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FORWARD TRADING ON THE KARACHI STOCK EXCHANGE

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FORWARD TRADING ON THE KARACHI STOCK EXCHANGE

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FORWARD TRADING ON THE KARACHI STOCK EXCHANGE

CHAPTER I

INTRODUCTION

The Karachi Stock Exchange was formally organized as a limited company in March, 1949. It made its appearance in a nation that was less than two years old and was still recovering socially, politically, and economically from the effects of Partition, which had transferred state power from the hands of the British and their largely Hindu subordinates to those of a generally ill-prepared indigenous Muslim leadership. Such traditions as existed in the securities market, as in other westernized institutions, were derived from European, and primarily British, models. In the institution of the stock exchange this model furnished two major types of trading. The "ready" market, on which securities are traded for immediate delivery, approximates the type of market with which Americans are most familiar. It is the type of security market exemplified by the New York Stock Exchange. The "forward" market is that on which securities are traded for delivery at a subsequent date. It

approximates to some degree the futures market for commodities and the put and call market for securities with which Americans are acquainted.¹ During most of its first five years of existence, the Karachi Stock Exchange confined its activities to the ready market. In October, 1953, a forward market was instituted. Since then the two markets have operated simultaneously on the Exchange.

In Pakistan, as in any newly-developing economy, record keeping is far below the level of sophistication which is characteristic in more developed economies. This is true of the Karachi Stock Exchange, as it is true of other institutions in the new nation, and as it was true of similar institutions during their earliest years in the west. Because the need for detailed records of trading on the ready market has not been felt as pressing, the Exchange has maintained no accounts of transactions on this market during its initial period, leaving the brokers to maintain their own records. With the institution of the forward market, however, with its aspect of deferred delivery, the Karachi Exchange began keeping detailed records of trading on this basis. Every official transaction on the forward market is recorded on ledgers maintained by the Exchange, providing historical data on this part of its operations such as are not available on

¹Though the term "futures" is the more familiar one to Americans, the term "forward," which is used on the Indian subcontinent, has been largely adhered to in this study.

ready market trading. The officials of the Exchange have graciously made these ledgers available to the author and provided an opportunity for a detailed analytical study of forward trading on this new securities market during its formative years.

The study covers forward trading on the Karachi Stock Exchange from its inception in October, 1953, through the end of 1957. During this fifty-one month period, 129,000 forward transactions were consummated, involving more than 66 million shares of stock. Tabulation of the data on the date, the number of shares traded, by whom purchased, and the price at which the trade was agreed to for each of the transactions during the period furnishes the basic materials on which the present study rests. The data were grouped and analyzed in various ways in order to construct a picture of forward trading on the Karachi Exchange which would furnish answers to a number of questions. Among the questions answered by the study are these: What was the volume of activity on the forward market and how did it fluctuate during the period? Which securities were the most popular and did this change during the first four years of the market's existence? How important were the larger brokers relative to the total number of brokers trading on the market, and were the largest brokers the same from year to year? What movements were characteristic of the prices at which forward trading was carried on and what factors influenced those price movements? Before going

into detail regarding the scope of the study and the method of approach, however, it may be helpful to survey briefly the historical background of forward trading in securities and to indicate in greater detail the nature and function of this market.

Forward Trading in Perspective

Organized security markets have their remote origins in a period prior to the rise of the joint stock form of business organization itself. The Paris security market traces its roots to the 12th century, when organized trading in notes and bills was carried on at a fixed location in the city.² The rise of the stock exchange followed the appearance of the joint-stock company and the increase in the number and types of securities available for trading. The Amsterdam Stock Exchange, which was the first to rise to international prominence, was organized in the 16th century. The Paris Stock Exchange was formally organized in 1705. Trading in shares on the Berlin Bourse began in 1785, and the London Exchange, which was to supplant the Amsterdam Exchange as the world's leading security market, was organized formally in 1801. The New York Stock Exchange, organized in 1817, is one of the younger major securities markets in the world.³

²Paul D. Dickens, "Foreign Stock Exchanges," The Security Markets (New York: The Twentieth Century Fund, 1935), pp. 527, 528.

³Ibid., pp. 549, 527, 528, 539 and 509; and F. E. Armstrong, The Book of the Stock Exchange (5th ed. rev.; London: Sir Isaac Pitman and Sons, Ltd., 1957), p. 154.

On all these except the New York Exchange, forward trading as well as trading for current delivery has at various times been the practice.

The stock market is sometimes regarded by laymen as the means by which new corporate securities are sold to the public and new venture capital obtained. This is not an accurate characterization. Stock exchanges provide facilities for a market in already-issued securities, the initial sale of such securities having been carried out through direct sale, usually with the participation of investment banking firms. The function of the stock market is to furnish liquidity to securities by providing a ready market for their purchase and sale subsequent to their initial issue. Such a function facilitates the initial sale of new securities by giving prospective buyers assurance that there will be a ready market in which they can sell their holdings subsequently if they wish. The stock exchange can be simply defined as an organized market in which outstanding securities are bought and sold. It provides the facilities by which individual broker members can pursue money gain as individuals or firms. It is an association of security brokers and traders set up for their own mutual benefit. As a by-product of this function, it supposedly furnishes liquidity to listed securities and a market which reflects supply and demand forces which are based upon the value of the securities being traded.

The Nature of Forward Trading

A stock exchange may consist of more than one market. In the United States we are accustomed to both the share market and the bond market as parts of the New York Stock Exchange, although the latter is of relatively small importance in the secondary bond market as a whole. In the European tradition the ready and forward markets are customary. On the ready market, trading results in shares changing hands immediately or as soon as the necessary formalities can be completed. On the forward market, trading is in terms of binding agreements, but the actual transfer of shares takes place only at a specified subsequent date. The two markets are carried on simultaneously and usually in the same trading hall. The securities traded on the forward market are found also on the ready market. They are, nevertheless, two different markets, serving different functions and reflecting to some extent different factors.

A forward contract has been defined by one student of the subject as:

. . . an agreement to buy or sell, in accordance with law and the rules of an exchange, a definite quantity of a commodity [or security] at an agreed price at a future date, being entered into for the purpose of speculating on or hedging against price changes.⁴

Two aspects of such a contract are of basic importance. First,

⁴G. Wright Hoffman, Future Trading on Organized Commodity Markets in the United States (Philadelphia: University of Pennsylvania Press, 1932), p. 118.

it is not an actual purchase or sale but a commitment to buy or sell in which the price is agreed to in advance. The actual purchase or sale takes place at a later date. Second, it is entered into in anticipation of a change in price. If one trader expects a price rise of a certain magnitude in the future and he can find another trader who does not expect a price rise or does not expect one of such magnitude, the first may enter into a forward contract to buy from the second at a future date a specified number of shares at a specified price. The specified price will be one below that which the first expects to prevail at the time of consummation, while it will be above the price which the second expects to prevail at the future date. The trader who has more correctly anticipated the future price will be able to gain from the transaction. If it is the first trader and price has risen, he can purchase at the agreed upon price and resell at the prevailing higher price, the difference constituting his speculative gain. If the second trader was more nearly correct and price has not risen to the level of the price agreed upon, he can buy at the prevailing lower price in the ready market and sell to the first at the higher agreed-upon price. In either case, one trader's speculative gain is the other's speculative loss.⁵ It is, as a matter of

⁵Unless, of course, both are "equally wrong." If the price agreed upon in the forward contract is the same as that prevailing at the time delivery is to be made there is no speculative gain or loss involved.

fact, not unusual for the actual shares never to change hands. The trader who has anticipated price change incorrectly merely pays the difference between the agreed-upon and prevailing prices to the other.

Origins of Forward Trading

The forward contract is associated in the United States with organized commodity markets. It has its origins in the "to arrive" contract by which a buyer agreed to purchase a quantity of a commodity at a specified price when the commodity arrived at the market. From such contracts there developed, even prior to the Civil War, trading in which the commodities had not yet been produced, much less begun the trip to market. By 1929 forward trading in commodities in the United States had grown, in dollar value, to as much as one-third of the total of all securities trading in the country.⁶

While forward trading in securities in this regularized sense of the term is not a practice in the United States, it is a common part of organized stock exchanges in Europe, whence the institution found its way to the exchanges of the Indian subcontinent. The use of term or forward contracts on European exchanges may originally have stemmed from the delay inherent in transferring the ownership of registered securities.⁷ Their continued use on the exchanges

⁶Ibid., pp. 8, 9. See also Harold S. Irwin, Evolution of Futures Trading (Madison: Mimir Publishers, Inc., 1954).

⁷Registered securities, particularly in Great Britain, were not as readily negotiable as American securities are.

has been justified, however, primarily in terms of expanding the scope of the market for speculation. As indicated earlier, this type of trading has characterized the major exchanges in Europe at one time or another. On the London Stock Exchange prior to World War II, fortnightly clearings were the rule for registered securities, which accounted for the major part of trading. The Paris Exchange also utilized semi-monthly clearings. The Berlin and Vienna exchanges exhibited patterns more nearly like that adopted in India and Pakistan with monthly clearings and with forward trading limited to larger firms.⁸

Like the practice of short selling, which it resembles in function, the forward contract has frequently come under criticism. Just prior to the French Revolution and during the Napoleonic period, time contracts on the Paris Bourse were declared void at law on the grounds that they were in the same class with gambling transactions. In spite of the fact that a broker who had anticipated incorrectly could refuse to buy or sell and fear no legal action, such contracts continued to be common and in 1885 they were legitimized again at the request of the securities traders.⁹ Such contracts

⁸Dickens, op. cit., pp. 516, 517, 532, 533, 544, 545, 552, 553, and 556. See page 23 below for an explanation of the clearing function.

⁹E. Vidal, The History and Methods of the Paris Bourse, National Monetary Commission, Senate Document No. 573, 61st Congress, 2nd Session (Washington: Government Printing Office, 1910), pp. 116, 143, 161-63, and 198-200.

were similarly legislated against for a period in Germany, and have been eliminated from the London Stock Exchange since World War II.¹⁰

Related Types of Trading

Although forward trading in securities has not developed in the United States, some forms of trading which are common to both sides of the Atlantic display features of similarity to the forward contract. The most important of these are the sale for delivery at the seller's option, the regular optional contract, and the short sale. A brief discussion of each of these will indicate the similarities and differences between them and the forward contract as it has developed in Europe and is used in Pakistan and India.

Sale for delivery at the seller's option may be used when the shares are not available for immediate delivery and the expense of borrowing shares for immediate delivery, as in a short sale, is to be avoided. It is described in the rules of one exchange as:

. . . a sale for delivery at the option of the seller, within the time specified in the option, which shall be not less than 5 days nor more than 60 days. Delivery is to be made on the last day of the option or on any

¹⁰See R. Koch (ed.), German Imperial Banking Laws, National Monetary Commission, Senate Document No. 574, 61st Congress, 2nd Session (Washington: Government Printing Office, 1910), pp. 239-46 and 271; and Armstrong, op. cit., pp. 110, 111.

preceding business day upon one day's notice furnished by the seller.¹¹

In such a contract the deferred delivery which is a characteristic of forward trading is present. In this case, however, the delivery date is not specifically fixed but left to the discretion of the seller within the limits specified by the contract. The price must reflect some anticipation as to future movement of price in a delivery at seller's option contract, but the seller has the opportunity of choosing the time within the period of the option when he feels that conditions are most favorable to him. In a regular forward contract both parties are bound by the same date for settlement. The delivery at seller's option contract is a speculative one. Since the buyer could in most instances purchase the stock for immediate delivery, his interest in taking a delivery at seller's option contract lies in his anticipating future price movement in that security differently from the seller, and his willingness either to take delivery later in return for a lower price or to speculate on the basis of his expectations. From the seller's standpoint it is even more clearly a speculative proposition. In its speculative character it is similar to the forward contract. The difference lies in the degree of discretion

¹¹Constitution and Rules of the American Stock Exchange (New York: American Stock Exchange, n.d.), Rule 124, p. 115. The rule on the New York Stock Exchange is essentially the same.

furnished the seller in a contract for delivery at the seller's option.

Straight option contracts are, like the forward contract, not in themselves an actual purchase or sale of shares. In the case of an option it is a privilege that is purchased. If the option is what is called a "put" it means that the buying broker has purchased the right to sell a certain number of shares at a certain price at any time within a specified period. If he has purchased a "call" it means that he has the option of buying a certain number of shares at a certain price at any time within the specified period. A third possible option form is the "straddle" in which the buyer has obtained the privilege of buying or selling, or both.

Under any of the three option forms the speculator may decide not to exercise his option. Let us assume that a trader expects a price rise and can find an option seller who does not. The first trader buys a "call," an option to purchase at some future date at a price lower than he expects to prevail within the period specified in the option. If price rises as he expects, or at least sufficiently to cover the cost of the option, he will exercise it, buying at the lower price already agreed upon and reselling at the higher prevailing price. If price does not rise as anticipated, he will not exercise his option, and will merely

be out the cost of the option.¹² As in a regular forward contract, the option is based on anticipation of price changes. It is a speculative contract. As in the case of the delivery at seller's option contract, a degree of discretion is furnished to one party of the transaction. In the case of the option the discretion may lie on the potential buyer's side or on the potential seller's side. The degree of discretion is greater in the option contract since the speculator buying the option not only has the discretion of choosing his time, within the specified limits, but has the discretion of not exercising the option at all. He can limit his possible loss to the cost of the option. In this feature, the option differs from both the forward contract and the delivery at seller's option contract.¹³

The short sale is a form of trading on American securities markets which has many similarities to the forward contract. In such a transaction the seller trades in shares

¹²In purchasing a "put" the trader is anticipating a drop in price while in purchasing a "straddle" he is anticipating a sufficient fluctuation in price to allow him to make a speculative gain on both the rise and the fall, exercising his option to buy when the price is up and his option to sell when the price is below that agreed to in the option.

¹³For a description of the option form of trading on American exchanges see Max Hesslein, Puts and Calls; Memorandum Submitted to the Securities and Exchange Commission (New York: By the author, 1934); for a description of option trading on the London Exchange see Armstrong, op. cit., pp. 110-18. Option trading on the London Stock Exchange was discontinued at the same time that forward bargains were dropped.

he does not own. Since the American market is on the basis of immediate delivery, the seller borrows shares in order to make delivery. At a subsequent time he purchases shares to replace those he has borrowed, in the interim paying a carrying charge to the lender.¹⁴

The short sale has always been the subject of controversy. That it is speculative in character can hardly be denied, although it is not the only speculative feature of our society. A more specific criticism has been that short selling generates downward pressures on stock prices and serves as a manipulative device. In answer to this criticism the law in the United States now prohibits short sales at a price lower than the price of the last previous sale "regular way." Defenders of the practice contend that the short sale is merely the market counterpart of the margin purchase, and that the bear who goes short anticipating a fall in price is as vital to the market-making function as the bull who buys on margin in anticipation of a rise. This contention points up the similarity in function between short sales and forward contracts. Both serve to provide speculative facilities for security traders. On American exchanges a trader who wishes to speculate on the basis of an expected drop in price sells short, expecting to repay the borrowed shares with those bought subsequently at a

¹⁴For a discussion and defense of the short sale, see G. Wright Hoffman, "Short Selling," The Securities Markets, pp. 356-401.

lower price. On European exchanges or in Pakistan such a trader sells forward, expecting to buy shares for delivery at a subsequent lower price. Conversely, an American trader who expects a rise speculates by purchasing shares on margin expecting to repay the loan out of the proceeds from a subsequent sale at the higher price. Such a trader in Europe or Pakistan buys forward, expecting to be able to sell the stocks after delivery at a higher price and pocket the difference. Again, the difference between the two practices lies in the greater discretion furnished the American speculator who can cover (i.e., buy and repay his borrowed stock) or sell and repay his borrowed funds at any time he desires. The forward trader is bound to the regular delivery date specified by the forward market.¹⁵ On the other hand the American speculator must pay the carrying charges, something which the forward trader avoids.

The Function of the Forward Market

Defenders of forward trading do not deny its speculative character. Their thesis rests on the contention that this speculative aspect makes possible the use of forward trading as a means of insurance--a way of handling the risk

¹⁵He can, however, carry over the transaction if he is willing to pay the charge based on the intervening fluctuation in price. This aspect of the mechanics of forward trading is discussed below.

which is an inevitable part of economic activity.¹⁶ The key term in this argument is hedging. The operation of a hedge is familiar to students of commodity markets. A trader who is long in a particular commodity and wishes to insure himself against losses resulting from a possible decline in price before he has sold his holdings may do so by means of a concurrent forward sale of the same value. Then, no matter which way prices move in the interim, his gain or loss on one operation will be offset by his corresponding loss or gain on the other. The usual example is that of a miller who has purchased wheat and wishes to guard against a decline in flour prices. Since wheat and flour prices presumably move together, the miller can insure himself by a forward sale of wheat equivalent to his investment. If wheat and flour prices decline, his loss on the sale of flour is offset by his gain on the forward wheat transaction. Conversely, if flour and wheat prices rise in the interim, his loss on the forward wheat transaction is offset by his gain on the flour operation. It should be noted that he has given up any chance of speculative gain by entering into the concurrent offsetting operations. It should also be noted that his hedge is made possible by the willingness of someone else to accept the risk of a price decline in order to have an opportunity for speculative gain if prices rise. The speculator is

¹⁶See Hoffman, Future Trading, pp. 2-4, 109, and 377-443.

necessary to the hedging function. The defenders of forward trading argue that in making possible this transfer of risk from one who does not wish to accept it to another who is willing to accept it, the speculative forward market serves an economic function. G. Wright Hoffman points out that where the hedging function is not performed, forward trading is reduced to a matter of betting on the future course of prices and is the same as other forms of gambling.¹⁷

Is this line of reasoning transferable to the securities market? Some argue that it is. Dice and Eiteman contend that hedging on the stock market can be carried out through the use of the short sale.¹⁸ Hoffman has contended that the short sale is not as well suited to the hedge as is the forward contract and recommends an extension of the forward contract form to the securities markets to make hedging more practicable.¹⁹ In either case, the successful hedge would require that the offsetting forward transaction could be made in securities the price of which would move concurrently with the price of the investment being hedged.

¹⁷See ibid., pp. 450, 451. Admittedly the line is difficult to draw in actual market situations where both are present.

¹⁸Charles A. Dice and Wilford J. Eiteman, The Stock Market (New York: McGraw-Hill Book Company, Inc., 1952), p. 197.

¹⁹G. Wright Hoffman, Hedging by Dealing in Grain Futures (Philadelphia: By the author, 1925), pp. 125-27.

Although this is possible, it is more difficult to do in securities than in commodities.²⁰

Moreover, hedging on commodity markets is frequently carried out by persons whose primary business requires them to take an unwanted risk of price decline. Again, the miller who is concerned with processing wheat into flour and being paid for this activity serves as a ready example. Such persons are considerably less numerous in securities trading. An investor who desires only to receive dividend income from his share holdings would be better advised to purchase shares with relatively stable market value and regular dividends or to buy long-term bonds than to attempt the more difficult feat of hedging. Most persons purchasing securities include the hope of a rise, either short-term or long-term, in the value of their securities as a motivation for the investment. Since this is a speculative motive, hedging would run counter to their intent.²¹ In any event, on the Karachi Stock Exchange the number of securities traded on a forward basis has been so limited as to preclude the feasibility of hedging. Here it is clear that the forward market has been speculative

²⁰Hoffman suggests the purchase of shares in a subsidiary firm or in a group of other firms in the same industry. Ibid.

²¹There are other motivations for hedging in securities, notably that involved in "selling against the box" in order to freeze a short-term gain and insure taxation of it as a long-term gain. Since this is part of a speculative operation it falls outside the defense of hedging as a transferral of risk.

in the sense that brokers and traders try to outguess the market. It is difficult to see that any insurance function has been served by the market.

