adjusted performance figure was computed for each fund for each month for which data were available during the 1965-1969 period.¹⁶⁵ For funds which began operations after January 1, 1965, the fund-month performance measures were computed for the period of complete data.

(ii) Fund Turnover (TURN in tables): ICI data were used to compute this statistic. The smaller of total security sales and purchases for the fund during each month was divided by end-of-month asset value for the fund, and expressed as a percentage. The result was multiplied by 12 to give an annualized turnover rate.

(iii) Total Net Asset Value of Fund (ASST in tables): These data also were taken from the ICI information and are end-of-month asset values for the funds, in millions of dollars.

(iv) Total Complex Assets (C. AS in tables): Complex assets are the total dollar value of assets managed by the investment advisory firm managing the fund in question. Data were taken from Study Questionnaire I-5. Correspondingly, the complex asset figures are for June 1969, in tens of millions of dollars.

(v) Sale of Fund Shares (SALE in tables): ICI information serves as the source for these data. They include all forms of inflows to the fund on a monthly basis: voluntary sales, contractual sales, dividend and capital gains reinvestment, share conversion from other funds in a complex, and any other cash or noncash inflows. The data used were expressed as a percentage of end-of-month assets of the fund.

(vi) Net Sales of Fund Shares (NET in tables): The difference between the dollar value of monthly sales and redemptions expressed as a percentage of end-of-month fund assets.

(vii) Volatility of Fund Relative to Market Index (BETA in tables): As discussed in the appendix to section F, this statistic is a measure of the average historical volatility of the mutual fund's return relative to return on the Standard and Poor 500 Stock Price Index. The volatility for each fund covered by the Study was computed from data on monthly returns from 1965 to 1969 and returns

¹⁶⁵ The methodology used to measure fund performance is described in the appendix to sec. F of this chapter.

on the Standard and Poor 500 Stock Index over the period. Monthly returns for the Standard and Poor Index were adjusted for the average monthly dividend yield of the stocks composing the index, by adding the yield to monthly percentage changes in the index.

(viii) Performance Fee (P. FE in tables): Some mutual funds compensate their managers on an incentive arrangement, based on performance. If this was the case at the end of 1969, the variable is given a value of one; otherwise, it was given the value zero. The source for this information was Arthur Lipper's weekly publications of mutual fund statistics.

(ix) Sales Load (LOAD in tables): Sales of most mutual fund shares are accompanied by a sales load which is subtracted from the amount a share buyer contributes to the fund. Data for this variable were compiled from sales loads charged on fund purchases at the end of 1969. The sales load was included in the analyses as a percentage of dollar purchases. If the fund shares were listed on a national exchange (for example, closed-end funds) a 0.5 percent transaction cost was included in place of the load fee to reflect shareholder transactions costs. The source of these data is Arthur Weisenberger Services, *Investment Companies*, 1969 Edition.

b. Description of regression model

The question being examined is whether a significant portion of differences in risk-adjusted, market-related fund performance statistics can be explained by systematic differences in one or more of the eight independent variables described above. Hypotheses about the effect of size, turnover, sales and performance fees on the performance of mutual funds often are suggested by members of industry, regulatory and academic groups. These assertions sometimes are in direct conflict. An attempt is made in this section to focus on partial relationships between fund performance and each of the independent variables included in the equation, while controlling for simultaneous variations in the others.¹⁶⁶

In preparing the data for regression analyses, two approaches were used. The first approach was to treat each fund-month observation as an independent observation. In this case, for the 132 funds in the analyses, 3,729 fund-month observations were available. This represents approximately 28 observations per fund (out of a maximum of 60 for funds with complete five-year histories). The second approach was to average the data for each fund before conducting the analyses. In this case, the performance measures become average monthly returns during the five-year period. The independent variables are similarly averaged to obtain compatible values. This method results in 132 observations, that is, one observation per fund.

Both methods of treating the data have merit. The first allows for examining intraperiod variations in fund performance and provides a substantially greater number of observations. However, the greater number of observations can be misleading since fund-month observations from the same fund ordinarily cannot be considered as independent observations. Thus, the number of "degrees of freedom" in the fund-month regression is substantially less than 3,729. Also, this approach tends to weight the results in favor of older, larger and typically more conservative funds. The second approach obviously

¹⁶⁶ $PERF = TURN + LOG_e [ASST] + LOG_e [C.AS] + BETA + P.FE + LOAD + NET.$
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does not have these problems but a great deal of information regarding intraperiod variation in performance is lost by the fund-averaging approach. Both methods have been used in the regression analysis and the results are discussed, below.

An additional objective of this analysis, although subordinate to that of examining the relationship between performance and other variables, is to examine factors influencing other independent variables. Attempts similar to those outlined above were made on yet other variables and some of these results, particularly those on turnover, show significant explanatory power.

The data collected for this analysis were gathered from a number of sources and the usual problems associated with such data collection efforts were present. Performance statistics were available for 236 funds (approximately 95 percent of industry assets). The sales, assets and turnover data were nominally available for the 250 member firms of the ICI. Merging of the two data bases resulted in 132 companies with common data for at least the 1969 period.

c. Discussion of regression results

Table IV-114 summarizes the performance regression results. For both the fund-month and aggregate methods of treating the data, two regressions were run. The only difference between them is the exclusion of volatility as a separate independent variable from the second of the equations. This was done to examine how much of any perceived differences in fund volatility adjusted performance measures could be accounted for simply by the risk exposure of the mutual fund portfolio. It might be, for example, that riskier stocks during the 1965-1969 period performed on the average in a superior way, where performance is measured in a risk adjusted manner. In this case one would expect to find portfolios containing high proportions of volatile stocks to have superior performance even on a volatility-adjusted basis. The inclusion of the volatility factor in the first of the equations is an attempt to measure and correct for this effect, if any. In other words, the second level of risk adjustment is used to test the robustness of findings where such an adjustment is not performed.¹⁶⁷

In any event, the elimination of the volatility factor from the performance regressions had little effect in either the fund-month or fund-average cases. In general, the analysis showed that even jointly the independent variables had little ability to explain variations in fund performance. Virtually none of the variation was explained in the fund-month case ($R^2=0$), while 10 percent was explained in the fund-average regression. Nevertheless, some significant observations can be made.

The first is with respect to the impact of portfolio turnover on performance. Both performance averaging methods indicated a significantly negative relationship between portfolio turnover and performance. The relationship found has less than one chance in 100 of having arisen by chance alone. The regression coefficient of the turnover vari-

¹⁶⁷ For example, in the case where the volatility factor is excluded as an independent variable it might be found that performance was positively related to portfolio turnover. This result would be deceptive, however, if it were found that higher volatility portfolios tended to be more aggressively managed (that is, have higher turnover) and that higher risk stocks tend to perform relatively well on an ex post volatility adjusted basis over the (relatively short) period examined. In this case one might well find that the superior performance was due to holding risky stocks rather than to turnover, *per se*.

able indicates that, on the average, a 10 percentage point increase in turnover rate (that is, from 50 to 60 percent) would have reduced fund performance in the fund-average case by approximately 0.05 percent per month, on average, and by approximately 0.02 percent in the fund-month analysis. These reductions are equivalent to 0.6 percent and 0.3 percent annual ratios.

The second observation relates to the lack of a significant relationship between either fund size or advisory complex size and fund performance. While the regression coefficients on fund asset size are positive in all regressions, their magnitudes are insignificant relative to variations in the data.

Third, the results indicate that mutual fund net sales are positively related to performance. This result could be explained by two hypotheses. First, positive net cash flows could provide fund managers with additional flexibility, and thus sales would be positively related while redemptions were negatively related to performance. In this case one would expect to see performance *lag* the pattern of net cash flows over time. A second hypothesis would suggest that superior performance could aid fund sales. In this case one would expect net cash flow patterns to *lag* fund performance. In the regressions performed, the cash flows from net sales have been related only to performance during the same month—*thus, it is not possible to distinguish between the above hypotheses.*

The remaining independent variables appear to have little influence on fund performance. Thus, the results suggest that funds having performance fees do not perform significantly different than funds without such fees. Also, the results suggest that there is no appreciable difference between the performance of funds which charge sales loads and those which do not.

Mutual fund turnover statistics are next examined. It is possible, here, to account for a substantial portion of variations in turnover as a function of the other variables previously discussed. These results are summarized in Table IV-115. The data are treated in a manner similar to the previous analyses resulting in regressions for both the fund-month and fund-average cases, with and without the volatility factor included.

As in the previous case, the fund-average regressions provided much greater explanatory power. Approximately 40 percent of the variation in fund turnover can be explained by the independent variables, primarily by performance, fund sales and volatility. Fund size and complex size both are significantly and negatively related to portfolio turnover. The relationship between turnover and mutual fund sales is positive and statistically significant in all equations. The regression coefficient of the fund sales variable (in the fund average equation including the volatility factor) indicates that a one percentage point increase in fund sales as a percentage of net assets is, on average, associated with a 3.5 percentage point increase in fund turnover.

The regression indicates a strong positive relationship between volatility and turnover; more volatile funds tend to be turned over much more rapidly. The regression coefficient also indicates that the difference in turnover rate between a typical income fund (for example, a fund with a volatility factor of 0.5) and a maximum capital gains fund (having a volatility factor of 1.5) is approximately 50 percentage points.

4. Summary and Conclusions

Preliminary analyses of volatility adjusted performance measures support the following observations and conclusions:

(i) During the complete 10-year performance evaluation period, registered investment companies tended to outperform standard portfolios of comparable volatility. For the 125 funds with complete data the average excess return was 0.05 percent per month (approximately 0.6 percent per year on an annualized basis); for the total sample of 236 funds the average excess return was 0.10 percent per month (1.2 percent on an annualized basis).

(ii) During the first five years of the 1960 period, the 236 funds in the sample typically underperformed their volatility adjusted standards. During the second five-year period the picture was reversed, as funds typically outperformed standard portfolios.

(iii) There was no consistent ability for funds that performed well on a volatility adjusted basis during one of the two subperiods to also do so during the adjacent subperiod. In fact, good performance during the first five-year period tended to be associated on average with poor performance during the second five-year period, reflecting the fact that low volatility funds performed relatively well during the first half of the 1960's while high volatility funds did so during the last half of the decade.

(iv) The volatility of the industry increased during the 10-year period. Older funds tended to increase in portfolio volatility; newer funds tend to be more volatile than older funds.

When relationships between mutual fund performance and a number of purportedly related variables are analyzed, the following results are found for the 1965-1969 period:

(v) The performance of the 136 funds studied was found, on average, to be significantly and negatively correlated to portfolio turnover. Funds having higher turnover tended systematically to underperform standard, unmanaged portfolios having the same volatility, after other characteristics were taken into account.

(vi) Performance was not significantly related either to the size of the fund or to the size of the advisory complex within which the fund is managed.

(vii) Performance fees and sales loads appear to be largely unrelated to the ability of fund managers to perform in a superior fashion on a risk or volatility-adjusted basis.

(viii) Mutual fund net sales, by contrast, are related positively to performance. The direction of causality, if any, however, remains undetermined.

(ix) And finally, analyses of fund turnover reveals strong statistical relationships with several included variables. More aggressively managed, higher volatility portfolios tend to turnover much more rapidly than lower volatility funds having more conservative investment objectives; large funds and funds managed by large advisory complexes tend on average to turn over portfolios less rapidly; and fund sales and turnover tend to be strongly and positively related to one another even after other variables are controlled for in the analyses.

TABLE IV-103

PERFORMANCE SUMMARY - ALL FUNDS WITH COMPLETE DATA FOR 1960-69 PERIOD

Evaluation Period	Volatility Range (Beta range)	No. Funds	Average Values - (unweighted)						
			No. Obs. (months)	Monthly Fund Return %/month	Monthly Market Return %/month	Performance Measure (ALPHA) %/month	Volatility Measure (BETA)	Degree of Diversification	Total Assets (\$mil) at beg. of Obs. Period
Jan '60	0-0.4	3	120	0.43	0.77	0.007	0.23	0.27	27.3
-	0.4-0.8	35	120	0.63	0.77	0.004	0.68	0.59	94.3
Dec '69	0.8-1.0	44	120	0.79	0.77	0.066	0.91	0.62	137.4
	1.0-1.2	30	120	0.86	0.77	0.056	1.07	0.66	73.7
	1.2 +	13	120	1.05	0.77	0.130	1.33	0.56	90.8
	Total	125	120	0.78	0.77	0.051	0.91	0.61	102.6
Jan '60	0-0.4	4	60	0.60	1.05	0.245	0.16	0.20	22.6
-	0.4-0.8	47	60	0.83	1.05	0.064	0.65	0.64	96.7
Dec '64	0.8-1.0	43	60	0.82	1.05	-0.157	0.91	0.71	133.1
	1.0-1.2	22	60	0.73	1.05	-0.415	1.11	0.73	76.9
	1.2 +	9	60	1.14	1.05	-0.162	1.30	0.62	84.8
	Total	125	60	0.82	1.05	-0.107	0.85	0.66	102.6
Jan '65	0-0.4	3	60	0.17	0.49	-0.250	0.26	0.29	39.6
-	0.4-0.8	22	60	0.46	0.49	0.001	0.69	0.55	178.2
Dec '69	0.8-1.0	46	60	0.68	0.49	0.194	0.91	0.62	223.9
	1.0-1.2	30	60	0.73	0.49	0.236	1.08	0.67	297.6
	1.2 +	24	60	1.20	0.49	0.673	1.41	0.57	104.8
	Total	125	60	0.74	0.49	0.252	0.99	0.60	206.2

TABLE IV-104

PERFORMANCE SUMMARY - ALL FUNDS WITH AT LEAST 9 OBSERVATIONS

Evaluation Period	Volatility Range (Beta range)	No. Funds	Average Values - (unweighted)						
			No. Obs. (months)	Monthly Fund Return %/month	Monthly Market Return %/month	Performance Measure (ALPHA) %/month	Volatility Measure (BETA)	Degree of Diversification	Total Assets (\$mil) at beg. of Obs. Period
Jan '60	0-0.4	4	115	0.40	0.76	-0.010	0.20	0.23	27.6
-	0.4-0.8	43	111	0.57	0.73	-0.030	0.69	0.56	119.3
Dec '69	0.8-1.0	63	101	0.69	0.69	0.033	0.91	0.59	125.4
	1.0-1.2	56	97	0.69	0.66	-0.001	1.08	0.63	64.4
	1.2 +	70	62	0.81	0.49	0.327	1.51	0.58	40.1
	Total	236	90	0.70	0.63	0.100	1.08	0.58	82.9
Jan '60	0-0.4	7	49	0.50	1.11	0.11	0.18	0.16	17.7
-	0.4-0.8	53	57	0.82	1.07	0.04	0.65	0.61	132.0
Dec '64	0.8-1.0	44	59	0.83	1.07	-0.17	0.91	0.71	130.0
	1.0-1.2	34	52	0.64	1.11	-0.57	1.10	0.70	59.4
	1.2 +	20	52	0.90	1.08	-0.42	1.28	0.64	61.2
	Total	158	56	0.78	1.08	-0.20	0.88	0.64	101.8
Jan '65	0-0.4	4	60	0.17	0.49	-0.24	0.22	0.24	37.4
-	0.4-0.8	28	58	0.37	0.47	-0.08	0.69	0.52	256.7
Dec '69	0.8-1.0	69	56	0.63	0.47	0.160	0.92	0.60	193.8
	1.0-1.2	50	53	0.60	0.44	0.15	1.09	0.63	204.5
	1.2 +	85	46	0.93	0.41	0.56	1.53	0.58	59.5
	Total	236	52	0.69	0.44	0.27	1.13	0.58	153.9

TABLE IV-105

Relationship Between Stated Investment Objectives
and Mutual Fund Volatility

All Funds With Complete Data
For the 1960-1969 Period
125 Funds

Volatility Range	Investment Objective				Total
	Capital Gain	Growth	Growth Income	Income	
0- .4	0	0	0	3	3
.4- .8	0	5	18	12	35
.8-1.0	2	7	33	2	44
1.0-1.2	5	21	4	0	30
1.2 +	8	5	0	0	13
Total	15	38	55	17	125

TABLE IV-105
 (continued)
 All Funds With At Least Nine Observations
 During the January 1960 to December 1964 Period

158 Funds

Volatility Range	Investment Objectives				Total
	Capital Gain	Growth	Growth Income	Income	
0-0.4	0	1	2	4	7
.4- .8	2	11	27	13	53
.8-1.0	2	11	28	3	44
1.0-1.2	10	21	3	0	34
1.2 +	13	3	3	1	20
Total	27	47	63	21	158

TABLE IV-105
(continued)All Funds With At Least Nine Observations
During the January 1965 to December 1969 Period

236 Funds

Volatility Range	Objective				Total
	Capital Gain	Growth	Growth Income	Income	
0- .4	0	0	1	3	4
.4- .8	0	8	20	15	43
.8-1.0	5	14	38	6	63
1.0-1.2	11	32	12	1	56
1.2 +	54	15	1	0	70
Total	70	69	72	25	236

TABLE IV-106

FUNDS WITH COMPLETE DATA FOR 1960-69 PERIOD
January 1960 - December 1969 Evaluation Period

Distribution of Performance Measures (ALPHAS)

VMU=	0.05160	SIGMA=	0.20811	SKFW=	0.84037

	RANGE		FREQ. 1...5...10...15...20...25...30...		

1	-0.5558	-0.4828	2	**	
2	-0.4828	-0.4098	0		
3	-0.4098	-0.3368	0		
4	-0.3368	-0.2638	3	***	
5	-0.2638	-0.1908	2	**	
6	-0.1908	-0.1178	10	*****	
7	-0.1178	-0.0448	26	*****	
8	-0.0448	0.0281	23	*****	
9	0.0281	0.1011	16	*****	
10	0.1011	0.1741	21	*****	
11	0.1741	0.2471	8	*****	
12	0.2471	0.3201	5	****	
13	0.3201	0.3931	5	****	
14	0.3931	0.4661	7	**	
15	0.4661	0.5391	0		
16	0.5391	0.6121	0		
17	0.6121	0.6851	2	**	
18	0.6851	0.7581	1	*	
19	0.7581	0.8311	0		
20	0.8311	0.9040	1	*	

Distribution of Test Statistics (T values)

VMU=	0.14349	SIGMA=	0.78504	SKFW=	-0.16056

	RANGE		FREQ. 1...5...10...15...20...25...30...		

1	-3.0277	-2.7478	1	*	
2	-2.7478	-2.4679	0		
3	-2.4679	-2.1881	0		
4	-2.1881	-1.9082	0		
5	-1.9082	-1.6283	1	*	
6	-1.6283	-1.3484	0		
7	-1.3484	-1.0685	5	****	
8	-1.0685	-0.7886	4	***	
9	-0.7886	-0.5087	9	*****	
10	-0.5087	-0.2288	19	*****	
11	-0.2288	0.0511	20	*****	
12	0.0511	0.3310	13	*****	
13	0.3310	0.6109	19	*****	
14	0.6109	0.8908	18	*****	
15	0.8908	1.1707	6	****	
16	1.1707	1.4506	5	****	
17	1.4506	1.7305	1	*	
18	1.7305	2.0104	2	**	
19	2.0104	2.2903	1	*	
20	2.2903	2.5702	1	*	

TABLE IV-107
 FUNDS WITH COMPLETE DATA FOR 1960-69 PERIOD
 January 1960 - December 1964 Evaluation Period

Distribution of Performance Measures (ALPHAS)

VMU=	-0.10669	SIGMA=	0.33075	SKEW=	-0.42720			
RANGE		FREQ.						
		1	5	10	15	20	25	30
1	-1.2844	-1.1659	1 *					
2	-1.1659	-1.0473	0					
3	-1.0473	-0.9288	2 **					
4	-0.9288	-0.8102	2 **					
5	-0.8102	-0.6917	3 ***					
6	-0.6917	-0.5732	2 **					
7	-0.5732	-0.4546	7 *****					
8	-0.4546	-0.3361	11 *****					
9	-0.3361	-0.2175	11 *****					
10	-0.2175	-0.0990	10 *****					
11	-0.0990	0.0195	31 *****					
12	0.0195	0.1381	25 *****					
13	0.1381	0.2566	12 *****					
14	0.2566	0.3752	4 ****					
15	0.3752	0.4937	2 **					
16	0.4937	0.6123	0					
17	0.6123	0.7308	0					
18	0.7308	0.8493	1 *					
19	0.8493	0.9679	0					
20	0.9679	1.0864	1 *					

Distribution of Test Statistics (T values)

VMU=	-0.30169	SIGMA=	1.05011	SKEW=	-0.06562			
RANGE		FREQ.						
		1	5	10	15	20	25	30
1	-2.8309	-2.5724	1 *					
2	-2.5724	-2.3139	3 ***					
3	-2.3139	-2.0554	4 ****					
4	-2.0554	-1.7969	5 *****					
5	-1.7969	-1.5384	3 ***					
6	-1.5384	-1.2799	8 *****					
7	-1.2799	-1.0214	8 *****					
8	-1.0214	-0.7629	6 *****					
9	-0.7629	-0.5044	10 *****					
10	-0.5044	-0.2459	6 *****					
11	-0.2459	0.0125	19 *****					
12	0.0125	0.2710	17 *****					
13	0.2710	0.5295	14 *****					
14	0.5295	0.7880	8 *****					
15	0.7880	1.0465	4 ****					
16	1.0465	1.3050	2 **					
17	1.3050	1.5635	1 *					
18	1.5635	1.8220	2 **					
19	1.8220	2.0805	2 **					
20	2.0805	2.3390	2 **					

TABLE IV-108

FUNDS WITH COMPLETE DATA FOR 1960-69 PERIOD

January 1965 - December 1969 Evaluation Period

Distribution of Performance Measures (ALPHAS)

VMU=	0.25171	SIGMA=	0.38213	SKEW=	0.64567
RANGE		FREQ. 1...5...10...15...20...25...30.			
1	-0.7327	-0.6283	1	*	
2	-0.6283	-0.5739	0		
3	-0.5239	-0.4195	1	*	
4	-0.4195	-0.3151	4	***	
5	-0.3151	-0.2108	2	**	
6	-0.2108	-0.1064	9	*****	
7	-0.1064	-0.0020	20	*****	
8	-0.0020	0.1024	14	*****	
9	0.1024	0.2068	13	*****	
10	0.2068	0.3112	14	*****	
11	0.3112	0.4155	11	*****	
12	0.4155	0.5199	10	*****	
13	0.5199	0.6243	6	*****	
14	0.6243	0.7287	6	*****	
15	0.7287	0.8331	4	***	
16	0.8331	0.9375	2	**	
17	0.9375	1.0418	1	*	
18	1.0418	1.1462	1	*	
19	1.1462	1.2506	5	*****	
20	1.2506	1.3550	1	*	

Distribution of Test Statistics (T Values)

VMU=	0.54199	SIGMA=	1.00765	SKEW=	-0.61613
RANGE		FREQ. 1...5...10...15...20...25...30.			
1	-3.0714	-2.7889	1	*	
2	-2.7889	-2.5064	0		
3	-2.5064	-2.2239	2	**	
4	-2.2239	-1.9414	0		
5	-1.9414	-1.6589	1	*	
6	-1.6589	-1.3764	1	*	
7	-1.3764	-1.0939	1	*	
8	-1.0939	-0.8114	2	**	
9	-0.8114	-0.5289	5	*****	
10	-0.5289	-0.2465	10	*****	
11	-0.2465	0.0360	14	*****	
12	0.0360	0.3185	12	*****	
13	0.3185	0.6010	14	*****	
14	0.6010	0.8835	15	*****	
15	0.8835	1.1660	12	*****	
16	1.1660	1.4485	11	*****	
17	1.4485	1.7310	12	*****	
18	1.7310	2.0135	3	**	
19	2.0135	2.2960	7	*****	
20	2.2960	2.5785	2	**	

TABLE IV-109

FUNDS WITH AT LEAST 9 OBSERVATIONS

January 1960 - December 1969 Evaluation Period

Distribution of Performance Measures (ALPHAS)

VMI#		SIGMA#		SRF#																		
0.10457		0.41247		-0.37163																		
		FREQ.																				
		1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	
1	-2.3070	-2.0577	2	**																		
2	-2.0077	-1.9113	1	*																		
3	-1.8113	-1.5655	1	*																		
4	-1.6655	-1.3197	0																			
5	-1.5197	-1.0738	2	**																		
6	-1.3738	-0.8280	1	*																		
7	-0.8280	-0.5822	1	*																		
8	-0.5822	-0.3364	10	*****																		
9	-0.3364	-0.0905	36	*****																		
10	-0.0905	0.1543	67	*****																		
11	0.1543	0.4011	43	*****																		
12	0.4011	0.6479	20	*****																		
13	0.6479	0.8928	9	*****																		
14	0.8928	1.1386	4	****																		
15	1.1386	1.3845	3	***																		
16	1.3845	1.6303	3	***																		
17	1.6303	1.8761	0																			
18	1.8761	2.1219	1	*																		
19	2.1219	2.3678	0																			
20	2.3678	2.6136	1	*																		

Distribution of Test Statistics (T values)

VMI#		SIGMA#		SRF#						
0.19709		0.86060		-0.06483						
		FREQ.								
		1	5	10	15	20	25	30	35	40
1	-3.0277	-2.7435	1	*						
2	-2.7435	-2.4593	0							
3	-2.4593	-2.1751	1	*						
4	-2.1751	-1.8909	0							
5	-1.8909	-1.6067	4	****						
6	-1.6067	-1.3224	2	**						
7	-1.3224	-1.0382	7	*****						
8	-1.0382	-0.7540	13	*****						
9	-0.7540	-0.4699	20	*****						
10	-0.4699	-0.1856	26	*****						
11	-0.1856	0.0986	36	*****						
12	0.0986	0.3829	27	*****						
13	0.3829	0.6671	33	*****						
14	0.6671	0.9513	29	*****						
15	0.9513	1.2355	19	*****						
16	1.2355	1.5197	6	****						
17	1.5197	1.8039	4	****						
18	1.8039	2.0882	5	****						
19	2.0882	2.3724	2	**						
20	2.3724	2.6566	3	***						

TABLE IV-110

FUNDS WITH AT LEAST 9 OBSERVATIONS

January 1960 - December 1964 Evaluation Period

Distribution of Performance Measures (ALPHAS)

V4IJ=		SIGMA=		SKFW=	
-0.20325		0.41137		-0.61571	
RANGE			FREQ.1...5...10...15...20...25...30...		
1	-1.3250	-1.2044	5	*****	
2	-1.2044	-1.0839	7	**	
3	-1.0839	-0.9633	1	*	
4	-0.9633	-0.8427	4	****	
5	-0.8427	-0.7221	11	*****	
6	-0.7221	-0.6016	2	**	
7	-0.6016	-0.4810	9	*****	
8	-0.4810	-0.3604	14	*****	
9	-0.3604	-0.2399	11	*****	
10	-0.2399	-0.1193	14	*****	
11	-0.1193	0.0013	30	*****	
12	0.0013	0.1218	29	*****	
13	0.1218	0.2424	16	*****	
14	0.2424	0.3630	5	*****	
15	0.3630	0.4836	3	**	
16	0.4836	0.6041	1	*	
17	0.6041	0.7247	0		
18	0.7247	0.8453	1	*	
19	0.8453	0.9659	0		
20	0.9659	1.0864	1	*	

Distribution of Test Statistics (T values)

V4IJ=		SIGMA=		SKFW=	
-0.51566		1.16321		-0.29826	
RANGE			FREQ.1...5...10...15...20...25...30...		
1	-3.9921	-3.6756	1	*	
2	-3.6756	-3.3590	7	**	
3	-3.3590	-3.0424	1	*	
4	-3.0424	-2.7259	2	**	
5	-2.7259	-2.4093	7	**	
6	-2.4093	-2.0928	5	*****	
7	-2.0928	-1.7762	15	*****	
8	-1.7762	-1.4597	5	*****	
9	-1.4597	-1.1431	14	*****	
10	-1.1431	-0.8266	8	*****	
11	-0.8266	-0.5100	17	*****	
12	-0.5100	-0.1935	14	*****	
13	-0.1935	0.1231	29	*****	
14	0.1231	0.4396	16	*****	
15	0.4396	0.7562	13	*****	
16	0.7562	1.0728	6	*****	
17	1.0728	1.3893	2	**	
18	1.3893	1.7059	1	*	
19	1.7059	2.0224	3	**	
20	2.0224	2.3390	3	**	

TABLE IV-111

FUNDS WITH AT LEAST 9 OBSERVATIONS

January 1965 - December 1969 Evaluation Period

Distribution of Performance Measures (ALPHAS)

VQU= 0.26796		SIGMA= 0.58384		SKEW= -0.54647	
RANGE		FREQ. 1...5...10...15...20...25...30...35...40...45...50..			
1	-2.3030	-2.0972	2	**	
2	-2.0972	-1.9113	1	*	
3	-1.9113	-1.5655	1	*	
4	-1.5655	-1.3197	0		
5	-1.3197	-1.0738	2	**	
6	-1.0738	-0.8280	1	*	
7	-0.8280	-0.5822	4	****	
8	-0.5822	-0.3364	6	*****	
9	-0.3364	-0.0905	27	*****	
10	-0.0905	0.1553	50	*****	
11	0.1553	0.4011	52	*****	
12	0.4011	0.6470	43	*****	
13	0.6470	0.8928	25	*****	
14	0.8928	1.1386	6	*****	
15	1.1386	1.3845	10	*****	
16	1.3845	1.6303	2	**	
17	1.6303	1.8761	2	**	
18	1.8761	2.1219	1	*	
19	2.1219	2.3678	0		
20	2.3678	2.6136	1	*	

Distribution of Test Statistics (T values)

VQU= 0.54180		SIGMA= 1.01299		SKEW= -0.42194	
RANGE		FREQ. 1...5...10...15...20...25...30...35..			
1	-3.0714	-2.7363	1	*	
2	-2.7363	-2.4011	0		
3	-2.4011	-2.0660	3	**	
4	-2.0660	-1.7309	2	**	
5	-1.7309	-1.3957	4	****	
6	-1.3957	-1.0606	4	****	
7	-1.0606	-0.7254	10	*****	
8	-0.7254	-0.3903	13	*****	
9	-0.3903	-0.0552	25	*****	
10	-0.0552	0.2800	25	*****	
11	0.2800	0.6151	35	*****	
12	0.6151	0.9503	30	*****	
13	0.9503	1.2854	27	*****	
14	1.2854	1.6205	27	*****	
15	1.6205	1.9557	14	*****	
16	1.9557	2.2909	10	*****	
17	2.2909	2.6259	4	****	
18	2.6259	2.9611	1	*	
19	2.9611	3.2962	0		
20	3.2962	3.6314	1	*	

TABLE IV-112

SIGNIFICANCE TESTS FOR AGGREGATE PERFORMANCE MEASURES

Funds with Complete Data for 1960-69 Period

Evaluation Period	No. of Funds (N)	Proportion with Positive ALPHA (P)	Average ALPHA ($\bar{\alpha}$) % Month	Standard Deviation of ALPHA Distribution σ	$t = \frac{\bar{\alpha}}{\sigma / N}$
60-69	125	0.53	0.052	0.208	2.8*
60-64	125	0.42	-0.107	0.330	-3.6*
65-69	125	0.70*	0.252	0.382	7.4*

* Significant at 5% level (assuming independence)

Funds with at Least 9 Observations

Evaluation Period	No. of Funds (N)	Proportion with Positive ALPHA (P)	Average ALPHA ($\bar{\alpha}$) % Month	Standard Deviation of ALPHA Distribution σ	$t = \frac{\bar{\alpha}}{\sigma / N}$
60-69	236	0.57	0.101	0.512	3.1*
60-64	159	0.35*	-0.203	0.411	-6.3*
65-69	236	0.73*	0.268	0.583	7.8*

* Significant at 5% level (assuming independence)

TABLE IV-113

DISTRIBUTION OF TOTAL NET ASSETS
FOR SAMPLE OF 136 MUTUAL FUNDS - 31 Dec 1969

Asset Range (Millions of Dollars)	Number of Funds
0 - 100	72
101 - 250	30
251 - 500	12
501 - 750	7
751 - 1000	4
1000 and up	11

TABLE IV-114

PERFORMANCE REGRESSION STATISTICS

DEPENDENT VARIABLE - MUTUAL FUND PERFORMANCE (ALPHA)

	INDEPENDENT VARIABLES							CONSTANT	R ²
	TURN	ASST	C.AS	BETA	P.FE	LOAD	NET.		
Fund month analysis: 3729 observations									
Reg. Coef.	-0.0023	-0.0615	0.0044	0.0960	-0.4538	-0.4538	-0.0004	0.65	0.0
T-Stat.	-2.22	-1.55	0.11	0.52	-1.22	-0.34	-0.03		
Reg. Coef.	-0.0022	-0.0616	0.0009	-	-0.4619	-0.0047	0.0006	0.77	0.0
T-Stat.	-2.16	-1.56	0.02	-	-1.25	-0.30	0.05		
Fund average analysis: 132 Funds									
Reg. Coef.	-0.0058	-0.0087	0.0524	0.1579	-0.4075	-0.0184	0.0518	0.22	0.10
T-Stat.	-3.00	-0.12	0.89	0.55	-0.51	-0.71	1.66		
Reg. Coef.	-0.0054	-0.0072	0.0491	-	-0.4242	-0.0172	0.0544	0.39	0.10
T-Stat.	-3.04	-0.10	0.84	-	-0.53	-0.66	1.77		

TABLE IV-115

TURNOVER REGRESSION STATISTICS

DEPENDANT VARIABLE - MUTUAL FUND COMMON STOCK TURNOVER RATE (TURN)

	INDEPENDENT VARIABLES							CONSTANT	R ²
	PERF	ASST	C.AS	SALE	BETA	P.FE	LOAD		
Fund Month Analysis:									
3729 Observations									
Reg. Coef.	-0.5702	-5.2343	-3.2838	1.2684	49.1324	-6.6705	-0.8519	37.99	0.17
T-Stat.	-2.22	-8.48	-5.46	6.98	17.56	-1.15	-3.49		
Reg. Coef.	-0.5774	-5.5887	-5.5040	2.0320	-	-11.2776	-0.5326	103.70	0.11
T-Stat.	-2.16	-8.71	-9.00	11.07	-	-1.86	-2.10		
Fund Average Analysis:									
132 Funds									
Reg. Coef.	11.3716	-7.2252	-3.6247	3.5676	54.1324	0.4801	-1.0433	31.40	0.44
T-Stat.	-2.97	-2.27	-1.39	2.69	4.50	0.01	-0.89		
Reg. Coef.	12.3258	-7.6639	-5.5094	5.4526		-4.7660	-0.6080	101.87	0.35
T-Stat.	-3.00	-2.25	-2.00	4.04		-0.12	-0.49		

J. PREFERENTIAL TREATMENT IN THE MANAGEMENT OF DIFFERENT TYPES OF ACCOUNTS

1. Introduction

An investment adviser may favor certain classes of his advisory accounts when a security's price is affected by his successive purchases or sales of that security on behalf of a number of accounts. Favoritism may also influence the allocation of valuable information, managerial expertise or the distribution of limited quantities of securities which are in high demand. Such preferential treatment may result from the fact that the adviser has a greater degree of self-interest in certain accounts over others. For example, the performance records of certain clients such as mutual funds may be particularly valuable in enhancing the adviser's own reputation and business. Other particularly aggressive and sophisticated clients such as large corporations and institutions may be more likely to change advisers when they consider the performance of their accounts unsatisfactory. Finally, different performance fee arrangements may lead the adviser to favor particular accounts over others.

This section will discuss the stated policies of 106 investment advisers regarding allocation of purchases and sales of a particular security between accounts and regarding allocation of securities which may be unusually attractive investments at the time. Second, the section will examine statistically the relationship between the allocation of certain new issues and the turnover rates and investment objectives of the different accounts managed by a sample of 32 advisory firms.

This statistical analysis is in the nature of a test of methodology for measuring the degree to which certain accounts may have been favored over others during the sample period and is not definitive.¹⁶⁸

2. Policies of Investment Advisers Regarding the Allocation of Certain Purchases and Sales and Regarding the Allocation of Limited Quantities of Securities in High Demand

a. Purchase and sales programs

One hundred-six investment advisers answered a request by the Study to describe "any policy of the Investment Adviser governing the allocation of purchase or sale transactions among various client accounts where an acquisition or disposal program requires a period of days or weeks to complete; *e.g.*, in a purchase program, how is it determined which account will receive which day's purchase and at what price?"¹⁶⁹

Thirty-four advisers stated that they had no allocation policy. Typical reasons given were that all portfolio managers acted independently; that the adviser had no trading department and no discretionary accounts; that purchases and sales were made individually; and that it was infrequent for two or more clients to be simultaneously buying or selling in quantity.

¹⁶⁸ A similar statistical analysis was made of a limited sample of investment advisers having both registered investment company clients and at least one other type of client in an effort to determine whether there was discernable preferential treatment in allocating purchases and sales where an acquisition or disposition program required a period of days or weeks to complete. The results of this analysis are not included in the Study because of the limited size of the sample and limitations and possible distortions in the data.

¹⁶⁹ Form I-65, Part B, Question 20.

The remainder, or 72 respondents, had some stated allocation policy. The most common method, used by 27 advisers, was pro-rating the amounts actually purchased or sold during a particular period on the basis of the relative size of the purchase or sale requests of clients or portfolio managers or commitments of each amount.¹⁷⁰ Ten advisers rotated accounts either alphabetically, by branch office or randomly in an effort to achieve long-term equitable treatment; and 24, most of whom stated they intended to give fair treatment, provided no basis for such allocations.

Typical responses were:

"Purchases or sales are allocated among advisory clients wishing to effect similar transactions in proportion to the size of the orders; e.g., in a purchase program, a 10,000 share order receives 1,000 share for every 100 shares that a 1,000 share order receives."

* * * * *

"In these types of situations purchases or sales are allocated pro-rata to clients on the basis of the relative size of the individual orders, sometimes modified by our best judgement in individual cases."

* * * * *

"To avoid possible problems of marketability, it has long been the policy of our firm to place primary emphasis on securities where there are sufficient shares outstanding and trades so that long periods of time will normally not be required to complete a program of purchase or sale. However, in those relatively few cases where smaller and less marketable issues may be acquired or disposed of, we utilize a "quota" system in which purchase or sale is carefully controlled by allocation of the authority to buy or sell to an individual office and also with limitation as to the number of shares to be bought or sold over a given time period—say per week based on the normal rate of activity in the stock. These quotas are rotated as between offices to insure that each office has an equal opportunity to participate in situations of this kind."

* * * * *

"Purchase and sales transactions among various client accounts are allocated pro rata on a round lot basis in accordance with the number of shares then held in the account, or where no shares are then held, in accordance with the size of the account."

* * * * *

"Where an acquisition or disposal program requires a period of days or weeks to complete and more than one client account wishes to acquire or dispose of the security, it is our policy to allocate the shares purchased or disposed of equitably and proportionately."

Eleven advisers indicated that their policy was to give priority or preferential treatment to particular types of accounts. Nine of these said they gave priority in executing orders to discretionary accounts¹⁷¹ and the other two gave preferential treatment to registered investment companies.

¹⁷⁰ Most respondents did not specify whether they averaged prices. Several stated that they avoided "allocation" by attempting to buy or sell in blocks whose size was determined by the aggregate needs of the accounts. A few specified that they averaged prices on failure to execute in a single block.

Under certain circumstances, grouping of purchases and sales and failure to give individualized treatment to discretionary accounts may result in the creation of an investment company or companies required to be registered under the Investment Company Act of 1940, the securities of which would be required to be registered under the Securities Act of 1933. See the Commission's complaint in *S.E.C. v. First National City Bank*, S.D.N.Y. 70 Civ. 517, February, 1970 (Order disposing of action, pursuant to stipulation and undertaking, Litigation Release No. 4534, February 6, 1970).

¹⁷¹ Executing purchases and sales for discretionary accounts before nondiscretionary accounts is not necessarily unfair, because delaying executions for discretionary accounts while awaiting the decisions of the other advisory clients might be considered a breach of the adviser's duty to the discretionary accounts.

