MERGER ACTIVITY

AND

INVESTOR PREFERENCE

by

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ABSTRACT

Over the past decade, the relative merits of growth by acquisition have been debated along economic, financial, political, accounting, tax, legal, and psychological dimensions. The investor has had to evaluate the different arguments for and against mergers in deciding how to invest his dollars.

This paper attempts to discover what the investor "vote" has been along the various merger dimensions. Fourteen dimensions have been described. In effect they are the different advantages a company might pursue in a merger:

Synergy . . .	production
	technological
	marketing
	financial
	organizational
Accounting . .	deceptive number of shares outstanding
	change in accounting procedures
	pooling of interest
	purchase
Taxes	tax-free mergers (loss carryovers)
	interest and dividend deductions
EPS	instant shift in EPS
Psychology . .	personal subconscious motives
Trading . . .	trading profits

A sample of one hundred forty-eight mergers was collected and catalogued according to five of the potential benefits involved. By looking at the average effect the likelihood of these benefits had on stock price, the relative weightings given them by the investing public

were determined.

The findings were that:

1) the market feels on average that a merger has a positive effect on the value of the buying company;
2) the market can determine (correctly or incorrectly) what the new value should be five to six weeks after it knows the merger has been seriously proposed;
3) over time the market has been able to learn of forthcoming mergers before they are publicly announced;
4) a substantial increase (decrease) in earnings per share resulting from a merger represents a gain (loss) for the buying company, according to the market;
5) the market used to be more sensitive to shifts in pre-conversion EPS than in post-conversion EPS;
6) conglomerate mergers have recently been weighted negatively by the market;
7) mergers cause selling companies to experience substantially greater returns than buying companies

Methods of validating and extending these results are proposed.

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Chapter I

INTRODUCTION

The merger wave of the past decade has evoked a considerable amount of debate over the relative merits of growth by acquisition. Economists, lawyers, politicians, psychologists, tax experts, accountants, and security analysts have argued both for and against this most rapid means of expansion. Left to decipher and evaluate the various pros and cons of the merger phenomenon is the investor. It is he who must ultimately decide which aspects of a merger are valuable. It is he who must give dollar values to the verbal evaluations put forward by the so-called experts.

Few efforts have been made to poll investors in regards to their preferences for mergers. It is unclear how the market votes its dollars when the question of mergers arises. Therefore in an effort to determine how the various merger arguments have balanced against each other in recent years, this thesis has been designed to measure the investor's response to selected merger developments. Value is given to a financial event as it causes one company or another to be appraised at some new level. Based upon this, the values assigned to different merger elements have been defined by determining how the news of

their probable occurrence affected the values of the companies involved.

Chapter II attempts to outline the various merger events that could cause a company to be revalued. The (positive or negative) benefits a company could realize from a merger are described. As the knowledge of these potential benefits becomes public beginning with the announcement of a merger, the stock price of the merging companies is affected.

Chapter III proposes a way of gathering a sample of mergers and then categorizing them according to the benefits described in Chapter II. The data limitations are discussed, as they restrict the study to five of the fourteen proposed merger elements. Finally a time period for each merger is picked within which the news of the probable merger benefits is first disclosed. It is within this time period that merger-induced revaluation occurs. Tests are described that will illustrate the extent of this revaluation.

Chapter IV discusses and illustrates the market's relative preference for the different merger events. In conclusion, Chapter V highlights the findings and proposes areas of further research. It will become increasingly clear in this study that the market has definite opinions about each merger element, some of which do (and did) not

agree with the opinions of some experts. It will also become increasingly apparent that the market is amazingly fast in evaluating (however correctly or incorrectly) the oftentimes complex information that is a part of each merger announcement.

Chapter II

MERGER BENEFITS

A company attempts to merge with or acquire another company because it feels that certain profitable advantages can be gained from the transaction. There has been serious debate as to the legality, validity, rationality, and reality of many of these merger benefits. The following is a detailed description of most of these benefits, together with the "official" sentiments they have evoked.

Synergy

The reason given most often for two companies combining into one is that the two of them together can produce more than they can as separate entities. Traditionally stated, the synergistic argument is that in a combination, one plus one can equal three.

There are several areas of operation in which companies claim they can achieve efficiencies or economies by merging. In the area of production, businessmen claim that mergers will result in larger production facilities which in turn will permit the use and justify the cost of more efficient machinery, allow for longer, more economical production runs, and result in more desirable economic ordering quantities ("EOQ's"). In the area of technological development, companies claim that a merger

allows two R&D departments to come together and benefit from each other's separate talents and facilities. With marketing, the claim is that a merger will bring two advertising efforts together into one account, which by its size might allow the combination to receive advertising work at a discount rate; also a claim is made that upon merging two companies can use a single sales force to peddle their companies' wares whereas before two forces were required.

In terms of organizational benefits to be derived, the contention is that mergers pave the way for one legal department, control group, and/or public relations staff doing what was previously done by two such groups. And where financial costs are involved, the argument for mergers is that an expanded operation lowers the chances of loan default, hence it lowers the rate at which money can be borrowed and extends the time of repayment.

These benefits, of course, are not claimed for all mergers. The type of merger involved determines what benefits are potentially realizable, and there are four basic types.[1]

--Horizontal mergers, those involving firms which are basically involved with the same product lines, are most apt to pursue synergistic benefits in the areas of production, marketing, and technological development: two

electronics firms might decide to merge because their industrial salesmen could sell both lines as they made their calls, because their research departments had complementary skills and capabilities, and because, for instance, a production capacity in one company might be used to make up for a deficiency in the other.

--Vertical mergers, or those mergers that involve companies which before had been users or suppliers of each others products and services, can be based upon benefits in the areas of marketing and production: for example, if a chain of retail outlets merges with a manufacturer of one of the products sold in the outlets, the cost to the outlet of providing the wholesaler with a profit would be avoided, and the manufacturer could streamline its production line as it concerned itself with a smaller number of products and quality levels.

--Circular mergers involving firms with nonsimilar product lines but similar distribution channels would be apt to pursue marketing economies: per unit distribution costs could be lower if a tobacco company merged with a chewing gum manufacturer, as both distribute to the same outlets.

--Conglomerate mergers involve companies with dissimilar product lines and marketing activities and usually are billed as efforts to achieve synergistic advantages

in the areas of organizational control and finance: the manufacturer that combines with a motion picture studio can pass its credit rating on to the studio so as to better finance its films, and top quality management can be attracted to such a firm with the sales pitch that their talents are more fully utilized in such a contemporary, multi-market operation.

The wholescale validity of every one of these combinatory advantages has been questioned to some degree in the past few years. No expert has claimed that the advantages are unrealistic in every situation, but the gist of most of the studies has been that a company must be very careful in choosing to pursue one or more of these benefits by means of a merger.

In reference to production economies of scale, several studies have shown that many production lines are presently larger than the average optimal production line, as determined by a variety of complex tests.[2] For the pruposes of this theses the inference is that most companies would do well to selectively cut back their production facilities rather than pursue greater capacity. In the area of technological advantages, also, many experts claim that most companies would benefit from cutting back the size of their R&D departments. Several studies have shown that research productivity is not related to product

diversification or corporate size.[3] Of course, besides meaning that companies should not hope to become more innovative as they expand, these findings could also imply that for a company to sustain any level of technological excellence, it should seek to buy up or combine with small technological operations and allow them to operate as fairly independent units, definitely a pro-merger stance. The reservation has been expressed and validated, nevertheless, that size should not be the end-all in the areas of production and research and development.

With the question of financial benefits, few people would disagree with the advantage that is to be gained from merging with a company that has unused borrowing capacity: more cash can lead to greater assets which can lead to greater sales, which can ultimately result in greater profits. There is some question, however, as to whether all companies by merging can significantly improve the conditions under which they borrow money. All large, successful companies would certainly face the best loan conditions possible so this advantage is restricted to small companies that merge with large companies, and companies in fairly risky situations that merge with more secure firms. (As will be shown later, this pair of conditions exists in a large number of the consummated mergers.)

In the case of organizational benefits, it has been the advent of the computer and the new real time information systems which has allowed many merging companies to claim that advantages are to be gained from locating one highly talented group of managers in a central place and letting them oversee the operations of oftentimes widespread, diverse operations: the ability to push the vast skills of a small number of men into a large number of situations is supposedly the new development. This advantage is indeed possible in some situations but its universality is becoming more and more suspect each day; there is currently a great deal of debate over the value of general management skills, as opposed to skills and knowledge particular to the different industries. People have asked whether a manager or policy maker, no matter how bright, can oversee the operations of completely different industrial organizations with equal proficiency. This is not to doubt that some such centralized control function could be made effective (as it might be with a group of men brought together who were each expert in one of the industries represented in the organization) but it does question some of the one-man-knows-enough-for-all approaches attempted in the past.

With the question of the marketing advantages to be gained from a merger, the potential anticompetitive

effect of merger activity becomes a key issue; whenever someone discusses the enhanced market power a company gets from merging, or the savings he can realize with bulk rate discounts on advertising expenses, he is potentially talking about the benefits of reciprocal dealing, exclusive dealing, tie-in sales, and predatory pricing,[4] all illegal practices as they restrict competition. Any development leading to the creation of unmatchable distribution and advertising systems in looked at warily by the Justice Department; as an example, the merger between Clorox and Proctor & Gamble was disallowed by the courts because Proctor & Gamble was a massive supplier of soap products to grocery stores and could potentially withold the supply of these products if Clorox was not included on the grocers' shelves.[5] The implication here is that marketing advantages can be sought in a merger but never to the point where they are non- or anti-competitive. Obviously a company must be very careful as it markedly shifts its market position because the advantages could be very negative (i.e., illegal).

It is generally obvious that synergistic advantages are obtainable in merger situations, but the extent to which they exist is debatable. It appears that "small" companies have the most to look forward to in a merger, for financial, and marketing reasons, and the least drawbacks to fear, for production and technological reasons.

"Large" companies, on the other hand, have little to gain for production, financial, and marketing reasons, but with extremely proper handling can look forward to technological and organizational benefits. With both large and small companies, however, managers feel that no synergistic benefit is inherent in a merger; it must be developed.[6]

Accounting

An area of possible gain that has been criticized and debated as much as any other has to do with the various means of accounting for the combination of balance sheets and income statements. Accepted accounting conventions allow some freedom of choice in the selection of ways to account for various expenses and revenues, which in turn gives a company an opportunity to significantly affect its reported performance without altering the operational basis of that performance. This state of affairs is debatable enough, but with a merger situation, the controversy is even more marked.

It is best to look at this controversial area of potential benefits from the viewpoint of the earnings per share (EPS) ratio, for different accounting practices can ultimately affect both the numerator and the denominator of this critical figure. To look at the denominator first, the number of rights allowed to participate in and make a claim upon total earnings, it has only

been in the past few years that the AICPA has established guidelines for determining what should be included as a participative right.[7]

In December, 1966, Accounting Principles Board Opinion Number 9 "recommended" that companies exhibit two EPS figures, one based on immediate claims on earnings (common stock) and another on potential claims on earnings (warrants, convertibles, etc.). Prior to this date, companies could elect to show only the earnings per shares of outstanding common stock. In merger situations, when it is often the case that some form of security is given in exchange for the outstanding shares of another company, companies could use various types of convertible or contingent securities and thus significantly increase the numerator or earnings figure without any appreciable increase in the denominator or shares figure.

