

CHAPTER VI

IMPACT OF INVESTMENT FUNDS ON THE STOCK MARKET ¹

The striking growth in net sales of shares by mutual investment funds and in their purchases and sales of portfolio securities, mainly common stock, has been described in chapters III and IV. This chapter will be devoted largely to an analysis of the impact of such portfolio activity on stock prices both for the market as a whole and for specific issues. The analysis will consider not only the impact of mutual fund activity on the level of prices but also on the stability or instability of prices, that is, the extent to which fund activity moderates or accentuates market movements. In addition, some attention will be paid to several related technical aspects of the trading behavior of mutual funds as compared with other investors.

The growth in net purchases of common stock by mutual funds, as well as by pension funds and to a much lesser extent other institutional investors, has frequently been cited as one of the major postwar developments explaining the upsurge of stock prices, price-earnings ratios and price-dividends ratios to the highest levels in our history.² Though it is extremely difficult to assess the quantitative impact of mutual funds on stock prices, it seems likely that their net injection of money into the market has bolstered stock prices appreciably. Not only are their net purchases substantial, but the fact that initial activity generates additional activity in the direction of the initial change in prices is a well-known market phenomenon.³ While a significant proportion of money flowing into mutual shares might in their absence have flowed directly into the stock market, presumably largely through odd lots (or other small transactions), a significant proportion probably would not have been invested in the stock market either directly or indirectly.⁴ Thus there is abundant evidence, including the indirect evidence supplied by the correlation between sales growth and sales charges for individual funds discussed in chapter V, that the intensive sales campaign carried out by mutual funds (in conjunction, of course, with favorable market conditions) is responsible for a substantial proportion of their sales. On the other hand, it is possible that fund buying is more likely than other buying to support the market in a decline rather than to aggravate an advance as a result of a relatively stable inflow of money into mutual shares, policies of dollar averaging and uses of limit orders below the market, but such possibilities have yet to be investigated.

It has been stressed in the financial literature that while stock prices generally have been supported by mutual fund and other institutional buying, high-grade issues might be expected to be particularly

¹ By Irwin Friend and F. E. Brown.

² E.g., Irwin Friend, "New Influences in the Stock Market," *Fortune*, March 1953.

³ See "Stock Trading on the New York Stock Exchange on Sept. 3, 1946," U.S. Securities and Exchange Commission, 1947, p. 11.

⁴ On the other hand, it might be noted that in some degree mutual funds net out redemptions against sales of their shares and, to the probably modest extent that such activity would otherwise have flowed directly into round-lot transactions in the stock market, the funds like the odd lot dealers serve to cut down on the gross volume of such transactions.

affected because most institutional funds channel into such securities. The flow of mutual fund net purchases into different types of stocks has already been discussed in chapter IV. This chapter will attempt to determine to the extent permitted by the data whether there is any evidence of a differential market impact of mutual funds on a sample of market leaders. It should be noted in connection with the effect of mutual fund activity both on stock prices generally and on prices of individual issues that mutual funds to some extent may have the ability to fulfill their own market predictions and in particular to validate their own evaluation of individual issues. It is also possible that, as a result of the insights provided by professional management, the funds have the economically more important ability to channel funds into the companies which are prospectively most profitable.

The basic data available for the analysis of mutual fund portfolio activity, obtained from the replies to the Wharton-SEC questionnaires by 185 mutual funds, consist of monthly purchases and monthly sales of all common stock by the respondents for the periods January-December 1953 and July 1955 to September 1958,⁵ corresponding weekly data for four 4-week periods centered around significant market turning points in 1956 and 1957 and daily data for July 1 to September 30, 1958. The daily data include not only total but individual intraday transactions. Similar information was obtained for each of 30 specific stocks which were mutual fund favorites over the period covered and were selected by a method described in chapter IV. In addition to the portfolio data, monthly and weekly (but not daily) information on the inflow of money to the funds from sales of shares is also available.