The following are examples of each type of response :

"We normally buy or sell first for our discretionary accounts. Our non-discretionary accounts are aware of this procedure. Wherever possible, we try to bunch orders for clients and do them in a block through one broker. We select the broker in part, because of the quality of the execution we will get and in part, because of the quality of research that he provides us. Where the block is bought or sold in a series of transactions, so that the prices differ, we simply run the orders down through the clients involved in alphabetical order. Where we are unable to direct brokerage orders for the other discretionary accounts, we do the blocks first and then place the orders for the other discretionary clients through the brokers of their selection.

"After that part of the job is done, we then turn to the non-discretionary accounts. Again, there is a tendency to run them off in alphabetical order, although we also tend to go first to those non-discretionary clients who will go along with our recommendation with the least discussion and argument."

* * * * *

"Requirements of the regulated investment company clients are given absolute priority on a pro-rata basis following which all other clients participate in the order agreed upon."

Of the 106 respondents, 28 were investment advisers which had one or more registered investment company clients or which had affiliations with such clients. Six of the advisers in this category stated they had no allocation policy with respect to purchases and sales of securities pursuant to an acquisition or disposition program. Twenty-two such advisers, however, indicated they had adopted some policy of allocation. Of these, nine had a policy of allocating on the basis of the relative size purchase or sale requests of clients or portfolio managers or commitments of each account. Four rotated accounts alphabetically, by branch office, or randomly. Five stated without explanation that they had a policy of treating each account on a fair and equitable basis; and finally, four advisers said that they gave preferential treatment to particular types of accounts.

b. Limited quantities of securities in high demand

In addition to preferences in the allocation of purchases and sales pursuant to an acquisition or disposition program, investment advisers may favor certain classes of accounts when allocating limited quantities of economically attractive securities.

Substantial numbers of new issues rose to premiums from their initial offering price during the period of the nineteen sixties, which made acquisition of shares in the initial offering unusually desirable. Thus, a relevant measure of preferential treatment during this period is the extent to which new issues were allocated on disproportionate basis to different accounts having similar investment objectives. The same 106 investment advisers also replied to a request by the Study to "describe any policy followed by the Investment Adviser governing the allocation of limited quantities of economically attractive securities among various clients with similar investment objectives: *e.g.*, new stock issues. (A 'new stock issue' is defined as an initial offering of stock of a company which previously had no publicly traded stock.)"¹⁷²

Sixty-one of the 106 respondents stated that they had no allocation policy in this area. The explanation given overwhelmingly was

¹⁷² Form I-65, Part B, Question 21.

that these particular advisers did not purchase new or limited quantity stock issues.¹⁷³

For example, one replied as follows:

"The Investment Adviser has not to date, as a matter of policy, employed 'new stock issues' or other securities of limited quantity availability as vehicles for use in client account programs. No allocation problem has arisen to date and none is anticipated until and unless this policy is changed."

Another stated similarly:

"We hardly ever purchase a new stock issue and since we prefer a more conservative approach and restrict ourselves to seasoned investments principally listed on the exchanges—we do not have the problem."

Forty-four of the remainder of the advisers responding indicated that they did have a policy with respect to the allocation of limited quantities of economically attractive securities. Eighteen said that they allocated such securities proportionately either according to the size of the order placed by the client or portfolio manager or the assets of the account. For example, two advisers in this category replied as follows:

"We have no practice of buying new issues. When we do, our policy is to allocate the issue among our investment counselors in proportion to their demand."

* * * * *

"Assuming equal investment objectives in which a new security issue would fit, the issue is pro-rated by size of fund, i.e. if Fund A had total assets of \$50 million and Fund B total assets of \$100 million. Fund B would receive two units to each unit of Fund A."

Eight investment advisers stated they allocated new issues and limited quantities of stock on some form of rotational basis between their accounts. As one explained:

"Our present procedure has been, first, to identify those accounts that can afford to take the risk of buying a new issue, particularly of unseasoned companies. We then use alphabetical order to allocate the issues. Each issue is too small to sell to all of the clients in this group, so one issue will go to people whose names begin, say, from A to G, the next issue to people whose names follow along in the alphabet, and so on, until we come right around to the beginning of the alphabet again.

"This is admittedly arbitrary, but at least it does not discriminate among various clients."

Six advisers indicated that they divided new issues or limited quantities of securities equally among the accounts which were appropriate. One such firm responded:

"We seldom participate in new issues unless we can be assured of receiving enough stock to be able to allocate stock to all accounts for which the stock is appropriate. We avoid so-called 'hot' new issues because we cannot get enough stock to permit meaningful allocations. In cases where a client requests a specific new issue we will attempt to get it for him and, if successful, will allocate the stock to the requesting client. If insufficient stock is received to satisfy all requests, we will make a pro-rata allocation."

Seven advisers stated they had adopted preferential policies concerning allocations of limited quantities of economically attractive securities. A few of these favored clients on a first come, first served basis while others acknowledged a tendency to favor accounts which performed relatively poorly in the past or accounts which were smaller.

¹⁷³ Several answers were vague or did not appear to be responsive to the question asked. These particular replies were taken to be expressions of having "no allocation policy."

"New stock issues play an extremely minor role in our business. Normally, we do not use such an issue unless a client specifically requests a particular issue. If more than one client requests a stock, it is on a first come, first served basis."

* * * * *

"In the few cases where we have few shares of an issue in big demand there is a tendency to use it in accounts that may have done relatively poorly in the past."

* * * * *

"Normally, we purchase very few new issues. On the limited occasions that we do purchase new issues, we normally allocate the few shares received to our smaller accounts since the very few shares available per account are relatively meaningless to larger accounts."

Finally, six advisers stated without explanation that they simply had a policy of allocating "on a fair and equitable basis." For example, one typical respondent said that "in rare cases where we have multiple clients whose securities are held by the same broker the allocation is determined between the broker and ourselves on 'what is fair to each client'."

3. Allocation of New Issues Among Advisory Accounts

Substantial numbers of new issues rose to premiums from their initial offering price during the period of the 1960's, which made acquisition of shares in the initial offering unusually desirable. Thus, a relevant measure of preferential treatment during this period is the extent to which new issues were allowed on disproportionate basis to different accounts having similar investment objectives.

The new issue data collected by the Study on the allocation of 84 new issues among 32 advisory firms were used to examine the relationship between new issue allocations and the size, turnover rates and investment objectives of the accounts in these firms. The new issue data were obtained from Form I-72. Other account data were obtained from the I-5 and I-14 Questionnaires.

The total market value of the 84 new issues was \$478.6 million. Of this amount \$38.2 million was obtained by investment advisers on behalf of advisory clients or the advisers' own portfolios. The 32 advisers included in this analysis obtained \$30.6 million of the new issues at the initial offering, or approximately 80 percent of the total received by all investment advisers.¹⁷⁴ Registered investment companies purchased 81 percent of the new issues allocated by their adviser.

The 32 advisory firms included in the analysis advised common stock holdings of \$30.6 billion as of June 30, 1969, or approximately 33 percent of total estimated advisory common stock.¹⁷⁵ This included \$22.6 billion of registered investment company common stock holdings, or approximately 47 percent of total common stock held by registered investment companies at June 30, 1969.

¹⁷⁴ The initial offering value of the 84 new issues is estimated to represent approximately 20 percent of institutional purchases of all new issues during the January 1, 1968-June 30, 1969 period. Of the \$30.6 billion of purchases of investment advisers, 30.5 percent was sold during the 90 days following the offering for an average realized gain of 33.2 percent. The remaining 69.5 percent was held for at least 90 days with an unrealized gain during that period of 12.3 percent. See ch. XIV.G. for a detailed description of the I-72 respondent group and data obtained.

¹⁷⁵ The account asset data used in the analysis were primarily obtained from the I-5 Questionnaire. The common stock market values are thus for the end of the 18 month period (June 30, 1969).

Table IV-116 gives the value of new issues obtained in the initial offering by each of the 32 advisory firms. The figure is expressed as a percentage of total advisory common stock as of June 30, 1969. These percentages average 0.51 percent of common stock and range from 0.0 percent to 3.27 percent.

Table IV-116 also shows the allocation of new issues among eight advisory account classes, expressed as a percentage of common stock holdings.¹⁷⁶ For registered investment companies, the average ratio of new issues to common stock holdings is 0.35 percent; for individuals and personal trusts 0.23 percent; for non-registered investment companies 1.41 percent; for the adviser's own portfolio 0.77 percent.¹⁷⁷ The data indicate substantial variation in the relative amounts of new issues allocated to various classes of advisory accounts.

It is typically suggested, however, that new issue allocations will be more closely related to the dollar volume of brokerage business generated by an account rather than the total common stock holdings alone.¹⁷⁸

Table IV-117 presents data similar in structure to that in Table IV-116 with the exception that common stock holdings have been replaced by a measure of common stock turnover. Common stock turnover is defined as the common stock holding (as of June 30, 1969) multiplied by the average turnover rate for accounts of that type within each advisory firm.¹⁷⁹

Table IV-117 indicates the relative allocation of new issues as a percentage of turnover for the firm as a whole and for each of the eight account types. Within the account categories, registered investment companies received 0.58 percent of activity, individual and personal trust accounts 0.96 percent, non-registered investment companies 0.46 percent and advisers own portfolios 12.26 percent. The results again indicate substantial variations among account types in the allocation of new issues.

While the above tables are useful for describing the way in which new issues were allocated to and within advisory firms during the 18 month period, the question of preferential treatment requires consideration of a further dimension, namely that of investment objectives. For some classes of accounts, for example foundations, the investment objectives may well be such that the adviser would consider allocation of relatively speculative new issues to these accounts as a breach of fiduciary duty. Thus in making comparisons among allocations to various account categories, an attempt is made to adjust for differences in investment objectives.

¹⁷⁶ The categories are registered investment companies, individual and personal trust accounts, non-registered investment companies (offshore funds and hedge funds), employee benefit plans, corporate and institutional accounts, the advisers own portfolio, college and university accounts and foundations.

¹⁷⁷ All figures for "adviser's own portfolio" result from only two of eight advisory firms with own portfolios of which one firm received \$74,000 of new issues for a portfolio which on September 30, 1969, had a \$1,434 million of common stock with a 5 percent turnover rate during the previous year.

¹⁷⁸ Regression analysis indicates that the variation in new issue allocations is more closely related to transaction volume than to portfolio size. Fourteen percent of the variation can be explained by total common stock holdings of advisory accounts; when the basis is changed to common stock turnover, the percentage of variation explained increases to 25 percent.

¹⁷⁹ Turnover measured by account type for each advisory firm were obtained from the I-14 Account Description Questionnaire. The averages for each firm were unweighted and represent turnover rates for the 12 month period ending September 30, 1969.

Table IV-118 presents the basic data for the consideration of preferential treatment in the allocation of new issues. Column 1 gives the dollar value of new issues allocated to that account class within the 32 firms. Column (2) gives the total stock holdings as of September 30, 1969. Column (3) presents the ratio of new stock issues to common stock holdings. Column (4) measures the dollar value of common stock turnover during the 1969 period. Column (5) presents the ratio of new issues to the dollar value of turnover and Column (6) measures the relative investment objective of all accounts.¹⁸⁰

Expressed as a percentage of total common stock turnover, the average amount of new issues obtained was 0.16 percent. The following account types were below the average: registered investment companies 0.15 percent, employee benefit plans 0.03 percent, colleges, universities and foundations 0 percent. The following categories were above the average percentage: individuals and personal trusts 0.64 percent, non-registered investment companies 0.57 percent, corporate and institutional accounts 0.34 percent and the advisers own portfolios 1.35 percent.

Table IV-119 shows the percentage distributions of new issues, common stock holdings and turnover among the eight account types. On the basis of both holdings and turnover, individuals and personal trusts, non-registered investment companies and the adviser's own portfolio received substantially more than their proportionate share of new issues. Two of these categories, non-registered investment companies and the adviser's own portfolio had, on the average, the most aggressive investment objectives, while the third category, individuals and personal trusts, had investment objectives that were close to the group average. It appears that registered investment companies, which received 81 percent of the new issues, did receive their proportionate share of the new issues; they held 74 percent of the common stock and had 87 percent of the common stock turnover. However, their investment objectives were more aggressive than those for individuals and personal trusts, which received more than their proportionate share of new issues.

Corporate and institutional accounts, which had aggregate investment objectives that were less aggressive than the group average also received their proportionate share of new issues.

Employee benefit plans, which had an aggregate investment objective which ranked between registered investment companies and individual and personal trusts, received much less than their proportionate share of new issues.

Colleges and foundations, which show the least aggressive aggregate investment objectives, correspondingly received none of the new issues.

The above analysis suggests that on the basis of common stock holdings and turnover, individual and personal trust accounts—which had less aggressive investment objectives than registered investment companies—received a substantially higher proportion of new issues than did the registered investment companies. Part of this disparity may be due to the variation in investment objectives among the groups of

¹⁸⁰ The average investment objectives for the account categories were obtained from the I-14 questionnaire. The relative objectives shown are the unweighted averages obtained for those account categories for the total number of accounts in the I-14 Survey (42,118).

registered investment companies and individuals and personal trusts; although the registered investment companies in the sample had an aggregate investment policy that was more aggressive than individuals and personal trusts, 95 percent of the latter type of accounts had objectives of capital growth, while only 90 percent of the former types of accounts had objectives of capital growth.

The reader is reminded that the above results should be considered tentative in the light of limitations in the data used for the analysis. The account class data (common stock, turnover, investment objectives) are essentially for the end of the 18 month analysis period. Also aggregation problems in developing average turnover rates and investment objectives (unweighted averages of all accounts) may distort the true character of the account classes.

Also the interpretation of the data from Table IV-118 is complicated by the existence of two types of potential new issue allocation favoritism. One results from preferential treatment of particular types of advisory firms (such as hedge funds) by new issue underwriters. The second would result from favoritism in the allocation of new issues obtained by an advisory complex to accounts within the firm. Additional analysis would be required to separate these two factors.

TABLE IV-116
NEW ISSUE ALLOCATION AND AGGREGATE COMMON STOCK HOLDINGS

Adviser Number	Value New Issues \$ Mil.	Total		New Issues/Common Stock by Account Type								
		Com- mon Stock \$ Mil.	New Issue Com. Stk. %	Regis- tered Inv. Co.	Indiv. & Pers. Trust	Non- Reg. I.C.	Empl. Ben.	Corp. & Inst. Own	Col. & Univ.	Foun- dation		
1	0.38	1,780	0.02	0.02	-	-	-	-	-	-	-	-
2	0.17	8	2.06	-	-	2.06	-	-	-	-	-	-
3	0.38	343	0.11	0.11	0.15	0.01	0.07	0.00	-	-	-	-
4	0.45	337	0.13	0.13	-	-	-	-	-	-	-	-
5	0.37	2,134	0.02	0.02	-	0.0	-	-	-	-	-	-
6	0.63	400	0.16	0.31	0.67	-	0.14	2.20	-	0.0	0.0	0.0
7	1.11	3,100	0.04	0.04	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0
8	0.96	401	0.24	0.22	-	-	-	-	-	5.16	-	-
9	0.68	739	0.09	0.08	-	-	15.69	0.0	-	-	-	-
10	5.03	5,069	0.10	0.10	-	-	-	-	-	0.0	-	-
11	1.44	1,241	0.12	0.12	-	0.0	-	-	-	-	-	-
12	0.15	3,392	0.00	0.02	0.01	0.0	0.0	0.01	0.0	0.0	0.0	0.0
13	2.15	3,145	0.07	0.07	-	-	-	-	-	-	-	-
14	0.59	1,394	0.04	0.04	-	0.0	0.11	-	-	-	-	0.0
15	0.04	6	0.54	0.30	-	-	-	-	-	1.78	-	-
16	6.02	747	0.81	0.83	-	0.0	-	-	-	0.0	-	-
17	0.01	1,689	0.00	0.00	0.00	0.00	0.00	-	-	0.0	0.0	0.0
18	0.93	105	0.88	0.37	0.0	9.35	-	-	-	-	-	-
19	0.48	126	0.38	0.18	0.0	2.85	0.0	0.0	0.0	0.0	-	-
20	2.0	652	0.31	0.31	0.0	-	0.0	0.0	0.0	0.0	-	-
21	0.04	124	0.03	0.0	-	-	16.24	-	-	-	-	-
22	0.93	391	0.24	0.26	0.23	0.0	0.03	0.06	-	0.0	0.0	0.0
23	1.64	592	0.28	0.35	0.05	-	0.0	0.37	-	0.0	0.0	0.0
24	0.14	8	1.77	1.77	-	-	-	-	-	-	-	-
25	1.16	35	3.27	0.0	-	3.27	-	-	-	-	-	-
26	0.07	4	1.58	2.89	-	-	-	0.0	-	-	-	-
27	0.04	49	0.09	0.09	-	-	-	-	-	-	-	-
28	2.51	203	1.24	0.0	1.86	5.06	0.06	0.0	-	-	-	-
29	0.11	28	0.41	0.41	-	-	-	-	-	-	-	-
30	0.04	329	0.01	-	0.0	0.0	0.02	0.0	0.0	0.0	-	-
31	0.03	2	1.16	1.16	-	-	-	-	-	-	-	-
32	0.00	2,012	0.0	-	0.0	0.0	0.0	0.0	-	0.0	-	-
Average Ratios			0.51	0.35	0.23	1.41	2.02	0.20	0.77	0.0	0.0	0.0

- Indicates no advisory assets in that category.

TABLE IV-117
NEW ISSUE ALLOCATION AND COMMON STOCK TURNOVER

Adviser Number	Value New Issues \$ Mil	Common Stock Turnover \$ Mil	New Issues /Act- ivity %	New Issues/Activity by Account Type									
				Regis- tered Invest- ment Cos	Indiv- iduals & Pers. Trusts	Non Reg. Inv. Co.	Empl. Ben.	Corp. & Inst.	Own	Col. & Univ.	Foundations		
1	0.38	1,442	0.03	0.03	-	-	-	-	-	-	-	-	-
2	0.17	32	0.52	-	-	0.52	-	-	-	-	-	-	-
3	0.38	271	0.14	0.15	0.14	0.01	0.06	0.0	-	-	-	-	-
4	0.45	287	0.16	0.16	-	-	-	-	-	-	-	-	-
5	0.37	1,601	0.02	0.02	-	0.00	-	-	-	-	-	-	-
6	0.63	284	0.29	0.21	1.56	-	0.27	4.56	-	0.0	0.0	0.0	0.0
7	1.11	2,418	0.04	0.05	0.0	0.0	0.0	0.0	-	103.2	-	-	-
8	0.96	421	0.58	0.21	-	-	-	-	-	-	-	-	-
9	0.68	924	0.07	0.06	-	-	10.46	0.0	-	-	-	-	-
10	5.03	3,903	0.13	0.13	-	-	-	-	0.0	-	-	-	-
11	1.44	811	0.16	0.16	-	0.0	-	-	-	-	-	-	-
12	0.15	984	0.02	0.05	0.03	0.0	0.0	0.02	0.0	0.00	-	0.0	-
13	2.15	944	0.23	0.23	-	-	-	-	-	-	-	-	-
14	0.59	1,199	0.05	0.05	-	0.0	0.38	-	-	-	-	0.0	-
15	0.04	3	1.63	0.53	-	-	-	-	7.12	-	-	-	-
16	6.02	486	1.22	1.25	-	0.0	-	-	0.0	-	-	-	-
17	0.01	321	0.0	0.01	0.0	0.0	0.0	-	-	0.0	-	0.0	-
18	0.93	77	0.78	0.66	-	-	2.67	-	-	-	-	-	-
19	0.48	96	0.32	0.33	0.0	0.81	0.0	0.0	0.0	-	-	-	-
20	2.0	365	0.53	0.54	0.0	-	1.50	0.0	0.0	-	-	-	-
21	0.04	69	0.0	0.0	-	-	54.1	-	-	-	-	-	-
22	0.93	438	0.21	0.22	0.29	0.0	0.04	0.08	-	0.0	0.0	0.0	-
23	1.64	409	0.41	0.38	0.24	-	0.0	1.27	-	0.0	-	0.0	-
24	0.14	5	3.15	3.15	-	-	-	-	-	-	-	-	-
25	1.16	70	0.94	0.0	-	1.90	-	-	-	-	-	-	-
26	0.07	2	2.82	5.15	-	-	-	0.0	-	-	-	-	-
27	0.04	27	0.15	0.15	-	-	-	-	-	-	-	-	-
28	2.51	49	6.02	0.0	9.29	1.45	0.19	0.0	-	-	-	-	-
29	0.11	16	0.73	0.73	-	-	-	-	-	-	-	-	-
30	0.04	168	0.04	-	0.0	0.0	0.05	0.0	0.0	-	-	-	-
31	0.03	1	2.07	2.07	-	-	-	-	-	-	-	-	-
32	0.00	523	0.0	-	0.0	0.0	0.0	0.01	-	0.0	-	-	-
Average Ratios			0.73	.58	.96	.46	4.47	.46	12.26	0.0	0.0	0.0	0.0

- indicated no advisory assets in category

TABLE IV-118

ALLOCATION OF NEW ISSUES BY ACCOUNT TYPE

Account Category	Value of New Issues (\$ Millions) (1)	Total Value Common Stock Holdings (\$ Millions) (2)	New Issues (1) Common Stock (2) (%) (3)	Turnover (Common Stock X Turnover) (\$ Million) (4)	New Issues (1) Turnover (4) (%) (5)	Average Investment Objectives_ (1-14 Sample) (6)
Registered Investment Companies	24.6	22,648	0.11	16,257	0.15	2.36
Individuals and Personal Trusts	2.9	1,897	0.15	458	0.64	2.49
Non-Registered Investment Companies	1.8	248	0.74	324	0.57	2.01
Employee Benefit Plans	0.3	3,260	0.01	1,073	0.03	2.43
Corporate and Institu- tional Accounts	0.7	831	0.09	216	0.34	2.69
Adviser's Own Portfolio	0.1	61	0.23	10	1.35	2.30
Colleges & Universities	0	442	0.0	104	0	2.80
Foundations	0	1,169	0.0	258	0	2.80
TOTAL	30.4	30,556	0.10	18,700	0.16	2.50

_/ Maximal Capital Gain = 1
 Income = 4

TABLE IV-119

Relative Allocation of New Issues by Account Type

Account Category	Total New Issues Allocated	Percent of Common Stock Held	Percent of Total Turnover
Registered Investment Companies	81%	74%	87%
Individuals and Personal Trusts	10	6	2
Non-Registered Investment Companies	6	1	2
Employee Benefit Plans	1	11	6
Corporate and Institutional Accounts	2	3	1
Adviser's Own Portfolio	0.44	0.20	0.05
Colleges & Universities	0	1	1
Foundations	0	4	1
Total	100%	100%	100%

K. SUMMARY AND CONCLUSIONS

1. The Investment Advisory Industry

As of December 1970, the industry was composed of approximately 3,500 advisory firms which provide professional investment advice to a wide array of corporate, institutional, and individual clients. As of June 30, 1969, assets under advisement ("advisory assets") totaled \$130 billion, of which \$54 billion was held by registered open-end investment companies ("mutual funds"). For the purposes of this chapter, only those advisers with "investment advisory clients" have been considered. Advisers whose sole service consists of issuing written reports which are distributed to a large number of clients are excluded. Also specifically excluded were bank trust departments and insurance companies, which are considered in other chapters of the Study.

a. Legal and regulatory pattern

With minor exceptions, the Investment Advisers Act of 1940 makes it unlawful for any investment adviser, unless registered with the Commission, to make use of the mails or any means or instrumentality of interstate commerce in connection with the adviser's business. Registration under the Investment Advisers Act is accomplished by filing with the Commission a form which contains certain information, primarily dealing with identification of management of the firm. Thereafter the registered investment adviser becomes subject to regulation governing his contracts, the maintenance and preservation of specified books and records and other regulatory provisions relating to the conduct of his business. The Investment Advisers Act prohibits fraudulent, deceptive and manipulative conduct, as well as misstatements or omissions of material facts in any registration application or report required to be filed with the Commission. There is no requirement in the Investment Advisers Act for the filing of financial statements or periodic or other reports with the Commission by investment advisers. Hence, the Commission normally has no information as to certain types of important data concerning the investment advisory industry.

Investment advisers which act exclusively for investment companies have been generally exempt from the Investment Advisers Act. However, these investment advisers became subject to the Act under amendments passed in 1970. They are also affected by the Investment Company Act of 1940.

b. Size and growth of assets

The Study's data show that the largest single advisory category is registered open-end investment companies. At June 30, 1969, they represented \$54.7 billion of the \$130 billion total, or 42 percent of industry assets. Individual and personal trust accounts, while amounting to 82 percent of the number of accounts managed, represent only 20 percent of assets. Employee benefit plans, including State and local retirement systems, are the next major category and represent 15 percent of total industry assets.

The Study's data indicate a rapid rate of growth of assets under advisement in a sample of 120 advisory firms for the 5-year period

1964-69. For large firms,¹⁸¹ the 5-year rate of growth of total advisory assets was 14 percent per year. For small firms, the growth rate was 19 percent per year. The fastest growing advisory account was that of nonregistered investment companies other than offshore funds; this category is comprised mostly of private investment partnerships ("hedge funds"). While all small advisory complexes¹⁸² as a whole were growing at a yearly rate of 19 percent, nonregistered investment companies other than offshore funds advised in such complexes were growing at a rate of 153 percent per year.

c. Concentration of advisory assets

Of the \$130 billion of total advisory assets, 24 percent were concentrated in five advisory firms. The largest 25 firms advised 60 percent of assets; the top 50 firms advised 76 percent. Assets of registered open-end investment companies were found to be the most highly concentrated type of account among advisory firms. The top five advisory firms advised 35 percent of these assets, the top 25 firms 76 percent, and the top 50 firms 90 percent of mutual fund assets.

d. Organizational forms, age, and affiliations of advisory firms

The predominant organizational form of investment advisers is the corporation (approximately 70 percent of all firms). The average age for all advisory firms in the Study's sample was 19 years. The average age for small nonfund advisory complexes was 16 years, which is substantially older than for small fund complexes which averaged 3.5 years old. This difference reflects the surge of entries into the mutual fund industry during the last half of the 1960's.

Fifty-nine percent of fund complexes and 24 percent of nonfund complexes in the Study's sample indicated affiliations with broker-dealers. Thirty percent of large fund complexes indicated life insurance affiliations, while 36 percent indicated affiliations with non-life-insurance companies. Interviews with large fund complexes indicated that this trend toward financial amalgamation had substantially accelerated in the latter half of the 1960's.

To measure the significance of these affiliations, the advisers were asked to indicate the percentage of their firm and the firm's designated affiliates' 1968 consolidated gross income that was derived from various sources. The two most significant sources of consolidated gross income were investment advisory services and broker-dealer functions (other than mutual fund distribution). For the total sample, the average proportion of 1968 consolidated gross income from advisory services was 54 percent as against 30 percent for broker-dealer functions. Small fund complexes received 62 percent of 1968 consolidated gross income from broker-dealer functions as opposed to 28 percent from advisory services. The remaining 10 percent of their 1968 consolidated gross income came from sources other than investment advisory services and broker-dealer functions.

¹⁸¹ In the statistical data in this chapter, an advisory firm was classified as "large" if it provided advice for more than \$100 million of advisory assets as of December 31, 1969. All other advisory firms were classified as "small."

¹⁸² In the statistical data in this chapter, a "fund complex" is defined as an advisory firm where more than one-third of assets being advised as of September 30, 1969, were represented by assets of registered investment companies. All other advisory firms were classified as "nonfund complexes."

2. Characteristics of Advisory Accounts

Data were obtained from 42,118 advisory accounts of 158 large and small advisory firms. Of the accounts in the sample, 320 were registered investment companies, 7,269 were institutional and corporate accounts, and 34,529 were individuals or personal trusts.

The average advisory account is 8.4 years old. The average registered investment company account is 14 years old, having been founded in 1956. Fifty-six percent of all registered investment company accounts were started in 1960 or later, with 34 percent having been started between 1967 and 1969. Ninety percent of nonregistered investment company accounts (for the most part offshore funds and hedge funds) were started between 1960 and 1969, in an accelerating pace toward the later years.

The average advisory account contained \$2.6 million as of September 30, 1969. The largest account category was that of registered investment companies, whose average account contained \$173.8 million of assets. The smallest account category was individual and personal trusts which contained, on the average, \$0.6 million of assets. Approximately 48 percent of all registered investment company accounts had in excess of \$50 million of assets; 9 percent had assets in excess of \$500 million.

The asset structure of the average advisory account at June 30, 1969, was composed of 8 percent cash and short-term debt securities, 10 percent nonconvertible debt and preferred stock, 4 percent convertible debt and preferred stock, 77 percent common stock, and 1 percent invested in other portfolios (such as mutual funds) advised by the adviser. Approximately two-thirds of all registered investment company accounts held more than 70 percent of assets in the form of common stock, and approximately 53 percent of all nonregistered investment company accounts held more than 80 percent of assets in the form of common stock.

The adviser was asked to indicate whether the investment objective for each advisory account was either: (1) maximal capital gains, (2) growth; (3) growth/income; or (4) income. The typical advisory account was reported to have a growth/income oriented investment objective. Registered investment companies tend to have more growth oriented objectives. Fifty-six percent of registered investment company accounts have either maximal capital gain or growth objectives.

Registered investment companies allow their advisers the greatest degree of investment discretion, with 75 percent indicating the adviser had sole investment authority. Institutional and corporate accounts were typically advised on a nondiscretionary basis.

It appears that the adviser places account portfolio orders for virtually all registered investment company clients. For other types of accounts, the adviser typically places a lower percentage of such orders.

For the Study's sample as a whole, approximately 65 percent of brokerage business associated with advisory account securities transactions was designated by the clients or was beyond the control of the adviser due to the fact that he did not place orders for the purchase and sale of securities. For registered investment companies the situation is the reverse. In 65 percent of these cases, the adviser was free to allocate all of the brokerage business.

a. Common stock turnover rate

The turnover rate for the common stock portion of the typical advisory account was found to be 21 percent per year. This varies substantially by type of advisory account. Registered investment companies had an average turnover rate of 57 percent. The typical institutional and corporate account had a turnover rate of 23 percent while the average individual and personal trust account had a turnover rate of 20 percent.

Through the analytical tool of regression analysis, the Study was able to ascertain the effect of various factors on account turnover rates, while holding other factors constant. Thus it appeared that, other things being equal: (1) older accounts typically have lower turnover rates; (2) accounts with more aggressive investment objectives experience higher turnover; (3) accounts where the adviser has sole authority to make portfolio changes tend to turn over more rapidly than accounts for which the adviser has limited or no discretionary authority; (4) accounts of clients in high tax brackets have lower turnover rates; (5) accounts which are advised by advisory affiliates of firms doing a brokerage business tend to be turned over somewhat more rapidly than accounts advised by advisers not so affiliated; and (6) accounts advised in fund complexes tend to have substantially higher turnover rates.

3. Competition for Accounts—New and Terminated Accounts

The average annual rate at which advisory clients move their accounts is approximately 16 percent per year. Employee benefit accounts show a higher than average mobility rate. Most advisers profess to be unaware of the previous advisory relationships of their new accounts. A substantial proportion of advisory accounts whose previous adviser was identified came from bank advisers. Advisers also claim to be largely unaware of the advisory status of their terminated accounts. Of the accounts for which designation was made, the most prominent successor category is another investment advisory firm.

Large advisory firms are more likely to have minimum asset and minimum fee requirements for new accounts than small firms. The data indicate that fund complexes have higher minimum asset and minimum fee requirements for their nonfund clients than do nonfund complexes.

Only approximately 2 percent of the respondents to the Study's questionnaire considered advertising to be very important in obtaining new accounts or additional moneys for existing accounts in 1964 and 1969. More than half said that it was so unimportant that it was never used. Direct mail promotional literature is less frequently used than advertising. Since these types of promotional methods are among the lowest cost promotional devices used by American business, the reasons for this lack of usage may be regulatory constraints.

4. Advisory Fees

This section presents an analysis of the advisory fees charged by advisers to their various types of clients. The advisory fee ratio was computed by dividing the 1969 advisory fee by the total account assets

as of September 30, 1969, and expressing the result as a percentage. By dividing the total fees by the total assets for the account types, a dollar weighted average of fee ratios was obtained.

The average fee ratio for the total number of accounts was 0.46 percent of assets. On a dollar weighted basis the ratio is 0.28 percent of assets. The same ratios for registered investment companies were 0.45 percent and 0.39 percent of assets. The average advisory fee ratios for registered investment companies showed the strongest central grouping, with 54 percent of funds with fee ratios between 0.4 percent and 0.6 percent of assets. Individual and personal trust account fee ratios were also highly concentrated, with 43 percent of accounts with fee ratios between 0.4 percent and 0.6 percent of assets.

For 78 percent of all advisory accounts the adviser was compensated through an advisory fee which was based on a percentage of the assets under advisement. A further 17 percent of accounts compensated the adviser through either a flat fee which did not depend on annual variation in account size and/or activity, or a combination of a flat fee and a fee based on a percentage of assets. For registered investment companies, 73 percent of advisory contracts provided for a percentage of assets advised type of fee. A further 17 percent of registered investment companies had incentive fee arrangements, of which the majority were based on the performance of the fund relative to a market index.

With respect to the relationship of fee ratio to account size, it appears that economies of scale exist for all types of accounts, and that some savings are passed along to the investor via lower advisory fees for large accounts. The results show, however, that substantially greater reductions in fee ratios exist for individual and institutional and corporate accounts than for investment company accounts. It also appears that the average fee ratios for institutional and corporate accounts are higher than for individual and personal trust accounts.

The Study employed regression analysis to analyze the impact of certain explanatory factors on advisory fee ratios. The analysis indicated that, other things being equal: (1) the newer an account, the higher the fee ratio; (2) accounts with more frequent valuations involve a higher level of fee ratio; (3) an increase in the asset size of the account is associated with a decrease in the average fee ratio; (4) more aggressive investment objectives are associated with higher advisory fee ratios; (5) nondiscretionary accounts have lower advisory fee ratios than accounts which are fully discretionary; (6) higher tax bracket clients are charged higher fee ratios; (7) accounts advised in a complex which is associated with a broker-dealer have lower advisory fee ratios than accounts not so advised; (8) accounts where the adviser places purchase and sell orders most or all of the time have higher advisory fee ratios; (9) accounts in which the client does not designate brokerage tend to pay higher fee ratios; (10) accounts managed in fund complexes tend to pay higher advisory fee ratios than accounts in nonfund complexes; (11) turnover of the common stock portion of the account's portfolio is associated with higher fee ratios for all classes of accounts except investment companies, for which the opposite effect is observed.

5. Economic Structure of the Advisory Industry

This section presents an analysis of the economic structure of the advisory industry. The topics for analysis include operating revenues, operating expenses, advisory personnel and the profitability of firms in the advisory industry. The respondent group is composed of a random sample of 64 large advisory firms and a random sample of 65 small firms.

Operating revenue is composed of the following items: (1) management fees from advisory accounts; (2) subscriptions and other revenue from publications; (3) commissions and give-ups by advisory client securities transactions; (4) net distribution revenue from principal underwriting functions of the adviser and affiliates; and (5) other revenue. The average large advisory firm had \$2.4 million of revenue in 1964 and \$3.2 million in 1968. In both years approximately 60 percent of total revenues were obtained from advisory fees, of which two-thirds resulted from registered investment companies. Eight percent of revenues resulted from publications. Brokerage commissions on advisory client transactions amounted to 5 percent of total revenue in 1964 and 12 percent in 1968.

For small advisory firms, the average revenues amounted to \$129,000 in fiscal 1964 and \$279,000 in 1968. Whereas 72 percent of revenue resulted from advisory fees in 1964, only 48 percent came from this source in 1968. Revenues from brokerage commissions increased substantially, from 14 percent of revenue in 1964 to 37 percent in 1968. Whereas two-thirds of the advisory fees of large firms resulted from registered investment companies, approximately 85 percent of advisory fees for small firms resulted from individual and personal trust accounts.

Twenty-four advisory firms reported receiving mutual fund underwriting revenues during 1968. Expressed as a percentage of mutual fund sales for these 24 firms during the year, net underwriting revenues averaged 1.09 percent of fund sales for the 24 firms.

For the 32 broker-dealer affiliated advisers who reported brokerage commissions on client transactions, the average unweighted percentage of total 1968 revenue represented by this source was 51 percent.

The total expense data for large advisory firms indicate that an average firm in the sample had \$1.7 million of expenses (before taxes) in 1964, and \$2.4 million in 1968. The largest single expense category is employee compensation, which amounted to 68 percent of total expenses in 1964 and 61 percent in 1968. The total expense data for small advisory firms is similar. Employee compensation was the major expense, amounting to 69 percent of expenses in 1964 and 63 percent in 1968. The total expenses for an average small advisory firm was \$98,000 in 1964 and \$222,000 in 1968.

Regression analysis was used to examine the statistical relationship between total expenses and total advisory assets. The regression results indicated that, on average, a 1-percent increase in advisory assets during 1968 was associated with a 0.69-percent increase in expenses. Simultaneously, as the proportion of registered investment companies in the total advisory assets increased, expenses increased. A 1-percent in-

crease in the proportion of registered investment companies was associated with a 0.0079-percent increase in total expenses.

An average large advisory firm had 76.9 full-time equivalent personnel in 1964 and 103.3 full-time equivalents in 1969, while an average small firm had 10.5 full-time equivalents in 1964 and 12.0 in 1969. The Study's data indicate that typically one-half of the employees (persons other than proprietors, partners or officers) are clerical employees.

A sample of 60 advisers for 1964 had total advisory assets of \$15.4 billion, total revenues of \$97.2 million and total expenses of \$59.7 million. The profit before Federal taxes for these firms was \$37.5 million, which was 0.23 percent of total 1964 advisory assets, and 39 percent of 1964 revenues. The profit ratios increased with the size of the investment firm. Advisers with less than \$100 million of advisory assets earned 0.148 percent of such assets; advisers with more than \$750 million of advisory assets earned 0.281 percent.

In 1968 there were 90 advisers in the sample. These firms accounted for \$40.7 billion of advisory assets, \$170.3 million of revenues, \$114.6 million of expenses and \$55.6 million of profits. The profit figure represented 0.137 percent of advisory assets or 33 percent of total advisory revenues.

For 27 advisers in 1964 and 38 advisers in 1968 with separate investment company expense data, the profit ratios were 0.36 percent of investment company assets in 1964 and 0.21 percent in 1968. These figures are based on \$9.3 billion of assets in 1964 and \$17.6 billion in 1968. These advisers also advised \$4.3 billion of other accounts in 1964 and \$10.7 billion in 1968. The profit ratios for those other advisory assets were 0.04 percent in 1964 and 0.11 percent in 1968. During each of the years the results for investment companies indicated a trend toward higher profit ratios for larger advisory complexes. This trend did not exist for other accounts advised in these complexes.

6. Performance Fees

The use of performance fees to reward investment company advisers is now commonplace. This is a relatively recent development. Performance fees have been criticized on the grounds that they are a one-way street to higher fees, that they encourage speculation, and that they create severe conflict-of-interest problems within an advisory complex. On the other hand, performance fees have been defended on the grounds that they allow sophisticated clients additional degrees of freedom in negotiating fee arrangements with advisers, permit superior advisers to obtain additional compensation, and permit profitable operation of smaller economic units which do not have access to large efficient sales organizations.

Performance fee arrangements typically fall into two general categories: (1) fee basis related to the performance of a market index; or (2) a fee based solely on the performance of the fund itself without reference to the performance of any index. In the latter case the advisory fee is typically based on a percentage of the net unrealized capital gains, or net realized capital gains, or dividend and interest income. As of June 30, 1969, at least 137 investment companies had performance fee arrangements in effect or proposed. Six were closed-end companies. Of the remaining 131 funds, the fees of 120 were

related to the performance of market indexes. Funds are continuing to use performance-based incentive fee arrangements and the same indexes as performance standards.

The Investment Company Amendments Act of 1970, Public Law No. 91-547 (December 14, 1970), reflects Commission recommendations concerning performance fees growing out of numerous studies conducted by and for the Commission. The Amendments Act amends the Investment Advisers Act to require registration of investment advisers whose only clients are investment companies, and it prohibits registered advisers from charging performance fees to investment companies unless such fees increase and decrease proportionately in relation to an appropriate index of securities prices or other measure of performance as the Commission may specify. It also permits a registered investment adviser to charge any other person a performance fee, but only under specified conditions. These provisions will become effective on December 14, 1971.