Following Opinion Number 9 in 1966, the SEC ruled in June, 1968, that EPS figures based on "actual" shares outstanding would not be accepted if there were convertible shares outstanding. And in May, 1969, the Accounting Principles Board issued Opinion Number 15 which stated that all common stock and common stock equivalents must be used to compute EPS ("common stock equivalency is achieved by convertible securities if at issuance their cash yield is less than 2/3 of the bank prime interest rate").[8]

This opportunity to significantly enhance reported EPS by merging was curtailed.

There are still several ways a company can enhance the numerator portion of the EPS figure by selecting one accounting practice over another in a merger. The earnings figure is most obviously dependent on the generally accepted accounting principle chosen to deal with such things as inventory valuation methods (which affects the cost of goods sold), depreciation methods, and the expensing of R&D expenditures. A company using straight-line depreciation schedules can merge with a company using accelerated depreciation schedules, change the acquired company's depreciation schedule to straight-line, and cause the two companies together to have greater earnings than the two separate companies had added together. (LTV did this when it merged with Jones and Laughlin Steel Company.)[9] Although any company can choose to change accounting practices, it is a particularly likely event during a merger because the complexity of the combination and reorganization will most often cloud the extent to which such inflating practices are being engaged in; as a balance sheet and income statement become more complex, as it does in a merger, it is more difficult to determine the basis for a shift in earnings. Hence such illusory shifts are more apt to go unquestioned in a merger situation, and be seen as "real" gains.

The potential accounting advantage that is apt to

most affect the combined earnings of merging companies has to do with the manner in which the premium paid for a company is accounted for. Invariably the amount paid for a firm, the market value (MV), will not equal the book value (BV). The amount by which the two differ must be accounted for either as a write-up (down) of assets acquired and hence result in increased (decreased) depreciation charges, or as an addition to what accountants call "goodwill," which is never expensed. The accounting treatment, and the subsequent effects on reported earnings, available to merging companies depends upon what happens to the ownership interests of each firm in the combination.

In a purchase combination, which "may be described as a business combination in which an important part of the ownership interests of the acquired corporation is eliminated,"[10] identifiable assets must be reappraised in light of the amount by which MV $\neq$ BV. Assets are written up (down) by the amount of the premium (deficiency) paid. In this manner, future depreciation charges are increased (decreased), future net earnings are decreased (increased), and cash flow is increased (decreased), to the benefit (detriment) of the recovery of the funds required for the purchase.

On the other hand, in a pooling of interest (POI) combination, described as a merger where the "holders of

substantially all of the ownership interests of the constituent organizations become owners of a single corporation which owns the assets and business of the constituent corporations,"[11] the book values of the firms involved are merely added together, and the excess of MV over BV is entered into the "paid-in surplus" account.[12] Depreciation charges are not altered; so the wisdom or folly that helped determine the premium to be paid is never reflected in the operating statements of the firm.

The difference in the two accounting procedures lies in the subsequent cash flows and reported earnings, and the opportunity that POI allows for future profitable resale of acquired assets. As indicated by the definition of a POI combination, ownership rights are the means of acquisition: with little cash or debt involved, the fact that cash flows are not enhanced in a POI is of little consequence. The difference between the cash flows with a POI and purchase reflects the difference in the degree to which cash is used in the acquisition. As for the subsequent differences in reported earnings, POI has come under close scrutiny because it does offer a merging company the opportunity to report a much more profitable picture than under purchase accounting. Finally if and when acquired assets are resold, reported profits are apt to be much higher under POI because the asset base has never

been stepped up. The drawback to this is that the firm's (capital gains) tax liability will increase with the profits.

The potential to "pad the figures" is obviously present in a merger situation, as indicated by the variety of accounting procedures applying to key areas of expense and income. As was stated earlier, the complex balance sheets and income statements usually resulting from a merger have the potential of being as deceiving as they are confusing.

Taxes

A third general benefit that can be obtained from a merger is the delay or complete postponement of various tax liabilities. Some tax advantages are available to all merging companies while others apply only to specific merger types.

A variably applicable tax advantage of great importance is the complete avoidance (or more correctly, the postponement) of all capital gains taxes permissible with some mergers. As defined by Section 368 (a) (1) of the Internal Revenue Code, tax-free mergers can be either a) statutory mergers, as defined by state law, b) mergers in which voting stock is exchanged for voting stock, and c) mergers where voting stock is given for a firm's assets.[13]

Whenever a substantial number of ownership rights (usually greater than 20%) are removed by a merger, the owners of the "selling" company have to pay a capital gains tax on the amount by which the market value of their shares exceeds the book value. Although this advantage most directly accrues to the sellers in a merger, there is an indirect benefit to the buyers: by not passing on any tax liabilities and because the seller is obviously interested in the net benefits to be derived from the merger, the buyer is able to bring another company into its lair at a smaller premium.

A more direct advantage to the buyer in a tax-free consolidation is the fact that he can apply the purchased company's tax loss carryovers to his own income statements. Oftentimes a company will have investment credit benefits, income deferrals on credit sales, and/or general losses that, due to one limitation or another, the company has been unable to apply to its own operating statements. When this company is brought together with another company in a non-taxable combination, 5% of these carryovers can be applied to the combined company's statements for each 1% in the new company that the selling company receives.[14] In this fashion many airlines (with the massive investment credits they have built up), companies like Montgomery Ward (with the tax deferrals on their credit sales), and

organizations like Studebaker (with their extensive losses to be written off) have all been prime targets for a merger; indirect cost (i.e., tax) savings exist to be purchased.

An advantage that a company might pursue in a taxable merger is the interest deduction allowed on the debt securities used in the purchase. If a company is bought outright, the buyer has profited by exchanging debt for equity: it is better to have to pay tax deductible interest than non-deductible dividends, assuming that appropriate debt/equity ratios aren't exceeded. If a company is bought in piecemeal fashion, via a tender offer with debt as the means of purchase, a very attractive advantage develops as the buying company is able to deduct 1) the interest expense and 2) 85% of all intercompany dividends paid into the buying company up to the point of complete merger;[15] it is possible that net dividends will exceed the net cost of those dividends, meaning the buying firm will profit even if the merger is not consummated.

The reservations about most of these tax benefits is that they are too short-lived. From the extreme case where a merger does not ever have to be completed for a buying firm to profit, to the case where tax write-offs are depleted after a few years, none of the incentives inherent in the tax benefits seem to be toward the long

run profitability of the acquired company. When such men as Wilbur Mills call for the non-deductibility of any large amount of acquisition debt expense (greater than 35% of purchase price), [16] the implied message is that a move should be made away from instantaneous, fleeting gains and toward long range benefits.

Trading Profits

One of the largest, non-recurring gains any company can realize in a merger situation is the profit on the stock of the company it has attempted but failed to buy. Owning some shares of the target company's stock (if less than 10% the ownership does not have to be registered with the SEC) the prospective buyer makes a high tender offer for the rest of the stock. If the selling company agrees to the offer, the merger is consummated. If the offer is disagreeable, oftentimes the selling company will seek out a firm to make a better offer, in an effort to stave off the first buyer; in this case the value of the shares of the target company held by the first buyer will most certainly rise.

Gulf & Western paid an average price of $90 per share for 618,000 shares of Sinclair stock, as it proposed a merger with the company. When Sinclair merged with Atlantic Richfield, the value of these shares rose to $126.

Similarly Loew's Theater bought over a million shares of Commercial Credit stock at an average price of $30 per share. Because it used convertible debentures as the means of exchange, Loew's could deduct the interest expense and make a profit on the intercompany dividends received. When Commercial Credit eventually merged with Control Data, Loew's could sell its shares at an equivalent price of $65 per share.[17]

The profit potentials in this type of activity are obviously great. The feeling among some concerned regulatory spokesmen, however, is that via this activity buying companies become mutual funds, in effect, with the power to influence the price of the stock in an upward direction. There is a feeling that the market can be rigged. Of course, seriousness of intent is a difficult thing to measure when one company says it plans to buy another company. About all that can be conclusively stated about this type of activity is that it permits a certain degree of flippancy in all merger negotiations.

Instant Earnings

As the market has become more and more concerned with earnings per share, the price/earnings ratio at which companies are sold has become a critical factor in all merger negotiations. It is the relationship between the buying company's PE and number of shares outstanding,

and the PE at which the selling company is bought as well as the number of its shares outstanding, that determines what will happen to the combined companies' EPS upon merger consummation and in the near future.[18]

For illustrative purposes, consider the simple case where Company A is deciding whether to buy Company B or Company C. The following conditions apply:

	Company A	Company B	Company C
Earnings	300	60	60
Shares	100	30	30
EPS	3.00	2.00	2.00
Stock Price	45	20	50
P/E	15	10	25

Assuming that B and C would both give up their shares for a 10% premium above current market price, Company A faces drastically different EPS prospects with the two candidates.

For A to offer B $22 per share, it must issue .49 shares of A for each share of B, or a total of 14.7 shares. This is equivalent to paying B $11 for each one dollar of earnings, which is below A's P/E of 15. Upon completion of the merger, the combined companies would have total earnings of $360 with 114.7 shares outstanding, for an EPS figure of $3.13.

For A to offer C $55 per share, it must issue 1.22 shares of A for each share of C, or a total of 36.6 shares. This is equivalent to paying C $27.50 for each one dollar of earnings. Upon completion of the merger the combined companies would have total earnings of $360, as with the merger of A and B, but a total of 136.6 shares outstanding, for an EPS figure of $2.64.

The reduction in EPS in the merger of A and C is due to the fact that C is a high growth company, with the prospect of greater future earnings being discounted to determine the present market price. A high price per present earnings is paid by A so that it can benefit from what C will or is expected to do in the future; the expectation is that C's earnings will grow fast enough to wash out in the near future the immediate dilution in EPS that the merger causes.

The merger of A with B causes a gain in EPS because B is expected to do less in the future than A is, and consequently can be bought at a lower PE than A's earnings are selling at. If both continue to operate as they have in the past, and the PE ratios given the earnings by the market are correctly indicative of the companies' growth potentials, then after several years the slower growing B will begin to dilute or retard the growth of A's earnings. So the initial jump in EPS is to be looked at skeptically.

Actually the shift in EPS that oftentimes accompanies a merger should provide little benefit or setback to the buying firm. When two sets of earnings are brought together, valued at different PE's, then disregarding synergy, the PE applied to the combined earnings should be an average weighted by the number of shares outstanding for both companies. It is as if the shares of A that a person holds after A and B have been brought together represent a 100/114.7 or 87% claim on the earnings of what was the old A, and a 14.7/114.7 or 13% claim on the earnings of what was B. Again disregarding any other benefits, the new PE at which A's shares should sell would be .87(15) + .13(10) or 14.35 (assuming no covariance). The new PE would reflect the average of the two levels of risk and return. The new selling price for A's shares would be (14.35)(3.13) = $45, the same price as before.