The Forward Market of the Karachi Exchange

Organized trading in securities was introduced to the Indian subcontinent with the establishment of the Bombay Stock Exchange in the nineteenth century. This exchange continues to be the largest in the area. It has approximately five hundred members, though not all are active, and lists almost three hundred securities, exclusive of government and corporate bonds. Of these more than sixty-five are listed for forward trading, which, following the European pattern, is confined to the securities of well-established firms in which considerable trading interest has been shown.²² Stock exchanges also appeared in Calcutta, Madras, and Lahore. The latter was discontinued after Partition, when most of its members left Lahore to emigrate to India. A new exchange has been founded in New Delhi. Organized in 1947, it is the youngest of the Indian exchanges and is more nearly comparable in size with the still younger Karachi Exchange in Pakistan. The Delhi Stock Exchange has about one hundred active members and lists about sixty securities, with only a few traded on a

²²Interview with P. J. Jeejeebhoy, Secretary, Bombay Stock Exchange, May 15, 1958.

forward basis.²³

As was the case with security markets in the west, regulation was slow in appearing on the scene. In the early years the exchanges in India were regarded as self-regulating. That is to say, the only restrictions on the activities of brokers were those they had instituted themselves through the rules of the exchange. The same types of abuses that had appeared in British and American securities markets led at about the same time to government intervention, and in 1937 Bombay State passed formal regulations covering the operation of the Bombay exchange. In 1956, almost ten years after Independence, the government of India extended this principle to all exchanges in the country. Even now the regulation is not stringent and aside from prohibiting dealing in options and specifying the information to be furnished by a firm prior to the listing of its shares on the market, the law largely is a standardization of rules of procedure.²⁴

Formation of the Karachi Stock Exchange

The massive migrations which followed Partition of the Indian subcontinent in 1947 included a flow of security

²³In 1958 only one scrip was being traded on a forward basis, but the addition of others was planned. Interview with the Secretary, Delhi Stock Exchange, May 20, 1958. ("Scrip" is the term used on the Indian subcontinent to refer to a security issue.)

²⁴See Government of India, Securities Contracts (Regulation) Act, 1956.

brokers into as well as out of Pakistan. In this case the flow was largely from Bombay to Karachi, the newly-established capital of the new nation. This city, which was to mushroom from a seaport of about 200,000 population into the country's capital and leading mercantile and financial center with a population estimated at more than 2 million persons within a decade, was a natural location for the first organized security market in the new nation. Such an establishment also had the support of one of the most powerful figures in the politics of the country. It was at the personal suggestion of Ghulam Mohammad, then Finance Minister and later Governor-General, that one hundred brokers took out membership cards in the proposed new exchange in 1948. With the funds from the subscription of Rs. 2,500 per member, a limited company was formed in March 1949 and the site of the exchange established in downtown Karachi on a plot furnished at low rent and a long-term lease by the government.²⁵ The Karachi Exchange did not flourish at once, but after 1952, when tightening controls on foreign trade reduced the opportunities for speculative operations in that field, increasing interest was registered in the securities market. By 1955 the value of a membership was being quoted at Rs. 18,000.²⁶

²⁵A rupee is the basic unit of currency in Pakistan and is valued at \$0.21 at the official exchange rate. A limited company is the equivalent of a corporation in American terminology.

²⁶F. B. Arnold, Pakistan; Economic and Commercial Conditions (London: Her Majesty's Stationery Office, 1955), pp. 63, 64.

By 1957 the number of members of the Exchange had increased to 167, though less than half of these are generally active on the market. The Exchange is governed by a fifteen-member Board of Governors, but day-to-day decisions are made by the Executive Committee and by the full-time secretary who serves as an ex-officio member of the Executive Committee and operates as general manager of the Exchange. In Pakistan there is still no government regulation of organized securities markets, so the Karachi Exchange remains in that class which its friends refer to as self-regulating. In this it is like American exchanges prior to enactment of the Securities and Exchange Act. As the Exchange continues to grow and plays an increasingly important role in the financial structure of Pakistan, the need for regulation in the public interest is certain to grow also, though if experience in other countries is any guide, it will be long overdue when it is instituted.

Mechanics of the Forward Market

Since October, 1953 the Karachi Stock Exchange has consisted of two markets. The older is the ready market on which trading is for immediate delivery. All members of the Exchange are authorized to trade on this market. It lists some eighty securities, all shares of public limited companies with at least one-fourth of their outstanding shares owned by the public. The Exchange keeps no record of trading on the

ready market beyond the publication of daily closing quotations. The second market, which operates simultaneously, is the forward market. On this market trading is carried on for settlement in the following month. Any member of the Exchange is eligible to trade on the forward market but he must advance a deposit of Rs. 2,500 plus one rupee per share for all shares in excess of 2,500 outstanding on his accounts at the end of any trading day. Forward contracts are made in accordance with a form specified by the Exchange. In this market all transactions are registered with the Exchange.

Although forward trading is on the basis of monthly settlements, there are weekly clearings in the interim. These clearings are the means by which changes in price from week to week are adjusted on the basis of net outstanding positions between brokers. The clearing rate is established by the Exchange on the last day of each trading week and payment of amounts due is made on the following Monday through the Exchange. If a price change exceeds twelve annas between regular clearings the Exchange declares a special clearing, known as a "hella."²⁷ During the last week of each month arrangements are made for carrying contracts over to the following month. If it is desired to extend the delivery date a month further, this is arranged at this time, in

²⁷An anna is a coin subsidiary to the rupee. There are sixteen annas in one rupee, so the anna is worth about \$0.013 at the official exchange rate.

return for payment of a premium charge, called the "badla" rate. The "badla" rate is determined by the number of carry-overs desired relative to the willingness to extend them. Actual settlements take place on the last two trading days of the month. At this time brokers take delivery of the shares or settle by payment of the difference between the agreed-upon price and the settlement rate currently prevailing.

Scope and Method of the Study

In a developing country such as Pakistan the scarcity of data and the reluctance of interested parties to allow outsiders the use of such data are major obstacles to primary research. The value of keeping records beyond those most essential for day-to-day operations is seldom recognized. The complex administrative framework within which so much data in industrialized economies are recorded and collected is yet to develop. To a large degree both the institutional and technical factors that facilitate the maintenance and dissemination of quantitative information concerning the economic life of the country are not present. Added to this basic lack of detailed information is the reluctance to divulge such data as are collected. This reluctance is characteristic of both business and government institutions. In the absence of widespread understanding of the potential value of primary research to both sectors, the initial reaction to the researcher is one of suspicion--a fear that

he is "snooping" either on his own or someone else's behalf. Businessmen suspect the machinations of competitors or of the government, while officials of the government frequently fear the potential expose. The attitude is not unknown in industrial societies but has weakened in recent decades, and it is likely to decline in nations like Pakistan as time passes and the process of development continues.

The forward market of the Karachi Stock Exchange furnished a rare exception to this pattern. Even here the primary purpose of the records is limited to the clearing function of the Exchange and possibilities of using them for historical and analytical purposes are largely unrecognized. Still, the data are kept and when the Exchange was approached by the author, access to them was readily granted. The information proved to be limited to the forward market, which though an interesting and important aspect of the Exchange's operations, is only one aspect. One wishes that comparable data were available on the ready market, making possible not only a similar study of that aspect of the Exchange but also a study of the inter-relationship between the two markets. Nonetheless, the present study represents a beginning. It is the first statistical study of the operations of the Karachi Stock Exchange from any aspect and, as far as the author knows, the first such study of any exchange on the Indian subcontinent.

Sources of Information

Each forward transaction on the Karachi Exchange is recorded by the two brokers involved and at the end of each trading day the brokers turn over copies of their contract memoranda to the Exchange. The basic information concerning each transaction is posted to ledgers by the Exchange staff. These ledgers record the name of the selling broker, the name of the purchasing broker, the date of the transaction, the scrip traded, the number of shares contracted for, and the price agreed upon in the contract. The ledgers provided the basic source of information for the present study. In view of the fact that about 129,000 transactions were involved and manual processing of information was necessary, the author has limited himself to the records of purchases on the forward market. This limitation precluded examination of several aspects, particularly any comparison of a broker's sales in a given month with his purchases in the same month. It is adequate, however, to secure a picture of total trading, since all transactions are covered.

The ledger data furnished the most important source material for the study--the data on the quantity of trading, the distribution of trading among brokers, and the prices at which trading was carried on. In filling out the picture of the forward market's initial years, however, other sources of information proved helpful. Contemporary market reports by two active brokers, A. A. Gangjee and S. F. Irani, were

consulted for information on factors affecting price movements. These sources are subjective in nature, but are valuable for that reason. They provide first-hand information as to the news and rumors most discussed on the market in connection with particular scrips and represent the judgment of persons involved in trading. In order to secure background information on the individual firms whose shares were being traded, the annual reports of these companies were studied. In addition to historical information relative to organization and production records, these furnished financial information concerning capital structure and income. Finally, interviews with active brokers, particularly A. A. Gangjee and H. P. Byramji, helped to answer specific questions about the forward market's operations and the character of trading on it.

Tabulation of Data

For purposes of data processing, the information in the ledgers was transferred to three-by-five inch cards. One card was used for each broker on each trading day and for each scrip traded. An individual card recorded the date, the broker, the scrip traded, the amount of each individual transaction in that scrip on that day, and the highest and lowest prices for the transactions shown on the card. About 25,000 cards were used.²⁸ Since the one condition imposed by

²⁸Facilities for processing by means of punchcards were not available and hand sorting was necessary.

the Exchange on the use of the data was that the operations of individual brokers would not be revealed, brokers were assigned code numbers on the cards and analysis was confined to grouped data.

From the cards master tables were prepared for each scrip traded for each year. One set of tables summarized by months the number of shares purchased by each broker, with totals for all brokers by months and for each month by broker. A similar set of tables summarized by months the number of transactions entered into by each broker, again with totals for each broker by months and for all months by broker. A third set of tables recorded the tabulation of the highest and lowest prices recorded on each trading day for each scrip, taking into account all brokers. The final tables used for analysis and presentation of the data were prepared on the basis of the master tables.

The author wished to study the degree to which a small number of brokers might dominate the market. After experimentation with several methods of grouping the data for analysis on this point, the one which was found most useful was the division of brokers into quartiles on the basis of the total number of shares purchased during whatever period was being analyzed. If it was desired to determine the distribution of trading in Adamjee Jute shares during 1955, all brokers trading in that scrip in 1955 were arrayed in descending order of their total share purchases during the

year. The array was then divided into quartiles. The brokers in the top one-fourth constituted the upper quartile, those in the next quarter of the array made up the second quartile, and so on.²⁹ On the basis of this grouping the proportion of the total number of shares purchased in the period and of the total number of transactions made by each quartile was determined.

Presentation of Data

First a survey of the forward market as a whole is furnished. The volume of activity in terms of broker participation, number of shares purchased, and number of transactions entered into is considered on a monthly and annual basis. This is followed by a discussion of the relative importance of each of the individual scrips. The average number of shares per transaction is considered for each of the different scrips. Finally, the data on the distribution of trading activity among the brokers is presented from three standpoints. First, the relative importance of the broker quartiles during the whole fifty-one month period is considered. Second, the pattern of distribution of the number of shares purchased and the number of transactions made among the broker quartiles is compared for the individual scrips. Third, the relative stability of the membership of the

²⁹Where the total number of brokers involved was not evenly divisible by four, interpolation was used.

Various broker quartiles is considered.

Chapters three through six are devoted to the consideration of trading in each of the four scrips which have been traded on a forward basis on the Karachi Exchange. The organizational structure of these four chapters is similar. First, the importance of the industry in Pakistan's economy and the history of the particular firm represented are surveyed. A discussion of the capital structure of the firm, of its annual balance sheet position, and of its income and earnings record is presented from data in the company's annual reports. The pattern of trading activity in that particular scrip is reported in terms of the share volume of trading on a monthly basis. This is followed by a consideration of the distribution of share purchases and transactions among the broker quartiles for the scrip on an annual basis. This makes possible a comparison of the pattern as it has changed over the period. Similarly, the stability of the membership of the upper quartile of brokers is discussed for the individual scrip. Finally, the pattern of prices associated with trading in the individual scrip is presented. The data utilized are those on monthly high and low prices. These furnish a measure both of fluctuations within individual months and of major movements from month to month. Factors influencing major price movements are noted. The pattern of daily fluctuations in price is discussed and tabular material presented showing the frequency distribution

of such fluctuations in terms of their size. The largest daily fluctuations are noted. The final chapter draws together the major findings of the study.

CHAPTER II

THE GENERAL PATTERN

Trends in Total Trading

Forward trading began on the Karachi Stock Exchange on October 12, 1953. The present study covers it from that date through the end of 1957, a period of approximately fifty-one months. The present chapter deals with the general pattern of trading on the forward market, with what scrips were involved, what the volume of trading was, and how trading was distributed among brokers. Subsequent chapters will deal individually with each of the scrips traded on a forward basis.¹

Though the number of securities listed on the Karachi Exchange has gone as high as eighty, the number of scrips listed for trading on a forward basis has never exceeded four, all ordinary shares.² This type of trading was initially limited to one security, Adamjee Jute. In January, 1954 two

¹The term "scrip" is commonly used on the Indian subcontinent to refer to an individual security issue.

²An "ordinary" share is the equivalent of a share of common stock in American parlance.

more scrips, Karnaphuli Paper and Adamjee Cotton, were added to the forward list. These three accounted for more than 90 per cent of forward trading through December, 1957. From January, 1956 to August, 1957 Pakistan Tobacco shares were also traded on a forward basis.

All four of these securities represent major firms in industries important to the Pakistan economy. Jute and cotton are the nation's leading exports and the Adamjee firms are among the largest in both industries. Karnaphuli Paper Mills, Limited has a monopoly of the country's paper production, and Pakistan Tobacco, Limited has a near-monopoly of the more expensive brands of manufactured cigarettes.

Broker Participation

Though the number of scrips involved in forward trading is small relative to the total number of securities traded on the Exchange, the amount of broker participation in this type of trading gives a clearer picture of the importance of the forward market. Precise data are not available but the staff of the Exchange estimate that an average of forty to fifty brokers are active traders on the market as a whole, i.e., considering both the ready and the forward markets. The records of the forward market reveal that an average of thirty to forty brokers engage in forward transactions, so it is clear that most active brokers do

take part in forward trading.³

In the slightly more than four years studied, a total of eighty-two brokers made purchases on the forward market. Of these, however, thirty-three were in the market less than one year. With minor exceptions, the number of brokers trading in each month has been between twenty-four and forty. The largest number of brokers was trading on the forward market in 1954, its first full year of activity. It was least popular from the standpoint of broker participation in 1956.⁴ The data do not reveal either a pronounced trend over time or a seasonal pattern of broker participation.

Volume of Trading

The most meaningful measure of the volume of trading is the number of shares bought and sold. Chart 1 has been prepared to show this on a monthly basis for the forward market as a whole.⁵ From the beginning of trading through December, 1957 more than 66 million shares of stock were

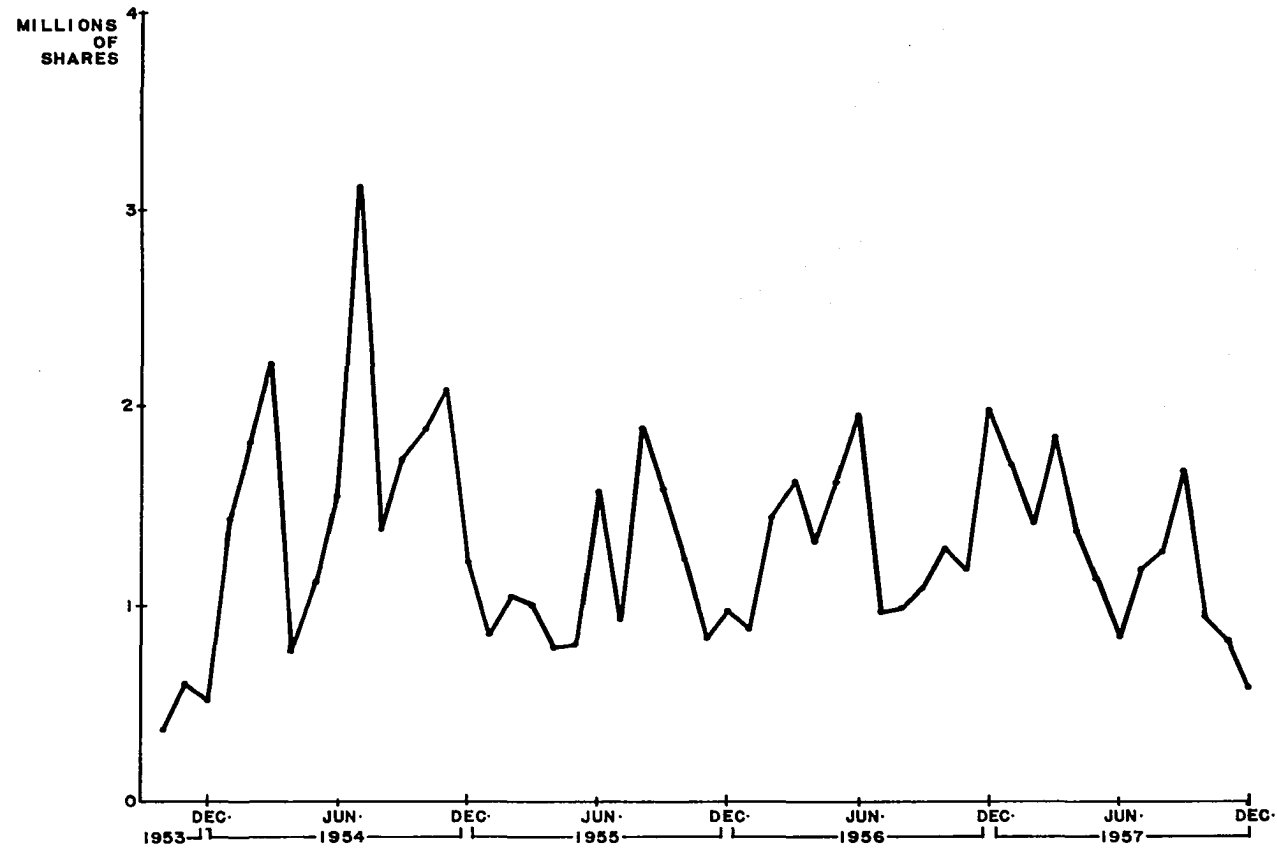
³Brokers trade both as agents for others and on their own account. It was not feasible to determine the extent to which trading was for themselves or for others. To simplify terminology the term "broker" has been used as though all trading was for their own account. The reader should understand that where a broker is described as having purchased shares, or having traded in shares, he may actually have been acting on behalf of his firm as the agent for an unnamed principal.

⁴Monthly data on broker participation are presented in Appendix Table I.

⁵The data on which this and subsequent charts are based are presented in the Appendix.

CHART 1

NUMBER OF SHARES PURCHASED ON THE FORWARD MARKET OF THE KARACHI STOCK EXCHANGE, MONTHLY, OCTOBER 1953 THROUGH DECEMBER 1957



traded on a forward basis on the Karachi Stock Exchange. The monthly average was in excess of a million shares. The heaviest volume of trading occurred in 1954 with a peak of more than 3 million shares in July of that year. The lowest volume year was 1955, though the monthly nadir was reached at the end of the period studied, in December, 1957. The trend over the period studied was relatively stable.⁶ A twelve-month moving average was computed in an attempt to isolate possible seasonal variations in volume. No such regular variations were revealed, indicating that if seasonal factors are present, they are overshadowed by random variables. Indeed, the most striking characteristic of the volume of trading on the forward market is its extreme variability. High volume months were frequently followed by a notable lack of interest, and vice-versa. It will be seen subsequently that this was characteristic of trading in individual scrips as well as of total trading. This provides one evidence of the speculative character of the forward market.