Some conceptual problems

To investigate satisfactorily the impact of mutual funds on the stock market as a whole or on individual stock prices, an operational theory of absolute and relative stock prices is needed. Unfortunately, the theories which exist are not particularly operational. It is, of course, true but not especially useful to say that in the stock market as in other markets supply and demand conditions (or schedules) determine prices. Both the demand for and supply of stock are influenced by such factors as the level and distribution of the national income, money and other assets and liabilities, the public's willingness to save, business' desire to raise new capital, and investors' and businessmen's current preferences as among stock, bonds, and other assets and liabilities; these preferences reflect not only a reaction to current and past economic variables but also an appraisal of the future. In the short-run at least, the supply of outstanding stock issues other than those of mutual funds is likely to be relatively stable but the net demand for such issues is much more volatile.

The demand for stock is determined not only by the expectations of future returns from stock as compared with alternative forms of investment but also by an appraisal of and reaction to the relative risk of stock investment. While objective current and past earnings, dividends, and interest rates are all used by investors in estimating future returns from stock and alternative forms of investment, obviously the psychological or subjective factors associated with shifts in sentiment may play an even more important role both in

⁵ Annual data are also available for 1954 and 1955 which permit the filling of the gap in the monthly series.

investors' projections of future returns and in their evaluation of the relative risks of different types of investment. Psychology or sentiment is probably the basic factor in short-run fluctuations in stock prices and may be the dominant factor even in some of the longer run movements.

Mutual funds may be considered to affect the demand for stock in several different ways. First and perhaps most important, to the extent they divert money into stock which otherwise would have been channeled into alternative forms of investment, stock prices must rise, particularly in the short run. Second, just as the entry of new money into the stock market shifts the overall demand schedule for stock in a direction favorable to stock prices, the resulting upward movement in prices probably improves the market sentiment of other investors which brings about a favorable shift in the demand schedule of these investors. Third, the publicity attendant upon both the substantial advertising and other selling effort by the mutual funds and their substantial net purchases of stock may have a similar influence. Not only has the public bought mutual shares heavily but there has been some tendency as a result of the publicity attendant upon fund activities for stock investment as a whole to be viewed more optimistically.

Clearly, it is not possible to ascertain with any precision the extent to which the underlying demand schedules for stock have been affected by the activity of mutual funds. For the postwar period as a whole, in which mutual funds have attained their present importance the only feasible approach to an analysis of their impact on the stock market is essentially qualitative, that is, comparing broad movements in the net inflow of money into mutual funds and through them into the stock market with the corresponding movements in stock prices. For shorter periods, it is possible to make quantitative and somewhat more satisfactory correlation or regression tests relating stock prices for the market as a whole to mutual fund activity. For individual stock issues, even more extensive analysis of the fund impact on market price is possible. However, even if these interrelationships are marked, there may still be formidable problems of the direction of causation. Thus, if there is extremely high intercorrelation of stock prices and fund net purchases, the only methods of determining the direction of causation are, first, by theoretical reasoning (with the theory to the extent possible tested against the facts), and, second, by empirical testing of any leads or lags in timing which may exist in the interrelationships.

For example, if stock prices and fund net purchases move simultaneously in the same direction, theoretical considerations would suggest that stock prices are affected by the net purchases since the decision to make the net purchases could hardly have been dictated by the stock prices not yet realized. On the other hand, this conclusion could be vitiated either by the unrealistic assumption that other investors with an investment pattern highly correlated with that of mutual funds were responsible for the observed stock price movements, or more plausibly by a high intercorrelation not only between stock prices and fund net purchases but between successive values of stock prices and between successive values of fund net purchases. In exploring the economic meaning of any intercorrelation between

stock prices and fund net purchases, it will frequently be desirable to hold constant the initial value of such prices or purchases.

If empirical testing points to leads or lags in the interrelationships, say movements in stock prices lag somewhat behind—that is, are led by—movements in fund net purchases, there is more basis for inferring the direction of causation but even here certain limitations should be pointed out. Not only may high intercorrelations between successive values of stock prices and to a lesser extent between successive values of fund net purchases still pose some problem in isolating the correct timing sequence between changes in the two variables, but it is at least theoretically possible that if changes in fund activity precede changes in stock prices it is because the funds correctly anticipate rather than influence the course of stock prices. However, though not conclusive, the analysis of mutual fund performance in chapter V does not give much support to the thesis that funds as a whole tend to anticipate stock price movements better than the market generally. Finally, if fund net purchases do effect rather than simply anticipate changes in stock prices, it is desirable to disentangle to the extent possible that part of net purchases which reflects the “automatic” reinvestment of the net inflow of money into mutual funds (some of which would presumably have flowed into the stock market in any case) and that part which reflects conscious or independent investment policy by the fund managers.