The benefit that a company might gain in merging with a company whose PE was less than its own, and hence which would cause the combined EPS to jump, would come from the market not knowing what synergistic benefits to apply to the combination. It is the advantages which did not exist when the companies operated separately which will cause the PE of the new combination to be something other than a weighted average of the two PE's. If the

market thinks that B's association with A will improve its portion of the total earnings picture, if it thinks that A can bring B in line with its own level of operation (in terms of future risk and return), then it will probably value the new combined earnings at what was A's PE before the merger. By valuing the larger A at the same multiple of earnings that the smaller A was valued at, the market is saying that the old A's expertise and industrial prospects will predominate in the new A, and/or that A and B complement each other in some beneficial fashion.

To the extent that the market correctly perceives the synergistic benefits to be achieved in a merger and appropriately assigns a new PE to the earnings of the new combination, valid gains in the stock price of the buying firm will take place. However, to the extent that the market incorrectly appraises the synergistic benefits to be derived from a merger, to the extent that the benefits are overestimated, consequently to the extent that, in the merger of A with B above, the poor return possibilities of B are not correctly accounted for in the combined company's PE, the new, higher earnings per share figure can incorrectly lead to an upward movement in the price of A's stock. It is this latter possibility which many merger critics claim the hocus-pocus and mysterious

mathematics of merger activity leads to. The feeling is that the investor considers the jump in earnings, which a merger can cause, a sign of improved performance, and bids up the price of the stock accordingly. It remains to be proven.

Psychological Gains

Economic reasoning is most often employed to explain or explore the basis for mergers. Yet a growing number of psychologists, management consultants, and business executives themselves are beginning to look at mergers in terms of the personal, psychological motives involved.

It is the contention of many of these people that a lust for power and prestige is behind many executives' decisions to acquire or merge with other companies. Most of these sentiments are still just conjecture, but there are a few studies that begin to validate the belief. It has been found that shifts in executives' salaries are most highly correlated with shifts in sales and/or assets.[19] This with the fact that growth in sales, assets and number of employees is most closely associated with merger activity indicates that managers might have personal goals in mind when pursuing a merger target. Of course, it is not so much the existence of these personal goals that some people worry about as it is their possible predominance.

Chapter III

TESTS FOR EXISTENCE AND EFFECT

Now that the various benefits to be derived from a merger have been described, questions can be raised as to the extent the particular advantages are being sought by merging companies, and the effect these pursuits have on the value of the companies involved. Consider the following conceptual framework, as a means of approaching these questions:

--Companies have the pursuit of one, a few, or many advantages in mind when they seek to merge with another company;

--To procure these advantages, the buying company offers to pay a premium for the shares of the selling company's stock;

--As the likelihood of the merger being consummated increases to complete certainty, the price of the selling company's stock will rise to the value of the buying company's offer;

--As the probability that the merger will be completed increases to 100% and as the advantages to be realized become apparent to the investing public, the price of the buying company's stock will increase or decrease

to the new value of the firm, this new value arising from the buyer paying more or less than the advantages are worth.

Basically this is a capital budgeting view of mergers. It says that companies give up cash, debentures, stock and/or management time in exchange for some advantage(s) which it thinks the selling company can offer it. Consequently the value of these buying companies is reappraised according to the amount by which the perceived cost does not equal the perceived returns.

This conceptual framework makes it very easy to determine the elements of the merger phenomenon that on average the market considers most attractive. First, all mergers are classified according to the potential advantages involved. For each merger the product lines, earnings, PE's, accounting practices, etc. are looked at to compile a list of probably-pursued-benefits. In this fashion a list of exemplary mergers is drawn up for each of the benefits described in Chapter II.

Next the announcement dates for each merger are determined; this is considered to be the date upon which the premium to be paid to the selling company and the benefits to be made available to the buying company are first disclosed to the investing public. It is on this date that the market first has a chance to revalue the

buying company.

Finally the stock prices of the various buying companies around the respective announcement dates are looked at to determine the effect the proposed merger and the subsequent probable benefits had on the value of the various firms. It is recognized that the movements of the overall market will have an effect on the movements of individual stocks; so the extra-market stock price movement for each merging company is the return in question. For each group of mergers pursuing a common benefit, an average extra-market return is determined for the period surrounding the respective announcement dates, which is used to determine the perceived merits of each potential merger advantage.

It should be pointed out here that a merger will invariably involve the pursuit of more than one benefit, and the premiums and the market responses involved will reflect the potential value of a group of benefits rather than just one. Upon the aggregation of all mergers with a common benefit, however, it is reasonable to assume that the effect of the common benefit will pervade in the results produced, that the effects of the other benefits present will tend to wash each other out. The only drawback to this reliance on aggregation to "make all other things equal" is that the different market responses discovered

for the different benefit categories must be viewed as relative weightings rather than absolute weightings: within the context of this study it will only be possible to determine the relative merits of each potential merger advantage, as opposed to the absolute merits.

The Sample: Collection

Following the outline just put forward, a group of mergers was collected using the following criteria:

1. The mergers could only involve companies from the New York and American Stock Exchanges and had to have been announced between June, 1962, and June, 1969. These restrictions were employed because the only readily available stock price data was that for these companies and this time period.

2. At least thirty trading days (approximately six weeks) had to fall between the date the merger was announced and the date it was consummated. Because of all the details that have to be worked out in a merger, an average of five months[1] passes between the dates of announcement and completion. Mergers consummated in less than (the arbitrarily specific) six weeks, therefore, are considered to represent the workings of extraordinary forces, which this paper does no wish to probe into.

3. The merger announcement had to have resulted in a completed merger. The purpose of this paper is to

study the market's reaction to potential merger advantages. As "potential" is dependent on 1) whether the merger is completed, and 2) whether after consummation the benefits are achievable, and as point two is the main focus of this paper, the incomplete mergers have been avoided in this study's sample.

In light of these criteria, the statistical abstracts of the Investment Statistic Laboratory were used to determine when a company had been taken off either of the major exchanges because of a merger with another company; this was taken to be the merger consummation date. Then the Wall Street Journal was used to determine when these companies first announced their merger intentions; the date upon which the terms of the merger were first issued was taken to be the announcement date.

The Sample: Categorization

The one hundred forty-eight mergers collected above (Appendix A) were then catalogued according to the potential benefits involved. The methods used were those a research analyst might employ to quickly appraise the benefits to be derived by a company about to merge. As described in Chapter II, there are fourteen different merger benefits a company can pursue, within six broad categories. These benefits are:

Synergy	1)	production
	2)	technological
	3)	marketing
	4)	financial
	5)	organizational
Accounting . .	6)	deceptive number of shares outstanding
	7)	change in accounting procedures
	8)	pooling of interest
	9)	purchase
Taxes	10)	tax free mergers (loss carryovers)
	11)	interest and dividend deductions
Trading . . .	12)	trading profits
EPS	13)	instant shift in EPS
Psychology . .	14)	personal subconscious motives

The data necessary to pinpoint the potentiality of some of these benefits was not readily accessible for use in this study. The lack of ready information on production facilities, technological facilities and capacities, marketing potentials, and financial statuses kept the first four forms of synergy from being included in the study. Similarly, the inability to quickly determine the accounting practices used by both companies before a merger caused the accounting shift benefit to be excluded. The difficulty in uncovering unused tax loss

carryovers made it impossible to fully study the tax-free advantages; the lack of information on individual companies' borrowing conditions excluded a look at interest and dividend deductions; the inability to determine what companies were trading in other companies' stock excluded the study of trading profits; and last but most understandably, the lack of an opportunity to test corporate executives kept personal motivations from the study. Nine benefit categories were omitted while five remained.

The benefits studied were the following:

1)Organizational Synergy: The best example of a search for public relations, legal, control, and managerial efficiency is the conglomerate merger.[2] The claim most often heard about conglomerates is that they give several to many different companies a chance to receive the expertise of a small group of centrally located executives. In light of this, all conglomerate mergers were considered to represent a pursuit of organizational synergy. To catalogue the mergers in the sample for this potential benefit, an analyst at Dean Witter & Company, Inc., in Boston was asked to list the companies which he considered to be conglomerate or aglomerate. His list led to eighteen companies[3] and thirty-four different mergers being classified as conglomerate.

2)Deceptive Number of Shares Outstanding: The only

way a company can base its EPS figure on varying numbers of shares outstanding is to issue a substantial amount of convertible securities. Therefore any merger in the sample that involved the issuance of a convertible security was categorized as a potential benefactor in this area. Ninety-two of the total sample of one hundred forty-eight mergers involved the use of convertible securities.

3)Pooling of Interest: Company annual reports and Moody's were used to determine if a company had combined with another on a pooling of interest basis. There were one hundred twenty-five such mergers in this sample.

4)Purchase: Company reports, Moody's, and published statements about the portion of one company already owned by another company were used to determine the extent to which purchase accounting was used. A group of twenty-three such companies was found.

5)Instant Shift in EPS: The number of shares outstanding for both companies in a merger, the respective earnings per share, and the share exchange ratio all determine whether and to what extent a buying company's EPS will rise or fall with the consummation of a merger. Consequently these figures were collected for each merger in the sample and used to compute the EPS figure each buying company would possess after the merger was completed, everything else being held constant.

The mathematics used to determine the projected EPS depended on the portion of the selling company that was purchased. If none of the merger was considered to be a purchase, if it was 100% pooling of interest, then the following formula was used:

$$(1) \qquad EPS_1 = \frac{EB + ES - D(PB/CS)}{CB + CS(CB/CS)}$$

Where:

EPS_1 = earnings per share of combined companies

EB = four quarter earnings for buying company as of announcement date

ES = four quarter earnings for selling company as of announcement date

CB = number of buying company common shares outstanding

CS = number of selling company common shares outstanding

CB/CS = number of buying company common shares given for each selling company common

PB/CS = number of buying company preferred given for each selling company common

D = dividend rate on preferred shares

This formula accounted for the fact that preferred shares are sometimes included in a share exchange package

and the dividends thus had to be subtracted from the combined earnings to get net earnings. What was not accounted for in this formula was the possible use of convertible securities. If convertibles were given for the shares of another company, then the above formula only provided the pre-conversion EPS figure. A second formula was used to show the post-conversion EPS figure, assuming all convertibles had been converted to their common share equivalents. As after conversion no dividends would be paid on the convertibles, the following formula applied:

$$(2) \qquad EPS_2 = \frac{EB + ES}{CB+CS\left[(CB/CS) + (PB/CS)(CB/PB)\right]}$$

Where:

EPS_2 = earnings per share after the conversion of all convertibles

PB/CS = number of buying company convertible preferred shares given for each selling company common

CB/PB = number of buying company common each buying company preferred is convertible into

If any portion of the merger was a purchase then additional considerations applied to the computation of an EPS figure. In a purchase combination, the amount by

which the market value or sales price of the selling company exceeded its book value had to be allotted to a write-up of assets and an addition to goodwill. The amount by which assets were written up would cause depreciation charges to increase, which would reduce combined earnings. The formula was:

(3)

$$EPS_3 = \frac{EB + ES - D(PB/CS) - \left[\frac{(\%P)\left[(1-BV)/MV\right](1-\%G)}{L}(MV)(1-T)\right]}{CB + CS(CB/CS)}$$

Where:

EPS_3 = earnings per share in a purchase combination, before conversion of convertibles

%P = per cent of the merger which is a purchase

BV = book value of selling company

MV = market value or sales price of selling company

%G = per cent of (MV-BV) assigned to undepreciable goodwill

T = corporate tax rate

L = average life of assets to be depreciated

Again if convertibles were involved, Equation (3) had to be modified in the same fashion that Equation (1) was modified. Also if cash or debentures were used the interest cost of

these funds had to be deducted. Assumptions were made to supply values to all of the above terms.[4]

For each merger, after projected pre- and post-conversion EPS figures were computed, percentage increases or decreases were derived from a comparison with the buying company's EPS as of the announcement date. The marked increase or decrease would, it is alleged, represent a potential positive or negative benefit to the buying company.