Existing incentive fee arrangements provide an incentive to the adviser to invest his client's funds in securities having high volatility, even though such action may not be consistent with the investment objectives of the account. The absence of disclosure by an adviser to his clients about the volatility of portfolios under management aggravates this problem. This section suggests a possible method for measuring investment volatility and performance which would both provide a basis for such disclosure and, in addition, reduce incentives on the part of an adviser to expose his client's funds to excessive risk. The method requires as an initial step the construction of a standard portfolio having the same volatility as that displayed on the average by the fund for the period being evaluated. The fund manager would be entitled to a performance fee only if the average gross yield produced under his management, net of all expenses, exceeded the rate of return displayed by the unmanaged standard portfolio having equal volatility. Rates of return on fund shares and the comparison portfolio would be computed in identical fashion and include all distributions made on both portfolios. The incentive fee would increase and decrease proportionately for superior or inferior performance relative to the standard portfolio.¹⁸³ Relatively small or random changes in return should not trigger large, discreet changes in fee ratios. The interval of time over which performance is measured should be sufficiently long to insure that accurate measures of fund volatility and adviser performance can be obtained.

While this suggested method focuses on incentive fee arrangements between advisers and their clients, another area involves procedures used by advisers to compensate portfolio managers. If portfolio managers are compensated on an incentive basis, the considerations discussed above would be equally applicable to these arrangements.

7. Organization of Advisory Firms for Investment Decisionmaking

For small fund complexes the management of the advisory firm is, in effect, the portfolio manager. For large fund complexes the decision-making tends to be more decentralized. An investment committee of the senior management of the firm typically generates either an ap-

¹⁸³ Where the possibility of negative fees exists, special considerations concerning reserves and refunding are applicable.

proved list of securities or general policy with respect to investment decisionmaking. The portfolio managers then, with authority ranging from complete to limited, implement policies for their mutual funds and other clients. For nonfund complexes similar differences exist between large and small firms.

Fund complexes tend, on the average, to have more than twice the number of securities analysts than nonfund complexes, but only about one-half the number of people involved in economic research. On the average, nonfund complexes tend to have 7.4 portfolio managers per firm, while fund complexes, with substantially fewer accounts, tend to have 5.8 portfolio managers per firm.

In both large fund and large nonfund complexes, portfolio managers tend to spend about 75 percent of their time in investment decisionmaking and related supervision of portfolios. The percentages are smaller for small fund and small nonfund complexes where, as might be expected, portfolio managers have a broader range of other duties. The typical analyst spends about 24 percent of his time in contact with portfolio companies. This percentage is somewhat higher for fund complexes than for nonfund complexes, 34 percent as against 20 percent.

In the case of account managers, fund complexes tend to have a higher proportion of analysts with law or advanced business degrees (51 percent) than nonfund complexes (39 percent). The same differences appear to exist for investment research analysts, where 74 percent of fund complex analysts had law or advanced degrees in business as compared to 47 percent for nonfund complex analysts.

With respect to security evaluation procedures, the fundamental approach (where emphasis is on analysis and projections of corporate earnings) is typically the most important to the average advisory firm, with 77 percent of the total Study sample indicating that this approach was very important and always used. Technical approaches (which rely particularly on market action as the essential factor) appear only of moderate interest with 63 percent of the total sample responding that this approach was either somewhat important but not used frequently, or not important and used only rarely.

The most important source of external information to the securities research process appears to be the financial statements of issuers which, for all sizes and types of firms in the Study's sample, receive the highest importance ranking. Direct contact with security issuers ranks next, followed by information received from other research organizations and then information purchased from broker-dealers via commission dollars. Information purchased from other investment advisers on a contractual basis appeared to be relatively unimportant for most firms.

Seventy-eight percent of fund complexes and 62 percent of nonfund complexes own or rent an electronic computer either on an in-house or service bureau basis. Large firms tend to be more likely to use computers than small firms, 88 percent as against 47 percent. The most common function for which the computer was utilized was account administration, with 50 percent of the responding firms indicating this use. This was followed by general administration duties, with 39 percent.

8. Management of Speculative Funds

This section provides a description of the ways in which aggressive capital gain oriented funds are managed, and examines differences in the portfolio behavior of two groups of such funds: (1) registered open end funds which indicated they could engage in certain speculative investment techniques ("registered speculative funds") and (2) unregistered private investment partnerships ("hedge funds"). Unless otherwise indicated, the data are as of December 31, 1968. On that date, the 43 registered speculative funds surveyed had total assets of approximately \$1.7 billion and were 7 percent of the 603 active open end funds registered. The 140 hedge funds surveyed had total assets of \$1.3 billion.

The registered speculative funds were smaller and more recently registered than the average mutual fund. The average size registered speculative fund was \$39 million and the median size was \$13.6 million, while the average size mutual fund was \$96 million at December 31, 1968. The average hedge fund was \$9 million and the median size hedge fund was \$2.7 million at December 31, 1968. The average age of the mutual funds which reported to the Study was 14 years old as of September 30, 1969. More than half of the registered speculative funds, 24, were registered in the years 1966-68, and 116 of the 140 hedge funds were formed in the years 1966-68 (78 in 1968 alone).

The hedge funds had fewer participants (none as many as 100) but they were generally persons of greater means than the shareholders of the registered speculative funds. The median number of shareholder accounts for the registered speculative funds was 3,250 and the average account size was \$3,787. The average account size for members of the Investment Company Institute ("ICI") was \$5,800 as of December 31, 1968.¹⁸⁴

The 35 registered speculative funds in operation throughout 1968 enjoyed a huge net capital inflow during the year, 105 percent of their beginning of the year net assets. For all members of the ICI net capital inflow was just over 5 percent of beginning of the year net assets. For the hedge funds during 1968 net capital inflow was 9 percent of the beginning year assets of those hedge funds which were in operation throughout the year. Total hedge fund assets grew very quickly from \$333 million at yearend 1966 for the 35 hedge funds organized in 1966 or earlier to \$1.3 billion for 140 hedge funds at yearend 1968.

The largest portion of the assets of members of the ICI (84 percent) of the registered speculative funds (74 percent) and of the hedge funds (61 percent) were invested in common stocks as of December 31, 1968. Cash and cash items accounted for 6 percent of the total assets of ICI members, 9 percent of the registered speculative funds, and 10 percent of the hedge funds total assets.

The relative total liabilities of the hedge funds (which are equal to 32 percent of total hedge funds assets) were about three times greater than the relative total liabilities of the registered speculative funds (11 percent of registered speculative funds total assets). Hedge fund

¹⁸⁴ Mutual Fund Fact Book, 1969 (ICI). At year-end 1968, the ICI represented 240 open end investment companies, with total assets of almost \$52.7 billion, or about 90 percent of the total assets of all open end investment companies on that date. Throughout this section, data published by the ICI for all 240 members in the 1969 Mutual Fund Fact Book will be referred to.

borrowings were equal to 15 percent of their total assets, while borrowings were only 2 percent of the total assets of the registered speculative funds. Short positions accounted for 12 percent of the yearend total assets of hedge funds, but only 0.8 percent of the registered speculative funds' total assets. The ratios of short sales to total sales of the hedge funds were 10 times as high as those of the registered speculative funds during the first two quarters of 1968.

New York Stock Exchange listed common stocks were the largest stockholdings of the hedge funds (47 percent)¹⁸⁵ and the registered speculative funds (49 percent), while NYSE listed stocks accounted for 92 percent of the common stock holdings of registered investment companies represented in Table IX-14, as of September 30, 1969.¹⁸⁶

Over-the-counter stocks were the second largest of the common stockholdings of the registered speculative funds (29 percent) and of the hedge funds (26 percent). The registered speculative funds had 20 percent of their portfolios in American Stock Exchange listed stocks and the hedge funds had 25 percent as of December 31, 1968. In contrast, OTC common stocks accounted for 6 percent of the common stock portfolios of a sampling of 37 ICI members for the latter portion of 1970. The AMEX listed stocks accounted for 6 percent of the portfolios of registered investment companies as of September 30, 1969, as indicated in Table IX-14.

For 1968, the annual turnover rate of the hedge funds was 317 percent, compared with 143 percent for the registered speculative funds and 45 percent for all members of the ICI.

For fiscal years ending during 1968, the registered speculative funds had significantly higher expense ratios and advisory fees than did all members of the ICI. The expense ratios of 34 of the registered speculative funds for 1968 were 1.16 percent of their 1968 average net assets on a dollar weighted basis. Their 1968 advisory fees were 0.70 percent of their average net assets on this basis. In contrast, the ICI claimed expense ratios of 0.46 percent of average net assets and advisory fees of 0.35 percent on a weighted basis in 1968 for a sample group representing 90 percent of the assets of its members. The higher expense and advisory fee ratios of the registered speculative funds may be explained to a great degree by the higher percentage of performance fees among the registered speculative funds.

By September 30, 1970, the total assets of the 28 hedge funds which were largest at December 31, 1968, were almost 70 percent less than at yearend 1968, and at least five of the 28, including the one which was previously the largest, had either been dissolved or were in the process of liquidating. The net assets of the registered speculative funds were 40 percent less on June 30, 1970, than they were as of yearend 1968.

9. Size, Growth, and Performance of Registered Investment Companies

In this section the investment performance of a group of open end registered investment companies is examined. For each fund being evaluated, a standard portfolio having the same average market vola-

¹⁸⁵ Throughout this section the 28 largest hedge funds, with assets accounting for 82 percent of the assets of hedge funds surveyed, will be referred to. However, information on market listing was available for only 27 of the largest hedge funds.

¹⁸⁶ Table IX-14 also indicates that 96 percent of the common stock portfolios of all institutions were invested in NYSE listed stocks.

tility is constructed for purposes of comparison, as described in section F. The difference between the rate of return realized by the fund and the rate of return realized by the standard portfolio is the basic measure of performance used in this section. Another important measure computed for each fund is the degree of diversification, defined as a percentage of variation in monthly rates of return for the fund which can be accounted for by movements in the market itself, in this case by rates of return on the Standard & Poor's 500 stock index.

The sample of mutual funds examined consists of 236 companies, of which 125 had complete investment return data over the 10-year evaluation period. As of June 1965, the total net assets of these 236 funds was \$36 billion, which represented approximately 90 percent of industry assets at that time.

Performance measures for the 10-year period 1960-69 indicate that the funds, on the average, outperformed the volatility adjusted performance standards. In a typical month during the 10-year evaluation period, the average funds had total returns 0.05 percent greater than returns on standard portfolios of equivalent volatility. During the first 5-year period the funds as a group had lower average returns than the standard portfolios. The situation is reversed during the 1965-69 period, during which the funds tended, on average, to outperform the standard portfolios. During the 1960-64 period, low volatility funds consistently outperformed standard unmanaged portfolios having equal volatilities, while higher volatility funds did not. During the period 1965-69, the reverse was true, with higher volatility funds outperforming the standard portfolios.

Diversification measures indicate that approximately 60 percent of the variation in monthly fund returns can be explained by movements in the market index (as opposed to 100 percent, by definition, for the performance standard).

The Study also examined the question of whether a significant portion of differences in risk-adjusted, market-related fund performance statistics can be explained by systematic differences in one or more of nine specified variables.¹⁸⁷ In preparing the data for regression analysis, two approaches were used. The first approach was to treat each fund-month observation as an independent observation. The second approach was to average the data for each fund before conducting the analysis.

In general, the analysis showed that even jointly the variables had little ability to explain variations in fund performance. Virtually none of the variations was explained in the fund-month case, while 10 percent was explained in the fund-average regression. Nevertheless, some observations can be made.

Both performance-averaging methods indicated a significantly negative relationship between portfolio turnover and performance. The data indicate that, on the average, a 10 percentage point increase in turnover rate would have reduced fund performance in the fund-average case by approximately 0.05 percent per month and by approximately 0.02 percent in the fund-month analysis. The second ob-

¹⁸⁷ The variables are: (1) volatility adjusted performance; (2) fund turnover; (3) total net asset value of the fund; (4) total advisory complex assets; (5) monthly cash or noncash inflows to the fund; (6) net sales of fund shares; (7) volatility of the fund relative to a market index; (8) performance fee; and (9) sales load.

ervation is the lack of a significant relationship between either fund size or advisory complex size and fund performance. The remaining variables appear to have little influence on fund performance. Thus, the results suggest that funds having performance fees do not perform significantly differently from funds without such fees. Also, the results suggest that there is no appreciable difference between the performance of funds which charge sales loads and those which do not.

Mutual fund turnover statistics are next examined. It is possible here to account for a substantial portion of variations in turnover as a function of the variables used in the analysis. Approximately 40 percent of the variation in fund turnover can be explained by the variables, primarily by performance, fund sales and volatility. Fund size and complex size both are significantly and negatively related to portfolio turnover. The relationship between turnover and mutual fund sales is positive and statistically significant in all equations. The data indicate that a one percentage point increase in fund sales as a percentage of net assets is, on average, associated with a 3.5 percentage point increase in fund turnover.

10. Preferential Treatment in the Management of Different Types of Accounts—The Problem of Conflicts of Interest

This section discusses the stated policies of 106 investment advisers regarding allocation of purchases and sales of a particular security between accounts and regarding allocation of securities which may be unusually attractive investments at the time. The section also examines statistically the relationship between the allocation of certain new issues and the turnover rates and investment objectives of the different accounts managed by a sample of 32 advisory firms.

The 106 advisers answered a request by the Study to describe "any policy of the Investment Adviser governing the allocation of purchase or sale transactions among various client accounts where an acquisition or disposal program requires a period of days or weeks to complete; for example, in a purchase program, how is it determined which accounts will receive which day's purchases and at what price?"

Thirty-four advisers stated that they had no allocation policy. Of the remaining 72 respondents, 27 prorated the amounts actually purchased or sold during a particular period on the basis of the relative size of the purchase or sale requests of their clients or portfolio managers or on the basis of commitments of each account. Ten advisers rotated accounts either alphabetically, by branch office, or randomly in an effort to achieve long-term equitable treatment. Twenty-four advisers, most of whom stated they intended to give fair treatment, provided no basis for such allocations.

Eleven advisers indicated that their policy was to give priority or preferential treatment to particular types of accounts. Nine of these said they gave priority in executing orders to discretionary accounts, and the other two gave preferential treatment to registered investment companies.

The same 106 investment advisers also replied to a request by the Study to "describe any policy followed by the Investment Adviser gov-

erning the allocation of limited quantities of economically attractive securities among various clients with similar investment objectives; for example, new stock issues. (A 'new stock issue' is defined as an initial offering of the stock of a company which previously had no publicly traded stock.)"

Sixty-one of the 106 respondents stated that they had no allocation policy in this area. The explanation given overwhelmingly was that these particular advisers did not purchase new or limited quantity stock issues. The remainder of the advisers responding indicated that they did have a policy with respect to the allocation of limited quantities of economically attractive securities. Eighteen said that they allocated such securities proportionately, either according to the size of the order placed or the assets of the account. Eight stated they allocated new issues and limited quantities of stock on some form of rotational basis between their accounts. Six advisers indicated that they divided new issues or limited quantities of securities equally among the accounts for which such purchases were appropriate. Seven advisers stated that they had adopted preferential policies concerning allocations of limited quantities of economically attractive securities. A few of these favored clients on a first come, first served basis, while others acknowledged a tendency to favor accounts which performed relatively poorly in the past, or accounts which were smaller. Finally, six advisers stated without explanation that they simply had a policy of allocating "on a fair and equitable basis."

The new issue data collected by the Study on the allocation of 84 new issues among 32 advisory firms was used to examine the relationship between new issue allocations and the size, turnover rates, and investment objectives of the accounts in these firms. The 32 advisers included in this analysis obtained approximately 80 percent of the total market value of the 84 new issues received by all investment advisers.

The average ratio of new issues to common stockholdings is 0.35 percent for registered investment companies; 0.23 percent for individuals and personal trusts; 1.41 percent for nonregistered investment companies; and 0.77 percent for the adviser's own portfolio.¹⁸⁸

When common stockholdings are replaced by a measure of common stock turnover,¹⁸⁹ the data show that registered investment companies received 0.58 percent of activity individual and personal trusts accounts 0.96 percent (nonregistered investment companies 0.46 percent) and adviser's own portfolios 12.26 percent.

The question of preferential treatment also requires consideration of account investment objectives. For some classes of accounts the investment objective may well be such that the adviser would consider allocation of relatively speculative new issues to these accounts as inappropriate. Thus, in making comparisons among allocations to various account categories, an attempt is made to adjust for differences in investment objectives.

The Study's data show that on the basis of both holdings and turnover, individuals and personal trusts, nonregistered investment com-

¹⁸⁸ All figures for "adviser's own portfolio" result from only two of eight advisory firms with "own portfolio" transactions.

¹⁸⁹ Common stock turnover is defined as the common stockholding as of June 30, 1969, multiplied by the average turnover rate for accounts of that type within each advisory firm.

panies, and the adviser's own portfolio received substantially more than their proportionate share of new issues. Nonregistered investment companies and the adviser's own portfolio had, on the average, the most aggressive investment objectives while individuals and personal trusts had investment objectives that were close to the group average.

Registered investment companies, which received 81 percent of the new issues, held 74 percent of the common stock and had 87 percent of the common stock turnover, and thus appeared to receive their proportionate share of new issues. However, the investment objectives of registered investment companies were more aggressive than those for individuals and personal trusts, which appeared to receive more than their proportionate share of new issues.

These results should be considered tentative in light of the limitations in the data used for the analysis. Moreover, interpretation of the data is complicated by the existence of two types of potential new issue allocation favoritism. One results from preferential treatment of particular types of advisory firms (such as hedge funds) by new issue underwriters. The second would result from favoritism in the allocation of new issues obtained by an advisory complex to accounts within the complex. Additional analysis would be required to separate these two factors.

APPENDIX A

DESCRIPTION OF INVESTMENT ADVISER ACCOUNT QUESTIONNAIRE RESPONDENT GROUPS

This appendix describes the respondent groups for the questionnaires that were designed explicitly for data collection from the advisory industry. The data collection process was structured on four levels.

First, a population survey questionnaire to secure preliminary data about the investment advisory industry (I-5).

Second, an advisory firm intrinsics questionnaire to obtain aggregated data about the activity of and affiliations of a sample of advisory firms (I-65).

Third, an account survey questionnaire to obtain information on the individual accounts managed by a sample of advisory firms (I-14).

Fourth, a detailed account questionnaire to obtain in depth information from a specific class of accounts, namely investment companies (registered and non-registered).

Each of the questionnaires and respondent groups will now be briefly described :

Form I-5: Investment Adviser's Accounts Questionnaire

This questionnaire was designed to obtain basic data on the population of advisory firms. This questionnaire was necessitated by the lack of alternative data on the sizes and activities of advisory firms. Form I-5 was sent to approximately 1800 firms. This total consisted of 1450 firms registered under the 1940 Investment Advisors Act as of December 31, 1968 and 350 non-registered advisers. The registered firms selected were those that indicated discretionary accounts on their registration statements.¹⁰⁰

¹⁰⁰ The existence of discretionary accounts was indicated by an affirmative response to question 21 of the Adviser's Registration Form—Form Adv., revised 9-1-68.

The latter group of firms was primarily composed of mutual fund managers plus 20 large investment partnerships. From the 1800 questionnaires, responses were obtained to 1450. The 350 non-respondents represented firms who were either inactive or out of business as of the response date (June 30, 1969).

The data collected on form I-5 consisted of the total number of discretionary and non-discretionary accounts in each of several specified account categories. The total dollar amounts of assets and common stock in each one of these categories were reported.

Form I-65: Investment Adviser Intrinsic Questionnaire

The purpose of this questionnaire was to obtain data for analysis of industry growth, methods of competition for new funds, investment decision procedures and the underlying economic structure of the advisory industry. Form I-65 was sent out to a sample of 130 investment advisers. The sample was selected on the basis of responses to form I-5. Sixty-five of the firms were a random sample of large advisers with total advisory assets of more than 100 million dollars as of June 30, 1969. The remainder of the sample was a random sample of small advisory firms.

Form I-14: Investment Adviser Survey—Account Description

Form I-14 was designed to provide data for an intensive analysis of the type and characteristics of accounts managed by advisory firms. Twenty data items were requested for each account advised by firms in the I-14 sample. The questionnaire was sent to 157 advisers. This number was made up of a random sample of 100 firms with advisory assets over 100 million dollars and 57 firms with June 30, 1969 assets less than 100 million dollars.

INVESTMENT COMPANY ACCOUNT QUESTIONNAIRE PACKAGE

This package consisted of a series of questionnaires (I-20, I-21, I-22, I-24, I-25, I-26, I-63). The purpose of this series was to obtain more detailed information about the investment company clients of advisory firms. One hundred and thirty-five questionnaire packages were sent out, with the following division between types of registered investment companies:

Registered Investment Companies—open end, 37.

Registered Investment Companies—closed end, 34.

Investment partnerships (hedge funds), 29.

Offshore Investment Companies—publicly offered (offshore mutual funds), 15.

Offshore Investment Companies—privately offered (offshore hedge funds), 19.

For each type of investment company the samples were stratified to provide a wide range of account and adviser sizes. The account package was used for analysis of aggregate asset and liability holdings, investment performance and portfolio turnover.

APPENDIX B

STATISTICAL SUMMARIES FROM FORM I-14

The following table contains means, standard deviations and simple correlation coefficients for selected items from the I-14 questionnaire. The following provides a description of the variables and where scaling has been used, the values assigned to particular responses are described.

<u>Nmeumonic</u>	<u>Description of Variable</u>												
YEAR	Natural logarithm of age of account in years $\text{YEAR} = \text{Log}_e [\text{Age in YEARS}]$												
VFR	Natural Logarithm of valuation frequency <table border="0"> <tr> <td>frequency</td> <td>Assign Valuation frequency</td> </tr> <tr> <td>Monthly or more frequently</td> <td>0.5</td> </tr> <tr> <td>Quarterly</td> <td>3.0</td> </tr> <tr> <td>Semi Annually</td> <td>6.0</td> </tr> <tr> <td>Annually</td> <td>12.0</td> </tr> <tr> <td>Less frequently than annually</td> <td>24.0</td> </tr> </table>	frequency	Assign Valuation frequency	Monthly or more frequently	0.5	Quarterly	3.0	Semi Annually	6.0	Annually	12.0	Less frequently than annually	24.0
frequency	Assign Valuation frequency												
Monthly or more frequently	0.5												
Quarterly	3.0												
Semi Annually	6.0												
Annually	12.0												
Less frequently than annually	24.0												
Asset	Natural Logarithm of Total account asset $\text{Asset} = \text{Log}_e [\text{Total assets in \$ millions}]$												
CASH	Percent of total assets invested in cash and marketable securities												
NONC	Percent of total assets invested in non-convertible debt of preferred stock												

CONV Percent of total assets invested in convertible debt and preferred stock

COMM Percent of total assets invested in common stock

POOL Percent of total assets invested in pooled accounts managed by Adviser

OBJT Investment objective

OBJECTIVE CODE

Maximal Capital Gain (Capital appreciation is the sole objective and high risks will be taken to achieve it.) 1

Growth (Primary objective is capital appreciation, but characterized by less willingness to bear high risk and a higher degree of price stability than maximal capital gain.) 2

Growth/Income (Combined objective of capital appreciation and current income.) 3

Income (Primary objective is to provide as liberal a current income as possible.) 4

TAX Federal tax bracket on ordinary income to which beneficial owner is subject

Tax Bracket Assigned Value

Tax exempt	0
Less than 30%	15%
30% - 50%	40%
Greater than 50%	60%

BR.D Broker-dealer affiliation of adviser.
BR.D = 1 if principal business of Advisory firm is as broker-dealer;
0 otherwise

TRAD Variable Describing extent to which the adviser trades for the account

(TRAD)	<u>Trading Description</u>	<u>Assigned Code</u>
	Adviser trades more than 50% of time	2
	Adviser trades sometime but less than 50%	1
	Adviser does not trade	0
BROK	Percentage of Account Brokerage which can be allocated by the Adviser.	
	<u>Designation Status</u>	<u>Assign Value</u>
	Brokerage commissions or portfolio transactions are not designated by client.	100%
	Some, but less than 15% of the brokerage commissions on portfolio transactions are designated (subject to variations necessary to achieve best execution).	92%
	At least 15%, but not more than 85% of the brokerage commissions on portfolio transactions are designated (subject to variations necessary to achieve best execution).	50%
	More than 85% of the brokerage commissions on portfolio transactions are designated (subject to variations necessary to achieve best execution).	7%
	Adviser does not trade for account	0%
SIZE	Natural Logarithm of total assets advised by account adviser	
	$SIZE = \text{Log}_e [\text{Advisory firm size in \$millions}]$	
P, RG	Percentage of total advisory assets represent by mutual fund assets	
	$P, RG = \left[\frac{\text{Mutual Fund Assets}}{\text{Total Advisory Assets}} \right] \times 100\%$	

FUND

Fund Complex Variable

FUND = 1 if more than 1/3 of advisory assets are represented by mutual funds (i.e. if P.R.G. \geq 33%)

FEE

Fee ratio for Account

$$\text{Fee} = \frac{\text{Advisory Fee for 9/68-9/69}}{\text{Total Accounts assets 9/69}}$$

TURN

Variable measuring account turnover rate during 9/68-9/69 period

<u>Annual Turnover Rate</u>	<u>Assigned Value</u>
0 - 10%	5%
10%- 50%	30%
50%- 100%	75%
Over 100%	150%

I.I.S. FORM I-14-----MULTIVARIATE REGRESSION ANALYSIS

ACCOUNT CATEGORYO REGISTERED INVESTMENT COMPANY

CORRELATION MATRIX 19 VARIABLES 293 OBSERVATIONS

VARIABLES	YEAR	V FR	ASST	CASH	NONC	CONV	COMM	POOL	OBJT	AUTH	TAX.	BR.D	TRAD	BROK	SIZE	P.RG	FUND	FEE	TURN
MEANS	2.07	-0.59	3.03	13.81	6.55	6.68	72.87	0.01	2.36	1.70	5.84	0.14	1.81	73.03	4.47	70.09	0.78	-0.92	56.76
ST.DEVS	1.17	0.46	2.06	13.57	14.75	10.17	22.91	0.18	0.87	1.24	8.00	0.34	0.57	40.45	1.42	36.58	0.41	0.81	49.04

VARIABLES	YEAR	V FR	ASST	CASH	NONC	CONV	COMM	POOL	OBJT	AUTH	TAX.	BR.D	TRAD	BROK	SIZE	P.RG	FUND	FEE	TURN
YEAR	1.00																		
V FR	-0.18	1.00																	
ASST	0.55	-0.34	1.00																
CASH	-0.31	0.09	-0.28	1.00															
NONC	0.29	0.03	-0.04	-0.09	1.00														
CONV	0.18	-0.09	0.01	-0.07	0.25	1.00													
COMM	-0.08	-0.04	0.19	-0.50	-0.70	-0.56	1.00												
POOL	-0.0	0.27	-0.14	-0.05	0.01	-0.04	0.03	1.00											
OBJT	0.40	0.03	0.07	-0.23	0.21	0.30	-0.07	-0.01	1.00										
AUTH	-0.11	0.27	-0.25	0.14	0.03	-0.12	-0.05	0.09	0.10	1.00									
TAX.	-0.08	-0.01	-0.06	0.01	0.06	0.15	-0.11	-0.05	-0.05	-0.19	1.00								
BR.D	-0.10	0.10	-0.14	0.17	-0.08	-0.12	0.01	-0.03	-0.01	0.19	-0.13	1.00							
TRAD	0.15	-0.30	0.24	-0.01	0.03	0.07	-0.04	-0.11	-0.12	-0.58	0.11	-0.04	1.00						
BROK	-0.03	-0.18	0.16	0.0	0.02	0.05	-0.04	-0.07	-0.08	-0.39	0.23	-0.11	0.46	1.00					
SIZE	0.21	-0.15	0.35	-0.09	0.16	0.04	-0.06	0.03	0.05	-0.13	-0.06	-0.28	0.34	0.18	1.00				
P.RG	0.17	-0.37	0.31	-0.02	0.10	0.15	-0.12	-0.12	0.07	-0.12	0.01	-0.30	0.02	0.26	-0.06	1.00			
FUND	0.16	-0.37	0.30	-0.02	0.07	0.13	-0.10	-0.14	0.05	-0.21	-0.08	-0.22	0.04	0.16	-0.08	0.89	1.00		
FEE	0.04	-0.14	0.03	0.10	0.02	0.08	-0.11	-0.05	-0.03	-0.14	0.17	-0.31	0.02	0.23	-0.02	0.26	0.26	1.00	

T.I.S. FORM 1-65

ACCOUNT CATEGORY I-65 CORRELATION ANALYSIS FOR 1964

CORRELATION ANALYSIS 37 VARIABLES 68 OBSERVATIONS

VARIABLES	FORM	YEAR	F.IA	F.BD	F.BK	F.IN	F.IC	R.IA	R.BD	R.BK	R.IN	R.OT	BORR	CUST	COMP	ASST	ASIM	ASIC	ASII
MEANS	0.28	40.50	0.26	0.43	0.09	0.15	0.34	52.78	31.37	1.75	3.34	11.59	0.06	0.29	2.47	11.17	30.84	13.30	48.51
ST.DEVS	0.45	14.57	0.44	0.50	0.29	0.36	0.48	41.63	86.68	11.83	16.11	23.45	0.24	0.46	2.19	2.06	42.31	18.20	39.24

VARIABLES	FORM	YEAR	F.IA	F.BD	F.BK	F.IN	F.IC	R.IA	R.BD	R.BK	R.IN	R.OT	BORR	CUST	COMP	ASST	ASIM	ASIC	ASII
FORM	1.00																		
YEAR	0.00	1.00																	
F.IA	-0.23	0.08	1.00																
F.BD	-0.21	0.27	0.29	1.00															
F.BK	-0.19	-0.11	0.05	-0.16	1.00														
F.IN	-0.26	-0.11	0.03	0.40	0.16	1.00													
F.IC	-0.31	-0.04	0.39	0.26	0.33	0.41	1.00												
R.IA	-0.03	0.02	-0.01	-0.27	0.08	-0.06	-0.02	1.00											
R.BD	0.19	0.17	-0.03	0.07	-0.08	-0.06	-0.09	-0.34	1.00										
R.BK	-0.07	-0.05	-0.08	-0.10	-0.02	-0.06	-0.09	-0.17	-0.04	1.00									
R.IN	-0.13	-0.01	0.06	0.22	-0.02	0.50	0.24	-0.22	-0.07	-0.03	1.00								
R.OT	0.04	-0.15	-0.15	-0.12	-0.03	0.01	-0.02	-0.35	0.02	-0.06	-0.03	1.00							
BORR	0.12	0.13	-0.01	0.04	-0.08	-0.10	-0.05	-0.12	0.10	-0.04	-0.05	-0.12	1.00						
CUST	0.39	0.21	-0.09	0.10	-0.20	-0.27	-0.39	-0.33	0.38	0.22	-0.13	0.00	0.25	1.00					
COMP	-0.06	0.11	0.38	0.37	0.20	0.25	0.23	-0.19	0.21	-0.10	0.11	-0.00	-0.03	0.16	1.00				
ASST	-0.11	-0.38	0.16	0.10	0.11	0.26	0.20	0.05	-0.02	0.04	0.11	-0.00	-0.12	-0.05	0.41	1.00			

I.T.S. FORM I-65

ACCOUNT CATEGORY I-65 CORRELATION ANALYSIS FOR 1964

CORRELATION ANALYSIS 37 VARIABLES 68 OBSERVATIONS

VARIABLES	FORM	YEAR	F.IA	F.BD	F.BK	F.IN	F.IC	R.IA	R.BD	R.BK	R.IN	R.OT	BORR	CUST	COMP	ASST	ASIM	ASIC	ASII
ASIM	-0.29	-0.16	0.12	0.31	0.12	0.50	0.37	-0.16	-0.11	0.15	0.34	0.06	-0.17	-0.32	0.28	0.37	1.00		
ASIC	-0.06	-0.05	-0.01	-0.08	-0.15	-0.04	-0.02	0.10	0.17	-0.00	-0.15	-0.24	0.15	0.24	-0.01	0.20	-0.38	1.00	
ASII	0.35	0.06	-0.08	-0.28	-0.02	-0.47	-0.35	0.14	0.05	-0.15	-0.27	0.03	0.15	0.22	-0.25	-0.41	-0.85	0.03	1.00
ASIM	-0.29	-0.26	0.10	0.29	0.15	0.47	0.40	-0.13	-0.09	0.14	0.24	-0.06	-0.14	-0.27	0.40	0.59	0.83	-0.15	-0.78
ASBO	0.25	-0.21	0.06	-0.20	0.01	-0.30	-0.17	0.28	0.07	0.05	-0.42	-0.11	0.08	0.30	0.06	0.32	-0.55	0.48	0.51
REVT	-0.20	-0.41	0.23	0.12	0.21	0.22	0.27	0.05	-0.05	-0.04	0.07	-0.12	-0.14	-0.16	0.37	0.80	0.47	0.06	-0.38
REVM	-0.24	-0.22	0.12	0.28	0.17	0.47	0.35	-0.07	-0.10	0.09	0.26	-0.13	-0.15	-0.29	0.47	0.64	0.80	-0.13	-0.75
REVO	0.21	-0.16	0.17	-0.21	0.02	-0.29	-0.10	0.21	0.06	-0.04	-0.35	-0.20	0.06	0.27	0.15	0.35	-0.50	0.46	0.46
EXPT	-0.07	-0.36	0.18	0.10	0.17	0.21	0.26	0.11	-0.07	-0.01	0.06	-0.09	-0.15	-0.19	0.33	0.79	0.39	0.07	-0.29
EXPM	-0.19	-0.30	0.06	0.14	0.22	0.50	0.37	-0.02	-0.12	0.10	0.25	-0.04	-0.19	-0.30	0.32	0.57	0.75	-0.14	-0.68
EXPO	0.23	-0.08	-0.14	-0.26	0.03	-0.17	-0.10	0.20	-0.09	0.06	-0.20	-0.14	0.05	0.28	0.05	0.21	-0.42	0.38	0.32
PRPT	-0.16	-0.03	-0.02	-0.06	0.36	-0.01	-0.04	0.02	-0.02	-0.02	-0.02	-0.01	-0.03	-0.04	0.02	-0.01	0.03	-0.08	0.03
PRFM	0.04	-0.21	0.07	-0.11	0.02	-0.25	-0.17	-0.00	-0.02	0.01	0.03	0.05	0.00	0.03	0.19	0.30	-0.11	0.07	0.07
PRFO	-0.09	0.02	-0.02	-0.09	0.38	-0.04	-0.11	0.05	-0.01	-0.03	-0.02	-0.05	-0.01	-0.00	0.05	0.02	-0.06	-0.04	0.11
PERS	-0.26	-0.36	0.30	0.16	0.19	0.21	0.37	0.15	-0.20	-0.02	0.07	-0.10	-0.15	-0.28	0.22	0.68	0.32	0.17	-0.28
GROT	0.02	0.41	0.18	0.19	0.02	-0.07	0.23	0.13	-0.06	-0.01	-0.04	-0.18	0.08	-0.07	-0.01	-0.31	0.03	-0.07	-0.03
GROM	-0.23	0.06	0.26	0.35	0.07	0.11	0.24	-0.16	-0.00	0.09	0.08	-0.16	-0.09	-0.13	0.17	0.10	0.46	-0.15	-0.43
GROC	0.04	-0.07	0.21	0.21	0.27	0.09	0.27	0.15	-0.01	0.02	-0.09	-0.10	0.10	-0.04	0.21	0.24	0.12	-0.11	-0.03
GROI	0.03	0.05	-0.06	0.06	-0.12	-0.22	-0.08	0.22	-0.06	0.12	-0.12	-0.16	0.07	-0.04	-0.15	-0.13	0.02	-0.05	0.02
=ACC	0.17	-0.18	0.13	-0.21	0.08	-0.29	-0.11	0.24	0.05	-0.06	-0.29	-0.18	0.05	0.22	0.11	0.28	-0.60	0.47	0.57
AVER	-0.24	-0.17	0.02	0.26	0.02	0.46	0.26	-0.16	-0.08	0.08	0.34	0.15	-0.15	-0.23	0.25	0.60	0.01	-0.23	-0.62

VARIABLES	AS\$M	AS\$D	REVT	REVM	REVO	EXPT	EXPM	EXPO	PRFT	PRFM	PRFO	PERS	GRDT	GRDM	GRDC	GRDI	WACC	AVER
MEANS	5.37	8.75	5.60	2.74	4.10	5.56	2.34	2.68	0.29	-0.01	0.16	2.22	17.65	7.40	18.79	14.23	3.83	7.34
ST.DEVS	5.91	4.34	1.83	3.32	2.44	1.65	3.15	2.84	1.83	0.46	1.77	1.09	19.88	14.15	41.84	24.99	2.07	2.47

VARIABLES	AS\$M	AS\$D	REVT	REVM	REVO	EXPT	EXPM	EXPO	PRFT	PRFM	PRFO	PERS	GRDT	GRDM	GRDC	GRDI	WACC	AVER
AS\$M	1.00																	
AS\$D	-0.25	1.00																
REVT	0.60	0.24	1.00															
REVM	0.96	-0.18	0.61	1.00														
REVO	-0.20	0.87	0.36	-0.15	1.00													
EXPT	0.55	0.34	0.91	0.60	0.39	1.00												
EXPM	0.83	-0.13	0.63	0.84	-0.16	0.60	1.00											
EXPO	-0.18	0.56	0.18	-0.14	0.63	0.20	-0.09	1.00										
PRFT	-0.01	-0.04	0.28	-0.06	0.15	0.01	-0.01	0.06	1.00									
PRFM	0.07	0.20	0.15	0.19	0.17	0.16	0.04	0.11	-0.07	1.00								
PRFO	-0.07	0.06	0.24	-0.07	0.24	0.04	-0.07	0.11	0.96	0.00	1.00							
PERS	0.45	0.31	0.77	0.50	0.33	0.79	0.53	0.15	-0.02	0.21	0.00	1.00						
GRDT	-0.06	-0.17	-0.20	-0.03	-0.12	-0.10	-0.11	-0.04	-0.18	0.09	-0.17	0.04	1.00					
GRDM	0.48	-0.29	0.25	0.45	-0.14	0.24	0.29	-0.18	-0.01	0.10	-0.04	0.23	0.43	1.00				
GRDC	0.16	0.18	0.26	0.17	0.03	0.27	0.18	-0.05	-0.03	0.06	-0.02	0.32	0.27	0.11	1.00			
GRDI	-0.03	0.05	-0.05	0.00	-0.03	0.04	-0.14	-0.08	-0.14	0.05	-0.13	0.02	0.44	0.00	0.00	1.00		
WACC	-0.27	0.88	0.27	-0.22	0.89	0.34	-0.19	0.61	0.08	0.18	0.19	0.31	-0.15	-0.31	0.10	0.00	1.00	
AVER	0.72	-0.47	0.44	0.71	-0.45	0.37	0.63	-0.33	-0.08	0.10	-0.14	0.31	-0.13	0.34	0.11	-0.11	-0.60	1.00

1.1.5. FORM I-65

ACCOUNT CATEGORY I-65 CORRELATION ANALYSIS FOR 1969

CORRELATION ANALYSIS 37 VARIABLES 105 OBSERVATIONS

VARIABLES	FORM	YEAR	F.IA	F.BD	F.BK	F.IN	F.IC	R.IA	R.BD	R.BK	R.IN	R.OT	BORR	CUST	COMP	AS&T	ASIM	ASIC	ASIT
MEANS	0.28	48.91	0.26	0.38	0.10	0.11	0.38	52.91	31.21	2.23	3.11	10.69	0.08	0.30	2.15	11.36	29.82	16.87	42.77
ST.DEVS	0.45	16.86	0.44	0.49	0.29	0.32	0.49	43.17	73.71	10.61	16.15	21.98	0.27	0.46	2.16	2.27	41.43	24.87	39.20