It is to be expected that the impact of mutual fund activity on stock prices would be a function of the time period involved. In the very long-run or secularly, the favorable effect of fund activity on the demand for stock might, at least in large part, be offset by stimulus to supply. In the long-run also, expectational or subjective influences should be less important in the determination of the level of stock prices, and the complex of basic economic forces determining the objective rates of earnings, dividends, other prices, and interest rates should exercise the dominant role both on the demand and supply sides. These long-run tendencies, however, might conceivably take many years to be discernible, and there is a considerable degree of indeterminacy in stock prices as compared with other prices in the sense that subjective factors are much more important and may predominate over long periods of time. Technical market factors such as temporary supply-demand imbalances associated with an unusual spurt of new buying or selling are presumably most important in the shortest-run fluctuations of stock prices.

The period covered intensively by the analysis in this chapter consists of only a relatively small number of years, 1953–58, but virtually the entire growth of mutual funds took place after World War II, most of it since 1952. This period—which as a whole may be regarded as part of a postwar secular rise in stock prices—can be broken down into different intervals of time for analyzing the impact of mutual funds on the market. The broadest possible intervals which are meaningful consist of the major stock market rises or declines lasting 5 to 9 months, without any significant turning point, marked by price changes in excess of 10 percent (sometimes termed intermediate market movements). These major market trends are then further divided into monthly, weekly, daily, and within-day movements.

It would be anticipated that the shorter the time period the more marked the impact of a given spurt of new buying on stock prices. Statistically also it may be easier to isolate the shortrun than the longer run effects on the market in view of the multiplicity of factors affecting longrun stock prices, including extremely variable demand conditions, and the small number of longrun observations available.⁶ It should be noted therefore that if shortrun but not longer run effects of mutual fund activity on stock prices are detected statistically, it may not be possible to infer conclusively whether longer run effects exist. On the one hand, the longer run effects might easily be submerged statistically by other influences. On the other hand, it cannot be concluded from theoretical considerations that shortrun effects necessarily imply a longer term influence; the shortrun effects may either reflect temporary disequilibria which are quickly corrected or more significant changes in demand conditions which induce further changes and hence are self-reinforcing for at least considerable periods of time. In either case, of course, a continuous succession of short-run stimuli could affect the level of stock prices for a long period of time, or at least until the stimuli were withdrawn.

The following two parts of this chapter will consider the impact of mutual funds separately on the market as a whole and on specific issues. The availability of data on individual issues not only permits an examination of any differential effects of mutual fund activity on various types of stock but also makes possible a more satisfactory analysis of the effects of their activity on the market generally since the number of observations available for testing such overall effects is greatly increased.

IMPACT ON MARKET AS A WHOLE

Table VI-1 presents for specified periods from 1953 to 1958 the percent change in stock prices, the gross and net common stock purchases of portfolio securities by all mutual funds covered in this study, the net sales of fund shares or net inflow of money, the New York Stock Exchange total volume of sales, and several ratios relating fund portfolio purchases to fund inflow and to exchange volume. The 1953-58 span for which monthly data are available has been divided not only into periods of major market movements but also for each period into three (and to the extent the data permit approximately equal) subperiods so that mutual fund behavior can be analyzed separately in the early, middle, and late stages of market rises and declines. The relevance of the fund net inflow data is, of course, that a substantial portion of this money would normally be expected to be channeled fairly automatically into the stock market, and it is of considerable interest to segregate the apparent influence of such inflow from that of portfolio stock purchases more directly reflecting managerial discretion.

To approximate the proportion of fund inflow that would normally be expected to funnel into common stock, a 60-percent figure has been rather arbitrarily chosen since this is close to the average ratio of net common stock purchases to net inflow in the selected periods covered

⁶ The high irregular component of very short-term stock price movements would, of course, operate in the opposite direction.

(and is the same ratio as that used for somewhat different purposes in ch. IV). However, the precise ratio used as a basis for adjustment is not too important for present purposes. The New York Stock Exchange value of sales has been used as a basis for indicating approximately the relative importance of fund portfolio activity in common stock simply as a matter of convenience, even though the exchange data are not confined to common stock and as an offset not all fund transactions take place on the exchange. The net result is to enhance somewhat the estimated market role played by fund transactions, but again precision in this comparison is not too important.