It should be stated here that the projected EPS figures calculated would most likely not be the combined EPS ratio to result from a merger. Things that would bear heavily on the resultant EPS, such as the use of tax loss carryovers, changes in accounting practices, the sale of assets to repay loans, etc., have not been accounted for in the figures computed. The projected EPS figures used here indicate only what the terms of the merger indicate the new EPS should be.

Tests For Market Response

With a sample of mergers collected and categorized, tests were devised to determine the extent to which investors preferred one type of merger over another. Assuming that investors were able to appraise the merits of a merger shortly after the announcement date, the average, extra-market, post-announcement return for each merger category

was considered to be the best measure of investor preference.

The extra-market return for one security and one time period is defined to be the following:

$$RET_{i,t} = \left[\frac{P_{i,t} + d_{i,t}}{P_{i,t-1}} - 1\right] - \left[\frac{P_{sp,t}}{P_{sp,t-1}} - 1\right]$$

Where:

$P_{i,t}$ = closing price of stock i at time t

$P_{sp,t}$ = Standard & Poor average at time t

$d_{i,t}$ = dividend yield on stock i for time t

It is equivalent to the yield on a dollar invested in security i minus the yield on a dollar invested in all securities, for time period t.

For each merger the daily returns for both buyer and seller were computed over a fifty trading day period, extending from twenty trading days before to thirty trading days after each announcement date. Then with these returns an Abnormal Performance Index (API)[5] was calculated for each merger category. It was supposed that investors invested equal portions of a dollar in all the buying (and in corresponding tests, selling) companies of a particular merger group twenty trading days before the

announcement of the different mergers; then abstracting from market effects, the fluctuation in the value of this dollar was followed over the next fifty trading days. The API was computed in the following way for each merger category:

$$API = \frac{1}{N} \sum_{i=1}^{N} \left[\prod_{t=-20}^{30} (1+Ret_{i,t}) \right]$$

Looking at the shifts in value of one type of merger investment, relative to the shifts in value of other merger investments, the next chapter will investigate the comparative perceived merits of each type of merger.

Chapter IV

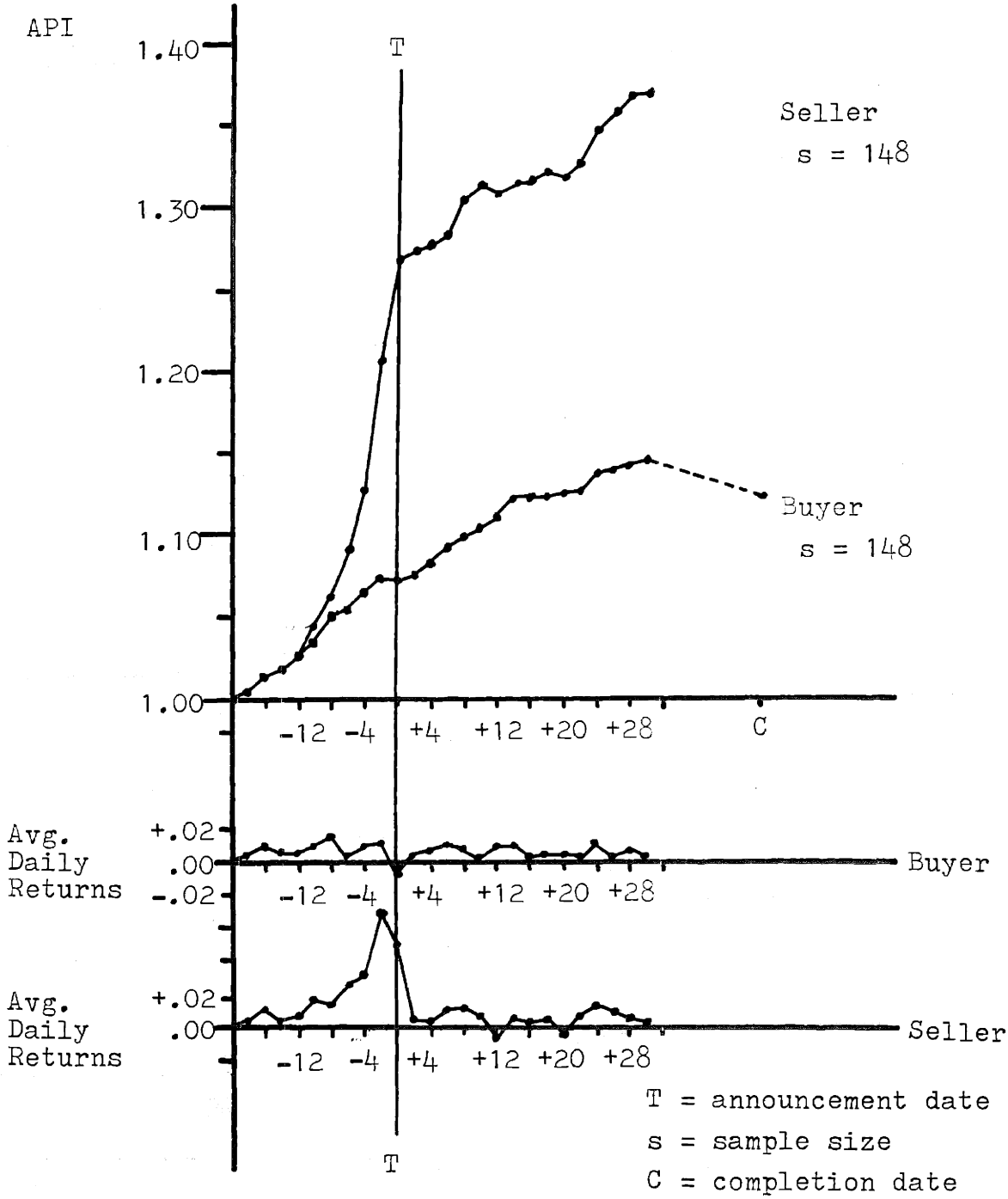
MARKET RESPONSE TO MERGERS

To look at investors' preferences for one type of merger relative to another, one should understand how the market reacted to mergers in general. Figure 1 shows the fluctuations in the value of a dollar invested equally in all buying companies twenty trading days prior to the announcement of a merger. The daily extra-market returns (or as shown in the Figure, the two-day returns) were all positive except for the day of announcement, and the shift in value over the fifty-day period was from 1.000 to 1.145. On the date the merger was consummated, an average of ninety-nine trading days (or six weeks) after it was announced, the value of the dollar had shifted to 1.122.

How the API performed between t + 30 days (t = announcement date) and t + 99 days is uncertain. Seemingly over this period the probabilities of completion would increase gradually and the value of the buying companies would increase (or decrease) to a new merger-induced level. Yet at t + 99 days when it was certain that the merger would be completed, the buying companies were worth what they were at t + 20 days. Two possible explanations exist:

1. Shortly after the announcement, the pro-

Figure 1
Returns for Buyers and Sellers



babilities of completion were perceived to be 100% and an early consensus was reached on the benefits to be gained by the buyer. The value of the buying companies' shares moved to their new level quickly and then fluctuated about it.

2. From t to t + 99 days, the probabilities of completion increased steadily, while there was an initial high appraisal of, and then a growing disenchantment with, the benefits to be gained by the buyer. The value of the buying companies' shares increased quickly and then tended to hold at the new level as the increasing probabilities negated the effect on price of the decreasing but still positive valuation of the benefits involved.

Whatever the explanation, at t + 20 days the stock price of the buying company did begin to level off at a point that was approximately maintained till the merger was completed.

When the market <u>began</u> to reappraise the buying companies' shares is of some question. Since the buying companies' shares showed positive extra-market returns for the entire month before the announcement, it is possible that investors started pursuing these shares more than a month before the announcement. With the selling companies' stock (Figure 1), significant increases in the API and

the two day returns were experienced from t - 12 days to the day of the announcement. This indicates that the news of a pending merger was available two to three weeks before it was announced. It can be said that for both buying and selling companies, 60-70% of the increase in value was experienced prior to the announcement.

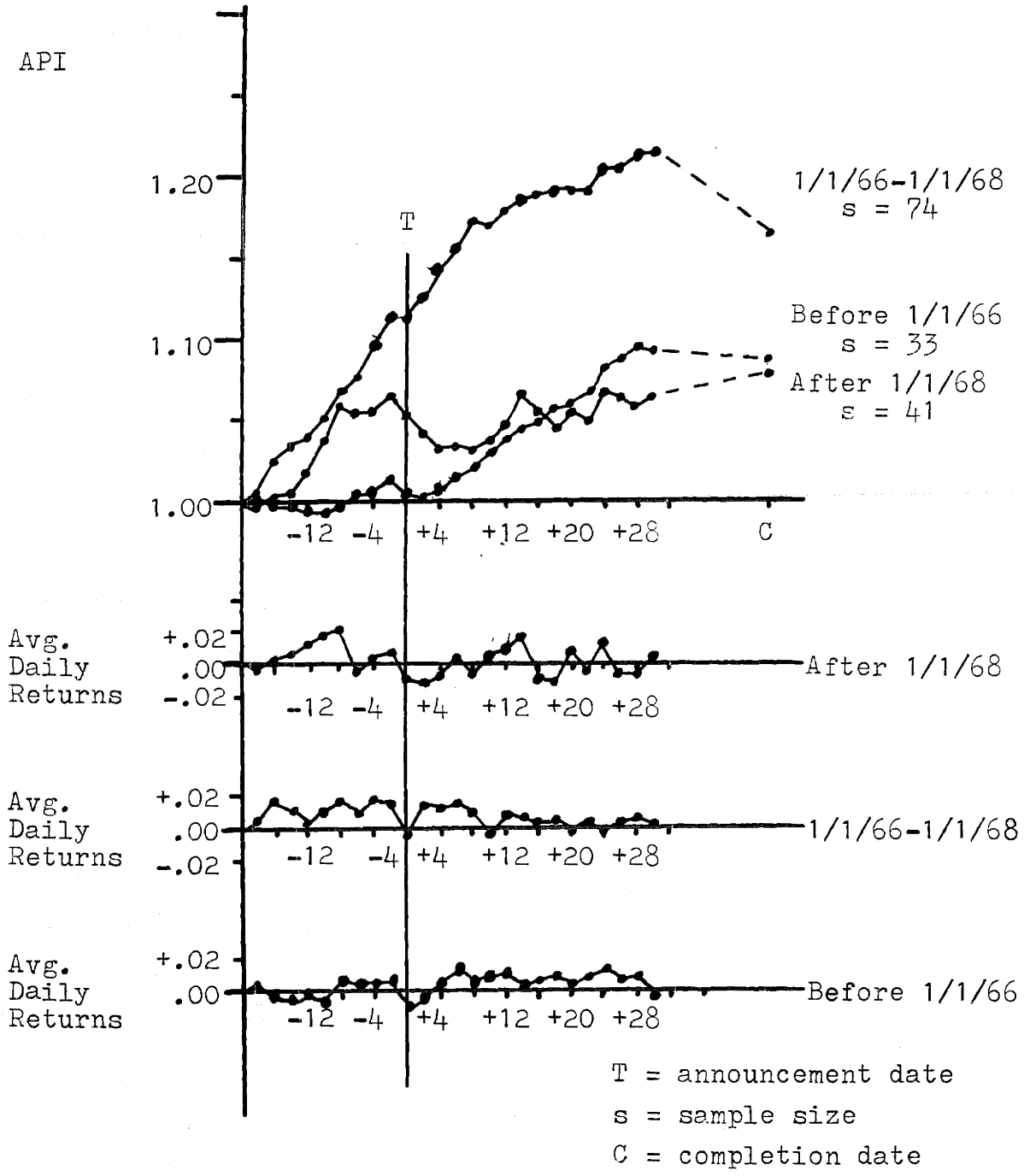
The merger-induced shifts in stock price have varied over time (Figure 2). From July, 1962, to January, 1966, buying companies did not experience marked increases in the value of their shares till the day of the announcement. Then over the next thirty trading days the average value or API rose to 1.094. By the time the merger was consummated, this value had fallen slightly to 1.085.