VARIABLES	FORM	YEAR	F.IA	F.BD	F.BK	F.IN	F.IC	R.IA	R.BD	R.BK	R.IN	R.OT	BORR	CUST	COMP	AS&T	ASIM	ASIC	ASIT
FORM	1.00																		
YEAR	-0.03	1.00																	
F.IA	-0.22	-0.03	1.00																
F.BD	-0.18	0.02	0.21	1.00															
F.BK	-0.20	-0.08	0.18	-0.12	1.00														
F.IN	-0.22	-0.16	-0.01	0.40	0.19	1.00													
F.IC	-0.31	0.03	0.44	0.27	0.35	0.33	1.00												
R.IA	0.02	0.04	-0.00	-0.35	0.16	-0.07	-0.07	1.00											
R.BD	0.16	0.10	-0.01	0.14	-0.11	-0.08	-0.04	-0.42	1.00										
R.BK	-0.07	0.00	-0.08	-0.08	-0.05	-0.08	-0.05	-0.24	0.01	1.00									
R.IN	-0.12	-0.01	0.00	0.23	-0.03	0.54	0.21	-0.21	-0.08	-0.04	1.00								
R.OT	-0.05	-0.14	-0.12	-0.06	-0.00	0.04	-0.03	-0.32	-0.01	-0.04	-0.05	1.00							
BORR	0.14	0.14	0.08	0.07	-0.09	-0.10	0.14	-0.17	0.12	0.11	-0.06	-0.07	1.00						
CUST	0.30	0.08	0.00	0.18	-0.21	-0.23	-0.16	-0.44	0.43	0.22	-0.13	-0.01	0.21	1.00					
COMP	-0.01	-0.14	0.26	0.39	0.07	0.24	0.19	-0.29	0.25	-0.03	0.11	0.03	0.06	0.26	1.00				
AS&T	-0.16	-0.46	0.23	0.21	0.15	0.28	0.26	-0.05	-0.32	0.07	0.14	0.07	0.09	-0.01	0.46	1.00			

I.T.S. FORM I-65

ACCOUNT CATEGORY I-65 CORRELATION ANALYSIS FOR 1969

CORRELATION ANALYSIS 37 VARIABLES 105 OBSERVATIONS

VARIABLES	FORM	YEAR	F.1A	F.BD	F.BK	F.IN	F.IC	R.1A	R.BD	R.BK	R.IN	R.OT	BORR	CUST	COMP	ASST	ASIM	ASIC	ASII
MEANS	0.28	48.91	0.26	0.38	0.10	0.11	0.38	52.91	31.21	2.23	3.11	10.69	0.08	0.30	2.15	11.34	29.02	16.87	42.77
ST.DEVS	0.45	16.86	0.44	0.49	0.29	0.32	0.49	43.17	73.71	10.61	16.15	21.98	0.27	0.46	2.16	2.27	41.43	24.87	39.20

VARIABLES	FORM	YEAR	F.1A	F.BD	F.BK	F.IN	F.IC	R.1A	R.BD	R.BK	R.IN	R.OT	BORR	CUST	COMP	ASST	ASIM	ASIC	ASII
ASIM	-0.29	-0.04	0.12	0.40	0.01	0.43	0.40	-0.27	-0.00	0.12	0.31	0.04	-0.09	-0.10	0.23	0.24	1.00		
ASIC	-0.01	-0.04	0.19	-0.03	0.22	-0.01	0.12	0.12	0.06	0.02	-0.12	-0.09	-0.01	0.02	0.16	0.33	-0.33	1.00	
ASII	0.37	-0.16	-0.15	-0.27	-0.07	-0.35	-0.41	0.14	0.02	-0.09	-0.20	-0.01	0.00	0.16	-0.18	-0.29	-0.70	-0.14	1.00
ASIM	-0.33	-0.23	0.20	0.43	0.05	0.43	0.46	-0.25	-0.00	0.11	0.24	0.01	-0.01	-0.05	0.42	0.56	0.78	0.01	-0.66
ASSO	0.14	-0.25	0.08	-0.15	0.08	-0.19	-0.16	0.22	0.01	0.07	-0.26	-0.03	0.14	0.14	0.08	0.45	-0.57	0.47	0.35
REVT	-0.14	-0.41	0.16	0.20	0.14	0.22	0.24	-0.15	-0.02	0.19	0.09	-0.02	0.09	0.07	0.41	0.70	0.29	0.11	-0.24
REVN	-0.29	-0.20	0.20	0.42	0.08	0.45	0.41	-0.23	-0.01	0.08	0.23	-0.02	-0.01	-0.07	0.46	0.58	0.74	-0.09	-0.64
REVD	0.09	-0.30	0.15	-0.03	0.04	-0.15	-0.01	0.10	0.04	-0.01	-0.15	-0.13	0.15	0.21	0.28	0.54	-0.43	0.36	0.31
EXPT	-0.13	-0.42	0.18	0.20	0.12	0.33	0.21	-0.08	-0.00	0.00	0.14	0.06	0.07	-0.01	0.47	0.75	0.30	0.11	-0.26
EXPH	-0.22	-0.21	0.13	0.29	0.12	0.52	0.41	-0.19	-0.03	0.08	0.26	0.05	-0.05	-0.10	0.39	0.49	0.72	0.03	-0.63
EXPD	0.04	-0.15	-0.05	-0.10	0.04	-0.18	-0.02	0.12	-0.06	0.03	-0.13	-0.09	0.16	0.23	0.11	0.36	-0.32	0.29	0.14
PRFT	0.15	0.10	-0.06	-0.07	-0.03	-0.04	-0.08	0.11	-0.04	-0.01	-0.02	-0.05	-0.03	-0.06	-0.10	-0.30	-0.07	-0.07	-0.04
PRFM	-0.00	-0.04	-0.04	0.08	-0.01	-0.13	0.02	-0.05	0.03	0.02	-0.01	-0.02	0.02	0.17	0.16	0.12	-0.04	0.03	0.01
PRFO	-0.07	0.02	-0.06	-0.07	0.25	-0.04	-0.08	0.12	-0.03	-0.03	-0.01	-0.09	-0.03	-0.04	-0.01	0.03	-0.08	-0.06	0.11
PERS	-0.11	-0.44	0.27	0.28	0.11	0.25	0.28	-0.10	0.07	0.01	0.05	-0.10	0.06	0.03	0.49	0.75	0.30	0.10	-0.18
GROT	0.20	0.12	0.15	0.02	-0.03	-0.04	0.10	-0.00	-0.01	0.06	-0.04	-0.04	0.25	0.03	0.11	-0.03	-0.09	0.05	0.09
GROM	-0.20	-0.15	0.23	0.36	0.07	0.15	0.20	-0.15	0.00	0.08	0.05	-0.05	-0.06	-0.08	0.22	0.31	0.37	-0.00	-0.31
GROC	0.03	-0.23	0.17	0.20	0.19	0.11	0.17	0.10	-0.00	0.00	-0.07	-0.07	0.06	-0.03	0.21	0.30	-0.01	0.26	-0.07
GROI	0.13	-0.08	-0.06	0.03	-0.10	-0.13	-0.11	0.20	-0.07	0.05	-0.08	-0.11	-0.04	-0.07	-0.09	-0.04	-0.04	-0.19	0.19
ACC	0.11	-0.36	0.13	-0.12	0.09	-0.14	-0.10	0.17	-0.00	0.01	-0.10	-0.08	-0.04	0.13	0.20	0.41	-0.45	0.29	0.53
AVER	-0.25	-0.12	0.11	0.31	0.06	0.39	0.34	-0.19	-0.02	0.06	0.23	0.14	0.12	-0.13	0.26	0.59	0.63	0.05	-0.76

VARIABLES	AS5M	AS50	REVT	REVM	REVO	EXPT	EXPM	EXPO	PRFT	PRFM	PRFO	PERS	GROT	GRGM	GRGC	GROD	AVFR
MEANS	5.53	9.30	5.97	2.84	4.59	5.75	2.53	3.49	5.97	0.00	0.23	2.86	16.70	5.35	12.46	10.77	3.72
ST.DEVS	5.92	4.32	1.97	3.48	2.43	1.80	3.17	2.89	57.01	0.84	1.63	1.79	34.20	12.18	34.61	26.89	2.12

VARIABLES	AS5M	AS50	REVT	REVM	REVO	EXPT	EXPM	EXPO	PRFT	PRFM	PRFO	PERS	GROT	GRGM	GRGC	GROD	AVFR	
AS5M	1.00																	
AS50	-0.17	1.00																
REVT	0.52	0.27	1.00															
REVM	0.94	-0.11	0.53	1.00														
REVO	-0.04	0.82	0.47	0.01	1.00													
EXPT	0.55	0.23	0.73	0.60	0.42	1.00												
EXPM	0.84	-0.18	0.42	0.85	-0.14	0.55	1.00											
EXPO	-0.02	0.57	0.34	0.04	0.69	0.38	-0.03	1.00										
PRFT	-0.09	-0.14	0.05	-0.09	-0.18	0.02	-0.08	-0.12	1.00									
PRFM	0.04	0.06	0.16	0.14	0.26	0.12	-0.05	0.26	0.00	1.00								
PRFO	-0.09	0.03	0.16	-0.09	0.22	0.00	-0.09	0.10	0.01	0.01	1.00							
PERS	0.56	0.30	0.76	0.62	0.48	0.75	0.47	0.32	-0.16	0.07	0.03	1.00						
GROT	0.03	0.06	0.05	0.07	0.11	0.01	-0.01	0.10	-0.05	0.05	0.01	0.06	1.00					
GRGM	0.49	-0.03	0.37	0.49	0.02	0.25	0.32	-0.05	-0.04	0.01	-0.04	0.37	0.19	1.00				
GRGC	0.18	0.27	0.24	0.21	0.26	0.25	0.16	0.15	-0.04	0.05	-0.03	0.32	0.13	0.16	1.00			
GROD	-0.02	0.09	-0.06	-0.01	0.08	-0.03	-0.15	0.06	-0.04	0.02	0.02	0.04	0.47	0.04	0.05	1.00		
AVFR	-0.07	0.74	0.31	-0.06	0.77	0.32	-0.15	0.50	-0.14	0.07	0.15	0.40	0.09	-0.08	0.20	0.21	1.00	
AVFR	0.60	-0.23	0.39	0.61	-0.16	0.43	0.60	-0.11	-0.16	0.05	-0.10	0.36	-0.11	0.36	0.11	-0.23	-0.50	1.00

APPENDIX C

STATISTICAL SUMMARIES OF DATA FROM FORM I-65

The following tables contain means, standard deviations and simple correlation coefficients for selected items from the I-65 questionnaire. Two sets of data are reported—one primarily based on 1964 data items and the other 1968 data. A number of items relating to affiliations, other income and growth rates are common to both sets of data. The following provides a description of the variables and where scaling has been used, the values assigned to particular responses are described.

	<u>Description of Variable</u>
Form	Organizational form of Advisory Firm Code: 0 IF Corporation 1 IF Sole proprietorship or partnership
Year	Year firm entered investment advisory business (Last two digits of year, eg. 1964 was reported as 64)
F.IA	Variable indicating affiliation with other Investment Advisory Firms as of September 1969 Code: 0 No affiliations 1 One or more affiliations
F.BD	Broker-Dealer affiliation as variable (code same as above)
F.BK	Bank or Trust Company affiliation variable (code same as above)
F.IN	Insurance Company (Life or Non-life) affiliation variable (code same as above)

(Description of Variable)(cont'd.)

F.IC	Registered Investment Company affiliation variable (code same as above)
R.IA	Percentage of consolidated gross income of advisory firm and affiliates for 1968 that was derived from Investment Advisory Services (Stated as percentage, e.g 88)
R.BD	Percentage of consolidated gross income from Broker-dealer functions
R.BK	Percentage of consolidated gross income from commercial banking and trust department activities
R.IN	Percentage of consolidated gross income from insurance functions
R.OT	Percentage of consolidated gross income from sources other than above
BORR	Variable designating where adviser arrange loans for clients for the purpose of purchasing securities Code: 0 NO 1 YES
CUST	Variable designating where adviser or affiliations maintained physical custody of securities or funds of clients Code: 0 NO 1 YES
COMP	Variable indicating the number of the following activities for which the adviser used an electronic computer (in house or service bureau facilities) Functions: (a) Investment research (b) Economic research (c) Account administration (d) Trading administration (e) Sales administration (f) General administration

The above items are common to both correlation matrices--the

following items are for year end 1964 or 1968 as indicated on the table headings. Asset figures are presented as natural logarithms of the amount stated in thousands of dollars (where zero amount of Account Type assets were reported, these values were replaced by one thousand dollars)

AS\$T	Total Advisory Assets
AS%M	Percentage of total Advisory assets represent log registered investment companies (eg. $24\% \approx 24$)
AS%C	Percentage of total advisory assets represented by institutional and corporate accounts
AS\$I	Percentage of total advisory assets represented by accounts of individuals
AS\$M	Total Registered Investment Company assets
AS\$O	Total other assets (non-registered investment companies, Institutional and corporate accounts, Accounts of Individuals)

The following revenue and expense items were included as natural logarithms of the amounts stated in thousands of dollars. Where a zero value was reported, it was replaced by one thousand dollars.

REVT	Total Advisory Revenues
REVM	Advisory Fees from registered investment companies plus distribution revenues from fund sales plus a asset based pro-rata share of other revenues
REVO	Other advisory revenue (REVT-REVM)
EXPT	Total operating expenses

EXPM	Expenses associated with registered investment companies
EXPO	Expenses associated with clients other registered investment companies
PRFT	Profit as a percentage of total advisory assets $PRFT = \left(\frac{REVT - EXPT}{AS\$T} \right) \times 100$
PRFM	Profit on registered Investment company activities $PRFM = \left(\frac{REV_M - EXP_M}{ASSETS_M} \right) \times 100$
PRFO	Profit on advisory accounts other than registered investment companies $PRFO = \left(\frac{REV_O - EXP_O}{ASSETS_O} \right) \times 100$
PERS	Total advisory personnel (officers, partners, employees)
GROT	Growth in total advisory assets - percentage (64-69)
GROM	Growth in mutual fund assets - percentage (64-69)
GROC	Growth in corporate and institutional assets (64-69)
GROI	Growth in individual account assets - percentage (64-69)
#ACC	Number of Advisory Accounts
AVER	Average size of advisory account $AVER = \frac{TOTAL ASSETS}{NUMBER OF ACCOUNTS}$

I.T.S. FORM I-14-----MULTIVARIATE REGRESSION ANALYSIS
 ACCOUNT CATEGORY: NON-REGISTERED INVESTMENT COMPANY
 CORRELATION MATRIX 19 VARIABLES 187 OBSERVATIONS

Information Processing Center

VARIABLES	YEAR	V. FR	ASST	CASH	NONC	CONV	COMM	POOL	OBJT	AUTH	TAX	BR.D	TRAD	BROK	SIZE	P. RG	FUND	FEE	TURN
MEANS	1.00	0.70	-0.18	14.40	3.43	4.32	77.59	0.22	2.01	2.19	30.29	0.25	1.58	49.00	4.46	22.52	0.24	-0.73	47.14
ST. DEVS	0.00	0.93	1.64	19.72	8.03	7.09	20.94	1.16	0.84	1.34	18.38	0.43	0.80	45.43	1.91	33.18	0.43	0.79	43.29

VARIABLES	YEAR	V. FR	ASST	CASH	NONC	CONV	COMM	POOL	OBJT	AUTH	TAX	BR.D	TRAD	BROK	SIZE	P. RG	FUND	FEE	TURN	
YEAR	1.00																			
V. FR	0.15	1.00																		
ASST	0.09	-0.55	1.00																	
CASH	-0.26	-0.07	0.12	1.00																
NONC	0.23	0.02	0.12	-0.10	1.00															
CONV	0.09	-0.09	0.21	-0.12	0.21	1.00														
COMM	0.12	-0.09	-0.23	-0.83	-0.36	-0.42	1.00													
POOL	0.11	0.02	-0.06	-0.07	0.05	0.09	-0.04	1.00												
OBJT	0.33	0.32	-0.10	-0.11	0.26	0.08	-0.06	0.04	1.00											
AUTH	0.23	0.18	0.01	-0.08	0.23	0.03	-0.02	0.04	0.38	1.00										
TAX	0.22	0.35	-0.29	-0.01	0.11	-0.02	-0.03	0.12	0.08	0.10	1.00									
BR.D	-0.11	-0.13	0.10	0.14	-0.06	-0.04	-0.11	0.11	-0.04	0.02	-0.10	1.00								
TRAD	-0.13	-0.16	0.01	0.01	-0.13	-0.05	0.04	-0.32	-0.65	-0.07	0.21	0.00	1.00							
BROK	-0.13	-0.28	0.19	0.10	-0.07	0.10	-0.10	0.13	-0.15	-0.23	-0.02	0.41	0.45	1.00						
SIZE	0.31	0.25	0.06	-0.05	0.14	0.09	-0.05	0.12	0.29	0.27	0.13	-0.28	-0.20	-0.29	1.00					
P. RG	-0.17	-0.08	0.01	0.06	-0.11	-0.09	0.01	0.02	-0.40	-0.35	-0.09	-0.16	0.23	-0.12	0.02	1.00				
FUND	-0.17	-0.10	0.01	0.06	-0.11	-0.11	0.02	0.01	-0.41	-0.35	-0.09	-0.15	0.24	-0.14	-0.05	0.96	1.00			
FEE	-0.19	-0.11	-0.28	0.23	-0.16	-0.07	-0.04	-0.10	-0.40	-0.37	-0.00	-0.06	0.30	0.06	-0.27	0.34	0.30	1.00		
TURN	-0.22	-0.44	0.14	0.04	-0.17	-0.15	0.07	-0.09	-0.46	-0.35	-0.35	0.20	0.32	0.18	-0.36	0.28	0.32	0.27	1.00	

Information Processing Center

I.I.S. FORM I-14 --- MULTIVARIATE REGRESSION ANALYSIS

ACCOUNT CATEGORY: EMPLOYEE BENEFIT PLANS

CORRELATION MATRIX 19 VARIABLES 2716 OBSERVATIONS

VARIABLES	YEAR	V FR	ASST	CASH	NONC	CONV	COMM	POOL	OBJT	AUTH	TAX	BR.D	TRAD	BROK	SIZE	P.RG	FUND	FEE	TURN	
MEANS	1.18	0.75	-0.32	11.02	13.29	6.73	67.51	0.92	2.43	2.65	0.70	0.28	1.40	34.85	4.99	13.06	0.13	-1.17	27.74	
ST.DEVS	0.86	0.85	1.81	16.16	20.24	9.10	23.73	4.89	0.64	1.40	5.45	0.45	0.87	42.03	1.48	24.30	0.33	0.93	23.75	
VARIABLES	YEAR	V FR	ASST	CASH	NONC	CONV	COMM	POOL	OBJT	AUTH	TAX	BR.D	TRAD	BROK	SIZE	P.RG	FUND	FEE	TURN	
YEAR	1.00																			
V FR	-0.04	1.00																		
ASST	0.30	-0.19	1.00																	
CASH	-0.21	0.03	-0.12	1.00																
NONC	0.22	0.08	0.40	-0.17	1.00															
CONV	0.01	-0.14	-0.02	-0.18	-0.10	1.00														
COMM	-0.06	-0.02	-0.25	-0.46	-0.69	-0.17	1.00													
POOL	0.07	-0.03	0.01	-0.05	-0.03	-0.01	-0.14	1.00												
OBJT	0.22	-0.02	0.13	-0.04	0.38	0.08	-0.33	-0.03	1.00											
AUTH	0.30	-0.04	0.13	-0.04	0.18	0.0	-0.09	-0.01	0.16	1.00										
TAX	0.01	0.04	-0.01	-0.02	-0.01	0.02	0.02	-0.01	-0.02	0.01	1.00									
BR.D	-0.05	0.21	-0.06	-0.07	-0.04	0.04	0.67	-0.01	-0.13	0.02	0.05	1.00								
TRAD	-0.20	-0.07	-0.08	0.14	-0.12	0.05	-0.02	0.02	-0.10	-0.45	0.02	-0.02	1.00							
BROK	-0.08	-0.07	0.09	0.15	-0.02	0.02	-0.10	0.05	-0.12	-0.18	0.08	0.09	0.34	1.00						
SIZE	0.17	-0.04	0.31	-0.07	0.21	-0.02	-0.15	0.04	0.14	0.02	-0.02	0.01	-0.04	-0.18	1.00					
P.RG	-0.08	0.08	0.02	0.10	-0.06	-0.10	0.01	0.08	-0.20	-0.18	-0.02	-0.25	0.14	0.04	0.0	1.00				
FUND	-0.06	0.10	0.0	0.10	-0.06	-0.09	0.01	0.04	-0.18	-0.14	-0.03	-0.13	0.13	0.01	-0.04	0.93	1.00			
FEE	-0.34	0.01	-0.64	0.11	-0.53	0.02	0.37	0.02	-0.29	-0.24	0.01	0.02	0.18	0.03	-0.25	0.15	0.14	1.00		

I.I.S. FORM I-14-----MULTIVARIATE REGRESSION ANALYSIS

ACCOUNT CATEGORYO INSURANCE COMPANIES

CORRELATION MATRIX 19 VARIABLES 320 OBSERVATIONS

VARIABLES	YEAR	V_FR	ASST	CASH	NGNC	CONV	COMM	POOL	OBJT	AUTH	TAX.	BR.D	TRAD	BROK	SIZE	P.RG	FUND	FEE	TURN
MEANS	1.54	0.75	1.23	8.68	44.59	6.58	39.86	0.31	2.88	3.58	22.78	0.22	0.99	27.75	5.26	9.41	0.09	-2.15	23.66
ST.DEVS	1.04	0.86	1.58	14.02	35.63	12.55	35.12	1.51	0.68	0.95	17.91	0.41	0.91	39.61	1.42	19.86	0.28	1.19	22.33

VARIABLES	YEAR	V_FR	ASST	CASH	NGNC	CONV	COMM	POOL	OBJT	AUTH	TAX.	BR.D	TRAD	BROK	SIZE	P.RG	FUND	FEE	TURN
YEAR	1.00																		
V_FR	0.11	1.00																	
ASST	0.40	0.01	1.00																
CASH	-0.19	-0.10	-0.07	1.00															
NGNC	0.30	0.11	0.37	-0.16	1.00														
CONV	-0.08	-0.19	-0.11	-0.13	-0.20	1.00													
COMM	-0.21	0.0	-0.30	-0.19	-0.88	-0.10	1.00												
POOL	0.08	-0.05	-0.13	-0.0	-0.05	0.03	-0.01	1.00											
OBJT	0.28	0.0	0.27	-0.0	0.15	-0.22	-0.15	0.05	1.00										
AUTH	0.23	-0.01	0.10	-0.10	0.22	0.03	-0.20	0.02	0.27	1.00									
TAX.	0.05	-0.10	0.14	-0.05	0.06	0.01	-0.04	0.01	0.08	0.04	1.00								
BR.D	0.0	0.18	-0.0	-0.12	0.01	0.02	0.03	0.03	-0.02	0.01	0.16	1.00							
TRAD	-0.13	-0.17	0.05	0.19	0.0	-0.11	-0.05	0.13	-0.15	-0.28	0.05	0.13	1.00						
BROK	-0.01	-0.04	0.03	0.08	-0.03	-0.01	-0.0	0.13	-0.18	-0.07	0.01	0.32	0.55	1.00					
SIZE	0.33	-0.07	0.28	-0.0	-0.32	-0.04	-0.31	0.05	0.35	-0.21	0.06	-0.06	-0.10	-0.27	1.00				
P.RG	-0.13	0.05	-0.08	0.08	-0.17	0.02	0.13	0.06	-0.25	-0.11	-0.10	-0.19	0.10	-0.02	-0.14	1.00			
FUND	-0.11	0.08	-0.05	0.09	-0.14	0.04	0.08	0.06	-0.21	-0.08	-0.06	-0.11	0.05	-0.0	-0.15	0.93	1.00		
FEE	-0.50	-0.15	-0.70	0.17	-0.59	0.15	0.48	0.07	-0.42	-0.27	-0.10	0.04	0.16	0.16	-0.31	0.19	0.16	1.00	

I.I.S. FORM I-14-----MULTIVARIATE REGRESSION ANALYSIS

ACCOUNT CATEGORY NON-PROFIT

CORRELATION MATRIX 19 VARIABLES 1662 OBSERVATIONS

VARIABLES	YEAR	V FR	ASST	CASH	NONC	CONV	COMM	POOL	OBJT	AUTH	TAX.	BR.D	TRAD	BROK	SIZE	P.RG	FUND	FEE	TURN	
MEANS	1.67	0.78	-0.15	9.41	16.37	6.98	66.58	0.73	2.80	3.17	0.81	0.23	1.29	35.46	5.12	11.74	0.12	-1.52	21.08	
ST.DEVS	1.03	0.79	1.62	14.16	16.82	9.14	20.35	4.73	0.61	1.24	5.86	0.42	0.91	43.84	1.38	21.80	0.32	0.89	20.43	
VARIABLES	YEAR	V FR	ASST	CASH	NONC	CONV	COMM	POOL	OBJT	AUTH	TAX.	BR.D	TRAD	BROK	SIZE	P.RG	FUND	FEE	TURN	
YEAR	1.00																			
V FR	0.06	1.00																		
ASST	0.16	-0.17	1.00																	
CASH	-0.14	0.01	-0.11	1.00																
NONC	0.22	0.01	0.17	-0.21	1.00															
CONV	-0.09	-0.06	-0.10	-0.14	-0.09	1.00														
COMM	-0.05	0.01	-0.01	-0.45	-0.63	-0.27	1.00													
POOL	0.05	-0.03	-0.04	-0.03	-0.03	-0.04	-0.17	1.00												
OBJT	0.19	0.04	-0.01	0.05	0.27	0.05	-0.28	0.0	1.00											
AUTH	0.31	0.11	0.03	-0.08	0.18	-0.02	-0.08	0.0	0.18	1.00										
TAX.	0.01	0.02	-0.03	-0.02	-0.01	0.02	0.01	-0.01	-0.01	0.0	1.00									
BR.D	-0.04	0.21	-0.0	-0.07	-0.01	0.08	0.02	-0.01	-0.01	0.10	0.06	1.00								
TRAD	-0.26	-0.16	0.0	0.03	-0.15	0.09	0.05	0.03	-0.15	-0.46	0.05	0.07	1.00							
BROK	-0.10	0.02	0.07	0.09	-0.05	-0.0	-0.01	-0.04	-0.06	-0.23	0.03	0.31	0.48	1.00						
SIZE	0.13	-0.09	0.12	-0.02	0.12	-0.05	-0.07	0.08	0.03	-0.11	0.01	-0.11	-0.10	-0.21	1.00					
P.RG	-0.11	0.07	0.07	0.02	-0.08	0.03	0.03	0.0	-0.10	-0.15	-0.02	-0.19	0.15	0.03	-0.01	1.00				
FUND	-0.09	0.10	0.04	0.02	-0.07	0.04	0.03	-0.03	-0.07	-0.12	-0.03	-0.11	0.14	0.04	-0.07	0.93	1.00			
FEE	-0.33	0.02	-0.52	0.06	-0.25	0.11	0.12	0.01	-0.14	-0.24	0.01	-0.05	0.23	0.04	-0.08	0.11	0.09	1.00		

I.I.S. FORM I-14-----MULTIVARIATE REGRESSION ANALYSIS

ACCOUNT CATEGORY COMPANY ACCOUNTS

CORRELATION MATRIX 19 VARIABLES 991 OBSERVATIONS

VARIABLES	YEAR	V FR	ASST	CASH	NONC	CONV	COMM	POOL	OBJT	AUTH	TAX.	BR.D	TRAD	BROK	SIZE	P.RG	FUND	FEE	TURN
MEANS	1.59	0.90	-0.38	11.81	16.73	4.86	86.09	0.60	2.60	3.16	36.65	0.23	1.11	24.59	4.83	14.14	0.17	-1.42	23.10
ST.DEVS	1.06	0.78	1.75	17.77	27.88	9.52	32.95	4.06	0.82	1.23	16.43	0.42	0.93	38.16	1.48	24.27	0.37	1.22	21.03

VARIABLES	YEAR	V FR	ASST	CASH	NONC	CONV	COMM	POOL	OBJT	AUTH	TAX.	BR.D	TRAD	BROK	SIZE	P.RG	FUND	FEE	TURN	
YEAR	1.00																			
V FR	0.11	1.00																		
ASST	0.38	-0.02	1.00																	
CASH	0.02	0.05	0.04	1.00																
NONC	0.41	0.07	0.56	0.07	1.00															
CONV	-0.13	-0.17	-0.14	-0.17	-0.20	1.00														
COMM	-0.31	-0.03	-0.45	-0.54	-0.82	-0.02	1.00													
POOL	-0.03	-0.05	0.02	-0.05	-0.06	-0.02	-0.04	1.00												
OBJT	0.40	0.03	0.43	0.13	0.62	-0.04	-0.58	-0.02	1.00											
AUTH	0.30	0.13	0.29	-0.07	0.30	-0.02	-0.21	0.02	0.33	1.00										
TAX.	0.10	-0.03	0.03	-0.01	-0.0	-0.07	0.02	0.05	-0.03	0.11	1.00									
BR.D	-0.10	0.12	-0.06	-0.11	-0.17	0.10	0.16	0.05	-0.14	0.10	-0.05	1.00								
TRAD	-0.23	-0.20	-0.19	0.09	-0.19	0.08	0.09	-0.01	-0.22	-0.56	-0.06	0.07	1.00							
BROK	-0.07	-0.07	0.02	-0.0	-0.01	0.09	-0.01	-0.02	-0.01	-0.11	-0.01	0.24	0.45	1.00						
SIZE	0.24	-0.10	0.32	0.06	0.29	0.02	-0.29	0.09	0.25	0.24	0.10	0.12	-0.15	-0.13	1.00					
P.RG	-0.17	-0.0	-0.20	0.05	-0.21	0.03	0.14	-0.01	-0.32	-0.23	0.04	-0.12	0.16	-0.05	-0.10	1.00				
FUND	-0.12	0.05	-0.18	0.04	-0.18	0.04	0.10	-0.03	-0.26	-0.19	0.07	-0.03	0.15	-0.05	-0.11	0.91	1.00			
FEE	-0.48	-0.13	-0.72	-0.14	-0.71	0.20	0.61	0.04	-0.61	-0.41	-0.04	0.13	0.31	0.08	-0.28	0.30	0.25	1.00		

I.I.S. FORM 1-14 MULTIVARIATE REGRESSION ANALYSIS

ACCOUNT CATEGORYO INDIVIDUAL AND PERSONAL TRUSTS

CORRELATION MATRIX 19 VARIABLES 30952 OBSERVATIONS

VARIABLES	YEAR	V FR	ASST	CASH	NCNC	CONV	COMM	POOL	OBJT	AUTH	TAX	BR.D	TRAD	BROK	SIZE	P.RG	FUND	FEE	TURN
MEANS	1.68	0.98	-1.36	7.90	0.36	3.88	78.61	1.05	2.49	2.95	39.18	0.22	1.34	34.56	4.63	11.69	0.12	-0.90	20.18
ST.DEVS	1.00	0.73	1.18	16.10	15.49	7.46	19.62	4.44	0.68	1.30	15.37	0.42	0.92	43.50	1.66	20.98	0.33	0.70	19.36

VARIABLES	YEAR	V FR	ASST	CASH	NCNC	CONV	COMM	POOL	OBJT	AUTH	TAX	BR.D	TRAD	BROK	SIZE	P.RG	FUND	FEE	TURN	
YEAR	1.00																			
V FR	0.03	1.00																		
ASST	0.21	-0.09	1.00																	
CASH	-0.12	-0.01	-0.05	1.00																
NCNC	0.12	-0.02	0.16	-0.40	1.00															
CONV	-0.04	-0.10	-0.05	-0.06	-0.01	1.00														
COMM	0.02	0.06	-0.07	-0.47	-0.44	-0.30	1.00													
POOL	0.07	-0.01	-0.0	-0.02	-0.01	-0.03	-0.19	1.00												
OBJT	0.16	0.03	0.07	-0.32	0.23	0.10	-0.17	-0.03	1.00											
AUTH	0.12	0.09	0.10	-0.07	0.05	-0.03	0.06	-0.04	0.15	1.00										
TAX	-0.01	-0.04	0.37	-0.01	0.04	-0.06	0.0	0.01	-0.12	0.02	1.00									
BR.D	0.0	0.11	0.06	-0.02	0.06	-0.01	-0.0	-0.07	0.0	0.13	-0.02	1.00								
TRAD	-0.07	-0.18	-0.01	0.06	0.05	0.07	-0.11	0.03	-0.08	-0.49	-0.0	0.17	1.00							
BROK	-0.0	-0.01	0.01	0.05	0.08	0.05	-0.12	-0.01	0.01	-0.21	-0.03	0.36	0.49	1.00						
SIZE	0.17	-0.08	0.22	0.0	0.08	-0.02	-0.0	0.16	0.04	0.10	0.07	-0.06	-0.09	-0.20	1.00					
P.RG	-0.07	0.0	0.0	0.05	-0.04	-0.02	-0.0	0.02	-0.16	-0.17	0.01	-0.13	0.12	-0.08	0.04	1.00				
FUND	-0.06	0.04	-0.03	0.04	-0.03	-0.0	0.0	-0.03	-0.13	-0.14	0.0	-0.02	0.11	-0.05	-0.04	0.91	1.00			
FEE	-0.22	-0.05	-0.42	0.06	-0.11	0.06	0.01	-0.04	-0.15	-0.27	-0.08	-0.14	0.15	0.05	-0.11	0.16	0.11	1.00		

I.I.S. FORM I-14-----MULTIVARIATE REGRESSION ANALYSIS

ACCOUNT CATEGORY OTHER

CORRELATION MATRIX 19 VARIABLES 268 OBSERVATIONS

VARIABLES	YEAR	V FR	ASST	CASH	NONC	CONV	COMM	POOL	OBJT	AUTH	TAX.	BR.D	TRAD	BROK	SIZE	P.RG	FUND	FEE	TURN
MEANS	1.57	1.04	-0.81	8.02	9.90	6.44	74.76	0.92	2.30	2.70	26.59	0.34	1.44	40.60	5.32	10.80	0.06	-1.22	23.96
ST.DEVS	1.02	0.55	1.49	14.63	15.22	11.84	21.29	3.40	0.76	1.25	21.41	0.48	0.85	45.65	1.62	18.74	0.24	0.87	26.70

VARIABLES	YEAR	V FR	ASST	CASH	NONC	CONV	COMM	POOL	OBJT	AUTH	TAX.	BR.D	TRAD	BROK	SIZE	P.RG	FUND	FEE	TURN
YEAR	1.00																		
V FR	0.12	1.00																	
ASST	0.30	-0.19	1.00																
CASH	-0.11	0.07	-0.10	1.00															
NONC	0.22	-0.06	0.15	-0.07	1.00														
CONV	-0.10	-0.05	-0.21	-0.13	-0.16	1.00													
COMM	-0.05	0.02	0.07	-0.57	-0.56	-0.34	1.00												
POOL	0.17	0.01	0.05	0.02	-0.10	-0.04	-0.08	1.00											
OBJT	0.09	-0.12	0.07	0.06	0.42	0.13	-0.41	0.0	1.00										
AUTH	0.12	-0.07	0.17	-0.01	0.09	0.06	-0.11	0.10	0.32	1.00									
TAX.	-0.02	-0.09	0.06	0.08	-0.06	-0.05	-0.0	0.15	-0.13	0.13	1.00								
BR.D	0.28	0.19	0.09	-0.16	0.20	-0.05	0.02	-0.15	-0.02	-0.04	-0.22	1.00							
TRAD	-0.12	0.12	-0.10	-0.05	-0.03	0.03	0.05	-0.09	-0.22	-0.54	-0.01	0.20	1.00						
BROK	0.27	0.15	0.10	0.04	0.15	-0.15	-0.02	-0.18	-0.09	-0.22	-0.18	0.46	0.43	1.00					
SIZE	-0.0	-0.11	0.11	0.01	-0.08	0.17	-0.07	0.20	0.11	0.21	0.16	-0.29	-0.21	-0.36	1.00				
P.RG	-0.10	0.04	0.02	0.04	-0.01	-0.17	0.09	-0.09	-0.17	-0.25	-0.09	-0.11	0.18	0.13	-0.14	1.00			
FUND	-0.16	-0.02	0.02	0.09	-0.07	-0.12	0.06	-0.07	-0.18	-0.21	-0.02	-0.16	0.12	0.02	-0.10	0.91	1.00		
FEE	-0.40	-0.08	-0.46	0.11	-0.24	0.16	0.01	0.01	-0.07	-0.05	0.18	-0.43	-0.09	-0.39	0.16	0.10	0.21	1.00	

I.I.S. FORM I-14-----MULTIVARIATE REGRESSION ANALYSIS

ACCOUNT CATEGORYO TOTALS

CORRELATION MATRIX 19 VARIABLES 37480 OBSERVATIONS

VARIABLES	YEAR	V.FR	ASST	CASH	NCNC	CONV	COMM	POOL	OBJT	AUTH	TAX.	BR.D	TRAD	BROK	SIZE	P.RG	FUND	FEE	TURN
MEANS	1.63	0.94	-1.13	8.43	9.55	4.31	76.47	0.99	2.50	2.93	34.09	0.23	1.33	34.68	4.68	12.36	0.13	-0.97	21.31
ST.DEVS	1.00	0.76	1.43	13.08	17.09	7.91	21.57	4.42	0.69	1.31	19.34	0.42	0.91	43.43	1.65	22.21	0.33	0.78	20.84

VARIABLES	YEAR	V.FR	ASST	CASH	NCNC	CONV	COMM	POOL	OBJT	AUTH	TAX.	BR.D	TRAD	BROK	SIZE	P.RG	FUND	FEE	TURN
YEAR	1.00																		
V.FR	0.03	1.00																	
ASST	0.18	-0.17	1.00																
CASH	-0.13	-0.02	-0.03	1.00															
NCNC	0.13	-0.01	0.25	-0.31	1.00														
CONV	-0.05	-0.12	-0.01	-0.07	-0.02	1.00													
COMM	0.01	0.07	-0.17	-0.46	-0.54	-0.28	1.00												
POOL	0.07	-0.01	-0.01	-0.03	-0.02	-0.03	-0.15	1.00											
OBJT	0.17	0.02	0.09	-0.01	0.28	0.10	-0.21	-0.03	1.00										
AUTH	0.14	0.09	0.07	-0.08	0.09	-0.03	0.02	-0.03	0.17	1.00									
TAX.	0.06	0.06	-0.01	-0.04	-0.05	-0.12	0.13	0.02	-0.10	0.04	1.00								
BR.D	-0.01	0.12	0.03	-0.03	0.03	0.01	0.01	-0.06	-0.01	0.11	-0.03	1.00							
TRAD	-0.09	-0.18	-0.01	0.07	-0.0	0.06	-0.07	0.03	-0.10	-0.49	-0.01	0.15	1.00						
BROK	-0.01	-0.03	0.04	0.06	0.05	0.04	-0.09	-0.01	-0.01	-0.22	-0.03	0.33	0.49	1.00					
SIZE	0.16	-0.08	0.22	0.0	0.11	0.0	-0.03	0.14	0.07	0.10	0.01	-0.05	-0.09	-0.19	1.00				
P.RG	-0.07	-0.04	0.08	0.06	-0.05	-0.01	0.0	0.01	-0.17	-0.19	-0.03	-0.14	0.13	-0.04	0.02	1.00			
FUND	-0.06	0.01	0.04	0.05	-0.05	-0.0	0.01	-0.02	-0.14	-0.16	-0.02	-0.04	0.12	-0.02	-0.04	0.91	1.00		
FEE	-0.22	-0.03	-0.48	0.05	-0.26	0.04	0.15	-0.02	-0.19	-0.27	0.06	-0.10	0.17	0.05	-0.14	0.16	0.12	1.00	

APPENDIX TO SECTION F

1. INTRODUCTION

The purpose of this appendix is to spell out in more detail the meaning of the performance measures discussed in Sections F-4 and I and to be more specific about how numerical results are obtained in actual applications.¹⁹¹

The appendix is organized as follows:

(a) Some basic theory of Security Price Movements and Portfolio Diversification.

(b) Development of a standard for measuring the performance of institutional investors.

(c) Additional concepts—selection of a market index and measurement of portfolio diversification.