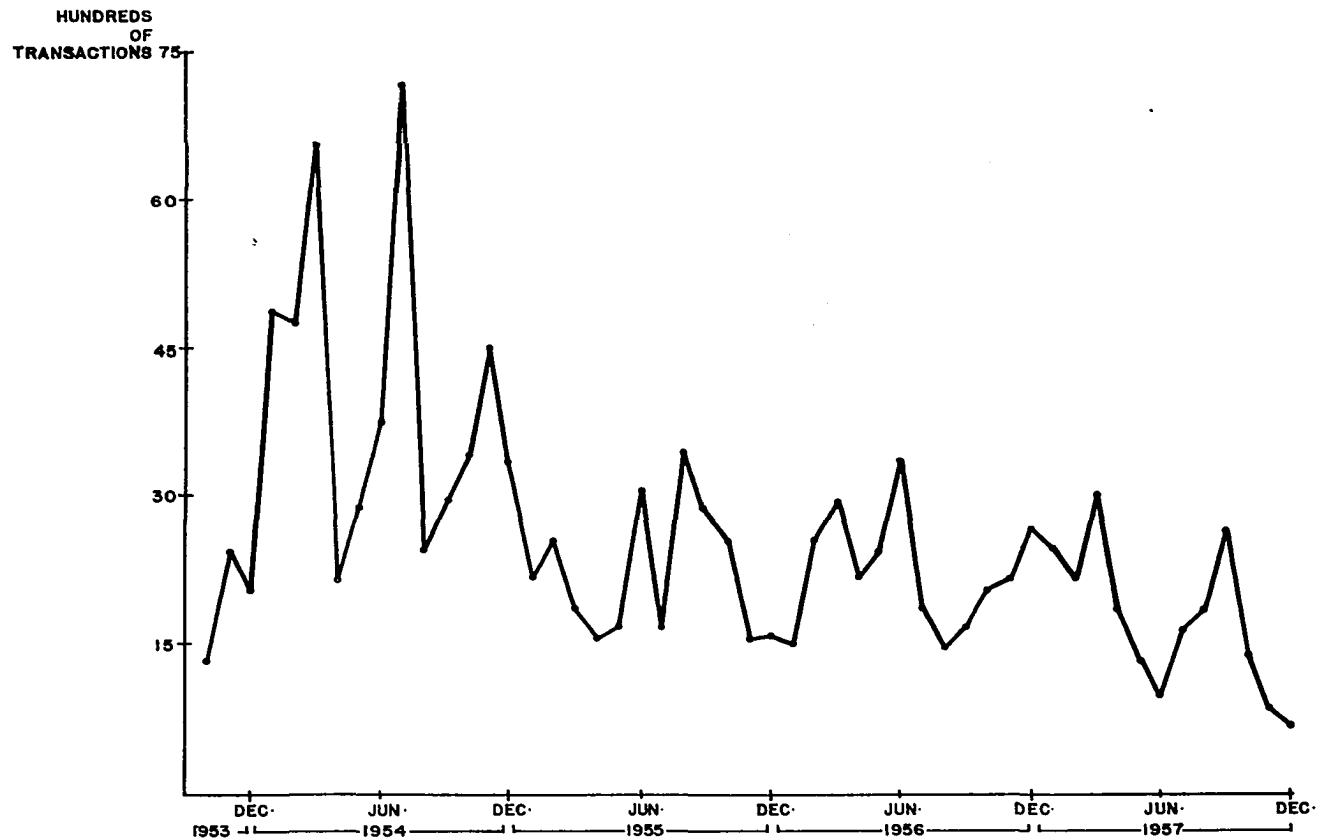
Number and Size of Transactions

An alternative measure of the volume of activity on the Exchange is the number of transactions entered into. Chart 2 presents monthly data on this aspect of the forward

⁶If the effect of the addition of a fourth scrip to the forward list in 1956 and part of 1957 is discounted, a slight trend is apparent but it is not pronounced.

CHART 2

NUMBER OF TRANSACTIONS ON THE FORWARD MARKET OF THE KARACHI STOCK
EXCHANGE, MONTHLY, OCTOBER 1953 THROUGH DECEMBER 1957



market. It will be seen that the pattern is almost a duplicate of that in Chart 1. With few exceptions the direction of movement in the two series is the same.

During the period studied almost 129,000 transactions were consummated on the forward market of the Karachi Exchange, an average of about 2,500 a month. Again, 1954 is revealed as the year of greatest activity, with the largest number of transactions registered in July of that year. The smallest number again was registered in December, 1957. Computation of a twelve-month moving average for this series also failed to reveal a significant seasonal pattern. The only major difference between the two series is that the number of transactions showed a clearer downward trend than the number of shares purchased. This difference stems from the tendency of brokers to deal in larger lots as forward trading became a more customary part of their activity. The average number of shares involved in each transaction in the first few months of the forward market's existence was about 200. In the last months of 1957 an average of 900 shares was involved in each transaction.⁷ Thus, a smaller number of transactions represented a larger number of shares purchased. This trend toward fewer but larger transactions may also be regarded as a reflection of the increasing

⁷Monthly data on the average number of shares purchased per transactions are presented in Appendix Table IV.

importance of the larger brokers in the pattern of trading on the forward market, an aspect discussed later in this chapter.

Patterns of Trading by Scrips

Distribution of Share Volume

In view of the small number of scrips traded on the forward market of the Karachi Exchange, the question of which are the more important scrips and their effect on the general pattern of trading is of interest. Table 1 shows the distribution of forward trading in terms of the number of shares of each scrip traded during the market's initial years. It reveals that two scrips accounted for almost three-fourths of the total share volume during the period studied.

Adamjee Jute shares were the most important for the period as a whole, accounting for 38 per cent of all purchases. This position of leadership was, however, due largely to its seniority, and it ranked first on an annual basis in 1953 and 1954 only. In 1956 it dropped to third place, accounting for only 23 per cent of that year's purchases. Karnaphuli Paper shares ranked second with 36 per cent of all purchases during the period as a whole. It was, moreover, the most important scrip in each of the last three years studied, accounting for almost half of all purchases in 1955. Adamjee Cotton shares accounted for 19 per cent of the purchases during the period as a whole. While

TABLE 1.--Number of shares purchased on the forward market of the Karachi Stock Exchange, by scrip, annually, 1953 through 1957
(thousands of shares)

Scrip	1953	1954	1955	1956	1957	Total
Adamjee Jute	1,462	9,476	4,575	3,697	5,969	25,180
Karnaphuli Paper	. . .	5,792	6,498	4,997	6,451	23,738
Adamjee Cotton	. . .	5,052	2,315	4,062	1,117	12,546
Pakistan Tobacco	. . .	. . .	. . .	3,518	1,214 ^a	4,722
Total	1,462	20,320	13,387	16,274	14,751	66,185

Source: Computed from data in ledgers of the Karachi Stock Exchange.

^aPakistan Tobacco was on the forward list during the first eight months only in 1957.

Components do not always add to totals because of rounding.

one-fourth of all shares purchased in 1954 and 1956 were Adamjee Cotton shares, this scrip dropped to fourth position in 1957, even below Pakistan Tobacco, which was traded for only two-thirds of that year. The latter scrip, traded only during a twenty-month period, accounted for 7 per cent of the total share volume for the period as a whole. Except in 1956, trading on the forward market was dominated by either Adamjee Jute or Karnaphuli Paper or both. In 1954 these two scrips accounted for 75 per cent of the share volume and in 1955 and 1957 they accounted for more than 80 per cent of all shares purchased.

However, the patterns of share volume for these two dominant scrips were not parallel either to each other or to that of share volume for the market as a whole. An increase in trading in Karnaphuli Paper in 1955 was more than offset by a decrease in the number of Adamjee Jute shares traded, while an increase in volume for both of these scrips in 1957 was more than offset by a fall in activity in the other two scrips on the market. In other words, the pattern of activity for the forward market as a whole is a reflection of the interacting patterns of activity of the individual scrips being traded on it rather than a reflection of factors affecting the market as a whole. This also is in keeping with the character of forward trading in which interest shifts from one scrip to another, as the real or rumored opportunities for speculative gain appear and disappear.

Number and Size of Transactions

Table 2 has been prepared to show the number of transactions that were entered into annually in each of the individual scrips. It serves to supplement the data furnished in Table 1 relative to the distribution of trading activity on the forward market among the different securities listed. It will be seen that, with one major exception, the pattern is substantially the same as in Table 1. Three-quarters of the number of all transactions during the period studied were in Adamjee Jute or Karnaphuli Paper. Adamjee Cotton and Pakistan Tobacco accounted for 19 per cent and 7 per cent respectively of the total number of transactions. The major difference lies in the relatively greater importance of trading in Adamjee Jute shares when considered from the standpoint of number of transactions. This scrip accounted for 45 per cent of the number of transactions during the period studied and was the first ranked scrip from this standpoint in three of the five years. Karnaphuli Paper, on the other hand, accounted for only 30 per cent of all transactions in the period as a whole and led in only two years.

This is a reflection of the difference in the average size of the lots traded in the various scrips. This difference is evident from the data in Table 3. It presents the average number of shares which were purchased per

TABLE 2.--Number of transactions on the forward market of the Karachi Stock Exchange,
by scrip, annually, 1953 through 1957

Scrip	1953	1954	1955	1956	1957	Total
Adamjee Jute	5,860	25,020	10,677	6,878	9,224	57,659
Karnaphuli Paper	. . .	11,995	11,223	7,339	8,013	38,570
Adamjee Cotton	. . .	11,849	4,440	6,077	1,684	24,050
Pakistan Tobacco	. . .	. . .	. . .	6,544	2,002 ^a	8,546
Total	5,860	48,864	26,340	26,838	20,923	128,825

Source: Computed from data in ledgers of the Karachi Stock Exchange.

^aPakistan Tobacco was on the forward list during the first eight months only in 1957.

TABLE 3.--Average number of shares purchased per transaction on the forward market of the Karachi Stock Exchange, by scrip, annually, 1953 through 1957 (shares)

Scrip	1953	1954	1955	1956	1957	1953-1957
Adamjee Jute	250	379	428	537	647	437
Karnaphuli Paper	. .	483	579	681	805	615
Adamjee Cotton	. .	426	521	668	663	522
Pakistan Tobacco	. .	. .	. .	536	606 ^a	552
All Scrips	250	416	508	606	705	514

Source: Computed from data in ledgers of the Karachi Stock Exchange.

^aPakistan Tobacco was on the forward list during the first eight months only in 1957.

transaction for each scrip on an annual and over-all basis.⁸ It will be observed that the largest average transactions, in terms of number of shares purchased, were in Karnsphuli Paper. Trading in Adamjee Jute, on the other hand, was characterized by the smallest average lots. Adamjee Jute was more frequently traded in than any other scrip, but the larger blocks of Karnaphuli Paper made this scrip almost as important in total number of shares purchased.

Distribution of Trading among Brokers

Grouping of Data by Broker Quartile

As has been indicated, one aim of the present study was to determine the relative importance of the larger brokers on the forward market of the Karachi Stock Exchange. The questions to be answered were: To what extent is trading concentrated in the hands of a relatively few brokers? Has the pattern of distribution of trading changed over the period studied? Do individual brokers specialize in individual scrips? Analysis of the data relative to these points required a classification system which would group brokers in terms of the size of their operations. The total number

⁸Note that the data in Table 3 represent arithmetic means. Actual trading on the forward market is always in lots of even hundreds, i.e., 100, 200, 300, etc. Thus, three transactions, two of 400 shares each and one of 200 shares, would mean an average of 333 shares per transactions though it is not possible to trade in an actual lot of 333 shares.

of brokers participating on the forward market varies considerably from scrip to scrip, from month to month, and from year to year. Similarly the total amount of trading varies from scrip to scrip and over time. After experimenting with a number of classification systems, it developed that the most useful system for purposes of the study was one based on fixed proportions of the varying numbers of brokers. The system utilized was a grouping of brokers into quartiles on the basis of the number of shares purchased during the period being analyzed.⁹

Distribution of Trading during Entire Period

In order to determine the degree of concentration of trading among larger brokers, the data for the period as a whole were grouped according to broker quartiles and the proportion of shares purchased by each quartile and the proportion of transactions entered into by each quartile were computed. The data on shares purchased for this fifty-one-month period are presented in Table 4. During the period studied, eighty-two brokers traded on the forward market of the Karachi Exchange. The twenty largest of these brokers accounted for 83 per cent of the shares purchased. The remaining sixty brokers accounted for only 17 per cent of

⁹This grouping technique has been described at length in the preceding chapter.

TABLE 4.--Distribution of the number of shares purchased on the forward market of the Karachi Stock Exchange among broker quartiles, for the period 1953 through 1957

Broker Group	Shares Purchased (thousands)	Per Cent of Total
Upper Quartile	54,928	83.0
Second Quartile	9,164	13.8
Third Quartile	1,875	2.8
Lowest Quartile	229	0.3
Total	66,195	100.0

Source: Computed from data in ledgers of the Karachi Stock Exchange.

Components do not always add to totals because of rounding.

all purchases.¹⁰ The answer to our first question is that trading on the forward market is dominated by a relatively small group of brokers. A similar pattern is revealed by the data on the number of transactions entered into by broker groups, presented in Table 5. The same group of large brokers that accounted for 83 per cent of all shares purchased accounted for 76 per cent of the total number of transactions. The forty-one largest brokers, i.e., the two upper quartiles together, accounted for more than 95 per cent of the number

¹⁰To be exact, 20.5 largest brokers, and 61.5 remaining brokers. The terms "largest brokers" and "big brokers" are used to refer to those brokers whose purchases were so large, in terms of number of shares, as to rank them in the upper quartile.

TABLE 5.--Distribution of the number of transactions on the forward market of the Karachi Stock Exchange among broker quartiles, for the period 1953 through 1957

Broker Group	Number of Transactions	Per Cent of Total
Upper Quartile	97,799	75.9
Second Quartile	25,421	19.7
Third Quartile	4,766	3.7
Lowest Quartile	839	0.7
Total	128,825	100.0

Source: Computed from data in ledgers of the Karachi Stock Exchange.

of shares purchased and of the number of transactions entered into.

Further insight into this aspect of the structure of the market is afforded by a look at the characteristics of the "typical" broker in the top and bottom quartiles. For each of the eighty-two brokers participating in the forward market, the number of months in which he made at least one purchase was tabulated. The total of these "months in the market per broker" was then divided by eighty-two, revealing that the typical broker was in the market eighteen months. For those brokers who ranked in the upper quartile, however, the average number of months in the market was thirty-eight, while the typical broker who ranked in the lowest quartile was only in the market two months. The brokers in the upper quartile also characteristically traded in larger lots than

the smaller brokers. The typical upper quartile broker made almost 5,000 purchases totaling about 2.7 million shares. The average number of shares purchased per transaction was more than 560. The typical broker in the lowest quartile made only forty-one purchases totaling just over 11,000 shares. His average lot was about 270 shares per transaction, less than half the size of that of the typical large broker.¹¹

Distribution of Trading on an Annual Basis

The second question to be answered was whether this pattern of distribution of trading has changed over time. Analysis on this point required that the data on trading in each year be grouped into quartiles and annual patterns of distribution determined. Table 6 was prepared to show these annual patterns both for number of shares purchased and for number of transactions entered into.¹² It will be observed that in each year the upper quartile accounted for two-thirds to three-fourths of all shares purchased and for 58 per cent to 72 per cent of the number of transactions entered into. With the exception of 1953, which included only three months of trading, the lowest quartile never accounted for as much as 2 per cent of all shares purchased or of the number of

¹¹This difference in the average size of transactions explains the difference in the proportion of shares purchased compared with the proportion of transactions entered into in Tables 4 and 5.

¹²The data on which Table 6 is based are presented in Appendix Tables V and VI.

TABLE 6.--Percentage distribution of trading on the forward market of the Karachi Stock Exchange, by broker quartile, annually, 1953 through 1957
(per cent of total)

Broker Group	1953	1954	1955	1956	1957
Shares Purchased					
Upper Quartile	67.6	67.6	74.9	69.4	74.5
Second Quartile	18.2	22.3	20.7	21.7	18.4
Third Quartile	10.8	9.0	3.9	7.0	5.8
Lowest Quartile	3.4	1.2	0.4	1.9	1.3
Total	100.0	100.0	100.0	100.0	100.0
Transactions					
Upper Quartile	64.8	57.5	68.8	68.5	71.5
Second Quartile	18.4	28.5	24.8	24.5	19.5
Third Quartile	13.3	12.3	5.9	5.9	7.9
Lowest Quartile	3.4	1.7	0.5	1.0	1.1
Total	100.0	100.0	100.0	100.0	100.0

Source: Computed from data in ledgers of the Karachi Stock Exchange.

Components do not always add to totals because of rounding.

transactions. While the proportion of total share purchases accounted for by the upper quartile was larger in some years than in others, no trend over time toward more or less dominance of the market by the big brokers was apparent.

It will be seen that the lower two quartiles of brokers were more important, in terms of the proportion of total shares purchased by them, in the years of heaviest trading than they were in the years of lighter activity. This indicates that the big brokers tend to continue to trade whether activity is heavy or light while the small brokers tend to enter the market when trading is heavy and to drop out of the picture when it is slight.

Stability of Membership of the Broker Quartiles

In view of the dominance of the forward market by a relatively small number of large brokers it is logical to ask how stable membership in this elite is. On this point the difference observed between the pattern of distribution of trading for the whole period and the distribution pattern for the individual years merits comment. The proportion of total trading accounted for by the upper quartile brokers is notably larger over the longer period of time than it is for any one year. This in itself is evidence of the stability of membership in the ranks of the elite. If internal mobility existed in the market hierarchy, i.e., if this year's large brokers were next year's small brokers and vice-versa, the

result would be an offsetting effect over a period of years. The percentage of total shares purchased accounted for by the various broker quartiles would be more equal for the longer period than for the individual years. In fact, the direct opposite is true. This year's big brokers are, by and large, next year's big brokers as well. As a result, the upper quartile for the longer period is populated by the largest of the large, while the lowest quartile for the longer period is made up of this smallest of the small. The percentage of total shares purchased accounted for by the various broker quartiles is consequently more unequal for the longer period than for any component year. The dominance of the big brokers is more pronounced when the period analyzed is longer.

Direct evidence on this point is also available. Since individual brokers were assigned code numbers in the tabulation of the original data, it was possible to determine which brokers were in the upper quartile in each period analyzed. Of the ten largest brokers for the entire period studied, one broker was among the top ten in all four full years of trading and five others were in the top ten in three different years. The membership of the upper quartile was more stable over the period than the membership of any of the other three quartiles. Furthermore, there was some evidence of greater stability in the ranks of the elite in

the latter part of the period.¹³

Distribution of Trading by Scrip

To determine the extent to which specialization, by particular brokers in particular scrips, characterizes the forward market of the Karachi Exchange, the quartile grouping of data was carried out for each individual scrip, again covering the fifty-one-month period as a whole. Table 7 presents comparative data on the distribution of trading by scrip.¹⁴ It reveals that the dominance of a relatively small number of large brokers characterizes trading in every scrip listed. With the exception of trading in Pakistan Tobacco, which was listed for only twenty months, the upper quartile of brokers accounted for more than 70 per cent of all shares purchased and for more than 64 per cent of the number of transactions entered into. Even in the case of Pakistan Tobacco this group's dominance was clear, with more than 60 per cent of all shares purchased and of all transactions made.

It will be observed that the dominance of the upper quartiles is more pronounced in the two most heavily traded scrips, Adamjee Jute and Karnaphuli Paper. The lower

¹³Data on the relative stability of membership of the upper quartile for the market as a whole and for each individual scrip are presented in Appendix Table IX.

¹⁴The data on which Table 7 is based are presented in Appendix Tables VII and VIII.