From January, 1966, to January, 1968, buying companies exhibited significant positive returns from (at least) twenty days before to eight days after the merger announcement, when a 17% increase in value was realized. Over the entire fifty day period, the value of a dollar invested equally in buying stocks rose from 1.000 to 1.214. Taken to the date the mergers were consummated, this value dipped to 1.162, indicating that the market initially tended to read advantages into mergers which they later came to feel couldn't be achieved.

For the period from January, 1968, to June, 1969, there was a wider fluctuation in the returns exhibited by the buying companies than in the other time periods.

Figure 2

Returns for Buyers:
Different Time Periods



The API rose to a value of 1.059 ten days before the announcement, and then fluctuated about this level, rising slowly to 1.079 on the date the mergers were consummated. It is interesting that after January, 1968, most of the returns came prior to the announcement, while before January, 1966, the returns weren't experienced till after the announcement. This suggests an expanded use of inside information over time, possibly with the expanded institutionalization of the market.

Another interesting observation is that in all three time periods, there were negative returns for the buying companies on the day of announcement. This held true for almost every type of merger studied, as will become evident later in the chapter. It is not clear why this phenomenon took place. It might have been that the small or risk averse investor, having seen his stock increase in value over the past few weeks, having heard that his company was buying up or merging with another company, and being too unsophisticated to analyze the effect the merger would have on his stock, decided to take his profit while he still had one to take. It would be interesting to see if the odd lot sales in the buying companies' stock went up on the day of the announcement.

Response to Conglomerate Mergers

The organizational synergy (which this paper assumes

to be) inherent in conglomerate mergers has been appraised differntly by the market over the past few years. Prior to January, 1966, conglomerate mergers were appraised at higher levels than nonconglomerate mergers. At t + 30 days, conglomerate stocks had provided a return of 17.4% over the previous fifty days (Figure 3), while nonconglomerate stocks showed a return of 7.9% (Figure 4). The variation in the average daily return was also greater for the conglomerates: there were larger swings in price for the companies pursuing organizational synergy.

From January, 1966, to January, 1968, conglomerates continued to show both higher and more variant returns. Over the fifty day period in question, conglomerates returned 32.0% while nonconglomerates retruned 16.9%. The conglomerate/nonconglomerate return ratio was approximately 2:1, as it was prior to 1966, indicating that conglomerates were no more popular relatively speaking than they were in the earlier period. Both groups of stocks tended to decrease in value about 20-25% from t + 30 days to the date the mergers were consummated: both were equally subjected to initial overappraisal during this highly speculative period of investment.

For the period after January, 1968, the announcement of conglomerate mergers tended to result in the realization of again highly variant but now negative returns. Investors

Figure 3
Returns for Buyers:
Conglomerates: Different Time Periods

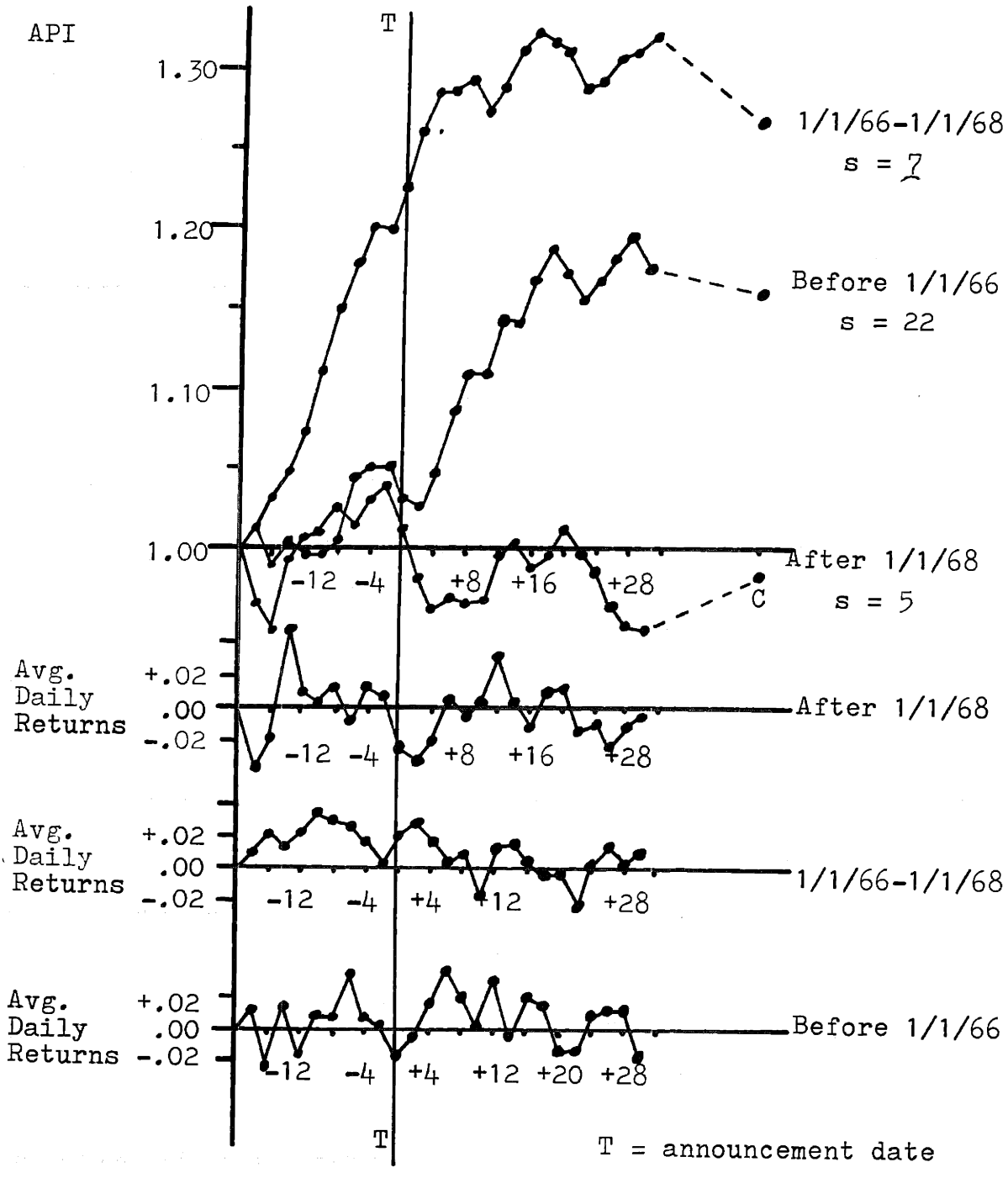
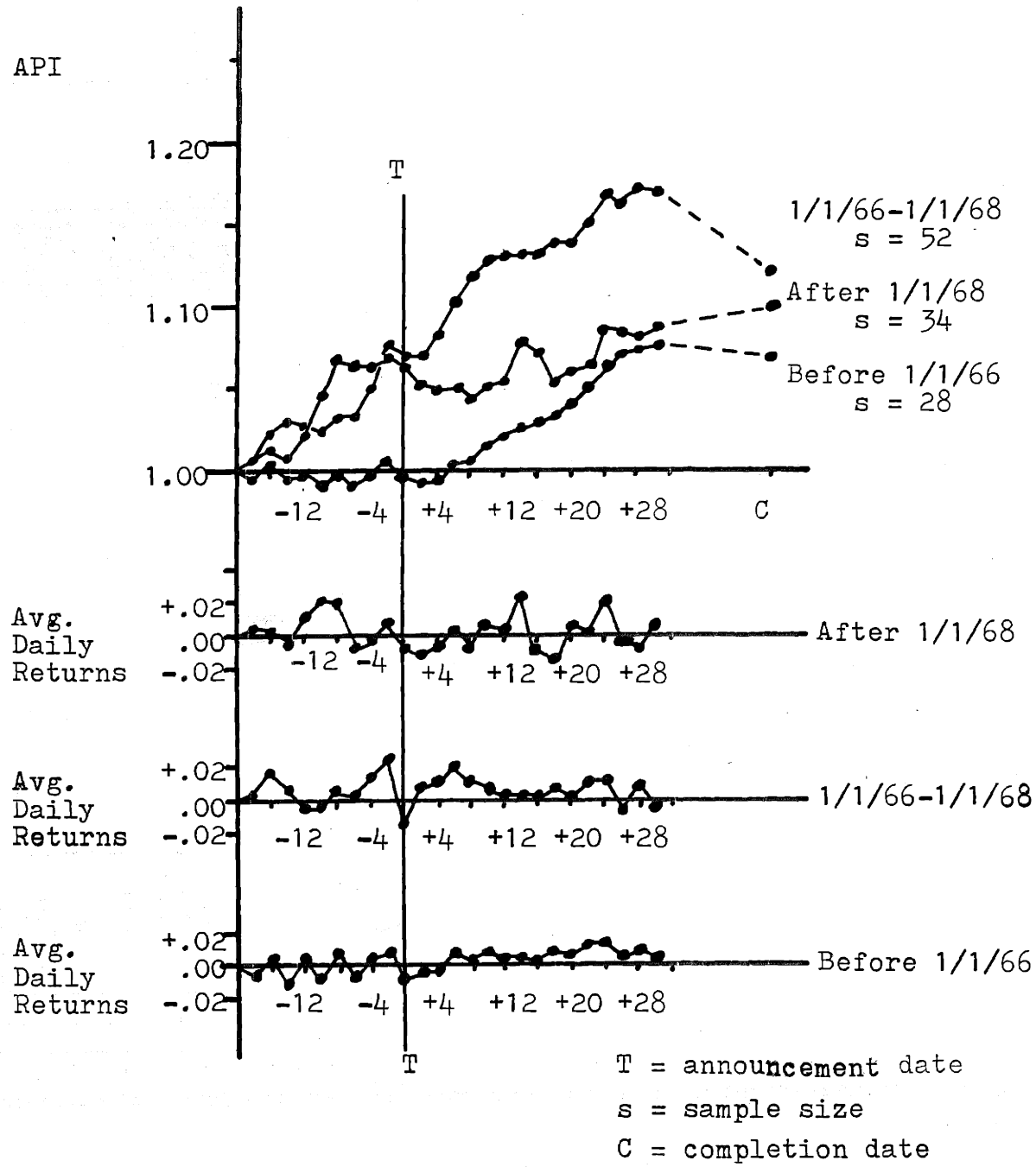