(d) Discussion of a number of practical problems associated with the measurement of institutional performance.

a. Some basic theory of security price movements

It is commonly assumed¹⁹² that the observed rates of return on common stocks can be viewed as the sum of two components, one which depends on movements in a market index of stocks and the second which is unique to the individual security. The rate of return during some period of time is defined as the change in stock price plus dividend and other distributions during the period, divided by the price of the stock at the beginning of the period. For an average security, the return on the market index will explain about 50 percent of monthly variations in rates of return.¹⁹³ A volatility coefficient can be associated with each security which captures the relative sensitivity of returns on the security to returns on the market.¹⁹⁴ As might be expected, securities which are less responsive to changes in the general level of stock prices will have lower volatility values. For example, a typical utility stock would have a volatility coefficient of roughly 0.5, indicating that, on average, a 10 percent change in the level of a broadly based market index would be associated with an approximately 5 percent change (in the same direction) in the level of the stock's price. Conversely, securities which are more responsive to changes in the level of stock prices will have higher volatility coefficients. For example, an electronics stock may have a volatility coefficient of 1.5 or higher, indicating that a 10 percent change in the market level (up or down) would, on the average, be associated with an approximately 15 percent change in the price of the stock.¹⁹⁵

The second component of security returns is independent of movements in the market level and depends on factors specific to the particular company or industry. The variation in security returns which is due to these unique factors is typically called "diversifiable risk"—that is, variation which can be reduced or even eliminated in portfolios, through diversification.

The return on a portfolio is simply the market value weighted average of returns on individual stocks contained in the portfolio, net of expenses. The portfolio's return, therefore, also can be divided into two components—a systematic or market related component and a non-systematic or non-market related component. However, while movements in the market level explain 50 percent of the movements in individual stock prices on a month-to-month basis, market move-

¹⁹¹ The reader is referred to the following references, which are listed at the conclusion of this appendix, for further discussions of performance measurement for mutual funds [3], [9], [10], [11].

¹⁹² See, for example, references [1], [4], [5], [6], [7].

¹⁹³ See [4]. The 50 percent average figure assumes monthly measurement intervals. For longer intervals the market will typically explain a higher percentage of the variation in rates of return on securities portfolios.

¹⁹⁴ The return on a security during a specific interval is equal to the volatility coefficient of the security times the return on the market index plus a residual term which is unique to the security.

¹⁹⁵ For exposition purposes, the effect of dividend distributions on the stock and market price levels have been ignored in the above examples.

ments will explain a much higher fraction of the variation in mutual fund portfolio net asset values per share. The average percentage explained will vary from 100 percent for a perfectly diversified portfolio (for example the market portfolio itself) down to 50 percent for a non-diversified portfolio (for example, a portfolio containing only a single stock). By combining securities into diversified portfolios, much of the non-systematic variation associated with individual securities can be eliminated, resulting in portfolios whose variations are largely dependent on market movements.

Thus, the portfolio manager of a mutual fund can obtain a well diversified portfolio of securities and eliminate by far the greatest fraction of insurable or non-market related risk. The return on the portfolio then would be a function largely of returns on the market and the volatility of the fund's portfolio. An income fund, for example, may have a volatility coefficient of 0.5, indicating that a 10 percent change in the market level would result, on the average, in a 5 percent change in net asset value. Similarly, a capital gains oriented fund might have a volatility coefficient of 2.0, indicating that a 10 percent increase or decrease in market level would result in a 20 percent increase or decrease in net asset value per share.

Two concepts emerge from the above discussion.

First, the volatility coefficient for the mutual fund (or other institutional portfolio) is related to the amount of nondiversifiable "market risk" that is borne by the fund's shareholder.

Second, given the return on the market index and the average volatility coefficient for an institutional portfolio, it is possible to predict the rate of return that would have been obtained on an unmanaged portfolio having the same average degree of volatility during the evaluation period.

b. Development of a performance standard

The problem now is to develop a performance standard which can be used to evaluate the performance of institutional portfolios (for example, mutual funds, pension funds, etc.) The procedure suggested by the above is the use of an unmanaged standard portfolio having volatility equal to that of the managed portfolio for such an evaluation.

The standard to be used is defined as the rate of return on treasury bills (assumed here to represent a risk free asset) *plus* the volatility coefficient (the volatility of the fund versus a market index) *times* the difference between the return on the market index and the return on treasury bills. This is the return that would be achieved by combining two unmanaged portfolios (a riskless and a risky portfolio) in the appropriate proportions to obtain a mixed portfolio displaying the same average degree of volatility as that of the fund being evaluated.

The riskless portfolio (the treasury bill portfolio) will have returns during the measurement intervals which are independent of market movements and, thus, will have a volatility coefficient of zero. The risky portfolio (the market index) will, by definition, have a volatility coefficient of 1.0.

Table 1 indicates the volatility coefficients for various mixtures of the two unmanaged portfolios.

TABLE 1.—VOLATILITY RESULTING FROM MIXTURE OF A TREASURY BILL AND MARKET INDEX PORTFOLIO

Comparison portfolio No.—	Fraction of portfolio invested Treasury bills (percent)	Fraction of portfolio invested in market index (percent)	Volatility of comparison portfolio
1.....	100	0	0
2.....	75	25	.25
3.....	50	50	.50
4.....	25	75	.75
5.....	0	100	1.0
6.....	-25	125	1.25
7.....	-50	150	1.50

Note that to achieve volatilities greater than 1.0, the procedure requires leveraging the market index by borrowing at the riskless rate. This rule, of course, involves some degree of abstraction from current practice, since it is not common for mutual funds to have substantial amounts of leverage, let alone to attain that leverage at government bill rates.¹⁰⁶ This fact is of less practical importance than one might imagine, however, since volatility in excess of 1.0 can be achieved without resorting to leverage by both managed and unmanaged (comparison) portfolios—for example, by mixing the riskless portfolio with a well diversified portfolio of exceptionally high volatility stocks.

The important question is whether we would expect to find differences in rates of return on standard portfolios constructed in different ways, yet having the same degree of volatility. Phrased another way, can well diversified portfolios having the same degree of market risk exposure, on the average, yield different rates of return? The answer to this question presumably should be no, for if it were not, arbitrage possibilities would exist, which should force returns on otherwise "equivalent portfolios" to "equivalent levels."

The next question deals with the rate of return one would achieve on standard portfolios during the evaluation period. Tables 2 and 3 show the rates of return on such unmanaged portfolios for two years, 1968 and 1969.

¹⁰⁶ It is perfectly possible, however, consistent with the Investment Company Act of 1940, to have up to 33 percent debt, a situation represented by comparison portfolio #7.

Table 2
 RATES OF RETURN ON UNMANAGED
 PORTFOLIOS - 1968

Comparison Portfolio Number	Fraction of Treasury Bills (1)	Rate of Return on 1 year Bills (2)	Fraction in Market Portfolio (3)	Rate of Return on Market Portfolio (SP500)	Rate of Return on Comparison Portfolio **	Volatility of Comparison Portfolio
1	100%	5.5%	0%	11%	5.5%	0.00
2	75%	5.5%	25%	11%	6.9%	0.25
3	50%	5.5%	50%	11%	8.3%	0.50
4	25%	5.5%	75%	11%	9.6%	0.75
5	0%	5.5%	100%	11%	11.0%	1.00
6	-25%	5.5%	125%	11%	13.4%	1.25
7	-50%	5.5%	150%	11%	14.8%	1.50

** (1)X(2) + (3)X(4)

* included dividend reinvestment

Table 3
 RATES OF RETURN ON UNMANAGED
 PORTFOLIOS - 1969

Comparison Portfolio Number	Fraction of Treasury Bills (1)	Rate of Return on 1 year Bills (2)	Fraction in Market Portfolio (3)	Rate of Return on Market Portfolio	Rate of Return on Comparison Portfolio	Volatility of Comparison Portfolio
1	100%	7.0	0%	-12%	7.0%	0
2	75%	7.0	25%	-12%	2.2%	0.25
3	50%	7.0	50%	-12%	-2.5%	0.50
4	25%	7.0	75%	-12%	-7.3	0.75
5	0%	7.0	100%	-12%	-12%	1.00
6	-25%	7.0	1.25%	-12%	-16.8%	1.25
7	-50%	7.0	150%	-12%	-21.5%	1.50

The rate of return on a standard portfolio is the dollar weighted average of the returns on its component portfolios, treasury bills and the market index.¹⁹⁷ Similarly, the volatility of a standard portfolio would be a weighted average of the volatilities of its component portfolios. As the market portfolio's volatility is, by definition=1.0, and the bill portfolio's volatility is=0.0, the resulting volatility measure, by definition, is equal to the fraction of the standard portfolio invested in the "market."¹⁹⁸

The rate of return on a standard portfolio described above can be shown to be equivalent to the risk free rate plus the product of portfolio volatility and a risk premium on the market portfolio (where the risk premium is defined as the difference between return on the market and treasury bill portfolios).¹⁹⁹

Performance measures also can be presented graphically in a way which may help to illustrate the performance concepts (as in Figure 1). In this diagram the vertical axis represents the average rate of return on institutional portfolios during the evaluation period (for example, the monthly rate of return over a five year period). The horizontal axis represents the average volatility of portfolio shares during the period. The sloping line shown in the diagram represents the line of neutral performance; that is, rates of return on unmanaged standard portfolios of specified volatility, and is, simply, a graphical representation of algebraic expressions (1) and (2) on p. 377, p. 202. Intuitively, the 4.2 percent vertical axis intercept for the line of neutral performance corresponding to a volatility of zero, may be identified as the average treasury bill rate during the purely illustrative evaluation period. The 10.5 percent return corresponding to a volatility of "one", of course, identifies average returns on the market portfolio during the period. The slope of the line connecting these two points—market and treasury bill portfolios—of course, represents the risk premium (10.5-4.2=6.3 percent return, per unit of volatility or market related risk) over the period. Thus, a standard portfolio invested equally in bills and the market would be represented by average volatility=.5 and average annual return=7.35 percent. A standard high volatility portfolio fully invested in the market yet leveraged by 50 percent borrowing per unit of equity, would be represented by volatility=1.5, average return=13.65 over the period.

¹⁹⁷ Return=Percentage Treasury Bills×Rate of Bills+Percentage Market Index ×Rate on Index.

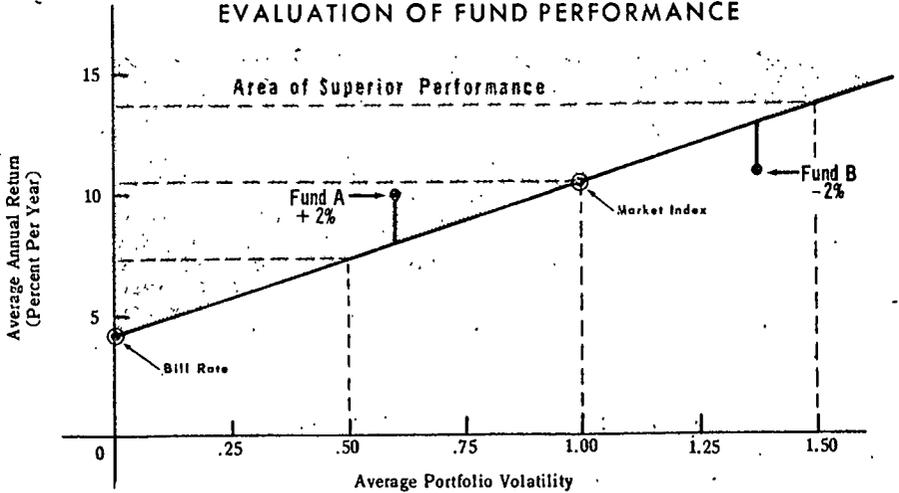
¹⁹⁸ Volatility=Fraction in Treasury Bills×Volatility on Bills+Fraction in Market ×Volatility of Market:
=Fraction in Treasury Bills×0.0+Fraction in Market×1.0;
=Fraction in Market.

¹⁹⁹ Defining r_s , r_m and r_b as returns on the volatility adjusted comparison standard portfolio, market portfolio and treasury bill portfolio, respectively, and β (or Beta) as the fraction of the standard portfolio invested in "the market," r_s can be defined as the weighted average,

(1) $r_s = \beta r_m + (1 - \beta) r_b$, as in the preceding footnote. (Note that if β = the fraction of a standard portfolio invested in the market, then necessarily $1 - \beta$ = the fraction invested otherwise, in this case in treasury bills. $\beta + (1 - \beta) = 1$, of course, reflects the fact the entire portfolio is allocated to these two asset types—unmanaged, marked and bill portfolios.)

By the simple algebraic rearrangement of its terms, equation (1) can be rewritten as,
(2) $r_s = r_b + \beta(r_m - r_b)$. Thus, intuitive descriptions of returns on comparison standard portfolios in terms of weighted average returns on market and bill portfolios (as in equation (1) and Tables 1-3 above), can be seen to be logically equivalent to descriptions couched in terms of returns on a relatively, risk free asset (such as short-term treasury bills) plus a premium for risk bearing, as in equation (2), and much of what follows in this appendix.

Figure 1
EVALUATION OF FUND PERFORMANCE



Measurement Interval for Returns - annual

Average Return on Market - 10.5 percent per year for 5 years

Average Rate on Treasury Bills - 4.2 percent per year for 5 years

Actual portfolios as well as hypothetical, standard portfolios also can be illustrated in Figure 1, and need not fall directly on the line of neutral performance traced out by risk-return variations in unmanaged standard portfolios. Indeed, the amount by which an actual fund's realized return-volatility combination differs from that of a standard portfolio having equal volatility constitutes the measure used here of the portfolio's risk (or volatility) adjusted investment "performance." Portfolios which have performed in a superior fashion would have realized return-volatility combinations which lie *above* the neutral performance line. Portfolios with inferior performance would fall *below* the line. The vertical distance of the point representing the fund from the neutral performance line is a measure of the average "excess return" achieved by the manager during the evaluation period. For example, Fund A in Figure 1 shows a positive average excess return of 2 percent, indicating that the adviser has outperformed his volatility adjusted standard. Fund B, on the other hand, has a negative average excess return, indicating inferior performance. Note, however, that Fund B's absolute return is greater than Fund A's absolute return. On a non-volatility adjusted basis, then, Fund B could be said to have outperformed Fund A, while on a volatility adjusted basis the reverse would be the case. The two can be reconciled, of course, by noting that although Fund B's total return did exceed Fund A's, it did so by 4 percent *less than* the difference that could be accounted for on the basis of differences in their respective volatilities, alone.

A separate and crucial step in the calculation of volatility adjusted performance measures for specific funds is the estimation of "relative volatility coefficients" for each fund. Conceptually, one compares the risk premiums (differences between total returns and treasury bill rates) on actual managed portfolios and unmanaged standard comparison portfolios to determine "which" standard portfolio reproduces the actual portfolio's average volatility. Graphically, the comparison could be constructed as in Figure 2, where during four

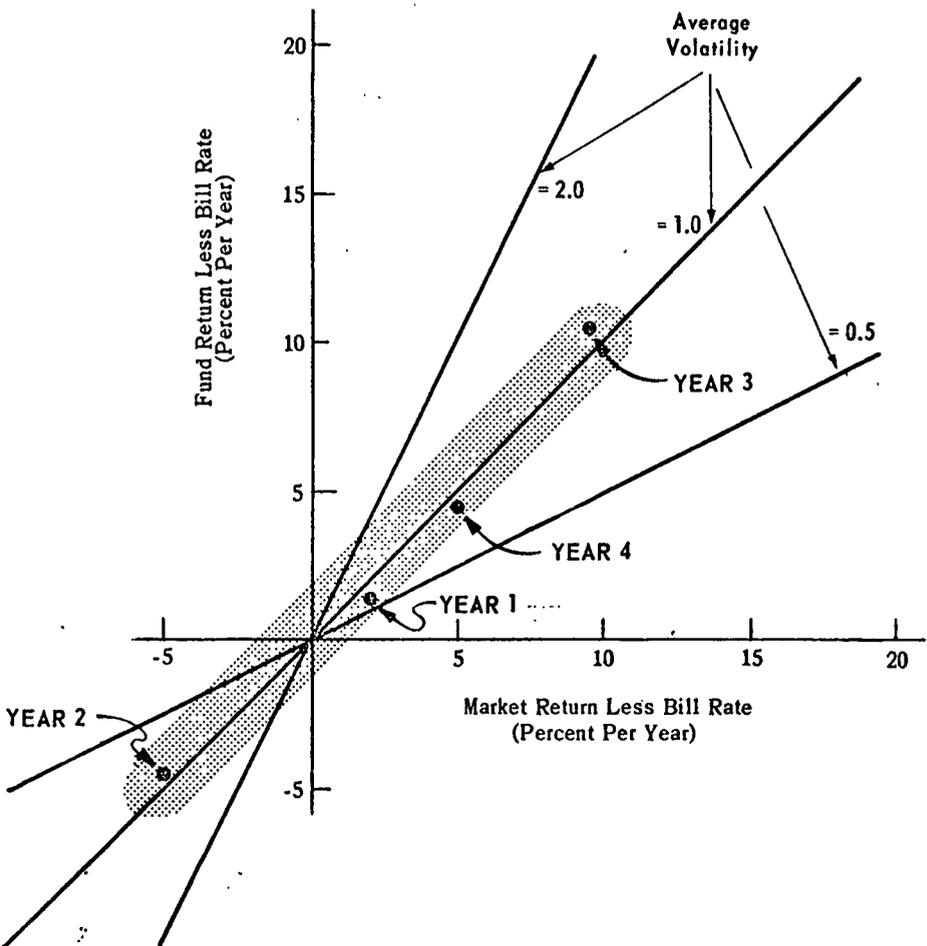
successive (hypothetical) time periods returns on the market portfolio differ from returns on treasury bills by the following amounts.

Year	Total return less Treasury bill rates	
	Actual fund	Market portfolio
1.....	1.5	2.0
2.....	-4.5	-5.0
3.....	4.5	5.0
4.....	10.5	9.5

Plotted on Figure 2, the fund's returns are seen to cluster closely about the average volatility line having a slope=1.0. That is, a 10 percent return on the market is associated, on average, with a 10 percent return on the fund; a 5 percent return on the market with a 5 percent return on the fund; a 5 percent loss on the market with a 5 percent loss on the fund, etc.

Figure 2

MEASUREMENT OF FUND VOLATILITY



Other funds, of course, could tend to cluster about other average, relative volatility lines. Returns on a highly speculative fund, for example, might be best approximated by the average volatility line in Figure 2 having a slope=2.0—implying that, on average, a 10 percent market return will be associated with a 20 percent return for such a fund, a 5 percent market loss with a 10 percent fund loss, etc. Similarly, the pattern of returns on a more conservatively managed income fund might be closely approximated by the average volatility line having a slope=0.5—implying that the fund's returns will fluctuate, on average, with only half the volatility of returns on the market.

Mechanically, of course, such calculations seldom are constructed graphically. Instead, least squares regression analysis is employed to calculate directly the "best fitting" linear (or straight line) relationship between fund and market returns, less returns over the period on treasury bills, insured savings deposits, or some other form of very low risk fixed claim.

c. Summary of performance measurement procedure

The following steps summarize the performance measurement process:

Step 1: Select a period for performance evaluation—for example, the period 1960-1969.

Step 2: Measure the rate of return on mutual fund shares or any other investment portfolio for as many non-overlapping subperiods for which data are available—for example, weekly or monthly sub-intervals. The return includes any distributions made during the sub-interval.

Step 3: Measure the rate of return on a well diversified market index for the identical sub-intervals as in Step 2. Return on the market index also must include any dividend distributions made during the sub-interval.

Step 4: Obtain the rate of return on treasury bills during the sub-intervals selected. Thus, if a monthly sub-interval is selected to measure fund and market returns, the rates on 30-day bills issued near the beginning of each sub-interval should be used.

Step 5: Obtain the slope of the best fitting line of the fund return less the bill rate *versus* the market return less the bill rate scattergram (as in Figure 2)—the slope is the average volatility of the fund during the period.

Step 6: Compute the rate of return during each sub-interval on a standard, unmanaged portfolio having the same volatility as the fund over the period. The rate on the performance standard is given by the sum of the return on treasury bills during the sub-interval plus the fund's volatility coefficient multiplied by the difference between the return on the market portfolio and the return on treasury bills during the sub-interval.

Step 7: Compute the average rate of return on the comparison standard during the total evaluation period by finding the arithmetic average of the rates of return computed in Step 6.

Step 8: Measure the average excess return (performance measure) for the fund. This is the difference between the average return on the fund less the average return on the comparison standard.

Step 9: Evaluate the fund's volatility adjusted performance. If the average excess return is positive, the mutual fund has outperformed an unmanaged portfolio of similar average volatility. Conversely, if the average excess return is negative, the fund has performed less well than the comparison, unmanaged portfolio.

d. Additional topics

(1) *Selection of an appropriate market index.*—The appropriate market index for evaluating institutional portfolios consisting primarily of equities should be a well diversified index composed essentially of a full range of the equity opportunities available to investors. The index should represent in the aggregate the performance of all investors in equities, thus requiring that it be a market value weighted index rather than an unweighted index, the performance of which could not be duplicated by large institutional sectors of the marketplace. The ideal equity index, thus, would reflect the market weighted price level of all stocks; that is, stocks listed on the NYSE, AMEX, over-the-counter, etc. However, such an ideal index does not currently exist, so we must choose among the available alternatives. The one which has been chosen for this Study is the Standard and Poor's 500 Stock Index. It is a market weighted index and represents both NYSE and AMEX securities. While it may not be an ideal standard, it is correlated highly enough with an ideal index to minimize possible distortions resulting from its application.²⁰⁰

(2) *Degree of mutual fund diversification.*—Even though a substantial portion of the variation in returns on a typical mutual fund can be explained by movements in the market index, usually a significant amount of non-market related variation still remains. This residual variation is due to the less-than-perfect diversification of the fund portfolios. By contrast, the comparison unmanaged portfolios are, by definition, perfectly diversified and thus contain no residual, non-market variation.

The residual variation remaining after market related returns are obtained represents diversifiable risk; that is, risk that could be eliminated by additional portfolio diversification, either by the fund manager or by the mutual fund shareholder himself. The adviser could eliminate residual variation by a different choice of portfolio securities. The fund shareholder could eliminate this variation by holding shares of the fund within his own diversified portfolio. However, for a shareholder whose portfolio consists only of the shares of a single fund, such variation cannot be eliminated as he is subject to an additional level of portfolio risk for which he would not be expected to receive additional returns.

The degree of diversification in a portfolio can be measured by examining the fraction of variation in portfolio returns which can be explained by movements in the market during the performance evaluation period.

c. Practical considerations associated with measurement of investment performance

The preceding discussion of performance measurement is conceptual in nature. It remains now to consider performance measurements at the practical level faced by a fund manager or advisory organization.

(1) *How should the benefits received by fund shareholders during a given time interval be measured?*—It is widely accepted that the best measure to use in measuring the total benefits received by fund shareholders during some interval of time is one that reflects changes in net asset value of the fund's shares, with adjustments to compensate for the payment of any capital gains, distributions and dividends from investment income during the evaluation period. This measure gives effect to all increments in value received by the stockholder. This basis of measurement has been widely used without any serious challenge to its propriety as a sound basis of measuring benefits received by stockholders.²⁰¹

Two variants of this method for measuring returns exist. The difference relates to assumptions about the reinvestment of capital gains and dividend distributions.

The first method assumes reinvestment of capital gains and dividend distributions immediately on their receipt. Thus, the rate of return measured relates solely to the change in net asset value per share during the evaluation period with adjustment in the final number of shares held to reflect reinvestment during the period.²⁰²

The second method assumes that capital gains and dividend distributions are added to the change in net asset value per share during the evaluation period.²⁰³ This method assumes that distributions are not reinvested, but are held in cash until the end of the evaluation period.

The difference between the two methods is small when the measurement period is short (for example, one month or less). For longer periods, such as a year, the differences in the returns computed could be substantial. In the performance measurement procedures discussed in this section, the performance evaluation period has been subdivided into small intervals, so the method selected for computing sub-interval returns is not critical. The method of adding distributions

²⁰⁰ The question of portfolio risk for shareholders could be considered more generally in terms of their total portfolios, which may include directly held equities, bonds, real estate, future income, etc. In this more general case an appropriate index for evaluating investment performance would be an index of national or world wealth.

²⁰¹ See, for example, Bank Administration Institute, *Measuring the Investment Performance of Pension Funds*, Park Ridge, Illinois, 1968.

²⁰² The percentage return in period t is given by

$$R_t = \frac{(1 + \Delta)(NAV_t) - NAV_{t-1}}{NAV_{t-1}}$$

where NAV_t = Net asset value at end of period t

Δ = Number of shares received via reinvestment of distributions, per shares outstanding at the beginning of period t .

²⁰³

$$R = \frac{NAV_t - NAV_{t-1} + DIST_t}{NAV_{t-1}}$$

where $DIST_t$ = the sum of capital gain and income distributions during period t .

rather than assuming their reinvestment is the method used in the most widely published performance comparisons.²⁰⁴ The additions method also facilitates a comparable adjustment to the market index, and is preferable to an attempt to compute the effect of dividend reinvestment in the index during each subperiod.

(2) *How should an appropriate market index be selected?*—As discussed above, the market index used here as a basis for measuring mutual fund volatility, and as a basic component in determining the rate of return on an unmanaged comparison portfolio, should be a broadly based, market value weighted index of common stocks.²⁰⁵ To the extent possible, the index should represent all possible equity investments. Since no index currently exists which meets this requirement, we must be satisfied with the best available alternative. In this regard the Standard and Poor's 500 Stock Price Index has been selected, and used.

(3) *How should returns on the market index be computed?*—The return on the market index should be computed in exactly the same fashion as the return on fund shares. If the distribution reinvestment method was used in measuring returns to shareholders during a given interval, then dividend distributions on common stocks in the index should be treated similarly. By the same token, if distributions were added back in the computation of returns, the same treatment should be given to dividends on the index.

(4) *What interval of time should be used for measuring average volatility and investment performance?*—The question of an appropriate time horizon is a difficult one. There are two requirements: the first is to have enough observations on fund return and market return to obtain a good measure of average fund volatility; if too few observations are used, substantial errors can result in measures of the volatility coefficient. Second, the interval used must be long enough for short run variations in fund performance to have sufficient time to average out. Day-to-day or week-to-week performance measures could contain substantial random fluctuations. At the other extreme, however, overly long evaluation periods—such as a several year measurement period—would result in performance measures that are largely insensitive to the more recent performance of a fund.

If daily sub-intervals are used for measuring rates of return on fund and market portfolios, then an interval like six months to one year should be perfectly adequate to obtain a good measure of the fund's average volatility. However, six months probably is too short a period to obtain a stable measure of fund performance. As a rule of thumb, a period of from one to three years probably should be used as the minimum measurement period.

REFERENCES

- (1) Fama, Eugene, "The Behavior of Stock-Market Prices," *Journal of Business*, XXXVII (January, 1965), 34-105.
- (2) Fama, Eugene, "Risk, Return, and Equilibrium: Some Clarifying Comments," *Journal of Finance* (March, 1968), 29-40.
- (3) Jensen, Michael C., "The Performance of Mutual Funds in the Period 1945-1964," *Journal of Finance*, XXIII (May, 1968), 389-416.
- (4) King, Benjamin F., "Market and Industry Factors in Stock Price Behavior," *Journal of Business*, XXXIX, Part II (January, 1966), 139-90.
- (5) Lintner, John, "Security Prices, Risk, and Maximal Gains from Diversification," *Journal of Finance*, XX (December 1965), 587-616.
- (6) Sharpe, William F., "A Simplified Model for Portfolio Analysis," *Management Science* (January, 1963), 277-93.
- (7) Sharpe, William F., "Capital Asset Prices: A Theory of Market Equilibrium under Conditions of Risk," *Journal of Finance*, XIX (September, 1964), 425-42.
- (8) Sharpe, William F., "Risk Aversion in the Stock Market," *Journal of Finance*, XX (September, 1965), 416-22.
- (9) Sharpe, William F., "Mutual Fund Performance," *Journal of Business*, XXXIX, Part 2 (January, 1966), 119-38.
- (10) Treynor, Jack L., "How to Rate Management of Investment Funds," *Harvard Business Review*, XLIII (January-February, 1965), 63-75.
- (11) Bogle, John C., "Mutual Fund Performance Evaluation, Conventional Versus Unconventional," *Financial Analysis Journal*, (November-December, 1970), 25-34.

²⁰⁴ Arthur Wiesenberger and Co., *Investment Companies*, 1969 (and earlier annual editions).

²⁰⁵ It is assumed that the portfolios being evaluated are largely composed of common stocks containing, perhaps, some short-term debt securities.

CHAPTER V

BANK TRUST DEPARTMENTS

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CHAPTER V

BANK TRUST DEPARTMENTS

A. INTRODUCTION

Banks as a group hold for their own account more assets than any other category of institutional investor. Approximately 25 percent of commercial banks also have fiduciary powers, which entitle them to administer assets for the benefit of others.

The 13,681 commercial banks and trust companies in the United States, as of the end of 1969, owned and managed portfolios of loans and securities valued in excess of \$400 billion.¹ Restrictions on the types of securities which may be owned by a bank have been considered appropriate by legislatures to protect depositors and the public against the consequences of bank failure.² Security portfolios of banks therefore consist almost entirely of U.S. Treasury securities, securities of other U.S. Government agencies and corporations and obligations of states and their subdivisions, rather than common stock. The practical effects of the legal restrictions on equity investments³ by banks may conceivably be tempered by the recent trend toward formation of one-bank holding companies. The formation of a one-bank holding company is accomplished by a corporate reorganization through which the stockholders of a bank become the stockholders of a holding company, the bank becomes a subsidiary of the holding company, and the management of the bank assumes the management of the holding company. Through such reorganizations bank managements have become capable of investing funds through the holding company or its non-bank subsidiaries. It is not clear whether under the recently enacted amendments to the Bank Holding Company Act there will be substantial expansion in the amount of equity investments administered by bank managements for their own account. Presumably most such investments will involve businesses controlled by the holding company rather than unaffiliated issuers. Accordingly, the Study restricted its analysis to the activities of bank trust departments in investing funds for the benefit of others.

At the end of 1969, trust departments of commercial banks administered assets having a market value of approximately \$280 billion.⁴ The portion of these assets invested in common stock, amounting to

¹ FDIC Ann. Rep. 238, 258 (1969).

² In connection with activities involving the bank's own assets, nationally chartered banks are subject to regulation by the Comptroller of the Currency, the Federal Reserve Board and the Federal Deposit Insurance Corporation, and state chartered banks are subject to regulation by state banking authorities. If a State bank is a member of the Federal Reserve System, it is also regulated by the FRB and FDIC, and if it is not a member but does insure its deposits it is regulated by the FDIC.

³ Based on a sample of national banks, the Comptroller of the Currency concluded that as of August 31, 1970, only .27 percent of banks' commercial and industrial loans involved equity participation. Press release dated December 10, 1970.

⁴ Source: FDIC. The omission of uninsured banks does not materially affect the total. See sec. E of this chapter.

\$180 billion, exceeded the sum of the common stock administered by investment advisers, insurance companies, self-administered employee benefit plans, foundations, and educational endowments.

After preliminary investigation indicated that the majority of trust department assets were administered by a relatively limited number of banks, the Study directed its attention to the 50 bank trust departments administering the largest amounts of total assets at the end of 1967. These banks, at the end of 1969, administered approximately \$130 billion of common stock, or 70 percent of the common stock administered by all bank trust departments. Each of the 50 banks administered, at that time, more than \$650 million of common stock.

The subjects considered in this chapter include the services offered by bank trust departments, assets managed, fees charged, portfolio turnover, and performance. These subjects relate to all investment managers and are given comparable treatment, to the extent feasible, in this and the other chapters of Part 2 of the Study.

In addition, this chapter focuses on unique attributes of trust departments that distinguish them from other investment managers. One such attribute is the association with commercial banking. Not all corporate trustees are commercial banks; the first corporations to act as trustees in this country were insurance companies.⁵ However, today there are relatively few trust companies which are not also commercial banks.⁶

In New York the Banking Law provides that no corporation other than one organized under that law may act as a trustee.⁷ New York banking authorities, unlike those of some states,⁸ take the further step of refusing to charter corporations to act solely as trust companies, that is, without a commercial banking department. On September 3, 1969, the New York Banking Board issued a "Statement of Chartering Policy," which expressed the opinion that "the New York Banking Law, particularly Section 96 and Subdivision 9 of Section 4001 thereof, contemplates that every trust company under the Department's jurisdiction will have and will exercise commercial bank powers even though, as a matter of policy, the management of the trust company may choose to concentrate its efforts on the development of its trust business." The cited provisions indicate that a corporation organized under the New York Banking Law that has authority to act as a fiduciary shall have this authority in addition to the authority to act as a bank. The Banking Board, in the above Statement, interprets the provisions granting the power to engage in commercial banking as a requirement that applicants "offer significant commercial bank services."⁹ The Statement gives only one policy argu-

⁵ In 1818, Massachusetts Hospital Life Insurance Company became the first institution in the United States to act as a trustee. H. V. Prochnow, *American Financial Institutions* 460 (1951). See also C. Herrick, *Trust Companies* 2 (1915); J. C. Smith, *The Development of Trust Companies in the United States* (1928).

⁶ As of the end of 1969, the FDIC reported the existence of 49 nondeposit trust companies. FDIC, *Ann. Rep.* 239 (1969).

⁷ N.Y. Bank. Law § 131(3) (McKinney 1966).

⁸ For example, California.

⁹ The Statement of Chartering Policy requires:

- (i) the employment of top management personnel having substantial and satisfactory experience in general commercial bank operations;
- (ii) if a trust company is to be chartered, the employment, in addition, of top management personnel having substantial and satisfactory experience in fiduciary operations;
- (iii) insurance of deposits by the Federal Deposit Insurance Corporation;
- (iv) capital funds of not less than \$1.2 million; and
- (v) a broad dispersion of the stock of the proposed bank or trust company (or of a parent company) with no single person owning beneficially more than 2½% of the total voting stock.

ment for its interpretation, namely that the public expects trust companies to offer "commercial bank services to a significant segment of the public."

Apart from the association with commercial banking, trust departments differ from other investment managers in the legal, regulatory and tax environment affecting them. A special body of law governs the relationship between a trustee and the creator and beneficiaries of a trust. Trust departments of nationally chartered banks are subject to regulation by the Comptroller of the Currency.¹⁰ Trust departments of state chartered banks are subject to regulation by state banking authorities, and also by the Federal Reserve Board ("FRB") and Federal Deposit Insurance Corporation ("FDIC") if they are member banks, and by the FDIC if they are not members but are insured.¹¹ Finally, tax considerations affecting bank trust departments in the administration of trusts are different in some respects from those applicable to other investment managers.

This chapter notes the constraints imposed by law and the various regulatory authorities on trust departments and their accounts, especially personal trusts and commingled accounts, to the extent these constraints may be expected to influence investment behavior and growth. Because of the shortage of basic statistical data concerning the various types of accounts administered by trust departments, the considerable variation among banks, and limitations of time and resources, the Study devoted its primary attention in connection with this chapter to the collection and interpretation of statistical data, without attempting the extensive interviewing that would have to be combined with the data to provide a complete description of bank trust departments as investment managers.

B. DATA SOURCES

There are two basic sources for data presented in the chapter. The first is Form I-60, submitted by each of the 50 banks surveyed. This Form contains aggregate information for the trust department as a whole, such as total assets by major account type and revenues from each account type.

The second major data source concerns a sample of accounts from each of the 50 banks. The sample was constructed in three stages. In the first stage each bank was asked to submit a complete list of active account numbers, categorized by types of accounts. It was recommended that separate lists be furnished for common trust funds, pooled employee benefit funds, personal trusts, estates, employee benefit funds, personal agency accounts, institutional and other agency accounts for which the bank makes investment decisions or gives advice, and finally custodial accounts, for which the bank performs clerical work but does not make investment decisions or give investment advice. Each bank was also asked to identify the ten largest accounts in each category.

¹⁰ National banks' trust departments were regulated by FRB in the period 1913-1962 and since then by the Comptroller of the Currency. Prior to 1913 national banks were not authorized to have trust departments.

¹¹ Of the 50 banks studied, at the end of 1969, 47 were insured by the FDIC and thus subject to regulation by at least one Federal agency.

As indicated in sec. D.7.b of this chapter, the Comptroller of the Currency's regulations concerning common trust funds are the effective standards for state, as well as national, banks.

The Study drew approximately 100 accounts from each bank's lists, and for each of these accounts the banks were asked to submit a Form I-4 in the second stage of the account sampling process. In general, 60 of these accounts were selected randomly from personal trusts, estates, employee benefit funds, and personal agency accounts, each category's representation being proportional to the total value of assets administered in that category by a bank. In addition, 30 accounts were selected on the basis of size: usually these were the ten largest personal trust, employee benefit, and agency accounts. Two large estate accounts were randomly selected if estate accounts were given as a distinct category. Finally, the banks were to submit Form I-4's for all common trust and pooled employee benefit funds.

For each account selected, Form I-4 provided basic information on total assets, asset composition, investment authority and restrictions, voting authority, and authority to select brokers. The responses contained in Form I-4 constituted the basis for selecting the approximately 20 accounts in each bank for which detailed questionnaires were then submitted, in a third stage, that included information on holdings of particular stocks,¹² fees¹³ and turnover.¹⁴

In order to obtain data that would show any changes in management of a given account over a period of years, no accounts established after the beginning of 1967 were chosen for the final stage. Since attention was focused on securities holdings, the selection excluded accounts from the final stage in which nonfinancial assets¹⁵ represented more than 10 percent of total assets, as well as accounts in which more than 10 percent of the assets had not been valued in the past year. Also excluded were personal agency, personal trust, and estate accounts smaller than \$10,000 and all other accounts smaller than \$50,000. Accounts which were more than 25 percent invested in commingled funds were also excluded from the final sample because information on commingled funds was obtained directly.

Since the Study was interested in assessing the impact of banks' investment decisions, very few accounts were selected for the final stage where the customer had placed severe restrictions on investments.¹⁶ Accounts were excluded if a bank reported that it had no investment role, or if it reported that the client specified particular investments accounting for more than 50 percent of account assets. Of the remaining accounts, approximately equal representation was given to accounts in which the bank had sole investment discretion and those in which consultation was necessary.¹⁷ Tables V-1, V-2, and V-3 indicate the number of accounts involved in the sampling process. For additional information concerning the sampling of trust department accounts, see appendix B to this chapter.

¹² Form I-3.

¹³ Form I-25.

¹⁴ Form I-26.

¹⁵ For example, real estate.

¹⁶ An account was not excluded merely because the bank was required to obtain the client's approval prior to a transaction.

¹⁷ The latter were much more frequent in all categories of accounts, except employee benefit accounts.

Table V-1

Number of Accounts for Which
I-4's Were Submitted in Second Stage of Account
Sampling Process

<u>Account Type</u>	<u>Number</u>
Common Trust Funds	208
Pooled Employee Benefit Funds	164
Employee Benefit - Large	496
- Random	776
Institutional and Corporate Agency - Large	249
- Random	129
Personal Agency - Large	213
- Random	472
Personal Trusts and Estates - Large	508
- Random	1,374
Total	4,589

Table V-2

<u>Number of Accounts for Which I-4's Were Submitted</u>		
by Account Type and Size, and Size of Trust Department <u>1/</u>		
<u>Account Type and Size</u>	<u>Rank of Trust Department</u>	
	<u>1-20</u>	<u>21-50</u>
Employee Benefit		
0 - 5 million	356	477
5,000,001-50 million	125	163
Larger than 50 million	115	36
Personal Trust and Estate		
0-500,000	418	808
500,001-5 million	96	227
Larger than 5 million	170	163
Personal Agency		
0-500,000	132	250
500,001-5 million	71	121
Larger than 5 million	51	60
Institutional and Corporate Agency		
0-5 million	58	117
5,000,001-50 million	78	84
Larger than 50 million	36	5

1/ Other than common trust funds and pooled employee benefit funds.