TABLE 7.--Percentage distribution of trading on the forward market of the Karachi Stock Exchange, by broker quartile, by scrip, for the period 1953 through 1957
(per cent of total)

Broker Group	Adamjee Jute	Karnaphuli Paper	Adamjee Cotton	Pakistan Tobacco
Shares Purchased				
Upper Quartile	76.9	74.2	71.6	63.0
Second Quartile	18.0	20.2	21.0	28.5
Third Quartile	4.3	5.0	6.2	7.3
Lowest Quartile	0.8	0.6	1.2	1.2
Total	100.0	100.0	100.0	100.0
Transactions				
Upper Quartile	69.1	67.5	64.7	60.3
Second Quartile	23.7	24.8	24.2	32.0
Third Quartile	5.6	6.6	9.3	6.2
Lowest Quartile	1.6	1.1	1.8	1.5
Total	100.0	100.0	100.0	100.0

Source: Computed from data in ledgers of the Karachi Stock Exchange.

Components do not always add to totals because of rounding.

quartiles accounted for relatively greater percentages of share purchases and transactions in Adamjee Cotton and Pakistan Tobacco trading than in the more popular scrips. This accords with our observation that the lower quartile brokers are more active in the years of heavier trading since it is in the same years that trading in Adamjee Cotton and Pakistan Tobacco shares was relatively heaviest.¹⁵ In other words, the greater participation of the lower quartile brokers in the heavier trading activity coincided with increased trading in Adamjee Cotton and Pakistan Tobacco. As a result the dominance of the big brokers was less pronounced for these two scrips. These differences between individual years and between individual scrips in the proportion of shares purchased and transactions entered into by the various broker quartiles should not, however, be allowed to obscure the more important similarities. The main point is that in every year and for every scrip the forward market is primarily the market of a minority of speculators.¹⁶

The final point to be considered is that of specialization. A comparison of the brokers in the upper quartiles for the four scrips traded indicates that they are

¹⁵See Table 1, p. 40.

¹⁶Again, the difference in Table 7 between the percentage of shares purchased by each quartile compared with the percentage of transactions it accounted for stems from the fact that the larger brokers tend to trade in larger market lots than the lower quartile brokers.

largely the same people. Of the twenty brokers who were in the upper quartile for any one scrip, fifteen were in the upper quartile for at least two other scrips. Furthermore, a general correlation was observed between the number of scrips traded in and a broker's ranking in the hierarchy in terms of the total number of shares purchased. In other words, the largest brokers generally traded in all scrips and relatively heavily. Though this does not preclude the possibility that an individual broker concentrates on one scrip more than another, such is not the predominant pattern of the market.

Summary

The present study covers forward trading on the Karachi Stock Exchange from its beginning in October, 1953 through the end of 1957. During most of that period, forward trading was limited to three securities, or scrips, as they are called on the Indian subcontinent--Adamjee Jute, Karnaphuli Paper, and Adamjee Cotton. For a twenty-month period in 1956 and 1957, a fourth scrip, Pakistan Tobacco, was also listed for forward trading. About three-fourths of the brokers active on the Karachi Stock Exchange have participated in this type of trading.

In the period studied, more than 66 million shares were traded on the forward market. The heaviest volume of trading took place in the first full year of trading and

since the latter months of 1954 share volume has averaged about a million shares a month. The number of transactions entered into each month has declined as the average number of shares per transaction has steadily grown. The most striking characteristic of data on the volume of activity is considerable variation from month to month, evidence of the speculative character of the market.

The two most important scrips on the forward market during this initial period were Adamjee Jute and Karnaphuli Paper which accounted for about three-fourths of the total number of shares purchased and of the total number of transactions made. Observation of the volume of activity on the market as a whole and in the individual scrips leads to the conclusion that the total market activity is a reflection of shifting interest in the various scrips rather than a result of factors affecting the market generally. The size of the market lot, i.e., the average number of shares purchased per transaction, increased over the period for all scrips but differed somewhat as between scrips. The largest market lots were characteristic of trading in Karnaphuli Paper while trading in Adamjee Jute shares was characterized by the smallest average market lots.

The forward market is dominated by a relatively small number of brokers. One-fourth of all brokers trading on the market purchased 83 per cent of all shares traded and were the buyers in 76 per cent of all transactions on the market.

These large brokers were in the market more steadily and traded in larger average lots than other brokers. The membership of this elite was relatively stable throughout the period studied and showed evidences of becoming more stable in the latter part of the period. The dominant role of this group was apparent in each year of the period as well as for the fifty-one-month period as a whole. It was also apparent in trading in every scrip listed on the forward market. The fact that the dominant brokers are largely the same in the different scrips is evidence that specialization in particular scrips by particular brokers is not a factor of importance on this market.

CHAPTER III

TRADING IN ADAMJEE JUTE SHARES

The Industry and the Firm

Pakistan is primarily an agricultural economy. Jute, a natural fiber used primarily in burlap bagging and rough twines, is a mainstay of the economy. Although foodgrain crops, such as rice and wheat, are more important in terms of total domestic production, jute is the nation's major export item. It has accounted for more than 40 per cent of the total value of exports in almost every year since 1950. In view of this crop's dominant position as a foreign exchange earner it is hardly surprising that the jute processing industry has been given special consideration in the nation's development program.

The position of the jute industry following 1947 furnishes a sharply delineated example of the economic dislocation that resulted from Partition. The Indian subcontinent has long had a near-monopoly of the world's jute industry both in cultivation and processing. The primary cultivation area was East Bengal, an area that fell to

Pakistan in 1947. The processing mills were concentrated around Calcutta in an area that fell to India. Pakistan was left with the raw jute and no facilities for processing it, while India retained the processing facilities but had almost no domestic supply of the raw material. As political and economic relations between the two nations deteriorated each set out to remedy its own shortage. India has steadily increased its own jute cultivation. Pakistan set out to develop a domestic jute processing industry.

Formation of Adamjee Jute Mills, Limited

The initiation of the jute manufacturing industry in Pakistan resulted from a collaboration of public and private capital of a type that has become an accepted part of the economic scene. The public capital was furnished by the Pakistan Industrial Development Corporation, a government agency that invests directly in manufacturing industries regarded as necessary to the nation's industrialization program. The private initiative came from Mr. Ali Adamjee and associates.¹ The initial proposal to the PIDC was made in mid-1949 and called for the establishment of three mills, all to be located in East Pakistan.² In December, 1951 the

¹The Adamjee name is a familiar one in Pakistan, appearing on the directorates of firms in banking, insurance, commerce, and industry.

²Unless otherwise indicated, the discussion following is based on the annual reports of Adamjee Jute Mills, Limited for the years 1953 through 1957.

first mill went into operation and in July of the following year the firm of Adamjee Jute Mills, Limited was incorporated to take over the facilities from the original promoters, Mr. Adamjee and his associates. The firm had an authorized capital of 75 million rupees, representing 7.5 million ordinary shares with a par value of Rs. 10 each. Through 1957, however, only 5 million shares have been issued. The promoters took half of these and retained the managing agency. The PIDC took one-quarter of the shares, and the remaining shares were sold to the public.

The firm's second mill went into operation in December, 1952, one year after the first. Numerous delays attended the construction of the third mill and it was not in operation until September, 1955. Each of the three mills has a planned capacity of 1,000 looms, but power shortages have kept them below full output. Adamjee Jute Mills, Limited is no longer alone in the jute processing field, but it remains the leading company. In 1956 there were seventeen mills in the country with a total installed capacity of 8,250 looms.³ Adamjee Jute's three mills with a capacity of 3,000 looms accounted for more than one-third of the total.

Capital Structure and Earnings Record

The firm prospered financially in its early years.

³Press Information Department, Government of Pakistan, Pakistan Information, 1956-57 (Karachi: Department of Publications, 1957), p. 57.

Its position as the first firm in the domestic jute processing field enabled it to operate at a substantial profit even though it had entered the field after the Korean War boom was a thing of the past.⁴ Devaluation of the Pakistan rupee in mid-1955 provided a temporary stimulus to Pakistan's exports, and, significantly, this was Adamjee Jute's most profitable year. Following this, however, increasing competition from India and rival domestic firms, coupled with a general weakening of the world jute market, led first to a decline in Adamjee Jute's fortunes and then to a substantial deficit in 1957.⁵ In the period from 1953 through 1957, the firm's total assets grew to more than Rs. 107 million and its fixed capital doubled.⁶ Outstanding debt at the end of the period was Rs. 43 million, equal to about 40 per cent of total

⁴The Korean War provided Pakistan with its best economic years. The jute industry shared in this wartime prosperity as the wholesale price of raw jute on the New York market rose by about 50 per cent, from an average of 15 1/2 cents a pound in 1950 to 23 cents a pound in 1951. Following that peak, the average price dropped to less than the pre-war average. Commodity Year Book, 1957 (New York: Commodity Research Bureau, Inc., 1957), p. 68.

⁵Appendix Tables XI and XII present consolidated balance sheet and income and earnings data for 1953 through 1957. In these and similar tables the data furnished by the annual reports of the firms have been rearranged so as to more nearly approximate in form the balance sheets and earnings statements of American corporations.

⁶Adamjee Jute, like other new firms in Pakistan, was able to take advantage of rapid depreciation provisions in the tax law. Consequently, its net property value decreased on the accounts during the period.

assets. A general reserve of Rs. 10 million was accumulated, which proved to be just slightly more than enough to cover the 1957 deficit. Annual sales more than doubled during the period, but manufacturing expenses tripled. From a peak of almost Rs. 12 million in 1955, net income before taxes dropped to just over Rs. 1 million in 1956 and became a loss of more than Rs. 9 million in 1957.

In addition to the annual earnings of a firm, investors and brokers are interested in the book value of its shares and in its dividend record. In 1953, the book value of a share in Adamjee Jute Mills, Limited was 11 rupees and 10 annas. In 1956, the book value reached a peak of Rs. 13-3 and in 1957 had dropped back down to Rs. 11-4. It will be seen that these shares were initially quoted on the forward market at a rate more than twice their book value. They subsequently fell from that lofty height but were never quoted at less than book value during the period.

The firm's dividend record follows the earnings pattern. A 5 per cent dividend was declared on the basis of 1953's operations. This was followed by a 6 1/4 per cent dividend for 1954 and a 7 1/2 per cent dividend for 1955. The small profit margin in 1956 and the large deficit the following year precluded any dividends.⁷ On the basis of its

⁷A bonus stock issue of one million shares was proposed in 1956 in lieu of a dividend. In Pakistan, however, major capital issues require prior sanction by the government, and the Controller of Capital Issues would agree to only 250,000 shares, so the proposal was dropped.

operational record one would expect Adamjee Jute shares to generate increasing interest through 1955 and to decline in popularity thereafter. The actual record of trading in this scrip, in terms of both volume and price, is considered in the remainder of this chapter.

The Pattern of Trading Activity

Adamjee Jute shares were traded longer and more frequently than any other scrip on the forward market during the period studied. The first scrip listed for forward trading by the Karachi Exchange, it accounted for 38 per cent of all shares traded through December of 1957. About 45 per cent of all transactions involved this scrip. Sixty-eight of the eighty-two brokers who participated in forward trading made at least some purchases in Adamjee Jute shares. The popularity of this scrip was, however, far from constant. In 1954 forty-six of the fifty-one brokers in the market made purchases of Adamjee Jute shares. By 1956 this proportion had dropped to twenty-six of thirty-four brokers in the market. On the average, twenty-four brokers made purchases in this scrip each month, as compared with thirty in the forward market as a whole.

Share Volume

A total of 25 million shares of Adamjee Jute were traded on a forward basis during the fifty-one month period studied.

Chart 3 presents in graphic form the data on monthly share volume.⁸ Trading was heaviest in 1954 and 1957, lightest in 1955 and 1956. The record, as for the market as a whole, was marked by wide fluctuations. From more than a million shares in March, 1954, for example, trading fell to less than a quarter of that the following month. The level of activity in 1955 was less than half that of the previous year. As would be expected, the periods of peak volume were generally associated with considerable price change, while the low-volume months were generally periods of relatively stable price. Comparison of a twelve-month moving average with the actual data failed to reveal any pronounced seasonal pattern.

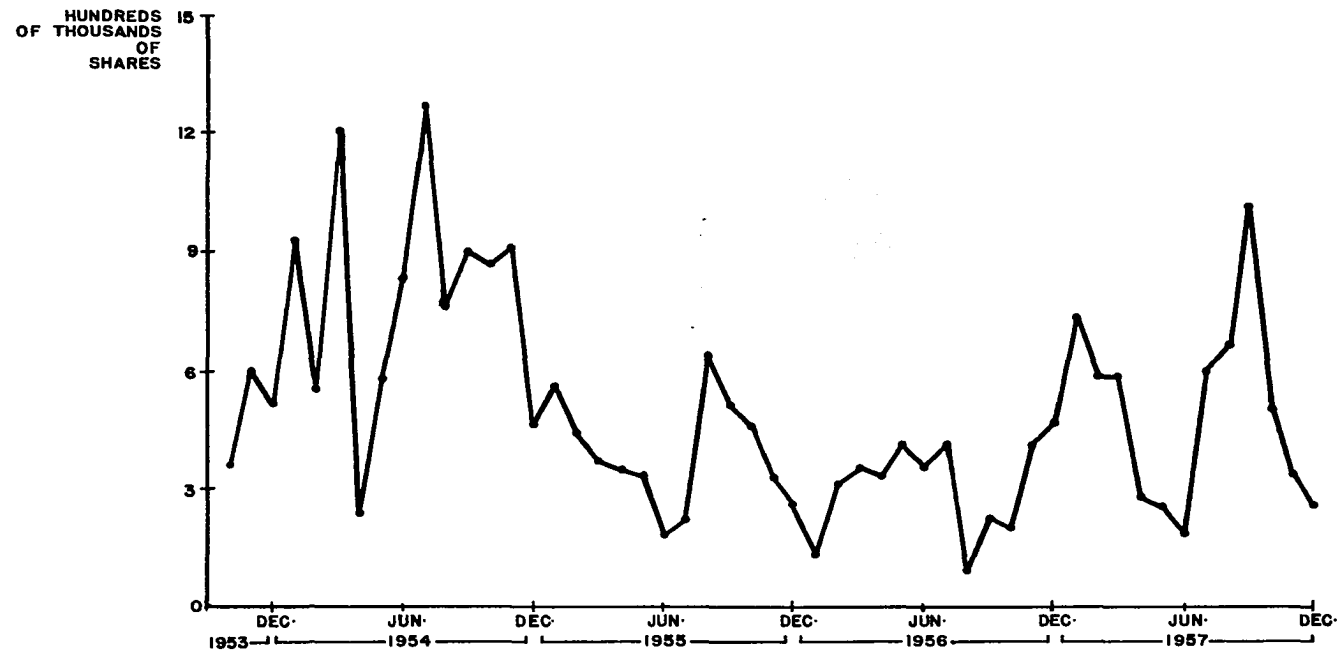
There are two important aspects of the pattern of share volume. First, the variations in volume from month to month reflect the speculative character of the trading. Where there is a sustained movement of volume in one direction, it is generally downward. The pattern was one of sudden flurries of interest at times when brokers expected a significant price change, followed by a steady falling off of interest.⁹ Second, the pattern of interest in Adamjee Jute shares is not that which we would expect from the firm's

⁸The data on which Chart 3 is based are present in Appendix Table XIII.

⁹It may be observed also that such flurries of interest tend to have a self-justifying effect, stimulating price changes themselves.

CHART 3

NUMBER OF SHARES OF ADAMJEE JUTE PURCHASED ON THE FORWARD MARKET OF
KARACHI STOCK EXCHANGE, MONTHLY, OCTOBER 1953 THROUGH DECEMBER 1957



fortunes. Interest in this scrip fell off sharply in 1955, the year in which the company was having its greatest financial success. Trading revived in 1957, the year in which the firm was suffering financial setbacks of a major order. Even when we take into account the fact that the annual reports of the firm are generally not made public until six months after the year's end, it is clear that forward market interest does not faithfully reflect the soundness of a firm's position. The monthly nadir for this scrip, in terms of share volume, was August, 1956, the month following the announcement of its largest dividend of the period. The answer is again that we are dealing with a speculative market, not an investor's market.

Distribution of Trading among Brokers

We have noted previously that the dominance of the big brokers was more pronounced for Adamjee Jute trading than for any other scrip on the forward market. Tables 8 and 9 have been prepared to show the changes in this pattern from year to year for this scrip. Table 8 reflects the percentage of shares purchased each year by the different broker quartiles for the four full years of trading in this scrip. It will be seen that the largest brokers accounted for more than 64 per cent of all shares purchased in each year. The percentage variations from year to year were not sizable.

TABLE 8.--Distribution of the number of shares of Adamjee Jute purchased on the forward market of the Karachi Stock Exchange, by broker quartile annually, 1954 through 1957
(per cent of total)

Broker Group	1954	1955	1956	1957
Upper Quartile	65.5	68.2	64.3	69.8
Second Quartile	23.2	22.7	26.8	19.6
Third Quartile	9.4	8.2	6.6	8.1
Lowest Quartile	1.9	1.0	2.4	2.4
Total	100.0	100.0	100.0	100.0

Source: Computed from data in ledgers of the Karachi Stock Exchange.

Components do not always add to totals because of rounding.

TABLE 9.--Distribution of the number of transactions in Adamjee Jute shares on the forward market of the Karachi Stock Exchange, by broker quartile, annually, 1954 through 1957
(per cent of total)

Broker Group	1954	1955	1956	1957
Upper Quartile	55.7	65.0	64.2	63.3
Second Quartile	28.3	22.2	27.9	22.0
Third Quartile	13.8	11.5	6.3	11.3
Lowest Quartile	2.2	1.3	1.6	3.4
Total	100.0	100.0	100.0	100.0

Source: Computed from data in ledgers of the Karachi Stock Exchange.

Table 9 presents the comparable data on the percentage of the total number of transactions which were entered into

by the various broker quartiles.¹⁰ Since the average market lot traded in by the upper quartile brokers was larger than for the lower quartile brokers, the percentage of the number of transactions which the largest brokers accounted for was somewhat smaller than was the case in terms of number of shares purchased. Nonetheless, this group accounted for 56 per cent of the number of transactions in 1954 and for 63 per cent or more in each of the other three years. The differences in these proportions from year to year were not large. The years of heaviest trading were the years in which the dominance of the upper quartile brokers was least pronounced, again evidencing the relatively greater participation of the smaller brokers in the years of heavy activity.¹¹

Stability of Membership of Broker Quartiles

Analysis of the membership of the various broker quartiles from year to year reveals that for this scrip, as for the forward market as a whole, the ranks of the elite are rather stable while the lower quartiles are not. Of twenty-three brokers who were in the upper quartile for Adamjee Jute in at least one year, one was so ranked in four years

¹⁰The data on which Tables 8 and 9 are based are presented in Appendix Tables XIII and XIV.

¹¹If the upper two quartiles are grouped together and the lower two quartiles are grouped together, a similar pattern is barely discernible in Table 8 as well. It is easier to see in Table 9, however.

and five others were so ranked in three different years. Furthermore, as in the market as a whole, there was evidence of increasing stability in the membership of the elite traders in Adamjee Jute. Half the members of the upper quartile in 1955 had been in the upper quartile in 1954 as well. Two-thirds of the membership of the upper quartile in 1957 had been members in the preceding year and another one-fourth had been ranked among the elite in at least one earlier year. A comparison with the data on the other two scrips which were traded over a full four-year period reveals that this stability in the ranks of the upper quartile is slightly more pronounced for Adamjee Jute trading than for the others.