Figure 4

Returns for Buyers:
Nonconglomerates: Different Time Periods



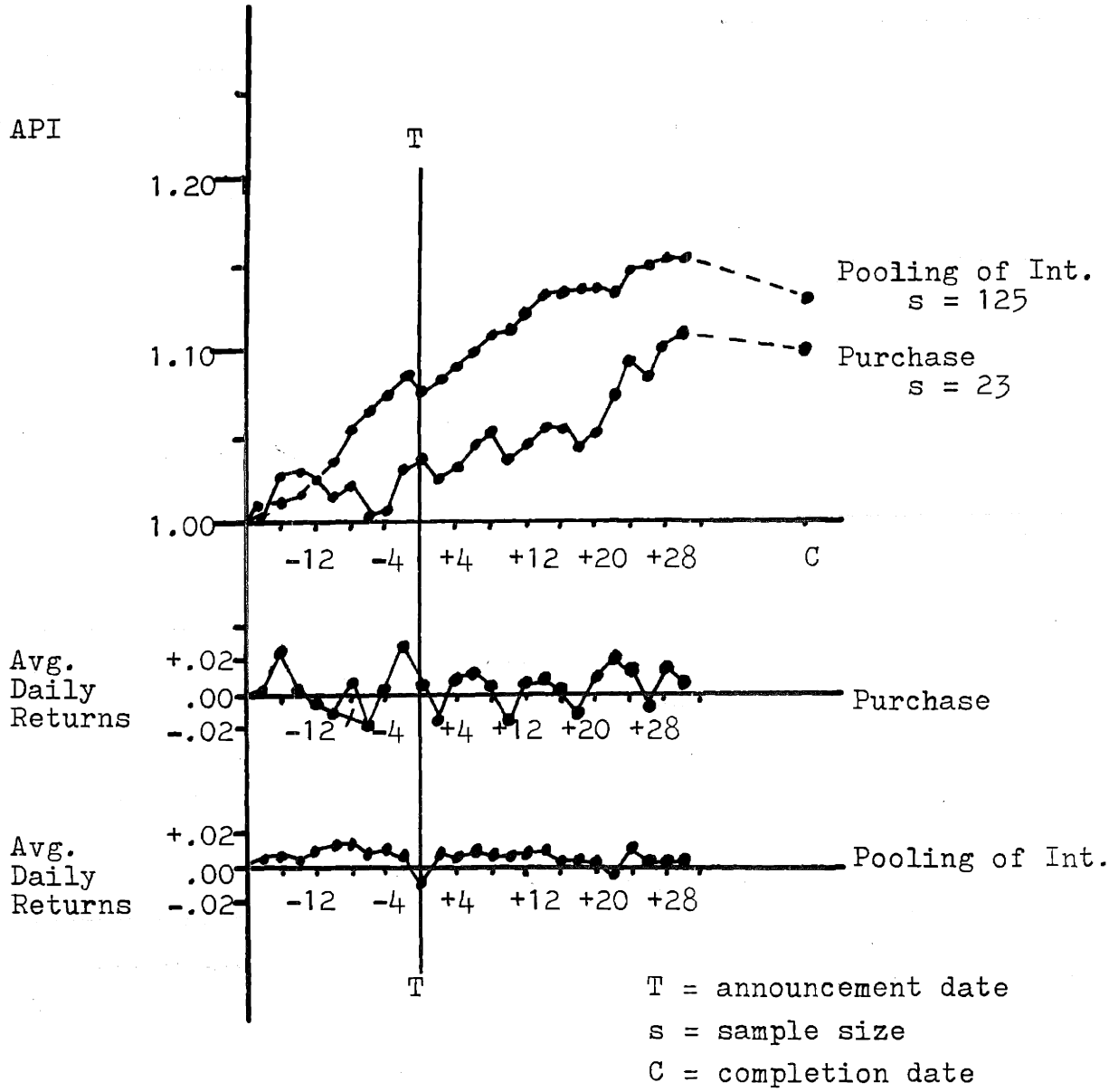
had obviously come to doubt the advantages to be gained from a conglomerate merger. Investors received a -5.1% return with conglomerates over the specified fifty days, and a +8.6% return with nonconglomerates. Conglomerates proved to be vulnerable to any of a number of maladies: regulatory oppression, the possible non-universality of managerial expertise, the possible general aversion to prolonged complexity, and/or the general lack of results could have had some bearing on these post 1967 negative returns. The drawback to conglomerate mergers does not appear to have been the premiums paid, as the average premium[1] paid by conglomerates to sellers during this period was 15% of their market price, while for nonconglomerates it was 22%. Obviously the market doubted that advantages were to be gained at any price.

Response to Pooling of Interest and Purchase Mergers

Mergers that were accounted for as at least partial purchases tended to exhibit less positive returns than completely pooling of interest combinations. From t - 20 days to t + 30 days, purchase mergers produced an average return of 10.8% while non-purchase mergers showed a return of 15.2% (Figure 5). This difference is expected, though, given the fact that in purchase mergers, the buying company oftentimes owns some portions of the selling company by the time the merger is announced: with a prior relation-

Figure 5

Returns for Buyers:
Purchase and Pooling of Interest



ship between buyer and seller established, many of the benefits to be derived from a merger quite possibly have been discounted by the market before the announcement period under investigation.

It is interesting to note that the announcement of a purchase combination produced more variant daily returns than the announcement of a non-purchase merger. Possibly this was due to the tender offers and subsequent fights for control which can accompany purchase mergers. It was hypothesized at the beginning of Chapter III that the market's reaction to the announcement of a merger was dependent upon 1)the perceived benefits to be gained by the buying company relative to the premium or price paid for those benefits, and 2) the probability that the merger would be completed. When tender offers are made the probability that the merger will be completed is highly variable over time; management teams oftentimes are at odds with each other, several companies can make competitive tender offers, and/or court injunctions can be used to halt or force take-over bids.[2] It is not unlikely at all that the average daily returns for purchase mergers varied greatly.

Theoretically in purchase mergers, the premiums paid to selling companies should be higher than in non-purchase mergers, because of the capital gains tax the

seller has to pay on the proceeds of his sale (see Chapter II). With the mergers tested in this study, however, the expected difference in premiums did not materialize. For non-purchase mergers, the average premium paid (as a per cent of seller's market price) was 26%; for purchase mergers, it was 24%. The indication is that little of the seller's capital gains tax was paid by the buyer, in the form of higher premiums.[3]

Response to Instant Shift in EPS

If after a merger the market reappraises the riskiness of the buyer's operations in light of the pre-merger risk levels for both buyer and seller, the shift in earnings per share that can result from a merger should have little influence on the stock price of the buying company. If, however, the market feels that the increase (decrease) in EPS is due to an improvement (decline) in operations, then the market price of the buying company's shares will respond to an EPS shift.

Judging from the returns in this study associated with different shifts in EPS, the market did feel on average that after a merger, operations improved (worsened) with an increase (decrease) in EPS. The average returns were computed for all mergers with a merger-induced shift in EPS 1) greater than 15%, 2) between +5% and +15%, 3) between -5% and +5%, 4) between -15% and -5%, and 5) less

than -15%. As indicated in Figure 6, the returns for the fifty day period around the announcement date, and the period running from t - 20 days to the date of merger completion, were the following:

ΔEPS	To t + 30	To Completion
> +15%	17.6	17.1
+5% to +15%	20.6	17.0
-5% to +5%	13.6	12.5
-15% to -5%	15.2	12.8
< -15%	5.7	-2.5

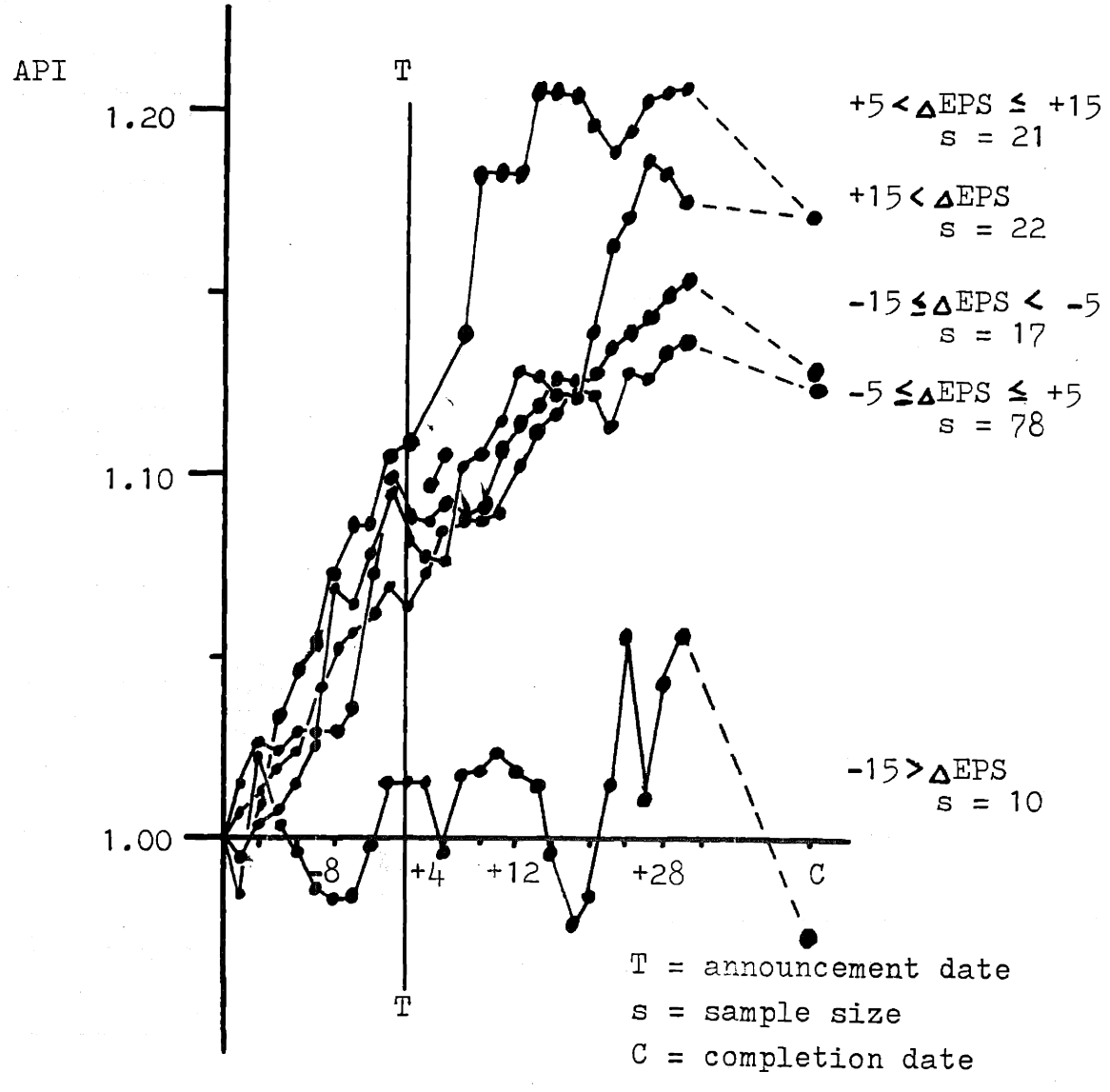
Seemingly the attractiveness of a merger was positively associated with the resultant shift in EPS: the greater the shift, the greater the return. Investors at least partially evaluated forthcoming mergers by looking at the expected change in earnings and shares outstanding. This is not an unlikely finding. If one company "pays" or gives up more for another company than it is worth, then its EPS will be lower than if it had paid the correct price.