TABLE VI-1.—Mutual fund stock market behavior during major market movements, January 1953 to September 1958

[Dollar amounts in millions]

	Percent change in market ¹		Fund gross purchases of common stock per month (3)	Fund net purchases of common stock per month (4)	Fund net inflow per month (5)	Percent of common net purchases to 60 percent of net inflow ((4) ÷ 0.6(5)) (6)	New York Stock Exchange volume ² per month (7)	Percent of common gross purchases to New York Stock Exchange volume ² ((3) ÷ (7)) (8)	Percent of common net purchases to New York Stock Exchange volume ((4) ÷ (7)) (9)
	Total	Per month							
	(1)	(2)							
PERIODS OF MARKET DECLINE									
February to September 1953.....	11.49	1.44	\$54.8	\$25.9	\$35.8	120.7	\$1,171	4.68	2.21
February to April.....	6.67	2.22	67.7	35.2	39.5	148.7	1,443	4.69	2.44
May to June.....	1.95	.98	48.1	21.4	32.0	111.7	1,016	4.73	2.11
July to September.....	3.27	1.09	46.5	19.6	34.8	94.0	1,003	4.64	1.95
August 1956 to February 1957.....	12.41	1.77	123.6	43.4	104.0	69.6	2,311	5.35	1.88
August to September.....	8.18	4.09	128.8	36.6	74.8	81.7	2,363	5.45	1.55
October to December.....	³ 2.91	³ .97	103.8	37.3	116.9	53.2	2,294	4.52	1.63
January to February.....	7.31	3.65	148.0	59.2	113.8	85.8	2,284	6.48	2.59
August to December 1957.....	16.53	3.31	133.8	65.4	93.6	116.7	2,195	6.10	2.98
August to September.....	11.45	5.72	151.0	83.2	82.9	167.7	1,887	8.00	4.41
October.....	3.21	3.21	149.6	75.0	108.2	115.7	2,821	5.30	2.66
November to December.....	2.61	1.30	108.7	42.8	97.1	73.6	2,080	5.23	2.06
PERIODS OF MARKET RISE									
November 1955 to July 1956.....	16.65	1.85	133.6	47.1	87.0	90.3	2,560	5.22	1.84
November to January.....	3.50	1.17	107.5	40.6	93.3	72.6	2,445	4.40	1.66
February to April.....	10.41	3.47	147.3	49.9	96.1	86.7	2,774	5.31	1.80
May to July.....	2.09	.70	146.0	52.7	71.7	122.7	2,461	5.93	2.14
March to July 1957.....	10.75	2.15	154.6	49.8	79.2	105.0	2,381	6.49	2.09
March to April.....	5.73	2.87	143.9	57.0	82.0	116.1	1,985	7.25	2.87
May.....	3.65	3.65	159.4	46.9	68.4	114.6	2,806	5.68	1.67
June to July.....	1.02	.51	162.9	44.0	81.8	89.8	2,565	6.35	1.72
January to September 1958.....	25.18	2.80	195.2	77.1	133.2	96.7	2,388	8.17	3.23
January to March.....	5.28	1.76	132.1	32.9	94.3	58.3	2,056	6.43	1.60
April to June.....	7.46	2.49	180.8	65.6	201.1	54.4	2,226	8.12	2.95
July to September.....	10.65	3.55	272.8	132.9	104.1	213.3	2,882	9.47	4.61

¹ Standard & Poor's composite index, closing.

² SEC data on stock trades cleared during the month, excluding sale of rights and warrants.

³ Market increase not decrease.