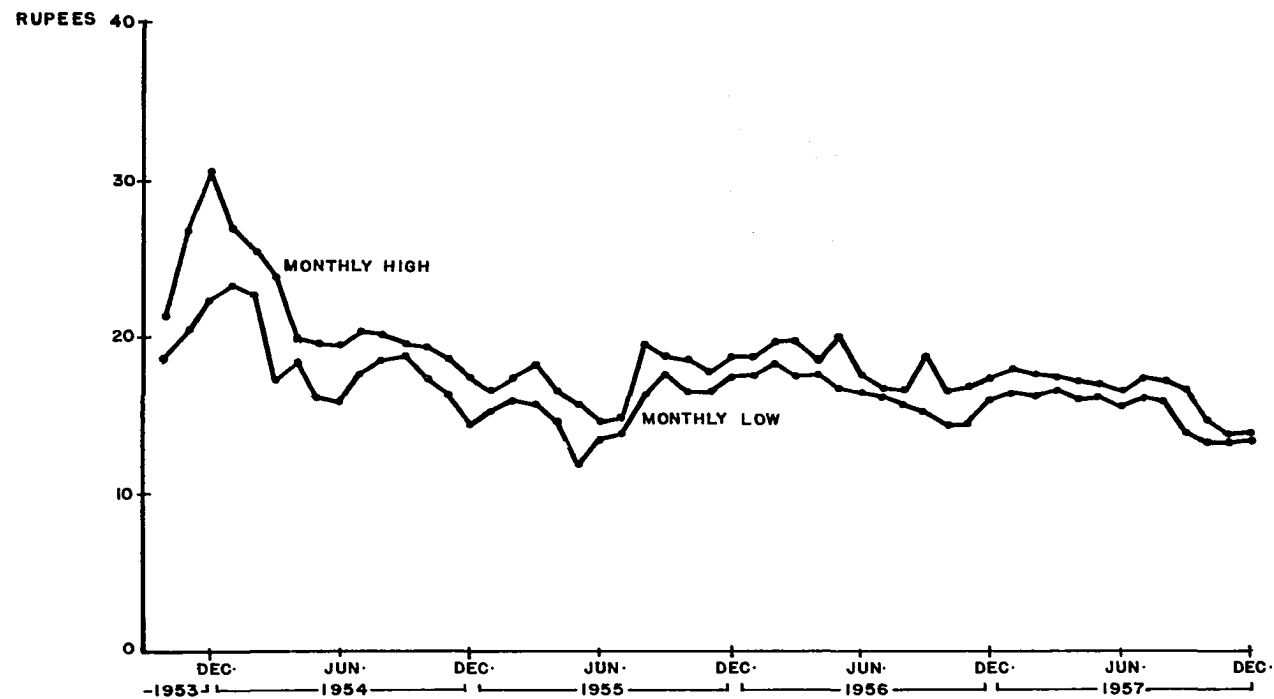
Price Patterns

The par value of an ordinary share of Adamjee Jute is ten rupees. The price on both the ready and forward markets of the Karachi Exchange has consistently been above par. A review of the movement of prices on the forward market during the fifty-one-month period adds another dimension to our picture of the character of trading on this market. Chart 4 shows the highest and lowest prices quoted each month for Adamjee Jute shares and furnishes a picture of the major price movements during the period. It is a picture of sizable fluctuations, particularly in the early months of trading, and of an over-all downward trend.¹²

¹²The discussion of factors affecting price movements is based on current newspaper files and particularly the

CHART 4

HIGH AND LOW PRICES FOR ADAMJEE JUTE SHARES ON THE FORWARD MARKET OF
THE KARACHI STOCK EXCHANGE, MONTHLY, OCTOBER 1953 THROUGH DECEMBER 1957



Movement of Price over Time

These shares were initially quoted at a sizable premium and the price rose rapidly through the first two months of trading to reach a peak of thirty rupees and twelve annas during the first week of December, 1953. This peak was followed by a precipitous fall in the early months of 1954. No specific factors appear to have stimulated the wide initial swings in price. The firm was not yet in full operation and perhaps the absence of tangible evidence on which to base market valuation was itself a major contributor to the erratic speculative swings of price. Severe labor riots which broke out in April, 1954 and led to a two-month shut-down of the operative mills undoubtedly reinforced but did not initiate the sharp downward movement which followed the December, 1953 peak.

Though easing somewhat and marked by two temporary recoveries, this general downward movement continued well into 1955. The first recovery in July and August of 1954 was stimulated by the announcement of a dividend for 1953's operations. The second upswing in February and March of 1955 is difficult to explain. It probably reflects a reaction against the preceding bear movement and the anticipation, though short-lived, that an upward adjustment was due. The long downward movement itself evidently stemmed from both

market reports of S. F. Irani and A. A. Gangjee, themselves both members of the Karachi Stock Exchange and participants in forward operations.

general and specific factors. By 1954 the effects of the Korean War boom on the Pakistan economy had worn off and the competition from India in the world jute market was beginning to be felt. An example of the specific factors operating on the market is the report that in October and November of 1954 a number of brokers found themselves short on account of operations in Karnaphuli Paper and had to sell Adamjee Jute holdings to cover their margins.¹³ It should be noted, however, that this general downward tendency in Adamjee Jute share prices was strangely at variance with the firm's fortunes as revealed by its annual reports. In spite of the labor troubles and a general weakening of the world jute market, net income after provision for taxes was greater in 1954 than in the previous year.

The all-time low for this scrip was reached in the second week of May, 1955, when a price of just over twelve rupees per share was quoted. This nadir was followed a few months later by one of the sharpest upswings in price that occurred during the period studied. This rise in August, 1955 was clearly attributable to the announcement of the long-delayed devaluation of the Pakistan rupee. The announcement brought rises throughout the market but was

¹³See the market report of A. A. Gangjee for January 22, 1955. It must again be emphasized that the analysis of factors explaining market behaviour utilizes highly subjective sources, the reports of men who are themselves active on the forward market.

particularly strong in its effect on the jute industry, which anticipated that this move would ease the pressure of Indian competition in the world market. But in spite of the fact that devaluation was followed by announcement of a dividend for 1954 which exceeded that of the previous year, the price of Adamjee Jute shares on the forward market fell off again through the fall of 1955. Another recovery during the winter months was followed by still another sustained drop through most of 1956. It is noteworthy that this latter slide was not reversed by the announcement in the summer of 1956 of the largest dividend yet. The market reportedly had been anticipating a much larger dividend and the price movement reflected the failure of their expectations rather than reports of reversals in the firm's fortunes.¹⁴

The rumors of a bonus issue for Adamjee Jute that were current on the market in early 1957 explain in part the relative stability of price through the first half of that year. Certainly the firm's financial status was less encouraging than usual. As the date for issuance of the annual report approached the rumors of a bonus issue were overshadowed by word leaking out that there would be no dividend for the previous year. In August, when the annual report confirmed this, price for this scrip took another

¹⁴The unusual high prices in May and September of 1956 reflected isolated fluctuations rather than general market movement.

downward plunge, leveling out only at the end of the year.¹⁵

A few general comments are warranted by the record. First, the prevalence of rumors as a factor in price movements is noteworthy. In at least one instance the force of rumor was such that a sizable dividend was regarded as a disappointment because it was not as large as rumor had made it. This is not surprising on a speculative market since traders are more interested in what the market price will be than in what the objective situation indicates it should be. Put another way, they are gambling on what the effect of a rumor will be, not on how well founded it is. Second, the general movement of price in the early years of trading was contrary to the firm's financial experience. Price went down while earnings and dividends went up and reached its nadir in the year of the firm's greatest financial success. The effect of devaluation on the forward market was more substantial than its economic effect on the jute processing industry, which benefited for a short time only from this export stimulus. Third, there is a frequent lag in the market's reflection of economic and financial factors. Annual reports of firms are typically not published until about six months after the close of the operating year. As the date for issuance approaches, the market is usually a center of rumors and frequently of anxiety. Although the major

¹⁵This was the 1956 annual report. The annual report showing the large loss experienced in 1957 was not issued until the summer of 1958, so had no direct effect on the forward market during the period studied.

brokers attempt to be reasonably well-informed on the affairs of the firms in which they trade, the market must, of necessity, "wait for the annual report." These aspects serve to weaken the forward market as any sort of arbiter of "real stock values" in the short run.

Pattern of Daily Fluctuations

The daily range of price furnishes another aspect of the picture of forward trading in Adamjee Jute shares. Table 10 indicates the frequency of price changes of stated magnitude. This scrip was traded on 1,147 days. On 872 of those days the highest price quoted did not differ from the lowest price quoted by more than eight annas, or a half rupee. On only twenty-five days did this spread exceed two rupees and on only six days was it more than three rupees. Though this reflects relative price stability during most trading days, it is noteworthy that the daily fluctuations in Adamjee Jute shares were on the average larger than those of any other scrip traded on the forward market. It should also be noted that the larger fluctuations were characteristic of the earlier months of trading and were more often associated with falling price than with rising price. This latter fact indicates that precipitous falls in price were more frequent than sharp rises.

Finally, a comparison of the forward market price pattern with that of the ready market deserves mention.

TABLE 10.--Distribution of daily fluctuations in the price for Adamjee Jute shares on the forward market of the Karachi Stock Exchange, annually, 1953 through 1957

Year	Total Trading Days	Number of days on which fluctuation was				
		8 annas or less	8 annas to 1 rupee	1 rupee to 2 rupees	2 rupees to 3 rupees	more than 3 rupees
1953	42	7	19	10	4	2
1954	276	153	73	39	9	2
1955	276	225	25	22	3	1
1956	274	245	22	5	1	1
1957	279	242	31	4	2	. . . .
Total	1,147	872	170	80	19	6

Source: Computed from data in ledgers of the Karachi Stock Exchange.

Dates and sizes of largest price fluctuations were: December 15, 1953--Rs. 3-9-0; December 17, 1953--Rs. 3-11-0; March 17, 1954--Rs. 3-3-0; March 19, 1954--Rs. 3-12-0; May 11, 1955--Rs. 3-2-6; and May 28, 1956--Rs. 3-1-0.

Although records of ready market transactions are not maintained by the Exchange, it publishes official closing quotations on both the ready and the forward markets. This makes possible a comparison of the two markets in terms of closing prices. As a rule the two prices moved closely together. The difference between them was generally less than two annas and as a rule the two series moved in the same direction. As would be expected, the closing price on the forward market was more frequently above than below the closing price on the ready market. Judging from the closing quotations price swings on the forward market are somewhat wider than on the ready market; i.e., the range from a peak to a low price was usually larger.

Summary

Jute exports provide the largest single source of foreign exchange for Pakistan. Because of this and because Partition left the country without any domestic jute processing industry, the government, acting through the Pakistan Industrial Development Corporation, assisted in the establishment of such an industry. Adamjee Jute Mills, Limited, was the first such firm to be established and is still the largest firm in the field. The firm was incorporated in 1952 with a capital structure of Rs. 50 million in the form of 5 million ordinary shares. Through its first three full years of operation the firm had a satisfactory earnings

record and declared increasing dividends each year. In 1956, however, its profit margin was severely reduced and in the last year studied, it suffered a loss of more than nine million rupees. The book value of its shares remained above par throughout the period.

The first scrip listed for forward trading, Adamjee Jute was also the most frequently traded security on the forward market. The heaviest trading in this scrip occurred in 1954. The following year its share volume was cut in half and in 1956 it declined still further, showing a revival for its second heaviest year in 1957. This pattern of activity was in contrast with the firm's financial fortunes, but understandable in terms of the speculative character of the forward market. As was the case for the market as a whole, trading in Adamjee Jute shares was dominated by the upper quartile of large brokers. The importance of these brokers was slightly more evident in the years of lighter trading. The membership of the upper quartile of brokers trading in Adamjee Jute was more stable than for any other scrip and exhibited greater stability in the latter part of the period.

The price of these shares on the forward market was consistently above both par and book value. The price pattern was characterized by wide fluctuations, particularly in the first few months of trading. A peak price of over thirty rupees a share was quoted in December, 1953. Thereafter the

general trend was downward, with two short-lived recoveries, to the all-time low of about twelve rupees in May, 1955.

This general price movement was in contrast to the firm's financial fortunes in the same period. Sharp recovery following devaluation of the rupee was followed by another general downward movement culminating in a sharp drop in late 1957 which followed the announcement that no dividend would be forthcoming for 1956's operations. The record of price movements and the factors reportedly determining them gives further evidence of the speculative character of the forward market. The importance of rumors to the market and the lag which frequently characterizes the market's reaction to financial and economic factors contradict the idea that it serves as an arbiter of "real stock values," at least in the short run.

On most trading days, the spread between the low and high prices was not over eight annas. On only six of more than 1,000 trading days did it exceed three rupees. The wider daily fluctuations were more characteristic of the earlier months of trading. Wide fluctuations were, however, more characteristic of trading in this scrip than of trading in the other two major scrips, Karnaphuli Paper and Adamjee Cotton. A comparison of closing quotations on the forward market with those on the ready market reveals that the two series generally move closely together. The price on the forward market is usually somewhat above the price on the ready market. The swings in the forward market price were generally more severe than on the ready market.

CHAPTER IV

TRADING IN KARNAPHULI PAPER SHARES

The Industry and the Firm

The paper industry, like most other manufacturing industries, is a post-Partition development in Pakistan. As in the creation of the jute processing industry, the Pakistan Industrial Development Corporation played a leading role.¹ Though raw material in the form of bamboo growing in East Pakistan existed, the new nation was initially dependent on outside sources for its paper consumption. Such imports constituted a small but avoidable drain on foreign exchange.²

¹The following discussion of the firm's background and early history is based on several sources: Forward, a monthly publication of the Pakistan Industrial Development Corporation, issues of January and February 1957; Paper Industry (Karachi: Pakistan Industrial Development Corporation, 1956); Karachi Stock Exchange, Official Yearbook 1957 (Karachi: Karachi Stock Exchange, 1957), pp. 173, 174; and the annual reports of Karnaphuli Paper Mills, Limited for the years 1954 through 1957.

²Paper imports in fiscal year 1951-52 totaled Rs. 43 million in value, about 2.5 per cent of all imports on private account. Central Statistical Office, Government of Pakistan, Pakistan Statistical Yearbook, 1955 (Karachi: Department of Publications, 1956), Table 82, pp. 126, 127.

In August, 1950, plans were approved to alleviate this drain by establishing a government-sponsored paper mill on the Karnaphuli River in East Pakistan. The site was chosen for its proximity to the Chittagong hill tracts in which adequate supplies of bamboo of the required quality are available.

Formation of Karnaphuli Paper Mills, Limited

Although initial steps in the form of orders for machinery and contracts for building construction were taken immediately upon approval of the proposal, progress was slow, and in January, 1952 the project was turned over to the PIDC, which formed a public limited company, Karnaphuli Paper Mills, Limited.³ Incorporated in October, 1953, the firm was to have a capital structure consisting of 100,000 shares of cumulative preferred shares with a par value of Rs. 100 each and 6.5 million ordinary shares of Rs. 10 each. To date, no preferred stock has been issued and only 4.6 million shares of ordinary. Of these, 3.2 million were sold to the public, and brought a premium of Rs. 2-8 a share. The PIDC retained the remaining 1.4 million shares and acts as the firm's managing agent.

Concurrent with incorporation, the first of the mill's paper-making machines was put into operation. Since then the

³A public limited company is the equivalent of an ordinary corporation with shares marketed publicly. It is distinguished from a private limited company in that the latter has a limited number of shareholders and its stock is not marketed publicly. All firms traded on the Karachi Stock Exchange are public limited companies.

plant has added two more machines, bringing total capacity to 30,000 tons a year. In addition, the mill has its own power plant with a capacity of 13,500 kilowatts, water filtration plant, and chemical plant, the complex constituting an integrated unit. By 1957, production had risen to 24,700 tons a year, or 82 per cent of capacity. At the same time, paper consumption in Pakistan had increased so that Rs. 20 million worth of paper was still being imported.⁴ Earlier hopes of an export market for the firm have not been fulfilled.

The firm's first full year of production, 1954, was marked by reverses. In March of that year some of the most serious labor riots in East Pakistan's short but tumultuous history occurred at the Karnaphuli Mills. Ten staff members, including the Operative Director, were fatally injured, and the foreign technicians serving as senior staff members left.⁵ Operations were shut down for two months and full production was not attained until August. The pulp plant did not come into operation until the end of the year, leaving the mill dependent on imported raw material throughout 1954. Finally, it was discovered that the Karnaphuli River required extensive dredging before it could be used to transport output to the

⁴Central Statistical Office, Government of Pakistan, *Statistical Bulletin*, Vol. VI, No. 5 (May 1958), Table 38, p. 253 and Table 8, p. 208.

⁵The firm's annual report for that year did not indicate the number of workers killed or injured.

port of Chittagong down-river. In spite of these setbacks, Karnaphuli Paper showed a small operating profit for 1954, and further progress was registered in succeeding years.

Capital Structure and Earnings Record

Increasing production, reaching more than two-thirds of rated capacity in 1955, was matched by major developments on the financial scene. In August of that year, negotiations were completed for a World Bank loan, guaranteed by the government, amounting to the equivalent of 4.2 million U.S. dollars in various foreign currencies. This loan made it possible for the firm to pay off the more than Rs. 20 million owed the government for the plant and equipment taken over at incorporation. In the same year, the PIDC agreed to turn over to the company the more than Rs. 2.5 million premium it had received on the sale of shares to the public. Other aspects of the firm's financial affairs also continued to improve.⁶ Total assets were in excess of a hundred million rupees in 1957, and fixed capital had risen to a value of Rs. 83.6 million.⁷ Sales in that year were over Rs. 45 million, and net income almost Rs. 5 million. On the other side of the ledger, the outstanding debt in 1957 was still

⁶Appendix Tables XV and XVI present consolidated balance sheet and income and earnings data for the four years 1954 through 1957.

⁷This is the gross figure. Thanks to rapid depreciation, net capital value on the books was only Rs. 69 million.

Rs. 34 million, equal to about one-third of total assets.

Karnaphuli Paper shares rose in book value only slightly during the period studied, from just over the par value of Rs. 10 in 1954 to almost Rs. 11 in 1957. A dividend of 3.75 per cent was declared for 1955, and there were dividends of 7.5 per cent in each of the following two years. The pattern of earnings and dividends would warrant a steady or increasing interest in Karnaphuli Paper shares from an investor's standpoint. The remainder of this chapter deals with the actual interest in this scrip reflected on the forward market.

The Pattern of Trading Activity

Karnaphuli Paper was the second scrip listed for forward trading on the Karachi Stock Exchange. It was added to the forward list on January 16, 1954 and soon became one of the leading securities on the market. It ranked second in share volume in 1954 and first in the three years following. It accounted for 36 per cent of all shares traded in the fifty-one-month period studied. In terms of broker participation, it also ranked just behind Adamjee Jute. Sixty-two of the eighty-two brokers making purchases on the market during the period traded at least once in Karnaphuli Paper shares. In the last three years, more brokers traded in this scrip than in any other.