Response to a Difference in Fully Converted and Partially Converted EPS Figures

The opportunity to be deceptive about the number

Figure 6

Returns for Buyers:
Different Shift in EPS



of shares outstanding existed only prior to 1968 (see Chapter II). Merging companies, especially, were accused of issuing convertible securities in an effort to report the oftentimes more favorable pre-conversion EPS figure.

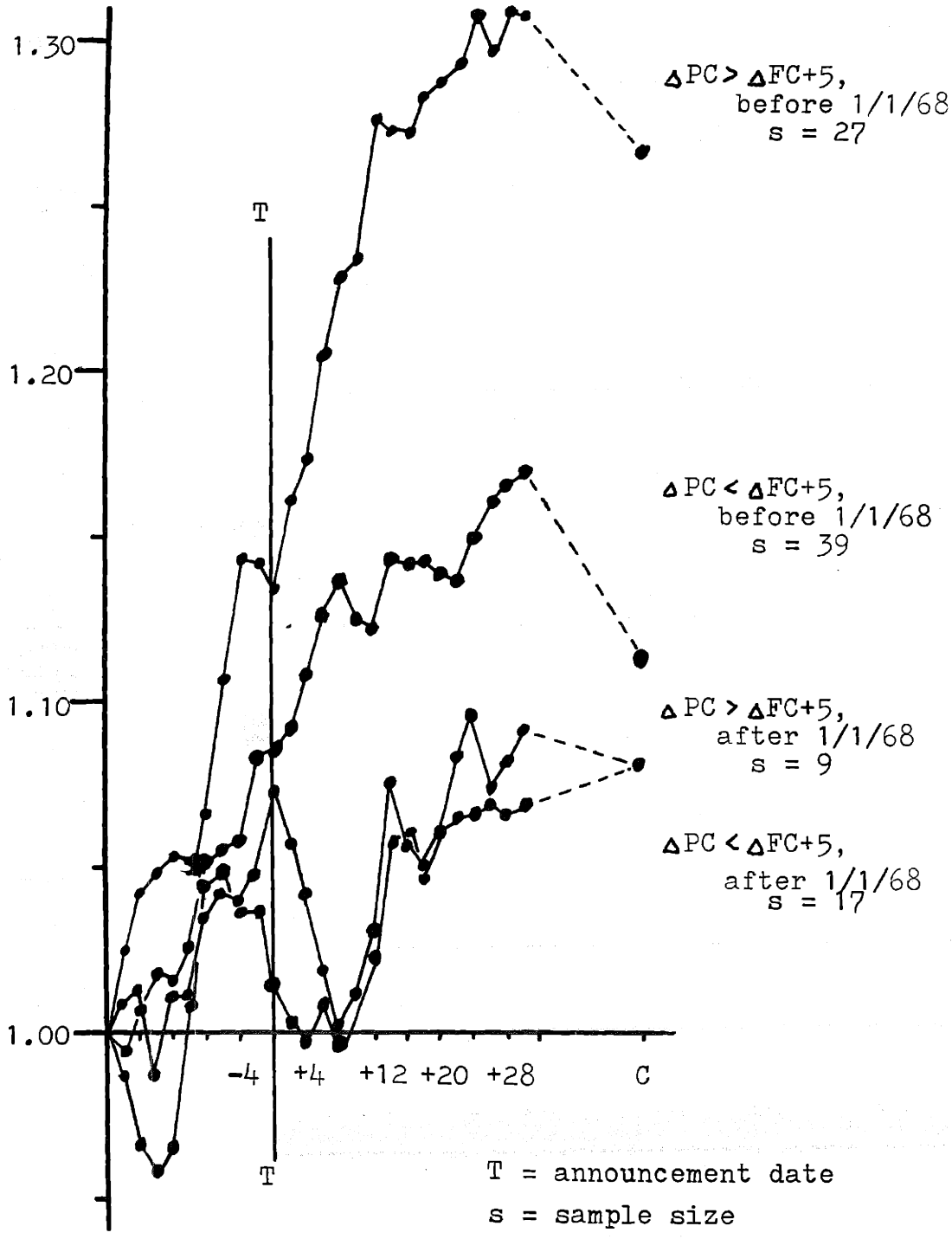
Of the one hundred forty-eight mergers studied, ninety-two involved some form of convertible security. The average pre-conversion shift in EPS was +10% for the ninety-two mergers, while the average full conversion shift was +5%. It was definitely possible for companies to "pad" their EPS figures by not accounting for the conversion of all convertibles.

It seems to have been in their interest to do so, too. Prior to 1968 when the meaningfulness of the pre-conversion EPS figure was unquestioned, the market tended to respond to the shifts in pre-conversion EPS rather than the full conversion figure. As indicated in Figure 7 and detailed below, the returns for a merging company were greater if the percentage shift in its pre-conversion EPS figure (ΔPC) was significantly greater (by at least five percentage points) than the shift in its full conversion EPS (ΔFC).

Before 1/1/68	To t + 30	To Completion
$\Delta PC > \Delta FC + 5$	30.8	26.5
$\Delta PC \leq \Delta FC + 5$	16.9	11.2

Figure 7

Returns for Buyers:
$\Delta PC \neq \Delta FC$



T = announcement date
s = sample size
C = completion date

After 1/1/68	To t + 30	To Completion
$\Delta PC > \Delta FC + 5$	9.0	8.2
$\Delta PC \leq \Delta FC + 5$	6.6	8.0

After January, 1968, this relationship did not hold true: the market was insensitive to a discrepancy in the movements of the two EPS statistics. It was only prior to 1968 that the market tended to place the greater weight on the shift in pre-conversion EPS. As has been indicated, this could have been because companies only reported the one EPS figure, or because investors gave little value to a hypothetical ("if all shares were converted") EPS figure. Whatever the reason, the AICPA opinions of 1968 seem to have restructured investors' priorities.

Chapter V

CONCLUSIONS

Recent studies by other people[1] have looked at the process by which security prices adjust to new information. In an effort to determine how efficient the market is in accounting for new situations, these works have looked at the speed by, and extent to, which stock prices adjust to the disclosure of new facts and figures. Generally the finding has been that investors react both quickly and decisively.

This current study has investigated the market's reaction to merger announcements between the years 1962 and 1969. Here, as above, the finding is that the market was quick to find a new value for the shares involved. Approximately twelve trading days before the merger was announced (in the Wall Street Journal) the shares of the buying company began to experience significant abnormal returns. Within thirty to thirty-five trading days, these returns produced a new stock value which was supported or maintained at least until the merger was consummated.

Varying over time was the relationship between the beginning of the revaluation period and the date the merger was publicly announced. Before 1966, the

beginning of the revaluation period coincided with the public announcement date, while after 1966, it tended to come before. Seemingly it became more difficult over time to capture any merger induced returns; more and more one needed pre-public information to be able to buy in before most of the returns were gone.

The variance from merger to merger in the market responses was due to the different perceived advantages involved. Each benefit had associated with it a distinctive average response rate (or revaluation level); the different combination of potential benefits for the different mergers seemingly determined the different market responses for each.

Some of the more controversial benefits were associated with positive market responses, meaning they were thought to be real gains. Prior to 1968, the organizational benefits supposedly associated with conglomerates were viewed favorably, as were the potentially inflated pre-conversion EPS figures; over the whole period, the shifts in EPS were also taken to be valid indications of gain or loss. The regulatory inquiries into these areas had a profound effect on investor preference. Seemingly the public debate and/or the threatened and proposed regulation caused investors to redefine the relevant aspects of the corporate valuation process.

It should be understood that the merger responses studied here most likely do not represent the typical market reactions to new merger information. Two very important types of merger announcement have been excluded from this study. The first is the merger announcement that leads to suspended negotiations, or an incomplete merger. In this case the probability of merger consummation reduces to zero sometime after the original announcement, theoretically causing the revaluation process to reverse itself. With the inclusion of this group of merger announcements, the average returns for the different merger groups most likely would be lower.

The second type of announcement excluded from this study is the one involving a "small" company (assets less than $25 million). In this size class where merger activity is the greatest,[2] a whole new set of forces and benefits comes to bear on the price of both buyer and seller. In the first place the acquired company can be so small compared to the buyer that the market sees no marked benefit to be gained; the seller might be family owned, bringing estate considerations to bear on the terms of trade; the market for the seller's shares might be so small that the company is undervalued; or the seller's earnings might have been suppressed to avoid heavy tax burdens. In any case, the market responses to the news

of such prospects could be lower or higher than the responses indicated here.

Other shortcomings of the study should also be mentioned. In the first place, no attempt was made to determine if any of the return differences were statistically significant. It is possible that the small sample sizes in some of the tests led to some bogus results. Secondly, a longer time period around the announcement date should have been studied to determine when the price of the buying company was first affected by the merger announcement, and if the price ever stabilized around some value between t + 30 days and t + 99 days. The answers to these questions have only been hypothesized in this study. Finally the riskiness of the returns involved should have been accounted for by weighting each company's returns with its Beta factor[3]; in this fashion the effects of the oftentimes extreme market conditions could have been more adequately accounted for.

These shortcomings represent areas of future study, refinements to what this study found to be the investors' evaluation of and response to selected bits of merger information. Further study seems worthwhile, as the possibilities to benefit from the results are great. The values given to merger news are potentially greater and slower in coming than the values given to other financial

news items, due to the magnitudes and complexities involved. With a thorough knowledge of the benefits to be gained in a merger and the values to be given them, a person could receive substantial returns from investments in selected merging companies.