As table VI-1 indicates, the monthly net inflow of money into mutual funds went up strongly over the entire period covered though there is some suggestion both in this table and in more current data that the rate of increase has been tapering off.⁷ (It might be noted that the second quarter of 1958 in which two large new funds were formed was subject to special influences in net inflow and the third quarter in portfolio purchases.) There is little evidence that the rate of inflow was significantly different during major periods of market decline than during corresponding periods of market rise, or that the rate of inflow varied consistently within the different parts or sub-periods of these major movements.⁸ At least during these periods, it would appear that the net inflow of money into mutual funds has been rather stable cyclically in the sense that it has not been affected markedly by market fluctuations. It should be noted, however, that the period as a whole has been one of buoyant stock prices with no catastrophic market declines of the dimensions experienced in earlier decades. On the other hand, mutual fund investors—though relatively unimportant in size until the last decade or so—were fairly consistent net purchasers of fund issues throughout the depressed 1930's even in the face of precipitous market declines. Similarly, odd-lot customers on the New York Stock Exchange who probably are closer than round-lot customers to mutual fund investors generally seemed to exercise a moderating influence on price movements—with substantial purchase balances in the 1929-32 decline and to a lesser extent in the 1937-38 decline.⁹

Portfolio net purchases of common stock by mutual funds have only imperfectly followed the course of the fund net inflow. There is no indication that the funds had a different policy in channeling their inflow into portfolio common stocks in periods of market rise than in periods of market decline. This finding is consistent with the answers given by mutual funds in response to a request to "describe any formula timing or other investment plans which are employed to determine, or as an adjunct to, the company's investment decisions, or which have been so employed during the 10 years ended September 30, 1958"; of 145 replies, 134 stated they had never used formula timing or similar investment plans, 2 had used such plans in earlier years but no longer, 7 used investment devices which in some cases might have similar effects though in other cases opposite effects to ordinary formula timing plans, and only 2 used such plans as of the date of reporting.

Within subperiods, however, there is evidence that the net inflow was decreasingly channeled into common stocks during the course of a market decline and to a lesser extent increasingly channeled into common stocks during a market rise. Thus, while the evidence is

⁷ See SEC Statistical Bulletin, July 1961, p. 4.

⁸ It was noted in ch. III that annual figures suggest a positive relationship between the percentage changes in stock prices and in inflow while quarterly data for a more limited period suggest an inverse or no relationship.

⁹ See "Investment Trust and Investment Companies," pt. 2, U.S. Government Printing Office, 1939, pp. 203-236 and "Selected Statistics on Securities and Exchange Markets," U.S. Securities and Exchange Commission, 1939, p. 91; and "The Course of Odd-Lot Transactions on the New York Stock Exchange—1904-38," U.S. Securities and Exchange Commission, 1939, pp. 1-3, 8, and 27-36.

quite scanty, there is some indication in these data that the discretionary action of the mutual funds may tend to accentuate stock market movements.

The last two columns in table VI-1 show an impressive increase over this period in the ratio of mutual fund gross and net purchases of stock to New York Stock Exchange volume but also show that even at the peak the ratio for fund gross purchases was well under 10 percent, and for fund net purchases well under 5 percent. Even if member trading is eliminated from exchange volume to estimate the volume of non-member or public transactions, the ratios of mutual fund to the total of public transactions would be only about one-third higher than the corresponding gross and net ratios presented in the table.¹⁰ Nor do more recent data suggest any increase in these ratios since 1958, with exchange volume up fully as much as fund volume.¹¹ Nevertheless, the fund net purchases probably are more influential than these figures may suggest. Thus, these net purchases were equivalent to 27 percent of the entire dollar volume of new stock issues by all U.S. corporations (other than mutual funds) over this period, with pension funds and odd-lot investors the only other very substantial net stock buyer groups during these years.¹² This ratio for mutual funds increased fairly steadily from 15 percent in 1953 to 44 percent in 1958. It would also be useful as a basis for comparison to relate net stock purchases by mutual funds to the totality of net stock purchases by all economic units (single individuals or institutions) with purchase balances, but the data for such a comparison do not exist; this ratio would probably be above the ratio of fund gross purchases to total gross purchases but well below the ratio of fund net purchases to new stock issues of U.S. corporations.

¹⁰ See SEC Statistical Bulletins (e.g., February 1961, p. 16) for data on member and nonmember transactions on the New York Stock Exchange.

¹¹ See Open-End Company Statistics, National Association of Investment Companies, for quarterly data on aggregate portfolio transactions of mutual funds.

¹² See SEC Statistical Bulletins.