Table V-3

Number of Accounts in Third Stage Sample

Common Trust Funds	51
Pooled Employee Benefit Funds	43
Personal Trusts	348
Estates	13
Employee Benefit	242
Personal Agency	157
Institutional and Corporate Agency	87
	<hr/>
Total	941

C. TYPES OF ACCOUNTS AND ASSETS ADMINISTERED

1. Services Offered

a. Introduction

As already noted, bank trust departments administer several types of accounts. For each type of account, the services performed by the bank and its freedom of action in investing depend partly on the latitude given it by its customer. The customer may give the bank sole authority to choose investments; he may require that the bank consult with specified persons prior to the execution of a transaction; or he may grant the bank no role in determining investment.¹⁸ A similar range of alternatives exists concerning the authority given a bank on voting shares held for the account.¹⁹ In addition, the customer may designate the broker or brokers used in portfolio transactions or may permit the bank to choose the brokers used.²⁰ Other factors affecting the bank in its investment decisions vary with the types of the accounts and the services performed by the banks.

b. Personal trust accounts and estate accounts

When a bank serves as trustee, it has legal title to the trust assets, subject to its fiduciary obligation to act in the best interests of the beneficiaries in administering the trust and its duty to adhere to the terms of the instrument creating the trust. Typically, the trust instrument provides for successive beneficiaries. The trustee is usually directed to pay the income from the trust assets to one or more beneficiaries and then to pay the principal at subsequent date (often the death of the income beneficiaries) to one or more remaindermen. A particular investment objective such as capital appreciation, for example, may serve the interest of some beneficiaries but run counter to the interests of others. Thus, there is often a divergence in the interests of beneficiaries of trust accounts which is absent in the case of agency and employee benefit accounts and in the accounts of other investment managers. In administering trusts, banks would incur customer dissatisfaction and potential legal liability if they were to look at the total investment return without regard to whether the return is from income or capital appreciation. For each account, the bank must respect the interests of both income beneficiaries and remaindermen, in accordance with the instructions contained in the trust instrument and applicable legal requirements. (See section D of this chapter.) Especially where the bank is entitled to invade principal for the benefit of the income beneficiary, the bank is expected to take into account the particular circumstances and needs of the individual beneficiaries in administration of the trust. A customer may assign as much importance to the careful exercise of judgment in determining whether to pay income or principal to the beneficiaries as to obtaining the maximum investment return from the assets placed in trust. Banks acting as trustees, when they have discretion concerning payments to beneficiaries, are thus furnishing a service not furnished by other investment managers.

¹⁸ Investment authority is discussed in sec. C.4.a of this chapter.

¹⁹ Voting is discussed in sec. C.4.c of this chapter. See also ch. XV.

²⁰ Designation of brokerage is discussed in sec. C.4.b of this chapter. See also Ch. XIII.

Administration of assets held by trust departments in estate accounts is governed by different principles. When a bank acts as executor of an estate, its fiduciary obligation is to gather the assets owned by the decedent at the time of his death, to use these assets to pay the debts of the estate, including taxes, and then to distribute the remaining assets to the beneficiaries or trustees in accordance with the decedent's will. Administering assets of estates is therefore largely concerned with any necessary liquidation of the estate's property. Obtaining the maximum return from investment of assets administered cannot be the bank's sole objective in administering estates.²¹

c. Agency accounts

Agency accounts do not typically involve the non-investment services performed in connection with trust accounts and estate accounts. An agency account, unlike a trust, cannot be used to provide for the disposition and management of the customer's property after his death. The agency terminates on the customer's death. Typically the customer is the sole beneficiary of the account, so that the bank is not required to make investment decisions which take into account diverging interests of various beneficiaries. Because the bank's relationship is with a living customer,²² and usually can be terminated on short notice, the bank does not have to apply to a court for instructions where authority is not clear or a dispute arises, as it may in the case of testamentary trusts or irrevocable inter vivos trusts. The sole service rendered for an agency account is the giving of investment advice or making investment decisions.²³ A bank-administered personal agency account is thus similar to an individual account of an investment adviser. The principal difference is that a bank, unlike an investment adviser, usually has custody of the customer's securities and deposits the income from them in a bank account maintained for the customer.²⁴

d. Employee benefit accounts

The assets in employee benefit accounts are contributed by employers or employees or both, for the benefit of the employees, pursuant to retirement or other employee benefit plans. A bank may act as trustee or agent in connection with these plans, and may be influenced, to a greater extent than in other trust or agency accounts, by the customer's comparison of the investment return realized with returns realized by other investment managers. In this chapter, when data is presented by account type, personal trust, personal agency and institutional and corporate agency accounts exclude employee benefit accounts, which are treated as a separate category. Various types of employee benefit plans are discussed in chapter VIII.

²¹ In this chapter, guardianships for minors and incompetents and similar accounts are included with estates. These accounts represent a small portion of the trust departments' assets.

²² In this chapter a distinction will sometimes be made between agency accounts for an individual (personal agency accounts) and accounts for other customers (institutional and corporate agency accounts). These latter customers include business corporations, foundations, educational endowments, hospitals, museums, churches, and other non-profit corporations.

²³ For a "managing agency" account, the bank has discretion to determine the investments without prior consultation with the customer. 12 C.F.R. § 9.1(g).

²⁴ Except as otherwise stated, this chapter does not relate to agency accounts where the bank does not render investment advice or make investment decisions. Such excluded accounts consist of custodian, safekeeping, and escrow accounts, as well as accounts where a bank acts as registrar, transfer agent, or in a similar capacity.

2. Size, Growth and Composition of Assets and Revenues

The assets administered by the 50 banks in personal trust and estate, employee benefit, and agency accounts amounted to \$194.8 billion at the end of 1969.²⁵ Table V-4 sets forth the approximate distribution of these assets among basic asset categories.²⁶

Assets administered for personal trust and estate accounts represent 40.2 percent of the trust department assets administered by the 50 banks, employee benefit accounts represent 40.6 percent, and agency accounts represent 19.2 percent. The composition of the assets in each of these three categories is given in Table V-5. A comparison of the assets administered by 22 of the 50 banks at the end of 1969 and the end of 1964 indicates that assets administered by these banks have grown by 55.7 percent²⁷ in the five-year period. Within the 22-bank group, the growth rate of the nine banks which were among the 20 administering the largest amounts of assets in 1969 was similar to the growth rate of the 13 which were among the remaining 30. The respective percentage figures are 55.9 and 55.1. The similarity in these growth rates was deemed to make it unnecessary to adjust for the possibility that the 22 banks may not be representative in terms of size.²⁸

Data on the growth of trust department revenues is more complete. Forty-three banks were able to provide information on trust department revenues in calendar 1969 and calendar 1964.²⁹ These revenues totaled \$380.9 million in 1969, and increased by 49.5 percent in the five-year period. Revenues in the trust departments that were among the 20 largest increased by 50.3 percent, while revenues in the remaining banks increased by 48.0 percent. Of the above 22 banks reporting figures on the growth of assets, 19 also provided data on the growth of revenues. Since revenues in these 19 grew by 54.1 percent and in the remaining 3 assets grew about 5 percent more than the average, an estimate of about 50 percent, rather than 55 percent, for the growth in assets seems more appropriate.

Since some of the banks increased their fee rates during the five-year period from 1964 to 1969, and since fees are generally based on assets administered, revenues might have been expected to have grown more rapidly than assets. However, assets have been growing most rapidly in employee benefit accounts. As indicated in section H.2. of this chapter, these accounts pay fees which are lower as a percentage of

²⁵ These assets were reported by each bank on Form I-60. In furnishing information on Form I-60, 25 banks valued the assets administered as of December 1969. Eight other banks valued all their assets after June 30, 1969, and an additional 10 banks valued more than 50 percent of their assets after June 30, 1969. Information was not available on valuation dates for 4 of the banks.

²⁶ Some of the banks did not report assets in the detail given in Table V-4. Assets in all the banks were assumed to have the same distribution as the assets in the banks that provided the detail. For example, only 36 banks provided the detailed cash items in Table V-4. The percentage of all cash items that was accounted for by each detailed category in these 36 banks was then applied to the cash items in the 50 banks to get the figures in the table.

²⁷ This figure is adjusted below in this section.

²⁸ Since these 22 banks are primarily ones that were national banks in 1964, and therefore were required to submit asset reports to the Comptroller of the Currency, they may be unrepresentative on that account. The revenue growth data described in the following paragraphs are a check on this possibility.

²⁹ The main reason for excluding the remaining seven banks is their inability to separate custodial from other income.

assets. Moreover, as assets in a given account grow, the client benefits from lower fee rates charged larger accounts.³⁰

Data on growth of revenue by each of the major account types was available from most of the banks surveyed. For 47 banks employee benefit account revenue in total increased by 94 percent from 1964 to 1969. For 44 banks trust and estate account revenue increased by 43 percent, and for 40 banks agency account revenue increased by 46 percent.

3. Size of Accounts Administered

Table V-6 presents the estimated size distribution of accounts by category of accounts in the 50 banks.³¹ The large number of relatively small personal trust accounts may include some instances of several family accounts (often with the same settlor) which together may be substantial. Still, it is significant that approximately 85 percent of personal trust and estate accounts and 75 percent of agency accounts involve assets of less than \$500,000. In contrast, over 60 percent of employee benefit accounts (other than H.R. 10 accounts)³² are between \$500,000 and \$5 million, and as indicated in section D.7.a of this chapter, more than 50 percent of the assets in employee benefit accounts of less than \$500,000 are in commingled funds (which involve the pooling of assets of various accounts).

4. Authority of Banks

a. Investment authority

This section concerns the extent of the effective autonomy of banks in making investment decisions for different types of accounts, especially obligations to consult³³ and other restrictions on investment authority which may be imposed or practiced with respect to any account.

³⁰ An off-setting factor is that new accounts sometimes pay higher fees than old accounts of the same size. Although employee benefit assets have been growing rapidly, the growth is attributable primarily to additions to old accounts. The following tabulation, which is based on Form I-4 responses and indicates the percentage of the assets administered by the banks in 1969 that were in accounts established before 1965, shows the relatively high percentage of employee benefit assets in older accounts:

	Percent
Employee benefit.....	92.6
Institutional and corporate agency.....	85.1
Personal trust.....	83.8
Personal agency.....	66.8

³¹ The data is derived from Table A2 of Form I-60. The distribution is estimated rather than exact. The distribution of accounts in seven banks had to be estimated by assuming that the distribution in each account category was the same as the average in banks that had a similar average size of account of that category. That is, the average size of account by category in each bank was calculated from the asset totals and the total number of accounts, which were available for all banks. For each account category, banks were classified by average size of account and the average of the percentage distributions was calculated in each category for the banks which provided them. These percentages were then applied to the total number of accounts in banks in the same average account size category which did not provide a distribution.

³² H.R. 10 accounts are created primarily to receive tax-deductible contributions under retirement plans for self-employed individuals and their employees. The maximum deductible contribution each year is \$2,500 per person. Most of the employee benefit accounts appearing in Table V-6 in the \$1-50,000 range are probably H.R. 10 accounts.

³³ Banks sometimes consult with their clients or co-trustees prior to a trade though legally the banks have sole authority to determine investments. Even if a bank does not consult with anyone, a bank with sole investment authority may restrict its investments to a limited range of companies, fulfilling its customers' expectations. A bank may choose to restrict the investments made on behalf of a customer because of his circumstances. For example, there may be compelling reasons to invest some assets in tax-free bonds.

The analysis proceeds in stages. First the banks' responses to questions dealing with their investment authority is summarized. Then data are examined for indications of (a) whether personal trust and personal agency accounts contain so few stocks³⁴ in relation to the size of the account as to suggest that the account consists primarily of holdings in family companies or other holdings which for some reason it is impractical to sell, and (b) whether employee benefit accounts contain large holdings of the stocks of the corporation setting up the employee benefit plan.

Form I-4, which was completed for approximately 100 accounts in each bank, called for information as to whether:

- (a) the bank had sole investment authority³⁵ for the account;
- (b) the bank was required to consult with any other parties prior to the execution of a trade; or
- (c) the bank had no investment authority.

The responses are given in Table V-7, which shows the percentage of stock by market value in the three categories of investment authority, by account type. The table provides information separately for accounts that were randomly selected and for the large accounts selected from each bank. Table V-8 cross-classifies the accounts further by size of the bank (measured by assets administered)³⁶ and Table V-9 adds a classification by size of the account. Table V-10 provides the same information as Table V-9, except that it includes other assets administered in addition to common stock.

These tables indicate that the 50 banks have sole discretion over more than 75 percent of the stock in employee benefit accounts. The largest ten banks, which have 58 percent of the total employee benefit account assets in all banks,³⁷ have sole discretion over 89 percent of the employee benefit account assets they administer. Furthermore, employee benefit account assets have been growing more rapidly than other trust department assets.³⁸ The tables also indicate that the banks have no investment role in connection with more than 10 percent of the stock in accounts which they do not classify as custodial.³⁹ This absence of any investment role is particularly notable in employee benefit accounts in the smaller of the 50 banks and in large personal agency accounts in those banks.⁴⁰

In addition to these responses on investment authority, the banks were given an opportunity to describe special restrictions on an accounts' investments. The frequency of these restrictions was obtained by

³⁴ Unless otherwise specified, "stocks" in this chapter refers only to common stocks.

³⁵ A bank could state that it had sole investment authority even where it was limited to certain types of investments. The following table, based on Form I-4 data, indicates the percentage of accounts in various categories which were restricted entirely to tax-exempt bonds:

Personal trust and estate.....	0. 37
Personal agency.....	1. 75
Employee benefit.....	0. 31
Institutional and corporate agency.....	0

Other restrictions which may be operative even where a bank has sole investment authority in that it need not consult with any other persons are considered in this section and in sections D.2 and D.3 of this chapter.

³⁶ Unless otherwise indicated, in this chapter the size of banks is measured by trust department assets administered.

³⁷ See sec. E of this chapter.

³⁸ See sec. C.2 of this chapter.

³⁹ The assets of these accounts appear in the assets administered by the banks in sec. C.2 of this chapter.

⁴⁰ Less significance should be attached to the figures for small institutional and corporate agency accounts because they are very heterogeneous and there are not many in the sample.

scrutinizing the approximately 1,000 accounts initially selected for stage three of the sampling process, from which certain restricted accounts were subsequently excluded.

Only for personal trust accounts did the restrictions cover more than 1 percent of the accounts.⁴¹ For 2 percent of the personal trust accounts over which the banks had sole investment authority, there were restrictions on the stocks which could be held. In these restricted accounts an average of 80 percent of the account assets was restricted.⁴² For five percent of the personal trust accounts for which the bank reported that it had to consult before trading, there were restrictions on the stocks which could be held, and in these accounts an average of 91 percent of the account assets was restricted.

Analysis of the portfolio statistics suggests that in practice additional restrictions, particularly in personal trust accounts, limit banks' investments. A comparison of different types of accounts of equivalent size appears in Table V-11.⁴³ In the different account categories, the table shows, per account, the average number of companies whose equities (common stock and rights to acquire common stock) were held. For example, the table indicates that employee benefit accounts with aggregate equity holdings of between \$25,000,001 and \$100 million held equities of an average of 60 different companies, while personal trust accounts in the same size category held equities of 16 different companies. Both the personal trust and personal agency accounts, particularly the large ones, have a comparatively small number of companies represented. This is explained in part by accounts having stock in only one company. Sixteen percent of personal trust accounts with equity holdings above \$5 million had stock of only one company.⁴⁴ On the other hand, this is true of only 2 percent of the large employee benefit accounts. Moreover, 15 percent of personal trust accounts with more than \$5 million in stock over which the banks reported sole investment authority are one-company accounts. The personal trust accounts with a value exceeding \$5 million which hold only one company's equity appear to constitute a substantial percentage of the assets administered by the 50 banks in personal trust accounts of that size, though the Study's data does not permit calculation of the exact percentage.

In smaller personal trust accounts and in agency accounts the frequency of portfolios with a single equity holding is much lower (less than 5%). However, in virtually any size category, the average number of equities held for personal trust accounts and for agency accounts is considerably less than the corresponding number for employee benefit accounts.

Some of the portfolios may have a large percentage of their assets invested in stock of a very small number of companies because the stock held represents shares in a family associated company for which there is no ready market. Another reason (which may also be impor-

⁴¹ In this section estate accounts are included when personal trust accounts are referred to.

⁴² For example, 80 percent of the assets of an account might be restricted to the stock of the customer's employer, with the bank free to invest the balance.

⁴³ The table is derived from entries for 1969 in Form I-26. This information relates to accounts not reported as subject to investment restrictions.

⁴⁴ Of the 10 sampled personal trust accounts with equity holdings greater than \$25 million, four hold the stock of only one company.

tant with family associated companies) is that the tax basis of the stock is considerably lower than its market price, and the amount of tax payable on sale tends to inhibit a sale. In either case, the freedom of the bank to manage the portfolio may be restricted by considerations apart from the terms of the governing instrument.

Analysis of holdings of the employer's stock reported by the large bank-managed employee benefit accounts described in chapter VIII provides some indication of whether banks managing employee benefit accounts are restricted in the stock they hold. Such accounts are often established by large corporations with publicly-held stock, and the accounts therefore may be more likely to hold substantial blocks of the establishing employer's stock than employee benefit accounts of smaller companies. However, 117 bank-administered corporate employee benefit accounts included in the stage two sample described in chapter VIII had only 11.91 percent of their common stock holdings in "affiliate company" stock.⁴⁵ To be more meaningful, the percentage should be computed separately for pension and profit-sharing accounts. For the 101 pension accounts included in the 117 accounts the percentage was 4.2 percent; for the 16 profit-sharing accounts the percentage was 56.8 percent.

In summary, the banks have sole investment authority over about 80 percent of employee benefit account assets in the fifty banks, less than 30 percent⁴⁶ of assets in personal trust accounts and less than 10 percent of the assets in agency accounts.

Most personal trust and agency assets are thus in accounts concerning which the bank gives advice and must consult others before entering a transaction. This is the case for about 60 percent of personal trust account assets and 70 percent of agency account assets. It is not clear how different in actual management these are from accounts in which banks have sole investment authority. Estimates by trust officers on the frequency with which customers agree with advice given have ranged from 60 percent to 99 percent. It is difficult in data on designation of brokerage, turnover, and fees to detect much difference between accounts for which a bank has sole investment authority and those in which consultation is necessary.⁴⁷

b. Authority to select brokers

Chapter XIII and sections G.3 and H.5 of this chapter discuss benefits banks receive as a result of their authority to select brokers in connection with securities transactions. Here the brokerage commissions paid to brokers chosen by the banks are compared to the brokerage commissions paid to brokers designated by trust department customers.

In Form I-4 the 50 banks were asked to state for each of the accounts sampled whether:

- (a) brokerage commissions were not designated by the customer;

⁴⁵ The applicable definition of "affiliate" for employee benefit accounts is "any corporate employer any of whose employees are covered by the plan, or any company controlled by, controlling, or under common control with such a corporation."

⁴⁶ The percentage is based on the random Form I-4 responses, which (when weighted by assets in each of the bank size categories) indicated 32.5 percent, reduced to adjust for accounts reporting sole discretion that were largely made up of a single holding or that were subject to special instructions as to the stocks that must be held.

⁴⁷ See sec. H.3 of this chapter.

(b) some but less than 15 percent of commissions on portfolio transactions were designated;

(c) at least 15 percent but less than 85 percent of commissions were designated;

(d) more than 85 percent were designated; or

(e) none of the above applied because the bank placed no orders for the account.

The responses by account types are in Table V-12. As indicated in the table, there is less designation of brokerage for employee benefit accounts than for any other category.

When this data is considered along with turnover and activity rates for different types of accounts,⁴⁸ it appears that with respect to about 25 percent of the total brokerage commissions paid by the trust department accounts, the brokers used are not determined by the banks.⁴⁹

It should be noted that assets held in custodial accounts were not included in trust department assets for purposes of this chapter. Banks would be expected to have little discretion in choosing brokers for such accounts. This should be remembered when comparing the estimate of 25 percent designation with the 37 percent given in chapter XIII. The latter figure is based on data from Form I-7, which requested information on "all orders given to broker-dealers by your bank whether or not arising from accounts administered by your bank's trust department." It therefore included an undetermined amount of trading for custodial accounts, for which the brokers are usually designated by the customer.⁵⁰

c. Voting authority

The extent of bank influence arising from aggregate trust department holdings is examined in chapter XV. In this section, the relative amounts of stock over which the banks have sole, partial, and no voting authority are set forth.

On Form I-4 the 50 banks stated for each sampled account, whether:

(a) the bank had sole voting authority or constituted the required majority of the group authorized to decide on the voting of shares (Column 3 of Table V-13);

(b) the bank had no voting authority (Column 4);

(c) the bank consulted with others or submitted recommendations on the voting of shares, and did not constitute the required majority of a group authorized to decide on the voting of shares (Column 5);

(d) the bank had voting authority only if instructions were not received from other persons (Column 6); or

(e) voting authority differed among stocks held in the portfolio (Column 7).

Table V-13 indicates that for stock comprising about three-fourths of the value of the stock held in employee benefit accounts, the banks have sole voting authority. For the personal trust and estate accounts the figures are lower: approximately 55 percent for randomly

⁴⁸ See sec. F.2 of this chapter.

⁴⁹ Banks sometimes consider customers' preferences, even where there is no explicit designation of brokers.

⁵⁰ While the 25 percent figure excludes custodial accounts, it does include accounts for which the bank does not trade.

selected accounts and approximately 37 percent for the larger personal trust and estate accounts.

The banks have the least voting authority over the stock in their agency accounts. They have sole voting authority over stock consisting of only about 13 percent of the value of the stock held in personal agency accounts, and have no voting authority, either sole or in conjunction with others, in connection with approximately one-half of the value of the stock held in personal agency accounts.⁵¹ In the randomly selected institutional and corporate agency accounts the banks have sole voting authority over approximately 30 percent of the value of the stock in the accounts. However, in the large accounts in this category the figure becomes 15 percent, and the banks have no voting authority at all over approximately 65 percent of the value of the stock in the category.

Multiplying the value of the stock held in the categories of accounts⁵² by the percentage for randomly selected accounts in column three of Table V-13 results in the following estimate of the total value of common stock over which the banks have sole voting authority:

	<i>Millions</i>
Personal trust and estate.....	\$30, 124
Employee benefit.....	37, 327
Agency ⁵³	4, 235
Total	71, 686

The \$71.7 billion of common stock over which the banks are estimated to have sole voting authority is 55 percent of the market value of the common stock held by the 50 trust departments. Since the banks have sole voting authority over a relatively large portion of the common stock in employee benefit accounts, if in the future these accounts continue to grow faster than other accounts (see section C.2 of this chapter), the percentage of common stock in bank trust departments over which banks have sole voting authority may be expected to increase.⁵⁴

⁵¹ No attempt has been made to allocate the securities held in accounts for which the banks' voting authority varied among the securities held in the particular account. As indicated in the table, the percentages of stock held in such accounts were substantially higher for personal agency accounts than for any other category.

⁵² Sec. C.2. of this chapter.

⁵³ The 508 accounts randomly selected from total agency accounts included (a) personal and (b) institutional and corporate accounts in the following ratio, measured by the market value of the common stock in the accounts: 4.74:1. This ratio was used in calculating the aggregate amount for agency accounts.

⁵⁴ This assumes that banks will in the future continue to have voting authority over a large proportion of stocks held in employee benefit accounts.

TABLE V-4

ASSET COMPOSITION OF BANK
ADMINISTERED PORTFOLIOS (50 BANKS)
End of 1969

	<u>Market Value</u>	
	<u>Assets</u> (in millions of dollars)	<u>Percent</u> <u>of Total</u>
Cash Items		
Demand Deposits and Currency in Own Bank	1,476.3	.76
Demand Deposits and Currency Elsewhere	51.0	.03
Certificates of Deposits in Own Bank	45.4	.02
Certificates of Deposit Elsewhere	40.7	.02
Other Time and Savings Deposits in Own Bank	747.4	.38
Other Time and Savings Deposits in Other Commercial Banks	170.9	.09
Other Time and Savings Deposits	110.2	.06
Total	2,641.9	1.37
U.S. Government Debt	8,912.7	4.57
Domestic State and Local Debt	11,926.8	6.12
Nongovernment Long-Term Debt <u>1/</u>	24,649.7	12.65
Preferred Stock	3,484.2	1.79
Common Stock	130,872.3	67.20
Loans Secured by Real Estate	3,570.8	1.84
Real Estate	3,067.2	1.57
Other Assets <u>2/</u>	<u>5,631.3</u>	<u>2.89</u>
	<u>194,757.1</u>	<u>100.00</u>

1/ Includes securities having a maturity at the time of issuance exceeding one year.

2/ Includes nongovernment debt payable on demand or having a maturity at the time of issuance not exceeding one year. These debt securities include commercial paper and open-end notes the principal amount of which may vary daily.

T A B L E V-5

ASSET COMPOSITION BY ACCOUNT TYPE (50 BANKS)
End of 1969

	Personal		Employee Benefit Accounts		Agency Accounts	
	<u>Trust & Estate Accounts</u>					
	<u>Market Value</u>	<u>Percentages</u>	<u>Market Value</u>	<u>Percentages</u>	<u>Market Value</u>	<u>Percentages</u>
Cash Items	\$ 1,430,930,347	1.83	\$ 798,945,543	1.01	\$ 412,066,928	1.10
U.S. Government Debt	4,050,393,004	5.18	2,974,292,318	3.76	1,888,015,742	5.04
Domestic State and Local Debt	8,030,412,384	10.27	435,069,355	0.55	3,461,362,193	9.24
Nongovernment Long-Term Debt	4,042,573,712	5.17	16,437,711,269	20.78	4,169,368,096	11.13
Preferred Stock	1,563,858,303	2.00	1,036,256,100	1.31	884,070,863	2.36
Common Stock	54,930,522,882	70.25	50,903,114,540	64.35	25,038,684,955	66.84
Loans Secured by Real Estate	750,651,985	0.96	2,610,416,130	3.30	209,779,527	0.56
Real Estate	1,845,352,797	2.36	933,421,525	1.18	288,446,849	0.77
Other Assets	<u>1,548,219,720</u>	<u>1.98</u>	<u>2,974,292,318</u>	<u>3.76</u>	<u>1,108,834,642</u>	<u>2.96</u>
Total Assets	<u>\$78,192,915,134</u>	<u>100.00</u>	<u>\$79,103,519,098</u>	<u>100.00</u>	<u>\$37,460,629,795</u>	<u>100.00</u>

See notes to Table V-4.

TABLE V-6

DISTRIBUTION OF BANK-ADMINISTERED ACCOUNTS BY TYPE AND SIZE

49 Banks ^{1/}

Size of Account - December 31, 1969

Account Size	Personal Trusts & Estates		Employee Benefit		Agency	
	No. of Accounts	Percentage	No. of Accounts	Percentage	No. of Accounts	Percentage
\$1 to \$50,000	79,554	34.20	17,467	65.21	9,755	21.24
\$50,001 to \$500,000	118,804	51.08	982	3.67	24,766	53.92
\$500,001 to \$1,000,000	19,398	8.34	3,290	12.28	5,523	12.02
\$1,000,001 to \$5,000,000	12,409	5.34	3,106	11.60	4,581	9.97
\$5,000,001 to \$50,000,000	2,343	1.01	1,619	6.04	1,230	2.68
Greater than \$50,000,000	69	.03	322	1.20	79	.17

^{1/} Data for one bank were not available. The figures do not include the less than 2 percent of accounts which were unvalued. Banks were permitted to leave an account unvalued only if there was no reason to believe it exceeded \$75,000.

TABLE V-7

Percentage of Stock in Each Category of
Discretion by Account Type and Source
of Account

Account Type and Source	Bank has sole investment authority	Bank must consult before trade	Bank has no authority
Personal Trusts and Estates			
Large	23.20	66.94	9.85
Random	33.08	59.17	7.73
Personal Agency			
Large	5.39	59.39	35.21
Random	6.63	80.35	13.01
Employee Benefit			
Large	76.45	7.38	16.16
Random	81.80	6.09	12.10
Institutional and Corporate Agency			
Large	8.11	67.93	23.94
Random	16.71	33.77	49.51

TABLE V-8

Percentage of Stock in Each Category of Discretion
by Account Type, Source of Account and Size Rank of Trust Department

		Type of Account and Source	Rank	Bank has sole investment authority	Bank must con- sult before trade	Bank has no authority
Personal Trusts and Estates	Large		1-10	22.02	75.48	2.49
			11-25	21.97	57.12	20.90
			26-50	26.92	69.24	3.83
	Random		1-10	32.07	56.05	11.87
			11-25	31.56	62.12	6.30
			26-50	34.51	58.48	6.99
Personal Agency	Large		1-10	4.51	74.98	20.49
			11-25	3.07	58.32	38.59
			26-50	7.97	41.47	50.54
	Random		1-10	2.21	86.19	11.59
			11-25	13.18	66.78	20.02
			26-50	11.17	76.15	12.67
Employee Benefit	Large		1-10	88.55	1.07	10.37
			11-25	76.80	7.77	15.41
			26-50	46.10	22.66	31.23
	Random		1-10	88.75	2.20	9.04
			11-25	69.83	26.87	3.29
			26-50	20.97	2.17	76.85
Institutional & Corporate Agency	Large		1-10	7.97	74.64	17.38
			11-25	5.58	58.89	35.52
			26-50	13.62	54.80	31.56
	Random		1-10	6.70	9.66	83.62
			11-25	33.86	55.37	10.75
			26-50	15.16	50.99	33.84

TABLE V-9

Percentage of Stock in Each Category of Discretion
by Account Type and Size, and Size Rank of Trust Department

Size of Account (\$)	Sole Authority		Bank Must Consult Before Trade		Bank Has No Authority	
	I-20	21-50	1-20	21-50	1-20	21-50
<u>Personal Trusts and Estates</u>						
0-500,000	34.67	40.66	57.88	54.15	7.44	5.18
500,001-5 million	21.03	37.45	67.08	53.25	11.87	9.28
greater than 5 million	20.41	27.91	69.64	62.54	9.94	9.53
<u>Personal Agency</u>						
0-500,000	17.01	18.54	59.99	61.88	22.99	19.57
500,001-5 million	10.86	6.19	58.66	64.33	30.47	29.46
greater than 5 million	3.92	3.57	72.69	47.87	23.37	48.55
<u>Employee Benefit</u>						
0-5 million	52.49	54.26	11.48	14.70	36.02	31.03
5,000,001- 50 million	73.54	62.37	11.48	10.97	14.46	26.65
greater than 50 million	88.26	42.30	1.99	24.28	9.74	33.40
<u>Institutional and Corporate Agency</u>						
0-5 million	25.90	10.90	46.68	62.29	27.41	12.55
5,000,001-50 million	3.91	15.74	73.69	25.37	22.39	21.95
greater than 50 million	7.20	16.88	69.28	55.40	23.50	57.73

TABLE V-10

Percentage of All Assets in Each Category of Discretion
by Account Type and Size, and Size Rank of Trust Department

Size of Account (\$)	Sole Authority		Bank Must Consult		Bank Has No Authority	
	1-20	21-50	1-20	21-50	1-20	21-50
<u>Personal Trusts and</u>						
<u>Estates</u>						
0-500,000	42.25	45.65	50.14	49.97	7.60	4.37
500,001-5 million	23.48	39.74	63.49	51.53	13.01	8.71
greater than 5 million	22.04	30.20	68.49	59.32	9.46	10.47
<u>Personal Agency</u>						
0-500,000	17.05	18.11	59.52	63.53	23.41	18.34
500,001-5 million	10.04	8.30	52.31	64.63	37.63	27.05
greater than 5 million	4.25	4.84	65.78	51.93	29.95	43.21
<u>Employee Benefit</u>						
0-5 million	66.04	56.78	10.06	18.94	23.88	24.26
5,000,001-50 million	73.01	63.03	12.73	12.21	14.25	24.74
greater than 50 million	80.75	45.65	10.72	29.55	8.52	24.78
<u>Institutional and</u>						
<u>Corporate Agency</u>						
0-5 million	24.64	10.64	38.02	73.00	37.33	16.35
5,000,001-50 million	4.15	13.24	70.72	65.43	25.11	21.32
greater than 50 million	7.71	15.54	64.12	34.00	28.16	50.44

TABLE V-11 1/

Average Number of Companies Represented in Equity Portfolios by Size of
Total Equity Holding and Account Type

Value of Equity (\$)	Average Number of Issues per Account				Number of Accounts Sampled			
	Employee Benefit	Personal Trust	Personal Agency	Institutional & Corporate Agency	Employee Benefit	Personal Trust	Personal Agency	Institutional & Corporate Agency
0-100,000	8	12	9	12	8	73	24	2
100,001-500,000	18	14	15	13	20	83	45	10
500,001-1,000,000	30	18	16	24	22	26	14	5
1,000,001-5,000,000	33	20	28	30	43	38	31	27
5,000,001-25,000,000	44	22	35	42	66	58	19	23
25,000,001-100 million	60	16	20	58	33	10	4	15
above 100 million	85		55	30	16		1	1

1/ Includes common stock, as well as rights, warrants and options to purchase common stock.

TABLE V-12
 Percentage of Assets in Each Brokerage
 Designation Category by Account Type

Account Type and Source of Account	No Designation	Amount of Designation			Bank Does Not Trade
		0 - 15 Percent Designation	15 - 85 Percent Designation	More than 85 Percent Designation	
Employee Benefit					
Large	64.6	5.8	12.6	9.1	8.0
Random	73.2	.2	6.4	13.2	7.1
Personal Trust and Estate					
Large	63.5	2.29	8.1	16.8	9.3
Random	67.7	0.2	6.1	19.2	6.8
Personal Agency					
Large	48.2	7.0	8.0	32.11	4.7
Random	76.9	.4	5.5	14.5	2.7
Institutional & Corporate Agency					
Large	44.0	2.6	10.9	16.7	25.7
Random	41.6	0	18.9	25.1	14.3

TABLE V-13

Voting Authority by Account Type and Source of Account

	Percentages of Value of Common Stock Reported in Row							
	1	2	3	4	Bank Has		7	8
					Partial Voting Authority			
Number of Accounts in Sample	Total Value of Stock in Sample	Bank Has Sole Voting Authority	Bank Has No Voting Authority	5 Bank Consults in Voting	6 Bank Votes if Instructions Not Received	Voting Authority Differs Among Stocks in Portfolio	No Response	
Personal Trusts & Estates (Large)	508	5,868,220,993	37.08	2.80	40.52	16.78	2.54	0.25
Personal Trusts & Estates (Random)	1,374	282,554,270	54.84	7.89	26.23	5.95	4.70	0.37
Employee Benefit* (Large)	493	17,075,888,713	80.54	8.18	2.14	7.29	1.84	-0-
Employee Benefit* (Random)	728	1,253,150,810	73.33	14.97	0.39	8.66	2.63	-0-
Personal Agency (Large)	213	1,646,456,348	12.21	43.30	3.12	21.56	18.84	0.94
Personal Agency (Random)	472	275,912,577	14.01	54.94	5.07	8.28	17.61	0.07
Institutional and Corporate Agency (Large)	245	5,279,589,153	14.69	64.38	8.18	10.22	2.44	0.05
Institutional and Corporate Agency (Random)	129	82,305,071	31.10	36.07	20.23	9.11	3.47	-0-
H.R. 10 - Self-Employed Individual's Tax Retirement Act	51	344,701	92.82	7.10	-0-	-0-	-0-	0.07

*Excludes H.R. 10 (Self-Employed Individual's Tax Retirement Act) accounts.

D. LEGAL, REGULATORY AND TAX ENVIRONMENT

1. Introduction

Bank trust departments operate under legal constraints and regulatory supervision which differ significantly from the legal limitations affecting other investment managers. Applicable tax considerations also vary among investment managers in certain respects. This section briefly summarizes the legal, regulatory and tax environment to the extent it appears to have the potential of affecting the banks' behavior as investment managers. Sections D.2, D.3 and D.4 discuss certain duties which a bank may have by virtue of its capacity as a trustee; section D.5 summarizes the Federal regulations affecting national banks as fiduciaries; section D.6 briefly discusses the relationship between tax laws and trusts; and section D.7 describes the laws and issues involving banks' pooling of investments. In all cases the explanations are intended only to direct attention to the essential features of the laws or regulations involved, rather than to supply a comprehensive survey or analysis of such laws and regulations.

2. Legal Lists

The statutes of some states include legal lists of investments for trustees, though the number of states having legal lists has decreased substantially in the last thirty years. The lists typically include categories of debt securities; some states' statutes permit a specified percentage of a trust's assets to be invested in common stock. On May 1, 1970, one of the few remaining legal-list states, New York, repealed its list of permissible types of securities.⁵⁵

In general, legal list statutes do not apply when a bank is acting as agent, rather than trustee. Nor do the legal list restrictions apply where the instrument creating the fiduciary relationship specifies that the fiduciary shall be free to purchase securities not included in the legal list. This is a common provision in trust agreements (including employee benefit plan trust agreements). Eighty of a sample of 122 instruments creating personal trusts⁵⁶ contain the provision, even though in many cases it was unnecessary because the applicable law did not include a legal list.

Table V-14 reflecting information reported on Form I-4, indicates that the 50 banks are rarely restricted by legal lists, either because the applicable state law does not include a legal list or because the governing instrument provides that the trustee shall not be so restricted. The banks reported that only 3.34 percent of the large personal trust accounts in the sample and 5.26 percent of the randomly selected personal trust accounts were limited to a legal list. Measured by the assets in the accounts the percentages reported are 2.53 percent and 4.12 percent, respectively.⁵⁷ The average account subject to a legal list is somewhat smaller than the average account not so restricted.

The percentages are higher if the calculation is based on only those accounts over which the bank has sole investment authority. Of the randomly selected personal trust accounts in this group, 10.04

⁵⁵ Ch. 321, L. 1970.

⁵⁶ Submitted in connection with Form I-62.

⁵⁷ Employee benefit trusts subject to legal lists are even less common.

percent of the assets are in accounts subject to a legal list, and accounts subject to that restriction comprise 7.47 percent of the accounts. The corresponding figures for large personal trust accounts are 2.66 percent and 4.10 percent, respectively. Thus, there may be some cases where a settlor has decided not to limit a bank by making it share investment authority with another person but has instead limited the bank to a legal list.

3. Prudent Man Rule

While most bank-administered trusts are not subject to a legal list, most are subject to the prudent man rule. This rule, which is embodied in a statute in many states,⁵⁸ places a trustee "under a duty to make such investments as a prudent man would make of his own property having primarily in view the preservation of the estate and the amount and regularity of the income to be derived."⁵⁹ A prime concern of the trustee must be the safe-guarding and preservation of the trust estate:

"It is true that in certain transactions, as in the making of investments, it is not sufficient that the trustee should use the care and skill of a prudent man in investing his own property. There is an additional requirement that he should use the caution exercised by a prudent man in conserving the property. In making investments the trustee is under a duty not only to exercise such care and skill as a man of ordinary prudence would exercise in dealing with his own property, but he must use the caution of one who has primarily in view the preservation of the estate entrusted to him, a caution which may be greater than that of a prudent man who is dealing with his own property."⁶⁰

Preservation of assets is contrasted to speculation:

"No man of intelligence would make a [purchase] of property where in view of the price the risk of loss is out of proportion to the opportunity for gain. Where, however, the risk is not out of proportion, a man of intelligence may make a [purchase] which is speculative in character with a view to increasing his property instead of merely preserving it. Such a [purchase] is not a proper trust investment, because it is not a [purchase] which makes the preservation of the fund a primary consideration."⁶¹

The traditional interpretations of the prudent man rule prohibit a trustee from purchasing securities on margin, purchasing interests in new and untried enterprises,⁶² and selling short. Furthermore, under traditional doctrine, no portion of a trust fund may be invested in "speculative" securities, regardless of the riskiness of the portfolio as a whole.⁶³

It is not possible to state clear, simple rules which accurately describe what courts have concluded are proper trust investments.⁶⁴ The factors that a trustee may properly take into consideration in making an investment include, among others, the amount of the total trust assets, the situation of the beneficiaries, the marketability of the particular investment, the probable duration of the trust and the tax effect

⁵⁸ E.g., N.Y. Estates, Powers and Trusts Law § 11-2.2 (McKinney Supp. 1970).

⁵⁹ 3 A. Scott, *Law of Trusts* 1805-06 (3d ed. 1967).

⁶⁰ 2 A. Scott, *Law of Trusts*, 1409-10 (3d ed. 1967).

⁶¹ *Restatement (Second) of Trusts*, § 227, comment e (1959).

⁶² Dean E. Miller, Deputy Comptroller of the Currency for Trusts, has queried whether the prudent man rule has changed to permit investments in new and untried enterprises. Address before the Midcontinent Trust Conference of the American Bankers Association, Chicago, Illinois, November 19, 1970; *American Banker*, November 30, 1970, p. 4.

⁶³ Note, *The Regulation of Risky Investments*, 83 Harv. L. Rev. 603, 615 (1970).