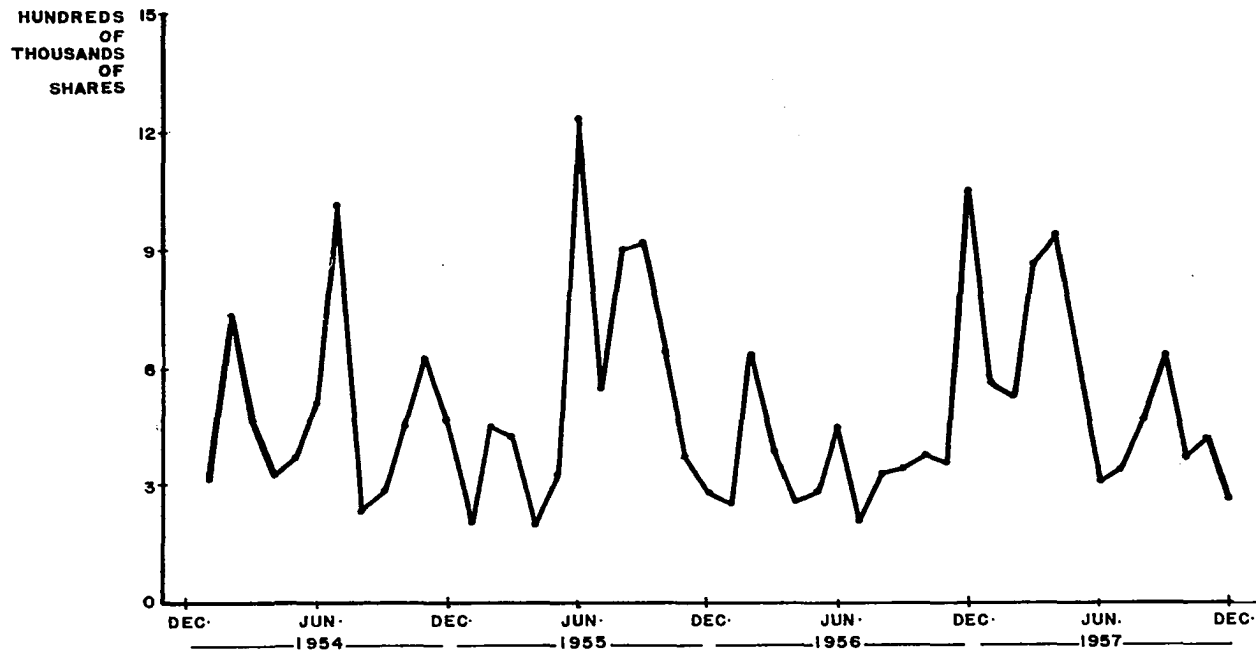
Share Volume

Almost 24 million shares of Karnaphuli Paper were traded on the forward market during the four years 1954 through 1957, an average of about a half-million shares a month. The year of heaviest activity was 1955, while the year of lightest activity was 1956. Chart 5 shows monthly data on share volume. As in trading in Adamjee Jute, the pattern was one of wide variations in activity. The peak month of June, 1955 saw almost four times as many shares traded as the month immediately preceding it and more than twice as many as in the month immediately following. Changes of similar magnitude characterized other months of heavy trading. Despite these characteristically wide variations in monthly share volume, the tendency over the total period did not appear to be either up or down. The total in 1957 was only slightly smaller than in 1955, the year of heaviest trading.

The months of increased activity were generally associated with periods of price change and important news or rumors. The first peak in July, 1954 came at a time when a price recovery was in process, stimulated by news of negotiations with the World Bank for a loan. The all-time peak in June, 1955 came when price was hitting its all-time low with the announcement of no dividend for the previous year's operations. The heavy trading in August and September, 1955 accompanied another price rise stimulated by devaluation

CHART 5

NUMBER OF SHARES OF KARNAPHULI PAPER PURCHASED ON THE FORWARD MARKET OF THE KARACHI STOCK EXCHANGE, MONTHLY, JANUARY 1954 THROUGH DECEMBER 1957



of the rupee and announcement that the World Bank loan had been consummated. Increased activity in December, 1956 was associated with another period of price recovery, while the heavy trading registered in March and April, 1957 followed the issuance of the annual report for the previous year. This too was a period of rising price. Except for the June, 1955 peak, the heaviest activity in the scrip was associated with price rises. The size of the fluctuations in interest once more furnished evidence of the speculative character of the market. In view of the steady progress registered on the financial side, one would expect this to be an increasingly popular scrip for investors. The actual pattern of activity, however, is one of sudden explosive interest at times of noteworthy events, but equally sudden slackening of interest shortly thereafter. In its early years, the forward market of the Karachi Stock Exchange was evidently not a market for investors.

Distribution of Trading among Brokers

Trading in Karnaphuli Paper shares was dominated by the largest brokers, though their relative importance in this scrip was slightly less than for Adamjee Jute trading. Tables 11 and 12 have been prepared to show the variation from year to year in the proportion of all Karnaphuli Paper shares purchased by each broker quartile and the number

of transactions in this scrip accounted for by each quartile.⁸ Table 11 presents the data for shares purchased. The proportion of all shares accounted for by the upper quartile

TABLE 11.--Distribution of the number of shares of Karnaphuli Paper purchased on the forward market of the Karachi Stock Exchange, by broker quartile, annually, 1954 through 1957
(per cent of total)

Broker Group	1954	1955	1956	1957
Upper Quartile	60.8	69.8	65.9	73.6
Second Quartile	26.2	23.3	26.8	17.9
Third Quartile	11.1	5.7	6.2	7.1
Lowest Quartile	1.9	1.2	1.1	1.4
Total	100.0	100.0	100.0	100.0

Source: Computed from data in ledgers of the Karachi Stock Exchange.

of brokers ranged from 61 per cent in 1954 to 74 per cent in 1957. The lowest quartile of brokers did not account for as much as 2 per cent of the total number of shares purchased in any year. The differences from year to year are somewhat greater than was the case with Adamjee Jute, but in this case there is no pattern of relationship between total level of share volume and degree of predominance of the largest brokers. Though the predominance of the upper quartile is less marked in Karnaphuli Paper than in Adamjee Jute for the

⁸The actual data on which the percentages in Tables 11 and 12 are based are presented in Appendix Tables XIX and XX.

period as a whole, it was more pronounced for Karnaphuli Paper than for any other scrip in the last two years of the period.

Table 12 presents the equivalent percentage data for the number of transactions in Karnaphuli Paper registered each year.

TABLE 12.--Distribution of the number of transactions in Karnaphuli Paper shares on the forward market of the Karachi Stock Exchange, by broker quartile, annually, 1954 through 1957 (per cent of total)

Broker Group	1954	1955	1956	1957
Upper Quartile	50.0	61.8	62.3	67.8
Second Quartile	30.2	27.9	30.8	20.6
Third Quartile	16.4	8.6	6.4	9.5
Lowest Quartile	3.4	1.7	0.5	2.1
Total	100.0	100.0	100.0	100.0

Source: Computed from data in ledgers of the Karachi Stock Exchange.

The upper quartile of brokers accounted for half the total number of transactions in 1954. It accounted for a larger share of the number of transactions in each subsequent year and in 1957 accounted for two-thirds of the total. The lowest quartile of brokers accounted for 3.4 per cent in 1954 and only one-half of one per cent in 1956. Though the variations from year to year are slightly more marked than for the comparable data relative to Adamjee Jute trading, no

relationship between level of activity and distribution of the number of transactions among broker quartiles is revealed.⁹

Stability of Membership of Broker Quartiles

The ranks of the elite traders in Karnaphuli Paper shares exhibited greater variety than for either Adamjee Jute or Adamjee Cotton. No one broker remained in the upper quartile for this scrip for all four years. Of the twenty brokers who were in the upper quartile, at least one year only, four were so ranked for three of the four years. The greatest stability in the ranks of the upper quartile was exhibited in the middle two years of the period. Half the brokers in the upper quartile in 1956 had been in the upper quartile in the preceding year as well. Although this stability was less than for the other two scrips traded over a four-year period, it was greater than the stability in the ranks of the lowest quartile. For this scrip as for others, the smallest brokers were those who were in and out of the market, making sizable purchases on occasion, but not remaining in the market long enough to account for any substantial part of total trading.

⁹It is true that the share of the upper quartile in Table 12 increases each year, but this apparent trend over time is not characteristic of the more meaningful measure of distribution of share volume presented in Table 11. Also, if the upper two quartiles are grouped together, and likewise the lower two quartiles, there is no trend over time apparent in either table. For these reasons, the progression seen in Table 12 is not regarded as significant.

Price Patterns

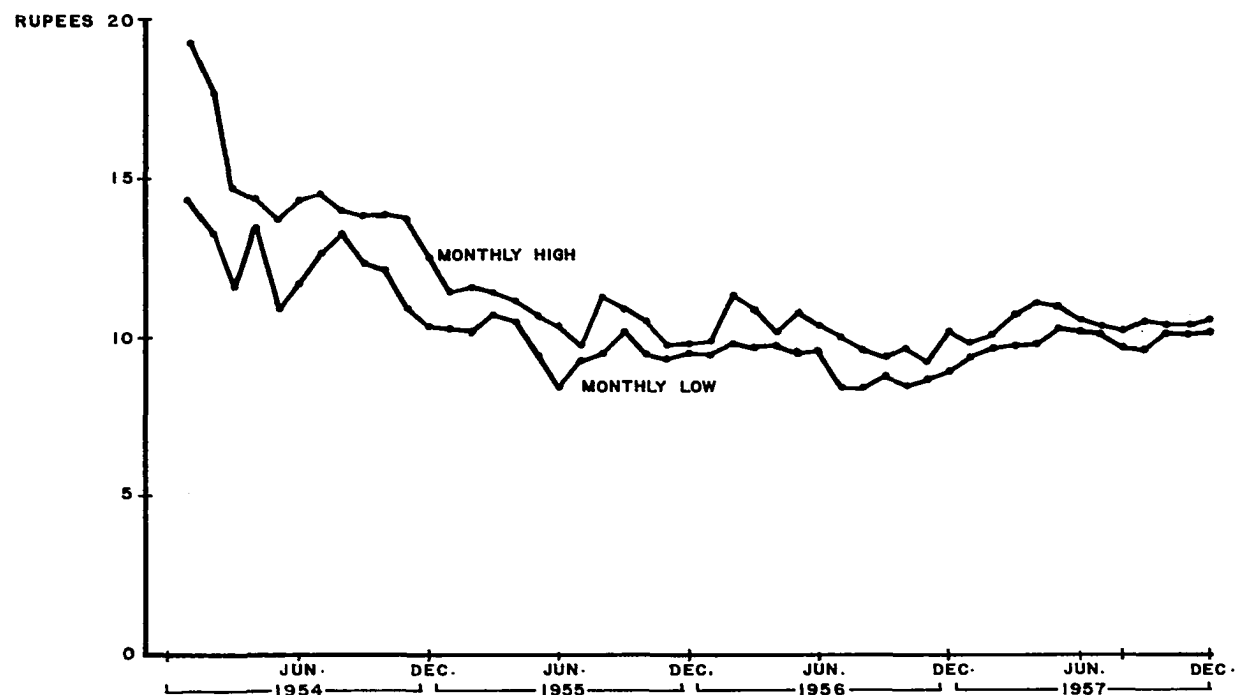
The par value of an ordinary share of Karnaphuli Paper Mills, Limited is Rs. 10. When the issue was sold initially to the public it brought Rs. 12-8 a share, evidence of public interest in the new firm which was to have a monopoly of paper production in Pakistan. During the four-year period under review, the book value of a share, in terms of the firm's net worth, rose only moderately to just under Rs. 11. The earnings and dividend record of the company indicate that a steady rise in the market value of the scrip during the period was justified. The actual record of price movements on the forward market is not, however, in accord with this expectation.

Movement of Price over Time

Chart 6 presents the monthly high and low prices paid for Karnaphuli Paper shares on the forward market. It indicates not only what the monthly fluctuations in price were, but also furnishes a general picture of major price movements from month to month over the period. Relative to the latter aspect it will be seen that following an initial fall in price in early 1954, the trend over the period was moderately downward until mid-1955 and thereafter neither markedly up nor markedly down. The gentle declines that occurred were roughly offset by the short recoveries that were manifested from time to time. With only a few exceptions,

CHART 6

HIGH AND LOW PRICES FOR KARNAPHULI PAPER SHARES ON THE FORWARD MARKET OF THE KARACHI STOCK EXCHANGE, MONTHLY, JANUARY 1954 THROUGH DECEMBER 1957



price, following mid-1955, oscillated around the par value of Rs. 10 a share. The major movements, again excepting the first few months, are not very sharp though occasional temporary rises or falls marked particular events or rumors of events. The importance of rumors, and particularly rumors concerning prospective dividends, is frequently exhibited in connection with the price movements for this scrip.

As was the case with Adamjee Jute shares, the initial period of trading in Karnaphuli Paper was marked by the widest swings in price. The all-time high of Rs. 19-7 was registered in the second week the scrip was listed. The initial speculative swings in price were soon followed by a sharp downward slide which reached a temporary low in March, 1954 with the news of the riots at the mill site. With the general trend still down, another low was reached two months later when it was announced that no dividend was forthcoming for 1953's operations.¹⁰ It is difficult to see what would have encouraged expectation of a dividend so soon after incorporation, particularly in view of the early setbacks of labor troubles, delay in operation of the pulp plant, etc. However, market reports state that expectations of a dividend did exist and their disappointment was a cause of the May drop in price.

¹⁰The discussion of factors affecting market price is based on market reports of the period as well as the firm's annual reports.

Though the general trend continued to be downward, a temporary recovery occurred in June and July with the announcements that a World Bank loan was being considered and that full production was expected by early August. A major factor reported to have depressed prices throughout the rest of 1954 and the first half of 1955 was the delay in issuing share certificates. Though the firm had earlier closed the share list, the actual issuance of the certificates was not completed until early 1956. Lack of the certificates made transfers of share ownership complicated and reportedly built up considerable selling pressure in the interim.¹¹ Traders were also reportedly anxious to see the 1954 annual report (the firm's operational year ends on September 30). Another rash of dividend rumors, some reporting as big a dividend as 7 per cent, was responsible for the leveling out of price in February 1955. The issuance of the report in June completed the disappointment of these rumors for a second time and brought the price of the scrip to its all-time low of just over eight rupees.

August, 1955 and the announcement of not only the devaluation of the rupee but also of the finalization of the

¹¹The share list is the official record of stockholders on which the sending of dividends is based. Share certificates represent the legal title to the shares and a change in the ownership of a share is registered on the share list after the transfer of the share certificate has occurred. In the absence of share certificates to transfer, the new buyer is gambling that no dividends will be declared prior to their issuance and his opportunity to be registered as the current owner of the share.

World Bank loan brought about a strong recovery in Karnaphuli Paper shares, along with the rest of the market. The general trend was rather stable from October, 1955 to the end of 1957, though some variations are worth noting. The rise to a slight peak in February, 1956 followed by another gentle slide downward was occasioned by yet another rash of dividend rumors. The peak accompanied the rumors while the issuance of a dividend smaller than expected was accompanied by a reversion to the downward trend line. This was followed by an equally gentle climb in price during the first half of 1957. The continued improvement in the firm's financial status was for once reflected in a steady climb in the forward market value of its shares. Though dividend rumors were again reported, they were not to be disappointed this year, and the announcement of a 5 per cent dividend, following an earlier interim dividend of 2 1/2 per cent, reinforced the rise. After April, 1957, price for this scrip was quite stable with only a temporary dip in August and September when another expected interim dividend failed to materialize.

The pattern of prices is interesting on several counts. The repeated rise and fall occasioned by unrealistic dividend hopes and their disappointment is almost comic in its frequency. In every year of the period, rumors of an imminent dividend made their appearance on the market. In all but the last year these rumors were unrealistic in character and served to stimulate a rise in price that was

soon followed by a fall consequent on disillusionment. The possibility that in some cases the rumors themselves were manufactured by brokers, who could sell forward at the higher rate and buy for delivery at the subsequent lower rate, is not to be overlooked, though naturally no specific evidence of such a practice is available. The relative stability of price for this scrip over most of the period is also noteworthy, particularly in view of the considerable trading that occurred and the variations that characterized trading activity. Finally, the relatively low level of price for this scrip during most of the period is in contrast with its dividends and earnings record. Adamjee Jute shares, in the face of a major deficit, were quoted at higher prices than Karnaphuli Paper shares after a 7 1/2 per cent dividend. Market rumor is again shown to be a more potent factor in determining price than the firm's actual earnings, and further doubt is cast upon the value of the forward market as a reflector of "real stock values" in the short run.

Pattern of Daily Fluctuations

The relative stability of price in the case of Karnaphuli Paper shares is further illustrated by a consideration of the pattern of daily fluctuations in price. Table 13 presents the data on this point. On 916 of the 1,089 days on which this scrip was traded, the range from the highest to the lowest price quoted was no more than eight annas. As was the

TABLE 13.--Distribution of daily fluctuations in the price for Karnaphuli Paper shares on the forward market of the Karachi Stock Exchange, annually, 1954 through 1957

Year	Total Trading Days	Number of days on which fluctuation was				
		8 annas or less	8 annas to 1 rupee	1 rupee to 1 1/2 rupees	1 1/2 rupees to 2 1/2 rupees	more than 2 1/2 rupees
1954	264	170	51	25	14	4
1955	275	242	24	6	3	. . .
1956	273	253	14	6	. . .	. . .
1957	277	251	21	5	. . .	. . .
Total	1,089	916	110	42	17	4

88

Source: Computed from data in ledgers of the Karachi Stock Exchange.

The dates and sizes of the largest price fluctuations were: January 16, 1954--Rs. 2-11-0; January 23, 1954--Rs. 2-13-6; February 4, 1954--Rs. 3-4-0; and February 24, 1954--Rs. 3-2-0.

case with Adamjee Jute trading, the wider fluctuations were most frequent in the earlier part of the period. The daily range was in excess of Rs. 1-8 on only twenty-one days, and eighteen of these were in the first year of trading. All four of the largest daily fluctuations occurred in the first two months of trading. In short, not only was price relatively stable over time for this scrip, at least after the first year of trading, but it was relatively stable from day to day.

Examination of the closing quotations for both the ready and forward markets indicates that the relationship between them is similar to that found for Adamjee Jute. The two series moved closely together, and while the forward market quotation was generally slightly higher than the ready market, the difference was usually less than one rupee. Again the swings exhibited by the forward market quotations, from a peak price to a low price, were usually more pronounced than those of the ready market quotations.

Summary

Karnaphuli Paper Mills, Limited was established by the government of Pakistan, working through the Pakistan Industrial Development Corporation, to end the nation's dependence on outside sources for its consumption of paper. Incorporated in 1953, the firm has a total installed capacity of 30,000 tons a year, and by 1957 was operating at better

than 80 per cent of capacity. Its subscribed capital stock of Rs. 46 million is largely held by the public, with the PIDC retaining about one-fourth interest and the managing agency. Following a difficult first year, marked most notably by severe labor troubles, the firm has reported increasing earnings and has declared dividends in each year since 1954.

The second scrip listed for forward trading on the Karachi Exchange, it has ranked below only Adamjee Jute in total volume of trading. It was the most heavily traded scrip in the last three years of the period studied. Though the trend of share volume over the period was relatively stable, the monthly data were characterized by wide variations. The year of greatest activity was 1955 and the year of lightest activity was 1956. With one exception, the months of peak activity were periods of price recovery. The wide variations in activity indicate that the interest in the scrip was by speculators rather than investors.

Trading in this scrip was dominated by the largest brokers. One-fourth of all brokers trading in it accounted for three-fourths of all shares purchased. Though the predominance of this group was less pronounced for this scrip than for Adamjee Jute for the period as a whole, it was more pronounced for this scrip than for any other in the latter part of the period studied. The membership of the upper quartile was less stable than for the other two major scrips

on the forward market but still more stable than the membership of the lowest quartile.

Karnaphuli Paper shares were quoted at nearly twice their par value in the early weeks of forward trading, but their price on the market fell substantially following that and was frequently less than par. Though the over-all trend of price was relatively stable following the first year of trading, it was marked by several brief rises coupled with a tendency to slide downward after each rise. Many of the rises were touched off by dividend rumors, which were an important factor in price movements for this scrip. Failure of announced dividends to equal the market's expectations generally resulted in depressing price. The relatively low level of price for this scrip was in contrast to its earnings and dividend record. The price of this scrip was more stable from day to day than that of Adamjee Jute, as well as being more stable over time. Eighty-five per cent of the time, the daily price range was not more than eight annas. The days on which it exceeded Rs. 1-8 were all in the first two years of trading and almost all in the first year. Closing quotations on the ready and forward markets tended to move closely together, with the forward market price most frequently above the ready market price. Price swings exhibited by the forward market quotations were generally a little wider than those manifested by ready market quotations.