TABLE VI-2.—Stock market behavior of 7 largest mutual funds during major market movements, January 1953 to September 1958

[Dollar amounts in millions]

	7 funds' gross purchases of common stock per month	7 funds' net purchases of common stock per month	7 funds' net inflow per month	Percent of 7 funds' common net purchases to 60 percent of net inflow ((2) ÷ 0.6(3))	Percent of 7 funds' common gross purchases to New York Stock Exchange volume ¹ ((1) ÷ volume)	Percent of 7 funds' common net purchases to New York Stock Exchange volume ¹ ((2) ÷ volume)
	(1)	(2)	(3)	(4)	(5)	(6)
PERIODS OF MARKET DECLINE						
February to September 1953.....	\$20.0	\$10.7	\$19.5	91.7	1.71	0.91
February to April.....	25.7	15.6	20.0	130.3	1.78	1.08
May to June.....	14.1	6.8	17.3	65.6	1.39	.67
July to September.....	18.3	8.4	20.5	68.5	1.82	.84
August 1956-February 1957.....	35.5	10.8	37.5	48.1	1.54	.47
August to September.....	39.3	12.0	31.5	63.6	1.66	.51
October to December.....	25.9	10.3	41.0	41.9	1.13	.45
January to February.....	40.9	10.3	38.2	45.1	1.79	.45
August to December 1957.....	31.8	17.7	28.5	103.7	1.45	.81
August to September.....	39.1	23.1	23.7	162.8	2.07	1.22
October.....	33.8	18.2	32.2	94.4	1.20	.65
November to December.....	23.5	12.2	31.3	65.1	1.13	.59
PERIODS OF MARKET RISE						
November 1955 to July 1956.....	41.0	16.9	35.6	79.3	1.60	.66
November to January.....	31.3	15.9	34.3	77.5	1.28	.65
February to April.....	46.8	13.5	39.4	57.3	1.69	.49
May to July.....	44.8	21.2	33.0	107.2	1.82	.86
March to July 1957.....	42.2	16.7	23.8	107.2	1.77	.70
March to April.....	39.9	14.8	25.2	98.0	2.01	.75
May.....	52.9	26.7	20.7	215.4	1.89	.95
June to July.....	39.1	13.5	23.9	94.4	1.52	.53
January to September 1958.....	47.7	18.0	34.5	87.2	2.00	.75
January to March.....	39.7	13.4	35.9	62.3	1.93	.65
April to June.....	42.8	15.6	30.3	86.0	1.92	.70
July to September.....	60.4	25.0	37.3	111.9	2.10	.87

¹ See table VI-1, col. 7 for New York Stock Exchange volume.

TABLE VI-3.— Mutual fund stock market behavior during specified weeks around turning points,¹ 1956-57

[Dollars amount in millions]

Weekly periods beginning	Percent change in market (1)	Fund net pur- chases of com- mon stock (2)	Fund net inflow (3)	Percent of com- mon net pur- chases to 60 per- cent of net inflow (2) ÷ 0.6 (3) (4)	New York Stock Exchange vol- ume per week (5)	Ratio of com- mon net pur- chases to New York Stock Ex- change volume (2) ÷ (5) (6)
1956—July 23.....	-0.55	\$19.7	\$16.9	194.7	\$550	0.036
July 30.....	+1.14	10.7	16.3	109.6	699	.015
Aug. 6.....	-1.11	-7	17.1	-6.8	691	-.001
Aug. 13.....	-.55	5.9	14.2	69.3	538	.011
1957—Feb. 4.....	-2.01	20.7	26.7	129.4	321	.065
Feb. 11.....	+44	35.0	22.2	263.4	343	.102
Feb. 18.....	-.07	15.1	20.6	122.4	645	.023
Feb. 25.....	+60	-3	20.9	-2.3	765	-.000
July 1.....	+2.79	2.4	29.6	13.5	497	.005
July 8.....	+80	15.4	10.8	238.1	714	.022
July 15.....	-1.02	18.1	29.7	101.7	611	.030
July 22.....	-.27	7.4	19.7	62.8	495	.015
Oct. 7.....	-4.32	26.7	29.6	150.6	663	.040
Oct. 14.....	-1.49	12.2	10.8	188.7	576	.021
Oct. 21.....	+64	21.5	29.7	120.9	901	.024
Oct. 28.....	-.37	7.4	19.7	62.8	428	.017

¹ The peaks were Aug. 2, 1956, and July 15, 1957; the troughs, Feb. 12, 1957, and Oct. 22, 1957.