⁶⁴ 3 A. Scott, *Law of Trusts* 1805 (3d ed. 1967).

of a transaction.⁶⁵ Whether a trustee must seek diversification is an open question in many jurisdictions.⁶⁶

The courts, in suits brought by beneficiaries or guardians, sometimes apply the prudent man rule to professional trustees without discussing whether the standards are different from those applied to other trustees.⁶⁷ However, courts sometimes state that, since banks have special skills and facilities and hold themselves out as having these, they are professional trustees who must satisfy a higher standard of care and skill than nonprofessional trustees.⁶⁸

Under the prudent man rule, there is some authority that a trustee may seek to offset inflation's erosion of the purchasing power of the trust assets, even by deviating from the investment provisions of the trust agreement.⁶⁹ However, there does not appear to be any case in which a trustee has been held to have violated the prudent man rule by neglecting possible inflation.⁷⁰

While it is common to specify in a trust agreement or will that a fiduciary is not subject to a legal list, it is relatively rare for a trust instrument to modify the prudent man rule. In none of the 122 instruments submitted in connection with Form I-62 was the rule specifically mentioned, though in 10 cases the fiduciary was given "absolute discretion," which may permit the fiduciary to invest in speculative securities forbidden by the prudent man rule.⁷¹

The various versions of the prudent man rule often do not by their terms apply to banks acting as agents rather than trustees. There are few cases concerning the standards applicable to banks acting as agents, though a recent opinion indicates that stricter standards apply to trustees than to agents having sole investment discretion ("managing agents").⁷²

4. Reports to Beneficiaries

In many states trustees are not required to send periodic reports to their beneficiaries, unless the beneficiaries so request. However, in New York a trustee that retains a statutory annual commission⁷³ must furnish an annual report to each beneficiary currently receiving income, unless the beneficiary waives his right to receive the reports. If the settlor is not alive, other persons having an interest in the trust are entitled to a report if they request it.⁷⁴ The report must state the assets held, the income and principal received by the trustee during the

⁶⁵ *Restatement (Second) of Trusts*, § 227, comment o (1959).

⁶⁶ 3 A. Scott, *Law of Trusts* 1855-59 (3d ed. 1967).

⁶⁷ See *Rippey v. Denver United States Nat'l Bank*, 273 F. Supp. 718 (D. Colo. 1967); *Commercial Trust Co. of New Jersey v. Barnard*, 27 N.J. 332, 142 A. 2d 865 (1958).

⁶⁸ See *In re Guardianship of Bose*, 39 Wis. 2d 80, 158 N.W. 2d 337 (1968); *Coberly v. Superior Court*, 42 Cal. Rptr. 64 (Ct. of App. 1965); *In re Sullenger's Estate*, 2 Ariz. App. 326, 408 P. 2d 846 (1965).

⁶⁹ *In re Trusteeship Under Agreement with Mayo*, 259 Minn. 91, 105 N.W. 2d 900 (1960); *In re Carlisle's Will*, 53 Misc. 2d 546, 278 N.Y.S. 2d 1011 (Sur. Ct. Suffolk Cty. 1967); *Bank of Delaware v. Clark*, 249 A. 2d 442 (1968). See also authorities cited in Cary and Bright, *The Law and the Lore of Endowment Funds* (Ford Foundation 1969).

⁷⁰ See J. Breen, *Legal Aspects of Substituting Common Stocks for Fixed-Income Securities Under the Prudent Man Rule*, N.Y.L.J. (June 27, 1968).

⁷¹ See 3 A. Scott, *Law of Trusts* 1852 (3d ed. 1967). In some states the granting of "absolute discretion" apparently has a more limited effect.

⁷² *National Ass'n of Sec. Deal., Inc. v. SEC*, 420 F. 2d 83, 87 (D.C. Cir. 1969) (concurring opinion), cert. granted, 397 U.S. 986 (1970).

⁷³ See sec. H.1 of this chapter.

⁷⁴ If the settlor is alive, the reports need only be furnished to the beneficiaries currently receiving income.

period, the commission retained by the trustee and the basis for calculating the commission.⁷⁵

In responses on Form I-62, the 50 banks indicated whether, in connection with an aggregate of 348 personal trust accounts, "detailed reports (not simply summaries or confirmations of transactions) about the investments" were furnished to customers. No such reports were furnished for 18 percent of the accounts.⁷⁶

5. Federal Regulation of Banks as Fiduciaries

Since September 28, 1962, the Comptroller of the Currency has been authorized to grant applications of national banks "to act as a trustee, executor, administrator, . . . or in any other fiduciary capacity in which State banks, trust companies, or other corporations which come into competition with national banks are permitted to act under the laws of the State in which the national bank is located." (12 U.S.C. § 92a(a)). Prior to September 28, 1962, the Federal Reserve Board had similar authority to grant applications for fiduciary powers (40 Stat. 968).

The Comptroller of the Currency's Regulation 9 (12 C.F.R. § 9.1 et seq.) states that the Comptroller, in determining whether to grant such an application, will consider, among other things, the capital and surplus of the applicant, the needs of the community involved and the general character and ability of the bank's management (section 9.3). Further, Regulation 9 imposes certain requirements on banks which have been granted fiduciary powers, including the following: At least once during every calendar year and within 15 months of the last review, each bank must review the assets held in each account for which it has investment responsibilities (section 9.7(a)(2)). All officers and employees in the trust department must be adequately bonded (section 9.7(b)). If funds are held in a bank's commercial department on behalf of accounts awaiting investment, then the bank must set aside as collateral U.S. Government obligations or certain other debt securities owned beneficially by the bank in face value equal to the excess of the deposit over the amount insured by the FDIC (section 9.10(b)(3)). Generally, unless the governing instrument provides otherwise, a bank and its directors, officers and employees may not sell to or buy from an account of the bank (section 9.12).⁷⁷

Regulation 9 does not require that securities held by a particular account be segregated from those held for other accounts. (See section 9.13(b)). However, many states require that separate stock certificates be held for each account's shares of a particular security.⁷⁸

⁷⁵ N.Y. Surrogate's Court Procedure Act, sections 2308(4) and 2309(4) (McKinney Supp. 1970). N.Y. Civil Practice Law and Rules, section 8005 (McKinney Supp. 1970). See sec. D.7.b of this chapter concerning reports of common trust funds.

Where a bank acts as agent rather than trustee for an individually managed account, the customer is entitled to reports only to the extent provided in the contract creating the agency relationship.

⁷⁶ Of the 62 personal trust accounts sending no reports, eight held only one stock.
⁷⁷ Section 9.18, consisting of additional provisions applicable to collective investment, is discussed in sec. D.7.b of this chapter. See also the FDIC's "Statement of Principles of Trust Department Management."

⁷⁸ In New York, legislation has been passed authorizing banks to hold large denomination certificates, without separate certificates for each account. Ch. 501, L. 1970. The statute is known by the acronym FOSBI (filing of securities by issue).

Trust departments of national banks are examined periodically by the Office of the Comptroller of the Currency. The investments held by the trust department are examined to determine whether they are "in accordance with law, [Regulation 9] and sound fiduciary principles" (section 9.11(d)).⁷⁹ In general, the examiners do not attempt to evaluate the performance of an account; rather, the investments are compared with the provisions of the governing instruments to determine whether there are any investments not permitted by the instruments. The Federal Reserve Board examiners make similar examinations of state-chartered banks which are members of the Federal Reserve System and state-chartered banks are also examined by state banking authorities.

6. Federal Taxation of Trusts

When the settlor may revoke a trust within 10 years after the transfer of the trust assets into the trust, he is taxed on the ordinary income and capital gains of the trust. (Section 676 of the Internal Revenue Code.) However, by creating an irrevocable trust, the settlor may cause the ordinary income and capital gains to be taxed at the rates applicable to a trust or its beneficiaries (as described below), which may be substantially lower than the maximum tax rate of the settlor. The federal tax laws thus provide tax incentives to create irrevocable rather than revocable trusts. In addition, the federal estate tax encourages irrevocable trusts since the assets included in a trust which the settlor can revoke are treated for Federal estate tax purposes as part of the settlor's estate (section 2038 of the Internal Revenue Code), while, generally speaking, assets held by a trustee under an irrevocable trust are not (assuming the settlor did not retain an interest in the trust). Federal gift tax is incurred on the creation of an irrevocable but not a revocable trust; however, gift tax rates are lower than estate tax rates.

More than 70 percent of the randomly selected personal trusts in the Form I-4 sample were irrevocable.⁸⁰ Banks benefit from the tax incentives to create irrevocable trusts, since such accounts are less likely to move to competing investment managers than revocable trusts. Even where the trustee of an irrevocable trust may be removed, the expenses involved in court proceedings may discourage the removal.⁸¹

Rather than attempting to give a comprehensive description of the complex provisions of the Internal Revenue Code concerning irrevocable trusts, the Study seeks merely to describe the fundamental policies underlying the provisions. In general, ordinary income and realized capital gain received by a trust are subject to income tax, but the principal transferred to the trustee by the settlor is not. The Code avoids double taxation of trust income, taxing the beneficiaries if the

⁷⁹ In *Blaney v. Florida Nat'l Bank at Orlando*, 357 F. 2d 27, 29 (5th Cir. 1966), the Court refused "to fashion a federal common law of 'sound' trust principles."

⁸⁰ This includes all testamentary trusts and some living trusts.

⁸¹ Some of the instruments governing irrevocable trusts provide for the removal of the trustee without court proceedings.

income is distributed and the trust if it is not. Thus, to the extent that income is distributed, the trust is treated as a conduit.⁸²

Chapter VIII considers the circumstances under which an employee benefit plan is exempt from taxes on ordinary income and capital gains and thus not restrained in its trading by tax considerations.

7. Pooling of Investments

a. Present significance of commingled funds

Although common trust⁸³ and pooled employee benefit funds account for only 5.7 percent of the total trust department assets in the fifty banks, a substantial portion of the assets in small accounts is invested in them. More than 50 percent of the assets in employee benefit accounts with assets under \$500,000 is invested in pooled employee benefit funds and more than 30 percent of the assets in personal trust accounts with assets under \$100,000 is invested in common trust funds.⁸⁴ (See Table V-15.)

A financial incentive to pool smaller accounts is provided by bank fee structures. Smaller accounts are charged substantially higher fees (as a percent of assets) than larger accounts; however, these fees frequently are reduced if the customer agrees to investment in collective funds. Of the 47 banks for which fee schedules were available, 29 reported a reduction in fees for employee benefit accounts of customers who agreed to participate in pooled funds (usually the entire account must be so invested for the reduced rate to apply). The reduction usually took the form of a lower minimum annual fee. Of the 29 banks reporting such reductions, 23 lowered the minimum fee from an average of \$1,188 to an average of \$329, and a few made smaller percentage reductions throughout the fee schedule.

For personal trust accounts, 43 of the 47 banks reported charging minimum annual fees, and of these 31 reported that the minimum was reduced from an average of \$453 to an average of \$231 if the customer agreed to the commingling of his assets. In addition, two of the 43 reported reductions throughout the schedule, and one of the four which charged no minimum reported such reductions.

⁸² Assume that G has created an irrevocable trust under which the trustee must distribute currently all the ordinary income to G's son and may not distribute any principal (including capital gains) to the son, and on the son's death all the assets held by the trust are to be distributed to G's grandchildren. The income tax of this trust is computed as if it were an individual, except that the trust may deduct the income distributed to G's son. The amount of that deduction is the amount on which the son must pay the tax. Any capital gains are taxable to the trust at the same rates applicable to individuals, which may be lower than the rates applicable to either the settlor or the beneficiary. In the distribution to G's grandson, the grandson (and not the trust) is taxed on any ordinary income and capital gain received by the trust in the year of distribution.

Now assume that G in 1970 created an irrevocable trust under which the trustee may accumulate ordinary income (rather than paying it to the son) and may distribute principal (including capital gains) to the son. Further assume that in 1970 the trustee receives ordinary income and capital gain but makes no distribution to the beneficiary and that in 1971 the trustee receives no ordinary income or capital gain and makes distributions to the beneficiary of the entire net ordinary income and capital gain that had been accumulated. For 1970 the trust pays the tax on the ordinary income and the capital gain, and the beneficiary does not pay a tax on either. For 1971 the beneficiary pays a tax on the net income and capital gain as if he had received the distributions in 1970 and receives a credit based on the tax paid by the trust for 1970.

The foregoing reflects some oversimplification. For the details concerning the taxation of irrevocable trusts, see sections 641-669 of the Internal Revenue Code.

⁸³ In common trust funds all or part of the assets held by a bank as executor, administrator, guardian or trustee for various accounts are pooled and invested collectively. Many banks maintain common trust funds with different investment objectives, and assets of a particular account may be invested in more than one fund.

⁸⁴ Based on Form I-4.

The relatively greater use of commingled funds by employee benefit accounts compared to personal trust accounts may be due to the following factors: qualified employee benefit plans have a zero rate of tax which makes it unimportant for the bank to furnish "tailor made" investment services designed to take account of the beneficiary's tax situation; personal trust customers may be less willing to give banks the discretion necessary for commingling; and personal trust accounts are more likely to hold special assets which inhibit pooling, such as investments in family companies.

Assets held for revocable personal trust accounts in the form of interests in commingled funds represent 4.8 percent of the total assets of the randomly selected personal trust accounts. Table V-16⁸⁵ indicates that even for the small trust accounts the percentage is less than 9 percent. Thus, the combination of a revocable trust with an interest in a commingled fund, which to some extent represents competition to mutual funds, accounts for a small portion of current trust department assets.

b. Regulation of common trust funds

The regulations of the Comptroller of the Currency relating to common trust funds (12 CFR § 9.18) by their terms apply only to national banks. However, common trust funds are not subject to Federal income taxation if they comply with the Comptroller's regulations (section 584 of the Internal Revenue Code), and thus the Comptroller's regulations are effective standards for common trust funds administered by state as well as national banks.⁸⁶ In addition, some states have statutes and regulations applicable to common trust funds. In New York, for example, the state law provisions apply to both state and national banks having their principal office in New York.⁸⁷

The Comptroller's regulations require that a common trust fund be valued at least every three months and participations may begin and terminate only as of such a valuation date, pursuant to a notice entered on the bank's records on or before the valuation date (section 9.18(b)(4)).⁸⁸

The regulations prohibit investment of assets in a common trust fund if the investment would result in the participating trust's having an interest in excess of 10 percent of the current market value of the common trust fund (section 9.18(b)(9)(i)). Furthermore, a common trust fund may not invest in a company if the investment would result in the common trust fund's having invested in excess of 10 percent of its current market value in the company (section 9.18(b)(9)(ii)).

A bank administering a common trust fund is required to prepare an annual report disclosing each of the fund's investments and its cost and current market value, each purchase during the year with its cost, and each sale during the year with its profit or loss (section

⁸⁵ The table is based on Form I-4.

⁸⁶ The income and losses of a common trust fund are treated for purposes of Federal income taxation as those of the participating trusts. (The brief description of the taxation of trust income in section D.6 of this chapter applies to income passed through to participating trusts.) In general, the conduit approach applied to common trust funds is similar to the treatment of regulated investment companies in not imposing a tax on income at the level of both the collective fund and the participant.

⁸⁷ N.Y. Bank. Law, § 100c(16) (McKinney Supp. 1970). The Comptroller's regulations authorize collective investing where it is "not in contravention of local law" 12 CFR § 9.18(a).

⁸⁸ Mutual fund shares are purchased and sold as of the next valuation after receipt of the purchase order or security being redeemed. The valuations must take place at least daily (Rule 22c-1 under the Investment Company Act of 1940).

9.18(b) (5) (ii)).⁸⁹ The report must be furnished by the bank involved to any person who requests it. A bank may not advertise a common trust fund, except by indicating the availability of the fund's annual report in connection with the promotion of the fiduciary services of the bank (section 9.18(b) (5) (iv)).⁹⁰

Common trust funds maintained by a bank exclusively for contributions from that bank in its capacity as trustee, executor, administrator or guardian are expressly excluded from the coverage of the Investment Company Act of 1940 (section 3(c) (3)).⁹¹ Moreover, the Commission has taken the position that the registration provisions of the Securities Act of 1933 do not apply to a common trust fund that is not offered to the public through advertising.⁹² The recently enacted Investment Company Amendments Act of 1970 exempts interests in common trust funds from the registration provisions of the Securities Act of 1933.⁹³

c. Regulation of pooled employee benefit funds

Virtually all of the 50 banks manage, in addition to at least one common trust fund, one or more pooled employee benefit funds, in which the participating tax-exempt employee benefit accounts invest all or part of their assets. A bank managing a pooled employee benefit fund may act as either trustee or agent for a participating account. The regulations of the Comptroller of the Currency described in connection with common trust funds⁹⁴ apply to pooled employee benefit funds managed by national banks,⁹⁵ except that a participant in a pooled employee benefit fund may have an interest in excess of 10 percent of the value of the fund and a pooled employee benefit fund may invest in excess of 10 percent of its value in one company.⁹⁶

Pooled employee benefit funds, including pooled H.R. 10 accounts, have been permitted to rely on the exemption in the Investment Company Act for tax-exempt employees' stock bonus, pension and profit-sharing trusts (section 3(c) (13)). The Commission has not required registration under the Securities Act of interests in a pooled employee benefit fund, except in the case of pooled H.R. 10 accounts.⁹⁷ These interpretations have been codified in the recently enacted amendments to the Investment Company Act.⁹⁸

⁸⁹ Mutual funds are required to disclose their purchases and sales of particular securities during a quarter in a filing with the SEC that is available to the public (Form N-1Q), but mutual funds are not required to show the amounts paid during the quarter for particular securities nor the profit or loss in connection with sales of particular securities.

⁹⁰ The Comptroller may permit the operation of a common trust fund that does not comply with the foregoing regulations (section 9.18(c) (5)).

⁹¹ Section 3(c) (3) does not, by its terms, apply where a bank holding company organizes a common trust fund for a group of subsidiaries. It is then necessary to apply for an exemption under sec. 6(c) of the Investment Company Act. See Investment Company Act Release No. 6155 (August 7, 1970).

⁹² Statement of then Chairman William L. Cary, *Common Trust Funds-Overlapping Responsibility and Conflict in Regulation*, Hearing Before a Subcommittee of the House Committee on Government Operations, 88th Cong., 1st Sess. 4-5 (1963).

⁹³ Pub. L. No. 91-547, § 27(b) (December 14, 1970).

⁹⁴ Section D.7.b of this chapter.

⁹⁵ Pooled employee benefit funds managed by state banks, which may rely on Section 401 of the Internal Revenue Code for an exemption from Federal income taxation, need not comply with the Comptroller's regulations. Compare sec. D.7.b of this chapter, concerning common trust funds.

⁹⁶ 12 CFR 9.18(b) (9).

⁹⁷ Registration is not required where the exemption for intra-state offerings is available (Section 3(a) (11)).

⁹⁸ Pub. L. No. 91-547, §§ 3(b) (5), 27(b) (December 14, 1970).

d. Commingled agency accounts: The Glass-Steagall Act and the Investment Company Act

The legal status of commingled agency accounts is less clear than that of common trust funds and pooled employee benefit accounts. The principal statutes involved are the Glass-Steagall Act and the Investment Company Act of 1940.

Section 16 of the Glass-Steagall Act restricts national banks and banks which are members of the Federal Reserve System as follows:

"The business of dealing in securities and stock by the [bank] shall be limited to purchasing and selling such securities and stock without recourse, solely upon the order, and for the account of, customers,⁹⁹ and in no case for its own account, and the [bank] shall not underwrite any issue of securities or stock . . ." ¹⁰⁰

Section 21 of the Glass-Steagall Act prohibits any organization that is engaged "to any extent whatever in the business of receiving deposits subject to check or to repayment upon presentation of a passbook . . ." from also engaging "in the business of issuing, underwriting, selling, or distributing, at wholesale or retail, or through syndicate participation, stocks, bonds, debentures, notes, or other securities. . . ." ¹⁰¹

The Glass-Steagall Act also prohibits certain affiliations ¹⁰² and interlocks ¹⁰³ between banks that are members of the Federal Reserve System and companies engaged in underwriting and the other activities proscribed by section 21.

The foregoing provisions of the Glass-Steagall Act were designed to reduce the likelihood of bank failures ¹⁰⁴ and depositors' losses, ¹⁰⁵ resulting from unsound investments made to assist a bank's securities affiliate ¹⁰⁶ and from purchases of risky securities for the bank's own account. The legislative history of the Glass-Steagall Act also indicates Congressional concern with the conflict of interest involved where bankers selling securities for their own account advised their trust department customers and correspondent banks to purchase the securities. ¹⁰⁷ Moreover, there was Congressional concern that the advice given to issuers on the desirability of an underwriting was affected by a bank's role as potential underwriter, ¹⁰⁸ and that banks underwrote

⁹⁹ Concerning the clause permitting transactions without recourse upon the order and for the account of customers, the Comptroller of the Currency stated, in 1934, that national banks are not permitted to "do a brokerage business and any charge must not exceed the actual cost of servicing." 20 Fed. Resv. Bull. 690. In 1960, summarizing his rulings, the Comptroller stated that when purchasing and selling stock for customers, "the activities of the bank . . . are confined to those of an accommodation agent for the convenience of customers"; that the bank may "receive compensation" in connection with the transactions, but without "employing solicitors to purchase or sell securities for the bank's customers"; and that "services must be limited to actual customers of the bank—that is, the customer relationship must exist independently of the particular securities transaction." *Digest of Opinions of the Comptroller of the Currency Relating to Operations and Powers*, ¶220. The staff of the Comptroller's office has advised the Commission that the foregoing restrictions do not reflect the Comptroller's current views.

¹⁰⁰ 12 U.S.C. § 24 (Supp. V, 1965-1969); 12 U.S.C. § 335 (1964).

The restrictions on dealing in and underwriting securities do not apply to obligations of the United States or general obligations of a state or municipality. 12 U.S.C. § 24 (Supp. V, 1965-1969).

¹⁰¹ 12 U.S.C. § 378 (Supp. V, 1965-1969).

¹⁰² Section 20, 12 U.S.C. § 377 (1964).

¹⁰³ Section 32, 12 U.S.C. § 78 (1964). In referring to the businesses prohibited by Section 32, which are the same as the activities prohibited by Section 21, the Federal Reserve Board's Regulation R provides: "In interpreting this language, the Board has consistently held that underwriting, acting as a dealer, or generally speaking, selling, or distributing securities as a principal, is covered by the section, while acting as broker or agent is not." 12 C.F.R. § 218.110(d) (1965).

¹⁰⁴ S. Rep. No. 77, 73d Cong., 1st Sess., 8 (1933); 75 Cong. Rec. 9887 (May 10, 1932).

¹⁰⁵ S. Rep. No. 77, above, 9-10.

¹⁰⁶ 75 Cong. Rec. 9911-12, 9914 (May 10, 1932).

¹⁰⁷ 75 Cong. Rec. 9883, 9912, 9915 (May 10, 1932).

¹⁰⁸ 75 Cong. Rec. 9911-12 (May 10, 1932).

securities of companies in financial difficulties that had borrowed from the bank, with the proceeds of the underwriting used to repay the loan.¹⁰⁹

Like the Glass-Steagall Act, the Investment Company Act of 1940 may restrict bank commingled agency accounts. Under the Investment Company Act of 1940, unless an exemption is granted by the Commission, a majority of the directors of an investment company or other persons performing similar functions must be persons who are not officers of any one bank,¹¹⁰ are not affiliated with an investment banker,¹¹¹ and are not affiliated with the investment company's principal underwriter.¹¹² The applicability of the Investment Company Act to commingled agency accounts became significant in 1963, when the Comptroller of the Currency adopted regulations permitting for the first time collective investment of funds received by a bank as managing agent.

In this regulatory framework First National City Bank developed its Commingled Investment Account, under which it accepts payments of \$10,000 or more in exchange for units of participation in its collective investment fund. No sales or redemption charges are imposed. A Committee, which supervises the fund's operations, was appointed by the bank and then elected annually by the participants. A majority of the Committee are officers of the bank, and the bank serves as investment adviser and custodian for the fund. It furnishes administrative services, office space and other facilities. For its services, the bank receives a fee equal, on an annual basis, to ½ of 1 percent of the average net asset value of the fund.¹¹³

First National City Bank applied to the Commission for exemptions from certain provisions of the Investment Company Act. The application was opposed by the Investment Company Institute, the National Association of Securities Dealers, Inc., the Association of Mutual Fund Plan Sponsors, Inc., the Investment Bankers Association of America and the Association of Stock Exchange Firms, as well as the Chairman of the House Committee on Banking and Currency. Statements or briefs in favor of the application were filed by the Comptroller of the Currency, the FDIC and the Commission's Division of Corporate Regulation.

The Commission stated that since all three Federal bank regulatory agencies treated the arrangement as consistent with the federal banking laws, it would proceed on the assumption that the proposal did not violate the federal banking laws.¹¹⁴ The Commission then granted the requested exemptions concluding that (1) in view of the supervision and regulation of the Comptroller of the Currency, a majority of the Committee may be officers and directors of the bank; (2) since the bank was limited by the Glass-Steagall Act to underwriting government obligations and the fund would invest primarily in stock, an exemption should also be granted from the requirement that a majority of the Committee be persons not affiliated with an investment banker; and (3) for the same reasons the other exemptions were granted and

¹⁰⁹ 77 Cong. Rec. 3954 (May 22, 1933); 75 Cong. Rec. 9912 (May 10, 1932).

¹¹⁰ Section 10(c).

¹¹¹ Section 10(b)(3).

¹¹² Section 10(b)(2).

¹¹³ On September 30, 1970, the Commingled Investment Account's net assets totaled \$10,241,513.

¹¹⁴ Investment Company Act Release No. 4538 at 4 (March 9, 1966).

because no sales commissions are received by the underwriter, an exemption should be granted for the requirement that a majority of the Committee be persons not affiliated with the fund's underwriter.¹¹⁵

In April 1966, the Investment Company Institute brought an action against the Comptroller of the Currency in the United States District Court for the District of Columbia, seeking to enjoin the Comptroller from authorizing national banks to invest in a collective fund money received as managing agent.¹¹⁶ The District Court held that the commingling of managing agency accounts violated the Glass-Steagall Act.

Appeals were filed in the Court of Appeals for the District of Columbia relating to the Commission's decision and the District Court's decision. The Court of Appeals affirmed the decision of the Commission, upholding the granting of exemptions under the Investment Company Act. Reversing the decision of the District Court enjoining the Comptroller, the Court of Appeals found no violation of the Glass-Steagall Act.¹¹⁷

The Supreme Court granted petitions for certiorari in both cases on March 23, 1970.¹¹⁸ The Commission advised the Solicitor General that it urged neither affirmance nor reversal of the judgment of the Court of Appeals, because the three members of the Commission appointed after the Commission's decision granting exemptions were not prepared to take a position on the merits of that decision. The Solicitor General filed a brief in the Supreme Court defending the granting of the exemptions.

On May 26, 1969, in a bill to amend the Investment Company Act, the Senate adopted a provision authorizing no-load investment companies managed by banks and savings and loan associations,¹¹⁹ but as passed by the House of Representatives¹²⁰ and signed into law the amendments neither authorize nor prohibit bank-managed investment companies.¹²¹

On November 5, 1969, in a bill to amend the Bank Holding Company Act of 1956, the House of Representatives adopted a provision prohibiting bank holding companies and their subsidiaries from engaging "in the issue, flotation, underwriting, public sale, or distribution" of securities or interests in securities "whether or not any such interests are redeemable and whether or not the securities to which any such interests relate are in a fund or account or are subject to discretionary sale or purchase . . ." ¹²² As passed by the Senate¹²³ and enacted the amendments did not refer to bank-managed commingled accounts.¹²⁴

Thus the prospects for bank administration of commingled agency accounts are still uncertain. Bank-administered agency accounts are

¹¹⁵ Investment Company Act Release No. 4538a (March 14, 1966). Commissioner Budge, dissenting from the granting of the exemption, stated: "The granting of the requested exemptions is contrary to the clearly expressed policy of the Congress against bank domination of investment companies" (Investment Company Act Release No. 4538 at 12).

¹¹⁶ *Investment Company Institute v. Camp*, 274 F. Supp. 624 (D.C.D.C. 1967).

¹¹⁷ *National Ass'n of Sec. Deal., Inc. v. SEC*, 420 F. 2d 83 (D.C. Cir. 1969).

¹¹⁸ 397 U.S. 986.

¹¹⁹ S. 2224, 91st Cong., 1st Sess. § 22 (1969).

¹²⁰ H.R. 17333, 91st Cong., 2d Sess. § 22 (1970).

¹²¹ Pub. L. No. 91-547 (December 14, 1970).

¹²² H.R. 6778, 91st Cong., 1st Sess. § 1(f) (1969).

¹²³ See S. Rep. No. 91-1084, 91st Cong., 2d Sess. 15 (1970).

¹²⁴ Pub. L. No. 91-607 (December 31, 1970).

now concentrated in the \$50,001 to \$500,000 range (Table V-6). If commingling of agency accounts is permitted, perhaps banks will attempt to expand in the under \$50,000 range, as they have with employee benefit accounts.

e. First National City Bank's Special Investment Advisory Service

Beginning approximately October 1, 1967, First National City Bank offered its Special Investment Advisory Service (SIAS), as a service separate from its Commingled Investment Account. Each participant invested at least \$25,000 and signed a power of attorney giving the bank discretion to purchase and sell securities for the participant's account through Merrill Lynch, Pierce, Fenner and Smith, Inc. The funds received pursuant to SIAS were invested in a virtually identical manner in one of two groups of securities: one chosen for long-term capital growth and one chosen for income. The initial investment for the investors seeking long-term capital growth was in eight common stocks in specified percentages. After the initial investment, decisions by the bank to buy or sell for SIAS participants were generally applied uniformly to all participants.¹²⁵

The Commission sought an injunction in the United States District Court for the Southern District of New York against the bank, Merrill Lynch, and SIAS, alleging that the defendants were operating an unregistered investment company in violation of the Investment Company Act of 1940 and selling securities in violation of the registration requirements of the Securities Act of 1933.¹²⁶ The defendants, without admitting the allegations, consented to the entry of an order requiring, among other things, that they cease operating SIAS. The defendants agreed not to engage in similar activities except in compliance with the registration requirements of the Securities Act and the Investment Company Act. However, the Commission agreed to permit the bank to offer this service without registration so long as the bank does not have investment discretion.

¹²⁵ On February 6, 1970, there were more than 1,000 SIAS participants having interests in assets of approximately \$35 million.

¹²⁶ See Litigation Release No. 4534 (February 6, 1970).

Table V-14

Personal Trusts Subject to Legal Lists:

	All		Bank Has Sole Investment Authority	
	Large	Random	Large	Random
1. Total Number of Accounts	419	1,292	146	682
2. Accounts Reported Subject to Legal List	14	68	6	51
3. 2 ./ . 1	3.34%	5.26%	4.10%	7.47%
4. Total Assets	\$6,693,015,112	\$404,599,653	\$1,684,051,417	\$133,752,308
5. Assets Reported Subject to Legal List	\$169,925,932	\$17,072,329	\$44,919,430	\$13,433,861
6. 5 ./ . 4	2.53%	4.21%	2.66%	10.04%
7. Average Account Size	\$15,973,783	\$313,158	\$11,534,599	\$196,118
8. Average Size of Account Reported Subject to Legal List	\$12,137,567	\$251,064	\$7,486,572	\$263,409

Table V-15

Percentage of Account Assets in Commingled Funds by
Account Type and Size 1/

Size Category (dollars)	Account Type	
	Personal Trusts (%)	Employee Benefit (%)
0 - 10,000	65.10 (95)	56.21 (84)
10,001 - 25,000	44.80 (68)	60.45 (51)
25,001 - 50,000	46.46 (103)	71.93 (58)
50,001 - 100,000	34.76 (107)	70.60 (73)
100,001 - 250,000	15.22 (108)	68.31 (75)
250,001 - 500,000	5.44 (46)	58.87 (53)
500,001 - 1,000,000	3.82 (35)	30.76 (25)
1,000,001 - 2,500,000	.82 (12)	21.54 (37)
2,500,001 - 5,000,000	1.18 (14)	12.01 (25)
5,000,001 - 25,000,000	2.20 (27)	6.69 (73)
25,000,001 - 100,000,000	.80 (6)	3.32 (49)
100 - 500 million	.0	3.09 (21)
Greater than 500 million		3.79 (3)

1/ The number of sampled accounts having all or some assets invested in commingled funds is shown in parentheses.

Table V-16

Percentage of Personal Trust Account Assets
Under Revocable Trust Agreements Invested in Commingled Funds: 1/

<u>Size Category</u> <u>(Dollars)</u>	<u>%</u>
0-10,000	5.99 (11)
10,001-25,000	4.24 (6)
25,001-50,000	8.56 (16)
50,001-100,000	7.05 (21)
100,001-250,000	2.69 (17)
250,001-500,000	0.46 (5)
500,001-1,000,000	0.77 (10)
1,000,001-2,500,000	0.04 (1)
2,500,001-5,000,000	0.01 (1)
5,000,001-25,000,000	0.84 (4)
25,000,001-100,000,000	0
100-500 million	0
Greater than 500 million	0

1/ The number of sampled revocable trust accounts having all or some assets invested in commingled funds is shown in parentheses.

E. COMPETITION

This section attempts to draw inferences about the degree of competition for trust department accounts.

Banks compete in some areas with other money managers. Data in chapters IV, VI and VIII indicate the extent to which investment advisers and insurance companies are active competitors with banks in major areas of asset administration. This competition occurs chiefly in two areas: investment advisers and insurance companies compete with banks in the management of employee benefit accounts; and investment advisers compete with banks in the management of agency accounts.

On the other hand, banks as a group have few corporate competitors for management of trust and estate accounts. At the end of 1969 there were 3,289 insured banks administering trust department assets¹²⁷ and only 49 nondeposit trust companies.¹²⁸ The banks' principal competitors for these accounts are individuals. Though the use of a corporate fiduciary as a sole or co-trustee offers the advantages of continuous trusteeship,¹²⁹ settlors have chosen individuals, such as attorneys, relatives or personal friends, as sole trustees almost as often as they have chosen corporate fiduciaries. Banks and trust companies administered 61 percent of all personal trusts that filed income tax returns for 1962.¹³⁰ Rather surprisingly, since one would have expected corporate fiduciaries to administer the larger trusts, generating the most income, these personal trusts administered by banks and trust companies did not receive a proportionally larger share of total personal trust income.¹³¹

Some indication of the results of competition among banks is presented in Table V-17. This table provides information on the assets administered by the largest trust departments relative to the total trust department assets of all banks. It gives the cumulative percentages for total assets, and assets in each of the major account types, that are administered by various groupings of banks, starting with the ten largest departments in each case and proceeding successively with the next ten largest. For the different account types, banks are ranked according to the amount of assets of that type administered. For example, the top ten banks in employee benefit accounts are not the same as the top ten in personal trust accounts. The percentages are derived from the 1969 assets reported by banks in their responses on Form I-60 and the total industry assets for 1969 provided by the FDIC.¹³²

¹²⁷ FRB, FDIC and Comptroller of the Currency, *Trust Assets of Insured Commercial Banks*, 5 (1969).

¹²⁸ FDIC, *Ann. Rep.* 242 (1969). A list published in the *American Banker* on June 25, 1969 indicates that only two nondeposit trust companies were among the 50 largest corporate fiduciaries at the end of 1968. Nondeposit trust companies were not included in the institutions considered by the Study. (Concerning restrictions on corporations acting solely as trustees, without any commercial banking departments, see sec. A of this chapter.)

¹²⁹ A partner of an investment adviser may be a trustee and the governing instrument may provide for successor trustees who are also partners of the investment adviser.

¹³⁰ Individuals served as co-trustees for some of these trusts.

¹³¹ Internal Revenue Service, *Statistics of Income: Fiduciary, Gift and Estate Tax Returns* 24-27 (1962). The Internal Revenue Service did not separate banks from other trustees after 1962.

¹³² See FRB, FDIC and Comptroller of the Currency, *Trust Assets of Insured Commercial Banks* (1969). The FDIC totals do not include trust department assets in uninsured banks, but these appear to be a small percentage of the total. The figure of 69.92 percent administered by the 50 banks derived from Form I-60 is virtually the same as the 70.14 percent figure for the same banks in the Staff Report for the House Subcommittee on Domestic Finance, which used a total including assets in the largest uninsured banks. *Commercial Banks and Their Trust Activities: Emerging Influence on the American Economy*, Staff Report for the Subcommittee on Domestic Finance of the House Committee on Banking and Currency, 90th Cong., 2d Sess. (July 8, 1968) (hereafter "Banking and Currency Staff Report").

Table V-17 shows that in 1969 the 10 trust departments administering the assets with the greatest aggregate market value administered 37 percent of the assets administered by all trust departments. The corresponding percentages for the largest 20 and largest 50 trust departments are 51 percent and 70 percent.

In employee benefit accounts, the first 10 trust departments administered 58 percent of the assets, while the largest 50 administered 83 percent. The corresponding percentages for agency accounts are 39 percent and 72 percent, and for personal trust and estate accounts 23 percent and 59 percent.

It is not clear whether the differences in the distribution of assets by account types justify conclusions concerning competition among banks. The personal trust and estate segment of the industry may be more localized, with prospective clients more likely to choose from banks in the local area. On the other hand, the large corporations which are the major source of employee benefit assets often have dealings with banks in a number of different regions.

As indicated in section C.2 of this chapter, concentration among the largest 50 banks trust departments does not appear to have increased in the past five years. In terms of both trust department revenues and assets administered, the largest 20 trust departments as a whole grew at virtually the same rate as the next 30.

The concentration of total trust department assets reflected in Table V-17 may be the result of several factors. One possible factor is that economies of scale are realized in administration of larger amounts of total assets. A second possible factor is the policy of federal and state regulatory agencies in limiting their grants of fiduciary powers.¹³³ A third factor, which as indicated below appears more doubtful, is that the distribution of commercial banks' assets influences the distribution of trust department assets. Because the commercial side of the bank is frequently a source of trust department customers, this factor might be expected to affect the distribution of trust department business. In the balance of this section available data concerning two of the factors, economies of scale and distribution of commercial bank assets, are considered.

Neil B. Murphy has made a detailed study of trust costs, using surveys for 1960 to 1965 by the Federal Reserve Banks of Boston, Atlanta and Dallas.¹³⁴ Mr. Murphy found that there were substantial and significant economies resulting from managing larger accounts (measured by revenue per account). Specifically, he found that an increase in average revenue per account of 10 percent is associated with an increase

¹³³ See sec. D.5 of this chapter. The following table indicates the action taken by the Comptroller of the Currency in connection with applications of national banks for fiduciary powers:

	1965	1966	1967	1968	1969
Previously chartered national banks requesting trust powers.....	32	49	43	47	52
Applications approved.....	16	38	27	29	34
Pending at end of year.....	1	1	0	1	5

¹³⁴ N. B. Murphy, *A Cross-Sectional Analysis of the Cost of Operations of Trust Departments*, *Journal of Money, Credit and Banking* 84 (1969).

in costs of about 7.2 percent. On the other hand, Mr. Murphy did not find significant economies resulting from increasing the number of accounts, assuming their average size remained constant.¹³⁵

The effect of the distribution of commercial banking business on the distribution of trust department customers is more doubtful. One possible test is to compare the banks with investment advisers. The latter could be expected to be similar to banks with respect to economies of scale in managing assets. As can be seen in chapter IV, the distribution of assets administered by investment advisers does not appear significantly more or less concentrated than trust department assets. Using assets administered as the measure of size, the largest 50 investment advisers managed 74 percent of a total of \$130 billion of assets, while the trust departments of the largest 50 banks administered 70 percent of a total of \$280 billion of assets. This comparison does not support the hypothesis that the distribution of commercial banking business had a significant effect on the distribution of assets administered by trust departments.

A further test of the hypothesis can be made by examining the distribution of deposits in the 50 banks having the greatest aggregate deposits. This distribution appears in Table V-18. Trust department assets shown in Table V-17 are more concentrated than deposits in commercial departments shown in Table V-18, providing some indication that commercial assets are not responsible for the distribution of trust department assets.¹³⁶

¹³⁵ In the case of the 50 banks studied in this chapter, the large banks differ from the smaller ones primarily in having larger accounts rather than a greater number. For example, the largest trust department had 6,424 accounts and the fiftieth had 4,470.

¹³⁶ Thirty-one banks were among both the 50 banks having the largest trust departments and the 50 banks having the most deposits.