At this point the guidelines for merger valuation are:

1)The shift in EPS caused by the terms of trade will be used by the market to evaluate the amount paid for the selling company. Therefore one can forecast a greater increase (decrease or no movement) in stock price when the terms of trade call for a substantial increase (decrease) in EPS.

2)Pre-public information is required now to receive most of the substantial returns associated with mergers. Prior information as to the likelihood of consummation and the terms of trade is most beneficial. This condition necessitates a close association with an extensive research activity and/or "insiders."

3)The selling company offers the best investment opportunity in a merger, because the returns are greater and less subject to public opinion (as conglomerates were).

4)The attitude of the Federal government toward

mergers is critical in determining how a proposed merger should be evaluated.

Further research should validate these with the improvements suggested above, and check the market's response to the merger benefits not covered in Chapter IV.

Appendix A

Mergers in Sample

Buyer	Seller
Avnet	Hamilton Electronic
Tenn. Gas & Trans.	Heyden Newport Chem.
Socony Mobil Oil	Va. Carolina Chem.
Singer	Friden
Eaton Mfg.	Yale Towne Mfg.
Hercules Powder	Haveg Industries
Tenn. Gas & Trans.	Wilcox Oil
General Acceptance	Aid Invest. & Discount
W. Kidde	Assoc. Testing Labs
Indian Head Mining	Detroit Gasket & Mfg.
American Cyanamid	Fiat Metal Mfg.
Korvette	Hills Supermarkets
Kresge	Holly Stores
Pennzoil	National Transit Co.
American Can	Hanson-Van Winkle
Rohm & Haas	Whitmayer Labs
Socony Mobil	Bayview Oil Co.
Beatrice Foods	Bloomfield Ind.
Emerson Electric	Brooks Instrument
Armour	Baldwin, Lima, Hamilton
U.S. Smelting	Mueller Brass

Appendix A:

Buyer	Seller
Caterpillar Tractor	Towmotor
Assoc. Brewing	Drewrys Ltd.
Pet Milk	Hussman Refrig.
Brown Co.	KUP Sutherland Paper
Atlantic Refining	Richfield Oil
Eastern Airlines	Mackey Airlines
Ashland Oil	Catalin Corp. of Am.
Warner Bros.	White Stag A
W. Kidde	Globe Security Sys.
Fed. Mogul Corp.	Sterling Alum.
Varian	Eitel-McCullough
Sunset Inter. Petro.	Atlas Credit Corp.
RCA	Random House
American Tobacco	Sunshine Biscuits
Spartan Del.	Korvette
Pennsalt	White Dental Mfg.
Occidental Petro.	Permian Corp.
Kaiser Alum.	Southern Nitrogen
U.S. Plywood	Champion Paper
Warner Lambert	Am. Optical
Gen. Tel. & Elec.	Hawaiian Tel.
RCA	Hertz

Appendix A:

Buyer	Seller
LTV	Wilson
Seven Arts Prod.	Warner Bros. Pictures
Beatrice Foods	Melnor Industries
McDonnell	Douglas Aircraft
TWA	Hilton International
FMC	Link - Belt
General Anoline	Rubberoid
Foremost	McKesson Robbins
Ethyl Corp.	Oxford Paper
Scoville Mfg.	Nu Tone Inc.
No. Am. Aviation	Rockwell Standard
Clevite	Servel Inc.
Universal Oil Prod.	Calumet & Hecla
Gulf & Western	So. Puerto Rico Sugar
Foote Mineral	Vanadium Corp. of Am.
Dresser Industries	Harbison, Walker, Refract
White Consolidated	Hupp Corp.
Eversharp	Schick
Diamond Alk.	Shamrock Oil & Gas
Studebaker	Worthington
Kerr McGee	Am. Potash & Chem.
Gulf & Western	Bliss (F.W.)

Appendix A:

Buyer	Seller
Merck	Calgon
Bethlehem Steel	Cerro
Gulf & Western	Consolidated Cigar
Boise Cascade	Divco Wayne
Textron	Fafnir Bearing
Allied Products	General Bronze
U.S. Gypsum	Green Refractories
TRW	IRC
Occidental Petro.	Island Creek Coal
Kinney Nat. Service	Nat. Periodical
Pet, Inc.	Shattuck
ITT	Sheraton Corp.
Reliance	Toledo Scale
Tractor Supply	Community Disc. Center
Transamerica	Trans Inter. Airlines
TRW	United Carr
Gulf & Western	Univ. American
Avnet Inc.	Carol Wire & Cable
ITT	Leavitt & Sons
American Can Co.	Printing Corp of Am.
Teledyne	Rodney Metals, Inc.
Purex	Airwork Corp.

Appendix A:

Buyer	Seller
Control Data	Electronic Acct. Card
Supermarkets Gen.	Genung Inc.
Standard Prudential	N.Y. Auction Co.
City Investing	World Color Press
Gulf & Western	Desilu Prod.
Gulton Ind.	Electro-Voice Inc.
Brown Forman	Quality Importers
Harris Intertype	Radiation Inc.
Alleg-Ludlum	True Temper Corp.
General Instrument	Universal Controls
Gulf Resources	Litlium Corp. of Am.
Genesco Inc.	Berkshire Apparel Corp.
Teledyne	Firth Sterling
Bristol Myers	Mead Johnson & Co.
CCI	Marquardt
ITT	Penn. Glass Sand.
Amerace	Elastic Stop Nut
Amer. Standard	Westinghouse Airbrake
Control Data	Commercial Credit
ITT	Continental Baking
U.S. Plywood	Drexel Enterprises
Singer	General Precision

Appendix A:

Buyer	Seller
Illinois Central Ind.	Abex Corp.
Gudahy	Allied Kid
Montgomery Ward	Container Corp. of Am.
Colt Industries	Crucible Steel
Owens Illinois	Lily Tulip Cup
Wheeling Pit	Pittsburg Steel
Sun Oil	Sunray DX Oil
Chris Craft	Baldwin Montrose Chem.
Reserve Oil & Gas	Fargo Oils, Ltd.
U.S. Industries	Gloray Knitting Mills
Jim Walter	South Coast Corp.
Coronet	Shelby Williams Ind.
Genesco	Susan Thomas Stamped
Bohack Co.	Packers Supermarkets
Gamble-Skogmo Inc.	General Outdoor Adv.
Brown Co.	KVP Sutherland
Triangle Industries	Precisionware, Inc.
Union Oil of Calif.	Pure Oil
Amer. Home Prod.	Brach & Sons
Gulf & Western	Paramount Pictures
Hooker Chemical	Udylite Corp
Occidental Pet.	Hooker Chem.

Appendix A:

Buyer	Seller
L&M Tobacco	Austin, Nichols
Daylin	Diana Stores
Fluor Corp.	Pike Corp.
Atlantic Richfield	Sinclair
Ingersoll-Rand	Torrington
Walter Kidde	U.S. Lines
Reynolds Tobacco	McLean Indus.
Xerox Corp.	Scientific Data System
Victoreen	Leece Neville
TRW	Reda Pump
Nat'l Steel Corp.	Republic Foil
Harris Intertype	R F Communications
Magnavox	Selmer, H & A
TST Industries	Elgin Nat'l Indus.
Bucyrus-Erie	Brad Foote Gear Works
Sheller-Globe	Superior Coach
Diamond International	U.S. Playing Card
Monsanto Chem.	Fisher Governor
United Utilities	Rixon Electronics
Kinney Nat'l Service	Warner Seven Art Studio

FOOTNOTES

CHAPTER II

1. S.R. Reid, Mergers, Managers and the Economy, (New York, McGraw-Hill, 1968), p.23.

2. Staff Report of the Federal Trade Commission, Economic Report on Corporate Mergers, (United States Senate, 91st Congress, August 28, 1969). pp.87-88.

3. Ibid., p.95.

4. J.H. Lorie and P. Halpern, "Conglomerates: The Rhetoric and the Evidence," (unpublished paper, University of Chicago, 1969), pp.3-13.

5. Ibid., pp.10-11.

6. John Kitching, "Why Do Mergers Miscarry," Harvard Business Review, (November/December, 1967).

7. S. Davidson, "Accounting Aspects of Conglomerates," (unpublished paper, University of Chicago, 1969).

8. Ibid., p.4.

9. G. Burck, "The Merger Movement Rides High," Fortune, (February, 1969), p.162.

10. G.D. McCarthy, Acquisitions and Mergers, (New York, Ronald Press Co., 1963), p.103.

11. Ibid., p.103.

12. F.C. Gonzalez, "The Financing Strategy for Corporate Growth Through Acquisition," (unpublished Master's Thesis, 1966).

13. McCarthy, op. cit., p.154.

14. Gonzalez, op. cit., p.8.

15. Burck, op. cit.

16. "Legislation to Curb Conglomerate Mergers Encouraged by Government Antitrust Chief," Wall Street Journal, (March 3, 1969), p.2.

17. Burck, op. cit., p.159.

18. D.J. Smatter, and R.C. Lancey, "P/E Analysis in Acquisition Strategy," Harvard Business Review, (November/December, 1966), pp.85-95.

19. Reid, op. cit., p.135.

CHAPTER III

1. See Chapter IV

2. Staff Report of the Federal Trade Commission, op. cit., pp.73-74.

3. The conglomerate companies were: AMK, Commonwealth United, GAF, Gulf & Western, ITT, Walter Kidde, Kinney, Loew's, LTV, National Distillers, Singer, Studebaker Worthington, Tenneco, Textron, Teledyne, TRW, White Consolidated, and Whittaker.

4. The assumptions made about the various terms in Equation (3) were:

$$\%G = .10$$
$$(1-BV)/MV = .50$$
$$L = 15 \text{ years}$$
$$T = .50$$

If the buyer had purchased any of the seller's shares prior to announcing its intent to merge, it was assumed that 1) the price paid was 75% of the current market price, and 2) the interest rate on any borrowed funds was 6%.

5. M. Scholes, "A Test of the Competitive Market Hypothesis: The Market for New Issues and Secondary Offerings," (unpublished Ph.D. Thesis, University of Chicago), p.28.

CHAPTER IV

1. "Premium" is defined here to be the ratio of the price at merger completion to the price ten days before the announcement (pre-merger price), minus one.

2. D.V. Austin and J.A. Fishman, "The Tender Take Over," Mergers and Acquisitions, (May/June, 1969), pp.4-23.

3. For another viewpoint, see:
J.S.R. Shad, "The Financial Realities of Mergers," Harvard Business Review,(vol.47, #6, November/December, 1969,)p.137.

CHAPTER V

1. Scholes, op. cit.

   E. Fama, L. Fisher, M. Jensen, and R. Roll, "The Adjustment of Stock Prices to New Information," International Economic Review, (February, 1969), pp.1-21.

2. Staff Report of the Federal Trade Commission, op. cit., p.47.

3. When the returns of a stock are regressed against the returns of some market index, Beta is the slope of the regression line.

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