CHAPTER V

TRADING IN ADAMJEE COTTON SHARES

The Industry and the Firm

The cotton textile industry is not a recent development on the Indian subcontinent. It is probable that the earliest archaeological evidence of the use of cotton textiles is that furnished by the excavations at Mohenjodaro in West Pakistan. This site reveals a civilization that has been dated at around 3,000 B.C. The earliest literary reference to cotton textiles is found in the Hindu Rig Veda, which dates from about 1,500 B.C. At a somewhat later date Marco Polo referred to the fine cotton textiles of southern India.¹ The Indian subcontinent was the world center of the cotton textile industry until the industrial revolution shifted this center to the seat of the British Empire, of which India had become a part. The colonial policy of Great Britain militated against the further growth of cotton textile manufacturing in India. The first power mill was not

¹Harry Bates Brown and Jacob Osborne Ware, Cotton (3rd edition; New York: McGraw-Hill Book Co., 1958), pp. 1-3.

established there until 1854, almost a century after the application of factory techniques to this industry in England.² Cotton textiles, however, remained the area's leading manufacturing industry.

As was the case in most manufacturing industries, Partition, in 1947, left most of the facilities with India, though Pakistan is a major cultivator of cotton. In the first year after Partition, 98 per cent of the woven cotton and 99 per cent of the cotton yarn produced on the subcontinent were turned out by Indian mills.³ Pakistan encouraged expansion of its own cotton textile facilities and this industry exhibited more rapid growth than any other manufacturing industry in the country. Cotton textiles represent Pakistan's largest manufacturing industry and a major export item for the country. India, however, still accounted for 85 per cent of the subcontinent's yarn production and 91 per cent of its woven cloth production in 1957.⁴

²Ibid.

³United Nations, Statistical Yearbook, 1952 (New York: United Nations, 1953), Tables 76 and 77, pp. 175 and 178. In 1952-53 the Indian subcontinent accounted for 8 per cent of the world's installed capacity of looms and 10 per cent of the world's installed capacity of spindles, excluding the Soviet Union and making no distinction between ordinary and automatic looms or between mule and ring spindles. United Nations, Statistical Yearbook, 1953 (New York: United Nations, 1954), Tables 77 and 78, pp. 180 and 181.

⁴United Nations, Monthly Bulletin of Statistics, Vol. XII, No. 8 (August, 1958), Tables 21 and 22, pp. 43 and 44.

Formation of Adamjee Cotton Mills, Limited

Adamjee Cotton Mills, Limited, was formed in the summer of 1953 to take over the plant and equipment of the Orient Textiles Company which was building a factory in Landhi, an industrial suburb of Karachi. The completed plant had an installed capacity of more than 1,200 looms and more than 50,000 spindles.⁵ Though constituting less than 5 per cent of the nation's installed capacity, this ranks it as one of the larger firms listed on the Karachi Stock Exchange.⁶ The mills began full production in April, 1954 and in the summer of 1955 it entered the export market. In 1956 the firm expanded the scope of its operations by taking over two projects initially sponsored by the Pakistan Industrial Development Corporation. One was a paper-board mill with an installed capacity of 7,500 tons a year. At the time of the present study, it was the only mill of its type in the country, and was producing at about 70 per cent of capacity.⁷ The other was a chemical plant which produces

⁵Unless otherwise indicated, the discussion of the firm's organizational and production history is based on annual reports.

⁶Data on total installed capacity are available in Central Statistical Office, Government of Pakistan, Statistical Bulletin, Vol. VI, No. 5 (May, 1958), Table 34, p. 250.

⁷Ibid., Table 38, p. 253. There is, of course, the paper mill of Karnaphuli Paper but it does not produce board. There is also a straw-board factory owned by still another firm.

caustic soda used in the paper-board mill, and, as a by-product, chlorine which it is anticipated will be used by the PIDC fertilizer plant being built in the area. Both the paper-board factory and the chemical plant are located at Nowshera in West Pakistan.⁸

Capital Structure and Earnings Record

Adamjee Cotton Mills, Limited was initially established with a capital of Rs. 25 million in the form of 2 1/2 million ordinary shares. Only 1 million shares were publicly sold, the remainder going to the promoters and the former owners of Orient Textiles "for considerations other than cash." When the expansion into the paper-board and chemical fields was decided upon, an additional half million shares were issued to the public. Financially the firm has done well.⁹ Its total assets roughly doubled over the four-year period, amounting to Rs. 68 million at the end of fiscal 1957. The major items on this side of the ledger were an inventory of Rs. 21 million and capital equipment valued at Rs. 38 million after depreciation. The firm's outstanding long-term debt at the end of fiscal 1957 was Rs. 22 million. This stemmed

⁸At the time of the expansion of its operations, the firm name was also changed to Adamjee Industries, Limited. In this study the name Adamjee Cotton Mills, Limited has been used throughout to avoid confusion.

⁹Consolidated balance sheet and income and earnings data are presented in Appendix Tables XXII and XXIII.

primarily from the purchase of the two new plants at a cost of Rs. 23.5 million. It had accumulated a taxation contingency reserve, for the period after the exhaustion of rapid depreciation privileges, of Rs. 3 million and a general reserve of another Rs. 5.5 million. Sales and net income dropped somewhat in 1955 and 1956, but recovered in 1957 to give the firm its best year financially. Sales in that year was Rs. 34 million. Net income after taxes ranged from just under Rs. 3 million to more than Rs. 4 million in 1957.¹⁰ Dividends were declared in all the four years, increasing from 6 1/4 per cent in 1954 to 7 1/2 per cent in 1955 and 1956 and to 10 per cent in 1957. Adamjee Cotton had the most consistent dividend record of any firm listed on the forward market. The book value of its shares rose only slightly during the period, from about Rs. 11 a share to about Rs. 12 a share. As will be seen, the market price for this scrip was consistently above this figure, though most disproportionately so in the early months of trading.

The Pattern of Trading Activity

Adamjee Cotton was the third scrip listed for forward trading on the Karachi Stock Exchange. It was added to the forward list on January 25, 1954. Generally speaking,

¹⁰This in spite of a loss of Rs. 627,000 on the paper-board mill for that year which stemmed primarily from the Rs. 3.7 million in depreciation taken on its equipment.

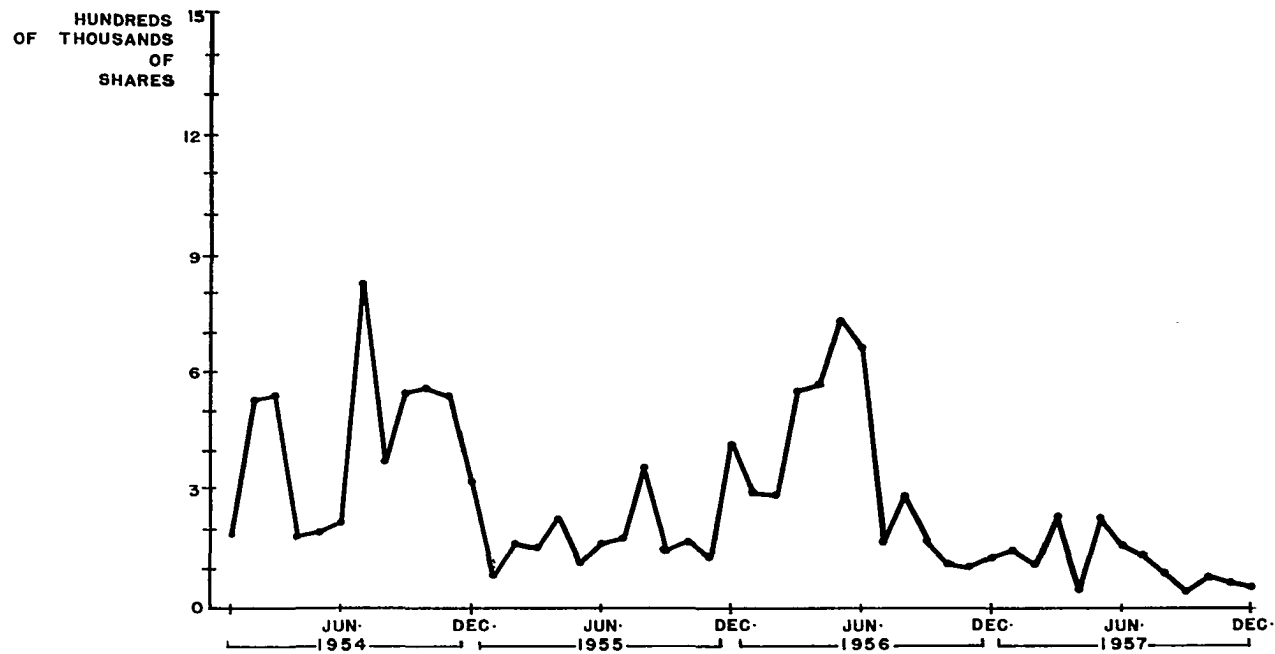
it was the least popular of the three scrips that were traded over the full four years. Only fifty-six of the eighty-two brokers made any purchases of Adamjee Cotton shares. It accounted for less than one-fifth of the total number of shares traded on the forward market. During about half of the time that four scrips were being traded on a forward basis, Adamjee Cotton ranked fourth in popularity. During only one period, from March through June, 1956, was this scrip the most popular on the market. This general lack of interest was in contrast with its regular dividends.

Share Volume

Almost 13 million shares of Adamjee Cotton were traded on the forward market during the period studied. Chart 7 presents the monthly data on share volume. The years of heaviest activity for this scrip were 1954 and 1956. In each of these years it accounted for about one-fourth of total share volume. The monthly data reveal the usual fluctuations in activity, particularly in the years of heavy trading. Share volume in July, 1954 was almost four times that of the preceding month. Share volume in June, 1956 was about four times as large as the following month. As in other scrips, the periods of heavy trading were usually periods of price change. The activity in the period March through June, 1956 was an exception. Price was fairly stable. The great interest exhibited stemmed from the announcement

CHART 7

NUMBER OF SHARES OF ADAMJEE COTTON PURCHASED ON THE FORWARD MARKET
OF THE KARACHI STOCK EXCHANGE, MONTHLY, JANUARY 1954 THROUGH DECEMBER 1957



that the firm was planning to expand its operations by taking over the paper-board and chemical plants at Nowshera.

The pattern of trading activity over the period is consonant with the speculative character of the forward market. Interest was highest in the firm's first operational year. It dropped off in the following year in spite of a satisfactory earnings record and a dividend of more than 6 per cent. In the third year interest was revived as the firm entered a new field of operations and changed its basic character. Following this, interest once more fell off, even though the annual dividend had increased. During the last quarter of 1957 trading in Adamjee Cotton shares never rose above 100,000 shares a month. This firm, which had the most consistent dividend record of any listed on the forward market, was generally the least popular scrip. The conclusion once more is that traders on the forward market of the Karachi Exchange are predominantly speculators, not investors.

Distribution of Trading among Brokers

Grouping of the data on trading activity into broker quartiles for this scrip reveals the same basic pattern of large broker predominance as for other scrips, though less pronounced than for Adamjee Jute and Karnaphuli Paper. During the four-year period as a whole the brokers in the upper quartile accounted for almost 72 per cent of the total number of shares purchased and for almost 64 per cent of the total

number of transactions. Table 14 presents the data on the proportions of total share purchases accounted for by each broker quartile on an annual basis. The difference from year

TABLE 14.--Distribution of the number of shares of Adamjee Cotton purchased on the forward market of the Karachi Stock Exchange, by broker quartile, annually, 1954 through 1957
(per cent of total)

Broker Group	1954	1955	1956	1957
Upper Quartile	64.2	68.7	66.8	64.9
Second Quartile	23.8	22.2	24.3	26.0
Third Quartile	9.2	7.7	6.5	7.5
Lowest Quartile	2.7	1.5	2.4	1.5
Total	100.0	100.0	100.0	100.0

Source: Computed from data in ledgers of the Karachi Stock Exchange.

Components do not always add to totals because of rounding.

to year is not great. There was no fixed relationship between the total share volume and the proportion accounted for by the upper quartile. The upper quartile accounted for about the same proportion of share purchases in the year of heaviest trading, 1954, and the year of lightest activity, 1957. Nor does the upper quartile's proportion steadily increase or decrease over the years.

Table 15 has been prepared to show the proportion of the total number of transactions accounted for by each broker quartile on an annual basis. The differences from

TABLE 15.--Distribution of the number of transactions in Adamjee Cotton shares on the forward market of the Karachi Stock Exchange, by broker quartile, annually, 1954 through 1957 (per cent of total)

Broker Group	1954	1955	1956	1957
Upper Quartile	48.9	61.3	63.7	58.0
Second Quartile	32.9	25.3	27.0	29.6
Third Quartile	13.8	10.7	8.3	8.8
Lowest Quartile	4.4	2.7	1.1	3.6
Total	100.0	100.0	100.0	100.0

Source: Computed from data in ledgers of the Karachi Stock Exchange.

Components do not always add to totals because of rounding.

year to year are somewhat larger in this case, but again there was no fixed relationship between total level of activity and the dominance of the upper quartile. The smallest and the largest proportions of total number of transactions accounted for by the upper quartile both occur in the years of heaviest activity. Though their dominance is less marked in trading than for Adamjee Jute and Karnaphuli Paper, the largest brokers still hold sway, accounting for more than half of total trading activity in each year except 1954.

Stability of Membership of Broker Quartiles

Membership in the elite of traders in Adamjee Cotton shares was only a little more stable than for Karnaphuli

Paper. Eighteen brokers were ranked in the upper quartile for Adamjee Cotton in at least one year. None of these attained the ranks of the upper quartile in all four years, but four of them were so ranked in three years. Of the remaining fourteen, seven were in the upper quartile in two years and seven in only one year. The stability of membership was less pronounced than this in each of the other three quartiles, with the lowest quartile, as usual, exhibiting the greatest variation in membership. For trading in Adamjee Cotton shares as for trading in Karnaphuli Paper, the greatest stability of membership in the upper quartile was exhibited in the middle of the period. While only four of the eight brokers in the upper quartile in 1955 had been so ranked in 1954, six of the eight brokers in the upper quartile in 1956 had been members of the elite in the previous year. In 1957 the proportion of upper quartile brokers who remained from the previous year again dropped, to three out of six.¹¹

Price Patterns

Like other scrips traded on the forward market, Adamjee Cotton shares were traded at a high price initially with a downward reaction setting in later. The general trend of price for this scrip was downward through the first year and a half of trading, followed by a period of recovery and then relative stability over the last two years. Unlike

¹¹See Appendix Table IX.

Karnaphuli Paper shares this scrip was never traded at below par value, nor did the forward market price ever fall below the book value of the shares, as indicated by the firm's reported net worth. Chart 8 presents the data on monthly high and low prices paid for this scrip. It furnishes a picture of the pattern of general price trends over the time as well as of the variations in price within months.

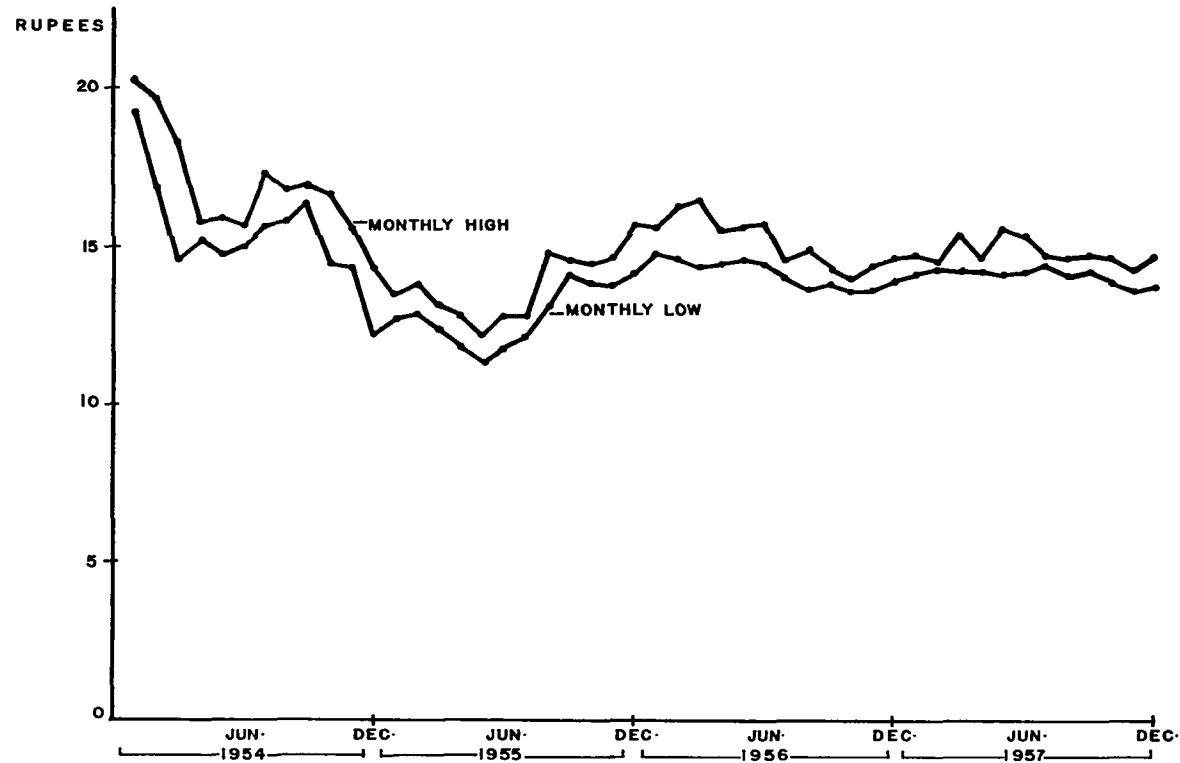
Movement of Price over Time

Adamjee Cotton shares sold at their all-time forward market high on the first day of trading. The reaction from this high of Rs. 20 a share set in almost immediately and price fell steadily downward until March, 1954. The decline reflected not only a reaction to the initial high price but also stemmed from rumors of the imposition both of price controls for domestic cotton textile and an increased excise tax on them. The decline ended when the government's annual budget was issued and these fears proved ungrounded. A two month period of price stability was followed by a rather sharp rise in July, 1954. This rise is not fully explained by the contemporary market reports, but they note that brokers were aware of increases in cloth prices and of the fact that reductions in the number of import licenses issued by the government was lessening competition from imported textiles. It should also be noted that price rises were also characteristic of Adamjee Jute and Karnaphuli Paper that month.

The period of recovery was followed by another prolonged downward slide, lasting from September, 1954 to May, 1955, with only a temporary upturn at the first of 1955. This general decline resulted from the actual imposition of price controls on domestic cotton cloth and was reinforced by the announcement that imported cotton textiles would form a part of the foreign aid program in the coming year. The temporary upturn in January accompanied the announcement of a 6 1/4 per cent dividend for the preceding year's operations. The all-time low of less than Rs. 12 a share was reached on May 4, 1955. It was followed by a general recovery in price which lasted into the early months of 1956. Again the long-term recovery is not fully explained by market reports. It was probably to some extent a reaction to the previous low to which the scrip had fallen. It was also true that in spite of fears of foreign competition, cotton textiles were selling well on the domestic market. The sharpest rise, registered in August, obviously stemmed from the announcement of devaluation. Since Adamjee Cotton had entered the export market the previous year, this decision was welcomed.

The period of recovery ended in March, 1956 during a period of market rumors concerning the annual dividend. The brokers expected a dividend of 10 per cent and when one of only 7 1/2 per cent was announced the market reflected disappointment in the form of a small dip in price in April.

CHART 8
HIGH AND LOW PRICES FOR ADAMJEE COTTON SHARES ON THE FORWARD MARKET OF THE
KARACHI STOCK EXCHANGE, MONTHLY, JANUARY 1954 THROUGH DECEMBER 1957



The wider variations which characterized price in this period reflected the increased activity stemming from the announced intention of the firm to expand its field of operations. The general trend of price for the rest of 1956 and all of 1957 was stable. A variation from this stability occurred in the period March through May, 1957. Price rose slightly in March on the strength of renewed rumors of a 10 per cent dividend. It fell off in April when the firm again announced a 7 1/2 per cent dividend, and then recovered the following month.