The following table ranks the 50 banks having the largest trust departments by the amount of their demand deposits on December 31, 1969 (furnished by the FDIC). The table shows the ratio of total demand deposits of strata of banks to the total trust department assets administered by banks in the various strata. The generally declining percentages indicate that among the 50 banks the larger commercial banks do not administer a disproportionately large share of trust department assets.

<i>Rank of banks</i>	<i>Demand deposits, divided by trust department assets</i>	<i>(percentages)</i>
1-10	-----	62.31
11-20	-----	44.11
21-30	-----	32.65
31-40	-----	33.21
41-50	-----	7.97

TABLE V-17

PERCENTAGE OF INDUSTRY ASSETS ADMINISTERED
BY THE LARGEST TRUST DEPARTMENTS IN 1969

	Total Trust Department <u>Assets</u>	Employee Benefit <u>Assets</u>	Personal Trust and <u>Estate Assets</u>	Agency <u>Assets</u>
Largest 10	36.83	58.24	23.49	38.98
Largest 20	50.87	72.18	37.74	54.92
Largest 30	58.93	78.27	47.89	63.39
Largest 40	65.03	81.46	55.05	69.35
Largest 50	69.92	82.95	58.98	72.31

TABLE V-18

PERCENTAGE OF TOTAL DEPOSITS IN LARGEST
COMMERCIAL BANKS IN 1967*

Percent of All Deposits in
Commercial Banks

Largest 10	23.75
Largest 20	31.33
Largest 30	35.17
Largest 40	38.31
Largest 50	40.84

SOURCE: Banking and Currency Staff Report

F. OPERATIONAL FACTORS

1. Costs in a Trust Department: The Importance of Clerical Services

In section C.2, trust department revenues were described. Here the related expenses are briefly considered.¹³⁷

Although banks did not submit direct cost data, it is possible to make a rough estimate of the principal sources of expense in a trust department. Clerical or mechanical operations, such as recording transactions, collecting and disbursing dividends, and receiving, holding and delivering securities, evidently account for more than half of total costs. One leading trust officer reported that "if we compare our costs in an investment management account with those in a custody account having an identical number of items, transactions and remittances, we find that total costs in the custody account are 59 percent of the total costs in the investment management account."¹³⁸

A similar indication of the significance of clerical costs can be found in the proportion of bank personnel in the lower paid investment and administrative categories indicated in Table V-19.¹³⁸ Personnel working in the account management-investment and account management-administration categories who earned a salary of less than \$10,000 accounted for 70 percent of the total bank personnel serving trust department accounts in 1969.¹³⁹ Since some of the higher paid personnel are involved in managing mechanical operations, the information in Table V-19 appears consistent with the view that purely custodial functions account for approximately 60 percent of the trust departments' expenses.

Table V-19 contains some information bearing on the importance of research services as an expense item to trust departments. Investment and economic research personnel combined are less than 9 percent of total personnel. Even allowing for the fact that more of them are in the higher salary classifications, it does not appear likely that research personnel account for much more than 15 percent of total personnel expenses.¹⁴⁰ Furthermore, as indicated in chapter XIII, banks paid only about 12 percent of their free (not designated by the customer) commissions to brokers for research.¹⁴¹

The information on personnel in Table V-19 can be considered together with the total number of accounts discussed in section C.3 of this chapter. Since, for example, in some banks "account managers" may perform a function which is called investment research in other banks, all personnel who in 1969 were either officers or earned \$10,000 or more were combined to determine the total professional staff serving the trust departments. Altogether there were 3,606 persons satisfying these requirements. In section C.3 it was indicated that the 50 banks ad-

¹³⁷ Trust department expenses are considered in connection with economies of scale and competition in sec. E of this chapter.

¹³⁸ Table V-19 is the sum of the Table A7's that each of the 50 banks submitted in Form I-60.

¹³⁹ Some of the bank personnel serving trust department accounts are not in the trust departments. For example, in some banks the trading department is in the commercial department.

¹⁴⁰ Some of the persons in the account management-investment category have experience in investment analysis.

¹⁴¹ The 50 banks' free commissions used to compensate brokers for research were 4 percent of the banks' trust department revenues. Only a portion of the commissions consists of compensation for research since a portion compensates the brokers for executing and clearing transactions.

ministered 305,297 accounts.¹⁴² Thus, there were in the 50 banks, on the average, 84.7 accounts per member of the professional staff, as defined above.

2. Account Turnover and Activity Rates

Table V-20 presents estimates of equity turnover rates from 1965 to 1969.¹⁴³ The turnover rate is defined here, as elsewhere in the Study, as the lesser of cash purchases or cash sales of equities¹⁴⁴ during the year divided by the average of holdings of equities at the beginning and end of the year.¹⁴⁵ The lesser of purchases or sales is used in the numerator to abstract from trading the results of net accumulations or liquidations.

The sharp increase in turnover that began in 1966 and accelerated in 1967 is apparent in virtually all account types.¹⁴⁶ Another notable feature is the high turnover in employee benefit accounts compared to personal accounts. In 1969, 44 percent of personal trust and 30 percent of personal agency accounts in the sample had no turnover at all. In addition, in that year, 8 percent of personal trust and 14 percent of personal agency accounts had turnover that was greater than zero but less than 1 percent. These low turnover accounts may have merely disposed of rights and engaged in similar transactions.

The different tax considerations applicable to personal trust and personal agency accounts, compared to qualified employee benefit accounts, suggest that the low turnover in personal trust and personal agency accounts might be explained by a desire to avoid capital gains taxes, which reduce net gains from trading in the taxed accounts.¹⁴⁷ An effort was made to test the validity of this explanation. If capital gains taxes were an important factor, a relationship would be expected between turnover and the marginal income tax bracket reported for the account on Form I-62. In that form banks were asked to state whether the marginal 1969 federal tax bracket to which the account's income was subject was:

- (a) zero;
- (b) greater than 0 but less than 20 percent;
- (c) 20 percent to 32 percent;
- (d) greater than 32 percent, but less than 50 percent; or
- (e) 50 percent or higher.

These tax brackets were converted into a single marginal tax variable that took on values of 0, 10, 26, 40, and 60 percent, respectively. Turnover in personal trust and personal agency accounts was regressed on the account's tax bracket to determine whether the low turnover could be explained by the impact of taxes. In both personal trust and per-

¹⁴² This does not include accounts with no assets or the less than 2 percent of the accounts that were not valued.

¹⁴³ Based on responses on Form I-26.

¹⁴⁴ "Equities" mean common stock and options to acquire common stock.

¹⁴⁵ Some of the fiscal years reported did not end at the end of the calendar year. However, preliminary analysis revealed that there was little loss in information from merging accounts whose fiscal years ended early and late in the calendar year. Therefore, 1969 turnover is average turnover of accounts with fiscal years ending in 1969. Most of the fiscal years ended in the latter part of the year.

In Tables V-20 and V-21 the accounts are allocated to a size category on the basis of their sizes at the end of the last fiscal year reported.

¹⁴⁶ The one exception is very large institutional agency accounts for which there are only two observations.

¹⁴⁷ It was recognized that the personal trust and personal agency accounts may have had an incentive to trade in order to realize capital losses for tax purposes.

sonal agency accounts an increased marginal tax bracket acted in the direction of reducing account turnover but in each case the effect was not statistically significant.¹⁴⁸ Less than 1 percent of the variance in turnover among personal trust and personal agency accounts could be attributed to differences in tax brackets.¹⁴⁹

Table V-21 presents average equity activity rates by types of account and size of equity holding. The activity rate is the average of the sum of purchases and sales in the period divided by average holdings. The activity rate reflects all trading, including trading resulting from net accumulation or liquidation of stock. Using these activity rates, the assets in each account type, and the size distribution of accounts, the Study estimated that more than 60 percent of trust department trading (excluding custodian accounts) in equities originates in employee benefit accounts, which account for 39 percent of trust department common stock.¹⁵⁰

3. Performance of Bank Commingled Funds

This section analyzes the performance of a sample of 48 pooled employee benefit and common trust funds managed by 40 of the 50 banks.¹⁵¹ Of these 48 collective investment funds, 27 are pooled employee benefit funds. The slight preponderance of pooled employee benefit funds results from their more commonly including in their annual reports the numerous valuations which are necessary for risk measurement. Twenty-two of the pooled employee benefit funds and 8 of the common trust funds are equity funds, while the remainder are "balanced."¹⁵²

Performance estimates are given before and after adjustment for risk. Risk (volatility) is measured by the degree to which the fund's investment return varies in relation to movements in the market as a whole. The variation represents the undiversifiable or systematic risk of the portfolio. This method of risk adjustment has been used in

¹⁴⁸ The *t* values of the tax bracket coefficient were 1.18 and .44 for personal trust and personal agency accounts, respectively.

¹⁴⁹ Using the estimated coefficient in personal trust accounts for the effect of tax bracket on turnover and assuming the response is linear through the range of the tax variable, the Study estimated that in the absence of taxes turnover in personal trust accounts would rise by one percentage point.

Turnover is also discussed in sec. F.3 and H.3 of this chapter.

¹⁵⁰ The first step in making the estimate involves multiplying the approximate activity rates in 1969 for the account categories (from Table V-21, in conjunction with Table V-6) by the common stock held by the 50 trust departments for the categories of accounts (from Table V-5). For employee benefit accounts 25 percent was multiplied by \$51 billion; for personal trust and estate accounts, 7 percent by \$55 billion; and for agency accounts, 12 percent by \$25 billion. (The percentage used for agency accounts reflects the relatively small amount of agency assets that are in institutional and corporate accounts.) The products obtained indicated that in 1969 the 50 banks' trading for employee benefit accounts totaled approximately \$13 billion; for personal trust and estate accounts \$4 billion; and for agency accounts \$3 billion. The \$13 billion is 65 percent of the sum of the products.

¹⁵¹ Funds in the remaining banks could not be used because the annual reports they issued did not include sufficiently frequent valuations for the purpose of making estimates of risk. Portfolios for which turnover data were not available were not used because the nature of the relationship between turnover and performance was one of the subjects of the section. The banks did not submit performance data on accounts other than collective investment funds.

¹⁵² A fund was viewed as "balanced" if more than 15 percent of its assets was invested in long-term debt and preferred stock, as of the date of the most recent available balance sheet.

several recent studies of open-end investment companies and is described in the analysis of performance in chapter IV.¹⁵³

The analysis of the bank-administered collective investment funds is based on the last three annual reports for each of the sampled accounts.¹⁵⁴ The performance measure calculated for each fund is its annual rate of return minus the rate that would have been earned on an equivalent-risk combination, composed of a risk-free security (treasury bills) and the market portfolio (represented by the Standard & Poor's composite index including dividends).¹⁵⁵

Table V-22 presents a summary of the performance measures for the 48 funds by volatility (risk) range and also includes other characteristics of the funds, such as average turnover in each category.¹⁵⁶ Chapter IV noted a clear tendency in the later 1960's for registered investment companies with higher volatility to have higher measures of performance. A similar pattern can be seen for the bank-managed collective investment funds.

In addition to the difference in periods covered, other factors limit the comparability of performance figures for registered investment companies and bank-managed collective investment funds. Since banks' collective investment funds are charged only a relatively nominal audit fee, the performance figures for bank-managed funds do not reflect a deduction of charges for investment management that are ordinarily charged directly to the participating accounts. On the other hand, sales loads charged by investment companies have not been deducted in calculating their performance.¹⁵⁷

¹⁵³ The technique used is recommended by the Bank Administration Institute in *Measuring the Investment Performance of Pension Funds* (1968). The risk adjustment can be viewed as a refinement of the conventional comparison of the return of a portfolio with the return on a broadly-based index. Rather than comparing all portfolios to one index, the risk adjusted performance measure compares the return on a portfolio to an average portfolio that varies in relation to the market to the same extent as the portfolio being studied.

A study of the performance of a large number of common trust funds was recently made by Edwin W. Hanczaryk using a fund's distribution of assets among nine categories, such as industrial stocks and long-term government bonds. E. W. Hanczaryk, *Bank Trusts: Investments and Performance*, Department of Banking and Economic Research, Office of the Comptroller of the Currency (1970).

¹⁵⁴ As indicated in Table V-3, 94 collective investment funds were sampled. The subsample of 48 was derived by first excluding fixed income funds and those which reported less than four valuations per year. An attempt was made to represent as many remaining banks as possible, choosing an equity over a balanced fund and further one with more frequent valuations if only one was chosen from a bank.

The end of the last fiscal year reported varied from October 1968 through the end of 1969, although for 35 of the 48 it was in the last three months of 1969. By controlling for variations in the return on broadly-based market indices and on short-term debt securities in the period covered by a bank's report, the method of risk adjustment employed reduces difficulties in describing performance that may result from heterogeneity in periods covered.

¹⁵⁵ The combinations equivalent to a high risk portfolio may imply a negative holding of the risk-free asset, that is, there is borrowing to leverage the market portfolio. The equivalent risk mixture is found from the extent to which movements in the market as a whole are related to the particular portfolio. For example, if the return on the portfolio is completely independent of the return on the market as a whole, the return on the S&P index gets a zero weight in constructing an "equivalent risk" return. Similarly, if an increase in return of 1 percent (net of the risk-free rate) in the S&P always is associated with an increase in the portfolio's rate of return of 1 percent (again net of the risk-free rate), the portfolio would be compared with the S&P itself. In this case, the portfolio could out-perform the S&P index by having a rate of return that was always at a higher level. For example, it could have successive returns of 5, 8 and 3 percent, while the S&P had returns of 4, 7, and 2 percent.

¹⁵⁶ Stratifying by volatility range tends to place portfolios with similar investment policies in the same row in Table V-22.

¹⁵⁷ A mutual fund that seeks both interest and dividend income as well as capital gain may be similar in its investment policy to a common trust fund that seeks income for current beneficiaries and capital gain for remaindermen.

Table V-22 and Table IV-104 can be used to compare the volatility of pooled vehicles managed by banks and investment advisers. The average (unweighted) volatility measure for registered investment companies from January 1965 to December 1969 was 1.13, while the sample of bank collective investment funds, during somewhat shorter periods, had an average volatility of .97. In fact the latter is probably an overestimate since pure equity funds are overrepresented in the sample.¹⁵⁸ The bank-managed fund in the sample with the highest volatility (1.56) is one of the newer "special equity" funds in which banks have offered employee benefit accounts the opportunity to invest a small percentage of their assets in relatively high risk stocks.

The regression results in Table V-23 provide further insight into the relationship between performance and the characteristics of a collective investment fund. The table shows a strong and highly significant positive association during 1967-1969 between risk-adjusted performance, expressed as a monthly rate of return, and volatility. On the other hand, higher turnover (holding the other factors constant) is associated to a significant degree with lower performance.¹⁵⁹ The size of the coefficient is larger than would be expected if the negative relationship of turnover to performance were simply the result of brokerage commissions paid. For example, an increase in turnover from 25 to 75 percent per year would be unlikely to result in additional commissions of more than 1 percent of the portfolio's assets. However, the regression coefficient of turnover indicates that the assumed increase in turnover is associated on the average with a reduction in annual return of about 2.5 percent.¹⁶⁰ The use of 1969 turnover in these regressions may explain some of this apparent negative association between turnover and performance. Some of the funds with disappointing performance early in the year may have turned over much of their portfolio as they attempted to improve their record. In any event, the high correlation between volatility and turnover reduces the precision with which their independent effects on performance may be estimated.

The remaining significant variable is the diversification measure (R^2), which indicates the extent to which the variance in fund return is explained by movements in the market index. If a portfolio's R^2 is low, the portfolio varies substantially from the index. The negative coefficient of R^2 shown in Table V-23 indicates that funds having greater degrees of independent variation tended to experience better performance during the period. This may indicate that superior performance requires management efforts to be concentrated on a relatively small number of issues. The relatively diversified funds may have tracked unmanaged market portfolios more closely.

¹⁵⁸ The apparent inverse relationship between volatility and bank size in Table V-22 may be misleading. The funds in the sample that were managed by the largest 20 trust departments invested, on the average, 18 percent of their assets in long-term debt and preferred stock, while the next 30 trust departments' collective investment funds so invested only 12 percent of their assets.

¹⁵⁹ Table V-22, which stratifies the accounts by volatility range and does not hold other factors constant, shows an increase in performance associated, in general, with an increase in turnover.

¹⁶⁰ $-.004 \times 12 \times (.75 - .25)$

TABLE V-19
 DISTRIBUTION OF BANK PERSONNEL SERVING
 TRUST DEPARTMENT ACCOUNTS BY FUNCTION AND SALARY CATEGORY
 (50 BANKS)
 December 31, 1969

	Officers	Other Than Officers	
		With Annual Salary of \$10,000 or More	With Annual Salary Less Than \$10,000
Account Management- Investment	961	337	1,710
Account Management- Administration	424	965	8,621
Investment Research	390	303	493
Economic Research	60	21	56
Trading	89	56	250
Total	1,924	1,682	11,130

Table V-20

Bank Equity Turnover Rates by Account Type
and Size of Equity Holding

Account Category (size in dollars)	Number of Accounts	1965	1966	1967	1968	1969
Pooled Employee Benefit Funds	27	9.24	14.49	25.26	36.19	35.39
Common Trust Funds	31	7.36	9.32	14.90	18.85	24.16
Employee Benefit 0-5 million	103	5.41	7.69	11.86	17.85	23.36
5,000,001-50 million	66	9.05	11.58	15.57	22.63	26.14
Larger than 50 million	18	9.02	10.35	13.26	15.14	16.04
Personal Trusts and Estates 0-500,000	159	1.76	1.89	5.01	4.68	5.13
500,001-5 million	68	1.42	1.55	3.09	3.41	5.04
Larger than 5 million	47	1.41	1.41	2.45	3.27	4.35
Personal Agency 0-500,000	61	2.49	5.56	6.20	6.51	8.93
500,001-5 million	38	1.80	2.00	3.80	5.79	5.31
Larger than 5 million	16	5.55	3.83	4.08	5.60	6.43
Institutional and Corporate Agency 0-5 million	42	7.41	9.61	14.17	13.23	18.09
5,000,001-50 million	29	7.70	7.34	8.48	13.51	13.77
Larger than 50 million	2	11.58	15.26	11.72	11.24	7.43

Table V-21

Bank Equity Activity Rates by Account
Type and Size of Equity Holdings

Account category (size in dollars)	Number of Accounts	1965	1966	1967	1968	1969
Pooled Employee Benefit Funds	27	24.56	30.41	35.85	46.88	45.69
Common Trust Funds	31	13.10	15.37	20.21	23.96	30.08
Employee Benefit 0-5 million	103	14.38	17.05	20.50	29.53	32.31
5,000,001-50 million	66	15.01	18.96	23.38	30.58	31.21
Larger than 50 million	18	14.40	14.57	17.86	20.17	22.56
Personal Trusts and Estates						
0-500,000	159	3.91	4.65	8.05	9.74	8.57
500,001-5 million	68	2.78	3.69	3.85	4.64	7.15
Larger than 5 million	47	3.38	2.36	3.23	5.21	6.55
Personal Agency						
0-500,000	61	9.12	13.48	14.52	12.52	15.31
500,001- 5 million	38	7.48	3.61	6.73	6.91	7.97
Larger than 5 million	16	7.66	11.42	7.10	7.74	9.17
Institutional and Corporate Agency						
0-5 million	42	15.03	13.78	19.41	20.18	24.47
5,000,001-50 million	29	9.73	11.53	11.48	16.10	16.13
Larger than 50 million	2	11.88	17.39	15.79	15.09	7.62

TABLE V-22

Summary of Performance Data and Other Characteristics for
48 Bank Collective Investment Funds by Volatility Range
1967-1969

Volatility Range	Number of Funds	Average Number of Observations Per Fund	Un-Adjusted Monthly Fund Return %/Month	Monthly Market Return %/Month	Performance Measure (Alpha) %/Month	Volatility Measure (Average Beta)	Portfolio Turnover (1969) %	Fund Size (Average Common Stock) \$ Millions	Bank Size (Average Trust Department Assets) \$ Billions
0.4-0.8	7	13.4	.33	.50	-.22	.65	8.2	31.6	5.0
0.8-1.0	19	22.8	.49	.57	-.09	.92	27.7	23.1	4.3
1.0-1.2	20	26.6	.48	.44	.06	1.09	50.9	39.3	3.2
Over 1.2	2	26	1.42	.62	.79	1.39	38.0	19.5	1.8
Total	48	23.1	.50	.51	-.01	.97	35.0	30.9	3.8

TABLE V-23

Relationship Between Performance (Alpha) and
 Characteristics of Bank-Managed Funds
 Dependent Variable: Alpha

<u>Independent Variable</u>	<u>Mean Value of Independent Variable</u>	<u>Coefficient</u>	<u>t Value</u>
Volatility Measure (Beta)	.97	1.37	7.62
Diversification Measure (R ²)	.87	-1.68	3.50
Average Fund Equity Holdings (in millions of dollars)	30.9	-.0012	1.37
Turnover (percent)	35.0	-.004	3.60
Total Assets Administered by Bank (in millions of dollars)	3860.	.00002	1.82

$$R^2 = .60$$

G. THE ASSOCIATION WITH COMMERCIAL BANKING

1. Introduction

Section G of this chapter concerns one of the most distinctive features of trust departments as investment managers—their association with commercial banking. One effect of the association is that trust department customers may frequently have their first contact with a bank as either depositors or borrowers and the commercial department may therefore play an important part in producing trust department customers for the bank.¹⁶¹ In addition, a bank may hold deposits of and make loans to issuers whose securities are among the ones selected by the bank's trust department. An attempt is made to determine whether there is any significant relationship between these commercial ties and trust department holdings.¹⁶² An attempt is also made to estimate the average portion of brokers' deposits in a bank attributable to the commissions paid by the trust department.¹⁶³ Like section G, the final section of this Chapter concerns the relationship between the commercial and trust departments, analyzing the extent to which deposits in trust department accounts and a portion of the deposits in brokers' accounts serve as an indirect source of banks' compensation.¹⁶⁴

As indicated in section A of this chapter, the first corporate trustees were insurance companies rather than banks. The combination of commercial banking and trust administration that is now prevalent presents potential conflicts of interest,¹⁶⁵ as well as the opportunity to use inside information obtained in a commercial banking relationship.¹⁶⁶ These potential conflicts have led some persons to advocate the separation of commercial banking from trust departments.¹⁶⁷ Apart, however, from the question whether trust companies should be permitted to be combined with commercial banks is the question whether they should be required to be so combined. As indicated in section A of this chapter, New York banking authorities refuse to charter corporations to act solely as trust companies, without a commercial banking department.

2. Correlation Between Trust Department and Commercial Activities

Section E of this chapter dealt with some possible reasons why the 50 largest trust departments administer almost 70 percent of total trust department assets. That section concluded that it was doubtful that relationships with commercial departments of the banks were responsible for this degree of concentration. This does not mean, however, that commercial activities have no importance in the development of a trust department's business.

There are several reasons why a bank's trust department may draw some portion of its customers from those who have commercial dealings with the bank. Customers may choose to transact various financial matters with the same organization because of physical convenience and because the bank may already be well acquainted with their circumstances. The bank may know who among its commercial customers are good prospects for trust department services and may therefore

¹⁶¹ See sec. G.2 of this chapter.

¹⁶² See sec. G.4 of this chapter.

¹⁶³ See sec. G.3 of this chapter.

¹⁶⁴ See sec. H.4 of this chapter.

¹⁶⁵ See sections G.3 and G.4 of this chapter.

¹⁶⁶ See chapter XV. Some banks have stated that they have policies restricting communication between their trust and commercial departments.

¹⁶⁷ In 1933 Franklin Roosevelt suggested separation. See J. Remington, *Trust Business in the Future: Its Association With Banking* 17 (1938). For a discussion of problems separation would involve, see R. Griswold, *Divorcement of Trust Functions From Commercial Banks*, 63 *Trust Companies* 903 (1936).

have a marketing advantage with them. In addition, banks may wish to retain or improve their goodwill with their commercial customers by offering investment management services on advantageous terms.¹⁶⁸

In this section, the correlation between trust department assets and demand deposits is summarized. Employee benefit, personal trust, and agency account assets in each bank were in turn correlated with the bank's demand deposits. The analysis used two series of regressions. In the first, trust department assets in each category of account were correlated with *total* demand deposits in the bank, while in the second, demand deposits in accounts larger than \$100,000 were used as the explanatory variable. Since trust department customers may be among the larger depositors, the latter variable may be a better indicator of a potential trust department customer.

The results are presented in Table V-24. The number in each case refers to the percentage of the variance of assets among banks in the indicated account category that is explained by the variation in the size of the banks in terms of deposits. If trust department assets and demand deposits were completely unrelated to each other, the entry would be zero.

As indicated in Table V-24, employee benefit accounts are most closely associated with aggregate demand deposits in the bank. In addition, large demand deposits are more closely correlated with trust department assets than demand deposits as a whole. This latter correlation is particularly true of employee benefit accounts.¹⁶⁹

The figures in the table are intended only to summarize the association between trust department and commercial activities and cannot establish cause or effect.

3. Brokers' Balances

The Study sought to determine whether there is typically a relationship between the amount of commissions paid by a bank to brokers and the amount of brokers' deposits in the bank. Since some of the brokers' deposits are at particular banks for the brokers' convenience or because of the banking services received by the brokers, the Study sought to separate the portion of brokers' total demand deposits attributable to these factors from the portion attributable to the brokerage paid by the banks. In making this allocation, the Study assumed that if brokers placed their deposits independently of brokerage paid by bank trust departments, the brokers' deposits would be distributed among banks in the same proportion as all of the banks' deposits in accounts larger than \$100,000. The assumption was subject to the qualification that the average New York City bank was more likely to attract a broker's deposits than the average bank of a similar size elsewhere.

For each of 32¹⁷⁰ banks, three quantities were used:

1. The average amount of demand deposits in the banks held in calendar 1968 by broker-dealers with which the bank did securities business.¹⁷¹

¹⁶⁸ Sec. H.4 of this chapter deals with the relationship of commercial and trust departments in the context of the banks' compensation.

¹⁶⁹ It is unlikely that an individual who is a potential trust or agency customer would have demand deposits in excess of \$100,000.

¹⁷⁰ These banks did not restrict their reporting of deposits in Form I-60 to a sample of broker-dealers.

¹⁷¹ From Form I-60. Some banks furnished information concerning collected funds, while others supplied ledger balances, which include, in addition to collected funds, checks which have been deposited but have not yet cleared. Seven banks reported both figures, and from these the Study calculated that collected funds were on the average 82.5 percent of ledger balances. This percentage was then applied to ledger balances to obtain comparable collected funds figures for all banks.

2. Brokerage commissions paid by the bank in 1968 (after deducting commissions designated by the bank's customers).¹⁷²

3. Total amount of demand deposits in the bank at the end of June, 1968 in accounts greater than \$100,000.¹⁷³

With this data it was possible by regression analysis to estimate the percentage of brokers' deposits, if any, attributable to the brokerage paid by a bank on behalf of its customers. The size of a bank's commercial department, measured by the total amount of its large deposits, was used as a variable to estimate the brokers' deposits that were attracted, like those of other business customers, because of the convenience and service provided by the bank. Whether the bank is located in New York City was also used as a variable, because of the importance of New York City banks in connection with securities transactions.¹⁷⁴

As reported in Table V-25, the regression analysis indicated that commissions paid, size of bank measured by total large deposits, and location in New York City are all factors appearing to affect significantly the amount of brokers' deposits that a bank is likely to have.¹⁷⁵ Ninety-four percent of the variance in brokers' deposits among banks is accounted for by the regression. The analysis indicates that an increase of \$1 in commissions paid by a bank and received by a broker is accompanied, on the average, by an increase of \$4.26 in the brokers' deposits at the bank.

The results also indicate that an average bank from the sample had brokers' deposits of \$30.7 million¹⁷⁶ and paid brokerage commissions (net of commissions designated by a bank customer) of \$3.1 million. Of the \$30.7 million, the deposits attributable to the brokerage paid by the bank can be estimated to be \$13.2 million,¹⁷⁷ or approximately 43 percent of the total. The analysis attributes the balance to the size and location of the bank, which are in turn related to the brokers' convenience and the banking services received.

The observed relationship does not indicate whether a broker's deposits in a bank typically preceded or followed the receipt of commissions. The data merely indicates the existence of a strong relationship. In the analysis, certain other benefits brokers may offer trust departments, such as the opportunity to purchase new issues, were not in-

¹⁷² From Form I-7.

¹⁷³ From the FDIC. For the one bank of the 32 which was not insured, an estimate was made based on total deposits of all kinds, set forth in the Banking and Currency Staff Report and on distributions of deposits by size category furnished for insured banks by the FDIC.

¹⁷⁴ Data were not available for a more refined analysis of the locations that would be convenient for various brokers and of the precise services various banks provide brokerage customers.

¹⁷⁵ The equation which best expresses the relationship is

$$B = -4.4 + 4.26C + 15.1 \begin{cases} 1 & \text{if in NYC} \\ 0 & \text{otherwise} \end{cases}$$

where B is brokers' deposits in a bank in millions of dollars, C is commissions paid by the bank in millions of dollars, and S is the total value of deposits in millions of dollars in accounts greater than \$100,000. The negative constant indicates a more than linear effect of increasing commissions and size of bank. This could be due to the greater profitability to brokers of the large trades that are probably associated with large total commissions.

¹⁷⁶ The effect of the constant term, which cannot be assigned to any of the factors, is excluded, to prevent the other variables from purporting to explain more than 100 percent of the total brokers' deposits.

¹⁷⁷ Brokers' deposits comprise approximately 2 percent of total bank deposits. See ch. XIII.

¹⁷⁸ $4.26 \times \$3.1$ million. The estimates are based on assumptions of linear relationships among the variables. The 43 percent allocation derived should be viewed as a working hypothesis of the percentage of brokers' deposits attributable to brokerage paid by the banks.

cluded. Because of the absence of data, loans by banks to brokers were not included. The amount of commissions paid or directed by the banks for research, as reported on Form I-7, was added as an independent variable. The effect, however, was not significant. In addition, banks' over-the-counter net trades (as distinct from trades in which an agency commission is charged) were used as a variable. The effect of net trades was not statistically significant.¹⁷⁸

Some persons interviewed by the Study have suggested that the average ratio of deposits to commissions was 10:1 rather than 4.26:1. If the size of the commercial department of a bank is omitted as a variable, regression analysis does indicate that an increase of \$1 in commissions paid by a trust department and received by a broker was accompanied, on the average, by an increase of \$9.22 in the broker's deposits at the bank.¹⁷⁹ This suggests that the persons interviewed have not made any allocation of total deposits between deposits made to attract brokerage commissions and deposits made to compensate a bank for its banking services, such as handling checks and deposits, which are allowed for by including the size of the commercial departments in the regression. The 9.22:1 ratio of deposits to commissions seems inconsistent with brokers' willingness both to incur interest-bearing debt and to make any deposits to attract commissions. The interest cost of money borrowed would be almost as great as the gross commissions (11 percent)¹⁸⁰ attributable to the deposits.

On the other hand, it seems plausible that brokers would maintain in banks the estimated \$4.26 of deposits for each dollar of trust department commissions. Assuming interest rates of 9 percent, a dollar of commissions would then cost a broker \$.38.¹⁸¹ Since most trust department orders are relatively small,¹⁸² an interest cost of this magnitude may be close to or even equal to the marginal profit brokers derive from the commissions.

4. Bank Stock Holdings and Commercial Ties with Issuers

Among the securities a bank's trust department may hold are stocks issued by companies with which the bank has commercial banking relationships. In this section, the Study attempts to determine whether the existence of deposit and lending relationships between a company and a bank increases the likelihood of the company's stock being held by the bank's trust department. The independent role of these commercial ties is estimated by considering at the same time the importance of the size of the company and its geographical proximity to the bank.

The analysis in this section complements the discussion of the importance of personnel and business relationships in section D of chapter XV. The two analyses differ in the perspectives from which they

¹⁷⁸ The equation which best expresses this relationship is $B = -3.5 + 3.31C + .0249S + 0.15N + 23.4$ {1 if in NYC
{0 otherwise}

where N is the total value of net trades in millions of dollars and the other letters have the same meaning as in the previous equation. Using this equation to calculate the percentage of brokers' deposits attributable to the actual and imputed commissions broker-dealers received from banks provides an estimate of 41 percent, which is approximately the same as the estimate of 43 percent of brokers' deposits estimated above to have been attributable to the brokerage paid by the banks.

¹⁷⁹ The equation which best expresses this relationship is $B = -2.2 + 9.22C$ where B is brokers' deposits in a bank in millions of dollars and C is commissions paid by the bank in millions of dollars. This equation accounts for 85 percent of the variance in brokers' deposits.

¹⁸⁰ $1 \div 9.22$.

¹⁸¹ $.09 \times \$4.26$

¹⁸² See ch. XIII.

look at the behavior of the banks and companies and the methods of measuring the intensity of bank-company commercial ties. In chapter XV the emphasis is on the relationship between the percentage of a company's common stock held by a bank and the percentage of the company's total deposits and loans accounted for by the company's deposits and loans involving the particular bank. The extent of the commercial ties between the company and the bank is thus measured by the relative importance to the company. In this chapter the tie is measured by its importance to the bank rather than the company. The analysis employed here seeks to determine whether an increase in a bank's deposits or loans involving a particular company relative to the cost of acquiring a given percentage of the company's outstanding stock is accompanied by an increase in the likelihood that the bank will hold in its trust department the given percentage of the company's outstanding stock.¹⁸³

The data base used is described in chapter XV. Trust department holdings are derived from Form I-3 and commercial ties from Form I-64. The sample of companies used in this chapter consists of the 134 companies¹⁸⁴ which submitted Form I-64 and had total demand deposits in excess of \$500,000.¹⁸⁵ The other independent variables used in the regression, to explain the percent of a company's common stock held by a bank, are total assets administered by the trust department and total market value of the company's stock (both in logarithms), and the three dummy variables described in chapter XV, which express whether the company has personnel ties with the bank, whether the bank manages the company's employee benefit plan, and whether the bank and the company are located in the same geographical area.¹⁸⁶ The inclusion of the variable based on location reduces the likelihood that any apparent association between trust department holdings and commercial ties is the result of regional effects. Compared to distant banks, a bank is more likely to have commercial ties with a company in its region and is also more likely to hold the stock of local companies in its trust department. Physical proximity makes it easier to get information about local companies and the personal trusts that are created sometimes include local issues among their assets.¹⁸⁷

The regression results are given in Table V-26. The comparable results in chapter XV are in Table XV-39.¹⁸⁸ Table V-26 indicates that an increase in a company's deposits in a bank is associated with larger holdings of the company's stock by the bank's trust department.

¹⁸³ The cost of acquiring a given percentage of a company's stock is represented in the regression by the market value of all the company's stock outstanding. (The cost to acquire 1 percent, for example, of a company's outstanding stock increases proportionally with the market value of the outstanding stock.)

¹⁸⁴ The companies include 25 of the largest companies whose securities are listed on the New York Stock Exchange (from List B), 72 randomly selected NYSE companies (from List C), 17 randomly selected American Stock Exchange companies (from List D), and 20 randomly selected over-the-counter industrial companies (from List E). For further information concerning the sample, see app. A to ch. X.

¹⁸⁵ The dollar restriction was used because companies were not required to report deposits in a bank if the deposits were less than \$100,000, which might have affected the distribution of deposits of companies with small total deposits.

¹⁸⁶ The significance of these variables is considered in ch. XV.

¹⁸⁷ The Study followed the conservative practice of eliminating observations in which no relationship of any kind exists between the bank and company. This reduces the possibility of spurious results.

¹⁸⁸ The tables are different in that a smaller sample of companies is used in Table V-26. When the regressions corresponding to Table XV-39 are run with the reduced sample, the R^2 increases to .14 but there is no substantial change in the coefficients. The t value of the loan variable increases to 7.82.

On the other hand, the variable involving loans from the bank appears to have no significant relationship to the trust department's holdings.¹⁸⁹ The significant role of loans in Table XV-39 and their insignificant role in Table V-26 appear to indicate that an increase in the loans made by a particular bank to a company, relative to all loans made to the company, is associated with increased holdings of the company's stock by the bank's trust department, while an increase in loans made by a particular bank, measured in absolute terms, is not so associated.¹⁹⁰

The coefficient of the demand deposit variable in Table V-26 can be used to estimate the extent to which trust department portfolios, on the average, are different from what they would have been if a company's demand deposits had no relationship to trust department holdings. The analysis indicates that approximately 2 percent of the average trust department portfolio would be different if a bank's demand deposits had no relationship to its trust department holdings.¹⁹¹

The results are consistent with, but do not prove, the existence of cooperation between the trust and commercial departments of some banks in connection with trust department investments.

A trust industry representative advanced two reasons for the correlation between business relationships and trust department holdings: "(1) A geographical correlation, even in New York City, would be natural. Pittsburgh banks do business with Pittsburgh companies and the stock is likely to be found in Pittsburgh investment accounts, etc. (2) Trust men tend to recommend the purchase of stocks of companies whose top management they have had occasion to meet, appraise and respect. An active banking relationship often affords an opportunity for such an appraisal of leadership."

The Study's analysis recognizes the geographical factor referred to and seeks to separate its role from that of other factors. The industry representative's second point, without conceding the flow of material inside information from the commercial department to the trust department, does assume that judgments reached in connection with commercial banking contacts are frequently used in making trust department investment decisions.

¹⁸⁹ Since deposits and loans are correlated (because a company will tend to have deposit and loan ties with the same bank), the loan variable is just significant (at the .05 level) when the deposit variable is not present in the regression equation. However, this appears to be because of its indication of a deposit relationship and not because of its independent role. (The insignificance of the loan variable when deposits are also used is not primarily because of the increase in the standard error but because of the large reduction in the size of the coefficient.)

¹⁹⁰ It may be that banks tend to avoid highly leveraged companies. The ratio of a company's aggregate loans to the value of its equity was added as a variable in some regressions. This had a significant negative coefficient but, although the coefficient of the variable relating to loans from the particular bank increased substantially in size, it did not become significant.

¹⁹¹ The average value of the dependent variable

$$\left[\frac{\text{Stock of a company held by a trust department}}{\text{Total outstanding stock of the company}} \right]$$
 is .004.

Multiplying the average level of the demand deposit variable by its regression coefficient gives the average reduction in holdings that would result if the demand deposits had no role. (There would, of course, be an increase in the holdings of stock not related to demand deposits.) This product is .000086, which represents approximately 2 percent of average holdings. (The negative constant does not appear to be attributable to the demand deposits.)

In some regressions demand deposits by the company in all banks as a percentage of the value of the company's stock were added as an independent variable to determine whether the observed relationship between holdings and deposits indicated in Table V-26 is the result of a preference of banks for companies that tend to hold relatively large amounts of cash. This liquidity may play a role in determining the risk of a holding. However, the addition of the aggregate deposit variable in fact resulted in a slight increase in the size and significance of the original demand deposit variable.

TABLE V-24

Percentage of Variance Among Banks in Trust Department Assets Accounted for by Variation in Size of Commercial Department in Terms of Deposits (r^2)

1/

Simple Pairwise Correlations

<u>Account Type</u>	<u>Total Demand Deposits</u>	<u>Demand Deposits in Accounts Greater Than \$100,000</u>
Employee Benefit	41	61
Personal Trust	28	34
Agency	18	33

1/ All the correlations are positive in sign.

TABLE V-25

Relationship Between Brokerage Commissions Paid and Brokers' Deposits

Dependent Variable: Brokers' Deposits

	<u>Coeff.</u>	<u>t</u>
Constant	-4.4	
Commissions Paid	4.26	4.74
Size Measured by Deposits	.0268	6.21
New York City Dichotomous Variable	15.1	2.28
R^2	.94	

Table V-26
 Relationship Between Trust Department Holdings and Commercial Ties

Dependent Variable: Fraction of Company's Common Stock
 Held by Bank (3568 observations)

Independent Variable	Average Value of Independent Variable	Regression Coefficient	t Value
Demand Deposits/Value of Stock Outstanding	.001	.086	2.14
Loans/Value of Stock Outstanding	.008	.0014	.25
Personnel Ties	.049	.0075	8.52
Manager of Pension Plan	.053	.0077	8.94
Region	.258	.0016	3.65
Company Size (log)	20.46	.00012	1.16
Institutional Size (log)	21.87	.0027	10.78
Constant Term	-	-.058	-

$$R^2 = .12$$