Price for Adamjee Cotton shares has been affected by both rumors and actual economic affairs. The major slide in early 1954 was based primarily on rumors while the decline later in the year was based on actual events, though these proved less harmful to the industry than anticipated. The importance of pre-dividend announcement rumors is evidenced for this scrip as for others, and we again find a pattern of frequently exaggerated rumors which lead to disappointment on the market when the dividend is announced. The price pattern for this scrip illustrates the way in which the market waits for the annual report with a consequent delay in the forward market reflection of the firm's financial status. Finally, this scrip indicates that a lack of interest in a scrip on the forward market is not necessarily associated with low prices for it. The forward market price was climbing during much of 1955, though this was a year of reduced trading

activity, and it remained stable at a relatively high level during 1957 when interest in Adamjee Cotton trading was at its low ebb on the forward market.

Pattern of Daily Fluctuations

Although the level of price exhibited was not necessarily low during periods of light trading, the variations in price from day to day and week to week were generally larger in periods of heavy trading. Chart 8 reveals that the widest spread between the monthly high and monthly low prices was generally characteristic of 1954 and 1956, the years of heaviest activity. Table 16, which presents the distribution of the daily fluctuations in price for Adamjee Cotton shares, furnishes further evidence on this point. On more than three-fourths of the trading days the price did not fluctuate more than four annas. On only twenty-one of the 1,037 days on which this scrip was traded did the price range exceed one rupee. All these days occurred in 1954 and 1956. On only six days did the price spread exceed Rs. 1-8. All these were in months of relatively heavy activity, though not in the peak months. All but one of the largest daily fluctuations occurred in periods of sharp price decline. The one exception occurred in March, 1956 when the price was reaching a peak on rumors of a large dividend, and then falling off when the actual dividend was smaller than expected. In general the daily price fluctuations

TABLE 16.--Distribution of daily fluctuations in the price for Adamjee Cotton shares on the forward market of the Karachi Stock Exchange, annually, 1954 through 1957

Year	Total Trading Days	Number of days on which fluctuation was				
		4 annas or less	4 annas to 8 annas	8 annas to 1 rupee	1 rupee to 1 1/2 rupees	more than 1 1/2 rupees
1954	260	130	77	38	10	5
1955	272	230	30	12	. . .	. . .
1956	269	208	32	23	5	1
1957	236	207	21	8	. . .	. . .
Total	1,037	775	160	81	15	6

Source: Computed from data in ledgers of the Karachi Stock Exchange.

The dates and sizes of the largest price fluctuations were: March 8, 1954--Rs. 1-13-6; March 24, 1954--Rs. 3-1-0; October 21, 1954--Rs. 1-15-6; October 22, 1954--Rs. 2-1-0; November 25, 1954--Rs. 2-0-0; and March 24, 1956--Rs. 1-12-0.

for this scrip were smaller than for the other two major scrips, Adamjee Jute and Karnaphuli Paper.¹²

A comparison of the daily closing quotations on both the ready market and the forward market for this scrip reveals basically the same pattern as for the other scrips studied. The forward market quotation was usually above the ready market quotation. The difference between the two quotations was usually not large. The forward market price exhibited slightly wider swings in price, from high to low, than did the ready market price.

Summary

Cotton textile manufacturing is the largest manufacturing industry in Pakistan. It has exhibited more rapid growth than any other manufacturing industry. Adamjee Cotton Mills, Limited was formed in 1953 and went into full production in early 1954. Though not the largest, it is one of Pakistan's major cotton manufacturing firms. In 1956, the firm expanded its field of operations by taking over a paper-board factory and a chemical plant. Net annual income has varied from just below Rs. 3 million to more than Rs. 4 million. The firm has declared regular and increasing dividends.

Adamjee Cotton shares were the third to be listed for forward trading on the Karachi Exchange. Except for a

¹²They were of about the same magnitude as those for Pakistan Tobacco, which will be described in the next chapter.

short period in 1956 it has been the third-ranking scrip in terms of popularity. It accounted for about one-fifth of total share volume. It was traded heavily in 1954; interest in it dropped in 1955; it was again an active scrip in 1956; and interest in this scrip was least in 1957. Months of heavy trading were generally periods of changing price. The dominance of the largest brokers was less marked in this scrip than in Adamjee Jute and Karnaphuli Paper, but nonetheless apparent. The upper quartile accounted for more than 64 per cent of total share purchases in every year. Membership in the upper quartile of brokers was less stable for this scrip than for Adamjee Jute but slightly more stable than for Karnaphuli Paper. It was most stable in the middle two years of the period.

The forward market price for Adamjee Cotton shares was consistently above both par value and book value. Its all-time high was registered on the first day of trading. The general trend was downward immediately thereafter until mid-1955. The decline was largely due to fears of price controls and increased excise taxes on cotton cloth. Though the excise tax was not raised, price controls were introduced. Recovery in the second half of 1955 was aided by announcement of devaluation. Though temporary fluctuations accompanied periods of dividend announcement and the news that the firm was branching out into other fields, relative price stability characterized this scrip through 1956 and 1957. Major price

movements were stimulated both by rumors and by real economic factors. Among the things affecting price for this scrip were government price control decisions and rumors about them as well as annual dividends and rumors about them. Lack of interest in this scrip was not necessarily associated with low prices for it.

Wide fluctuations in price over a short period of time were generally associated with considerable trading interest. On three-fourths of the trading days the daily price spread for these shares was not more than four annas. The twenty-one days on which it exceeded one rupee all occurred in the two years of heaviest trading, 1954 and 1956. With one exception the largest price fluctuations were associated with falling prices. The relationship of the ready market price to the forward market price as revealed in the daily closing quotations for both markets is essentially the same as for the other scrips. The forward market price is most frequently above the ready market price, but the difference is seldom very large and the two series move together.

CHAPTER VI

TRADING IN PAKISTAN TOBACCO SHARES

The Industry and the Firm

In the words of an early American folk-song, "Tobacco is an Indian weed." The reference, however, is to the Indians of the western hemisphere. Portuguese sailors and traders introduced tobacco to the Indians of Asia about the middle of the sixteenth century.¹ In spite of official opposition of the Muslim rulers of the Indian subcontinent, the smoking habit spread rapidly in that part of the world as it did in other areas.² While the water-pipe remained the most popular form of tobacco consumption in the area, the use of cigars and cigarettes became customary among the more westernized members of the population.³ The climate

¹See Jerome E. Brooks, The Mighty Leaf (Boston: Little, Brown and Co., 1952), p. 33.

²Under the Moghul ruler Jehangir, whose son left tourists the famous Taj Mahal, the punishment for smoking was to have one's lips split. Ibid., p. 77.

³The water pipe or "hookah" is a familiar sight in the Middle East and on the Indian subcontinent. In its use the tobacco is burned in a bowl from which a stem leads down to a water chamber. A second stem, in the form of a tube, leads

proved so suitable for the cultivation of tobacco that, under British rule, India became a leading producing area.⁴ About one-third of pre-World War II tobacco production in India was in the area which became Pakistan after Partition, but production in this area fell off subsequently and Pakistan's output has averaged only about 80 thousand metric tons a year since 1947.⁵ The production of cigarettes in Pakistan has increased rapidly, rising from 1.5 billion cigarettes in 1950 to 6.5 billion in 1957.⁶

Formation of Pakistan Tobacco Company, Limited

Pakistan Tobacco Company, Limited is the most important cigarette manufacturing firm in Pakistan. It is an offspring of British American Tobacco, the leading English firm in the field. The new firm was established first in

from the water chamber to the smoker's lips. The smoke is drawn through the water prior to being inhaled.

⁴In the last pre-Partition year, 1946, the tobacco crop of the subcontinent totaled 431 thousand metric tons, with total world output in the same year amounting to 3.2 million metric tons. This ranked India third in the world, behind the United States and China, in the production of tobacco. United Nations, Statistical Yearbook, 1955 (New York: United Nations, 1956), Table 27, p. 96.

⁵Computed from Ministry of Agriculture, Government of Pakistan, "Estimates of Production of Principal Crops of Pakistan for 1947-48 to 1957-58" (Karachi: Ministry of Agriculture, 1958). (Mimeographed.)

⁶Central Statistical Office, Government of Pakistan, Statistical Bulletin, Vol. VI, No. 5 (May 1958), Table 39, p. 254.

November, 1947 as a private limited company with only fifty shares totaling Rs. 500 in par value.⁷ As it became clear that additional capital would be required to expand the firm's capacity to meet the growing demand, authorized capital was increased to Rs. 60 million in early 1949. The actual expansion of capital did not take place, however, for another five years. In March, 1954, after obtaining the requisite permission from the government of Pakistan, the company issued two million shares of Rs. 10 each to its original shareholders, amounting to a 40,000 to 1 split. The following September it was converted into a public limited company and 3.5 million more ordinary shares were sold to the general public. The purpose of the conversion to a public limited company was to finance the construction of a large modern plant at Jhelum in the northern part of West Pakistan. This plant, with a planned capacity of 2.4 billion cigarettes a year, was in addition to two older and smaller plants at Mauripur and Fouzdarhat. The big new unit at Jhelum went into production in the summer of 1957.

Capital Structure and Earnings Record

The share capital of the firm totals Rs. 55 million of which Rs. 20 million are held by the original shareholders, and the remaining Rs. 35 million are publicly subscribed with

⁷The discussion of the firm's capital structure and organizational history is based on its memorandum and articles of association as well as on the annual reports for the years 1955 through 1958.

possibly a portion of these shares also held by the original promoters as well. This arrangement assures almost ironclad control of the firm to the original promoters. At the end of its first four years as a public limited company, Pakistan Tobacco had total assets of almost Rs. 105 million.⁸ These assets fell primarily under three heads: an inventory of Rs. 39 million, fixed capital equipment valued at Rs. 29 million (after depreciation), and "goodwill" valued at Rs. 25 million. On the other side of the ledger no fixed debt was reported and total liabilities amounted to Rs. 10.5 million at the end of the fiscal year 1957-58, equal to about 10 per cent of total assets. In the same year, a net worth of Rs. 94 million was reported. This included a capital reserve of Rs. 25 million and a general reserve of Rs. 9.5 million. The book value of a share in Pakistan Tobacco was thus considerably above its par value. From about Rs. 16 in 1956, net worth per share rose moderately to Rs. 17 in 1958.

Sales increased steadily throughout this period and amounted to almost Rs. 150 million in 1957-58. Expenses, however, rose even more rapidly and net income after taxes was cut in half between 1954-55 and 1957-58. One of the

⁸Consolidated balance sheet and income and earnings data for the years 1955 through 1958 are furnished in Appendix Tables XXVIII and XXIX. The firm's operational year ends March 31.

firm's complaints was that devaluation of the rupee in 1955 increased their costs by raising the price of imported tobaccos necessary to their blended cigarette brands. Until the spring of 1957, the price of cigarettes was controlled by the government and the firm complained that the fixed price was unrealistically low. In the first year following the removal of price controls, however, the firm's profit margin continued to decline. Despite the falling net income, Pakistan Tobacco managed to declare regular, if decreasing, dividends throughout the period. In 1954 a 19 per cent dividend declared just prior to the public sale of shares was followed by a final dividend of another 10 1/2 per cent at the end of the operational year. Dividends in 1955-56 totaled 12 1/2 per cent; those in 1956-57 totaled almost 7 per cent; and those in 1957-58 amounted to more than 5 per cent.

The Pattern of Trading Activity

Pakistan Tobacco shares constituted the fourth scrip on the forward market for a short period of time. Added to the list in January, 1956, it was dropped again in August, 1957 after market interest had declined to such an extent that the Exchange's forward market committee felt no longer justified its listing for that type of trading. During the twenty-month period in which it was listed, 4.7 million shares of this scrip were traded on a forward basis. This amounted to only 7 per cent of total share volume on the

market during the period as a whole, but it constituted almost 18 per cent of total share volume during the twenty-month period when Pakistan Tobacco was being traded. In one month, October, 1956, this scrip was the most popular on the forward market, but in most months it ranked either third or fourth. Of about forty brokers trading on the forward market during the period it was listed, thirty-two made at least one purchase of Pakistan Tobacco shares. Its period of greatest popularity was during 1956.

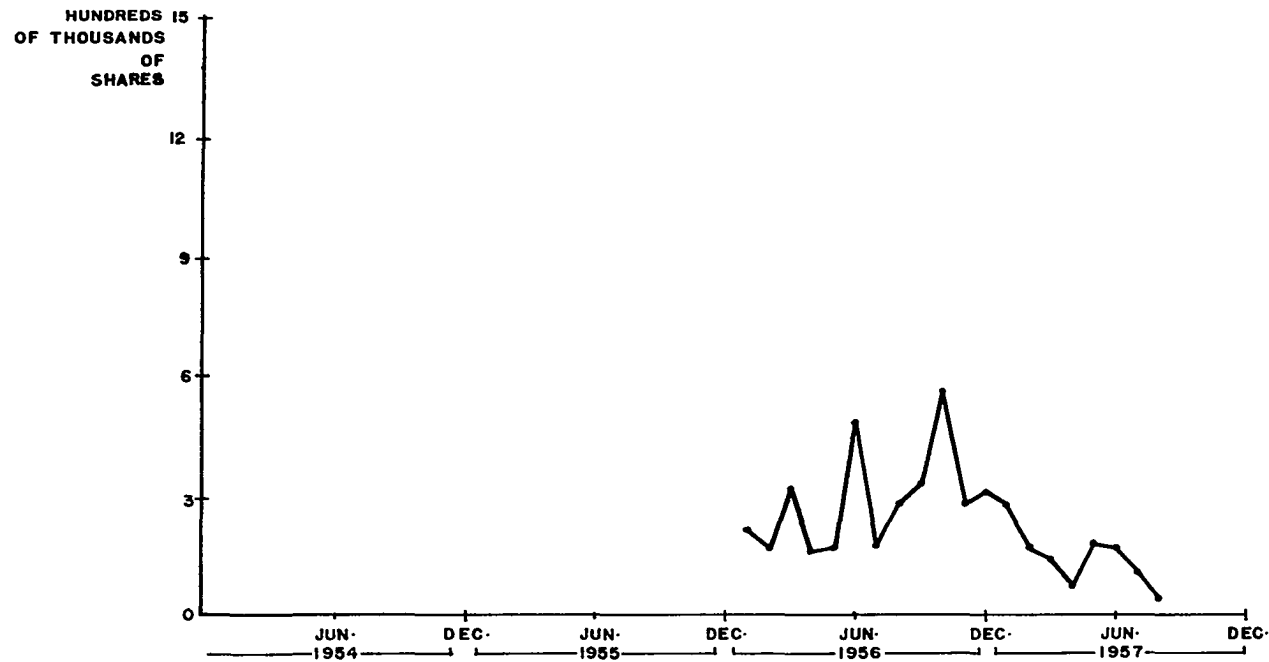
Share Volume

Monthly data on share volume for this scrip are shown in Chart 9.⁹ It will be seen that trading in these shares was characterized by wide fluctuations during 1956. In the following year, interest in this scrip declined steadily except for a brief revival in May, 1957. The two months of peak activity were both associated with rising prices. The first, in June, 1956, came with the announcement of the dividend for the preceding year. The all-time peak of activity was in October, 1956, when Pakistan Tobacco shares were traded more than any other scrip on the forward market. This also was connected with a rise in the price level stimulated by an expected dividend. It followed the announcement that the share lists were to be closed temporarily,

⁹The data on which Chart 9 is based are presented in Appendix Table XXX.

CHART 9

NUMBER OF SHARES OF PAKISTAN TOBACCO PURCHASED ON THE FORWARD MARKET OF THE KARACHI STOCK EXCHANGE, MONTHLY, JANUARY 1956 THROUGH AUGUST 1957



a move preparatory to the announcement of an interim dividend. After this, trading in Pakistan Tobacco shares dropped steadily through April, 1957. In the following month, interest in the scrip revived considerably as the time for the issuance of the annual report approached and rumors of a large dividend circulated. The dividend itself proved smaller than expected and interest in the scrip again fell off. When volume dropped to 37,000 shares in August, the Exchange removed Pakistan Tobacco from the forward list. Announced or prospective dividends were the major determinants of interest in this scrip, and on at least one occasion the familiar pattern of rumors of a large dividend driving price and interest up and disappointment in the actual dividend sending them down again made its appearance.

Distribution of Trading among Brokers

Though trading in Pakistan Tobacco shares, like trading in the other scrips on the forward market, was dominated by the largest brokers, the importance of these upper quartile members was less marked for this scrip than for the others. One reason is that Pakistan Tobacco was traded for such a short period that the effect of the largest brokers' continuing presence in the market was not as strong for it as for the other scrips. Also as we have noted previously, Pakistan Tobacco was traded most heavily in 1956, one of the two heaviest trading years for the forward market as a whole, and the smaller brokers were relatively more important in

those two years than in the other years. Tables 17 and 18 present the distribution of shares purchased and transactions entered into relative to this scrip for the two years during which it was traded.¹⁰ Table 17 shows the proportion of the

TABLE 17.--Distribution of the number of shares of Pakistan Tobacco purchased on the forward market of the Karachi Stock Exchange, by broker quartile, annually, 1956 and 1957
(per cent of total)

Broker Group	1956	1957
Upper Quartile	63.2	59.4
Second Quartile	26.3	26.5
Third Quartile	8.3	11.4
Fourth Quartile	2.1	2.7
Total	100.0	100.0

Source: Computed from data in ledgers of the Karachi Stock Exchange.

Trading in this scrip occurred during only eight months in 1957.

Components do not always add to totals because of rounding.

total number of shares purchased in each year accounted for by each broker quartile. The pattern for the full year traded, 1956, is not notably different than for the period as a whole. The predominance of the upper quartile brokers in the single year is also less marked for this scrip than

¹⁰The data on which these tables are based are presented in Appendix Tables XXXI and XXXII.

for any other scrip in the same year. The proportion of the total number of shares accounted for by the upper quartile fell to 59 per cent in 1957 for this scrip. This drop in the importance of the largest brokers compared with the previous year is explained in part by the shorter period of trading covered. It also indicates, however, that the largest brokers reduced their interest in this scrip more rapidly than the smaller brokers.

Table 18 indicates the proportion of the total number of transactions in Pakistan Tobacco shares accounted for by

TABLE 18.--Distribution of the number of transactions in Pakistan Tobacco shares on the forward market of the Karachi Stock Exchange, by broker quartile, annually, 1956 and 1957
(per cent of total)

Broker Group	1956	1957
Upper Quartile	63.0	55.8
Second Quartile	28.8	26.9
Third Quartile	5.6	14.0
Lowest Quartile	2.6	3.2
Total	100.0	100.0

Source: Computed from data in ledgers of the Karachi Stock Exchange.

Trading in this scrip during only eight months in 1957.

Components do not always add to totals because of rounding.

each broker quartile in these two years. The upper quartile accounted for about the same percentage of the total number of transactions, 63 per cent, as it did for the total number of shares purchased in 1956. This reflects one difference between trading in this scrip and trading in the other scrips. The largest brokers trading in Pakistan Tobacco shares did not typically trade in larger market lots than the smaller brokers in either year. Since the period of trading for this scrip was less than two years, no meaningful pattern of stability in the membership of the upper quartile of brokers could be observed. It has already been noted that the brokers who were the biggest dealers in this scrip were in general the same as those who were the biggest dealers in the other scrips.

Price Patterns

Trading on the ready market of the Karachi Stock Exchange had been carried on in allotment letters for Pakistan Tobacco shares even before the shares themselves were issued. Following their issue it was several months before this scrip was listed for forward trading. As a result, market price in this scrip had tended to stabilize before shares appeared on the forward market. The level at which they had stabilized was well above their par value, but somewhat below the book value indicated by the company's financial reports.

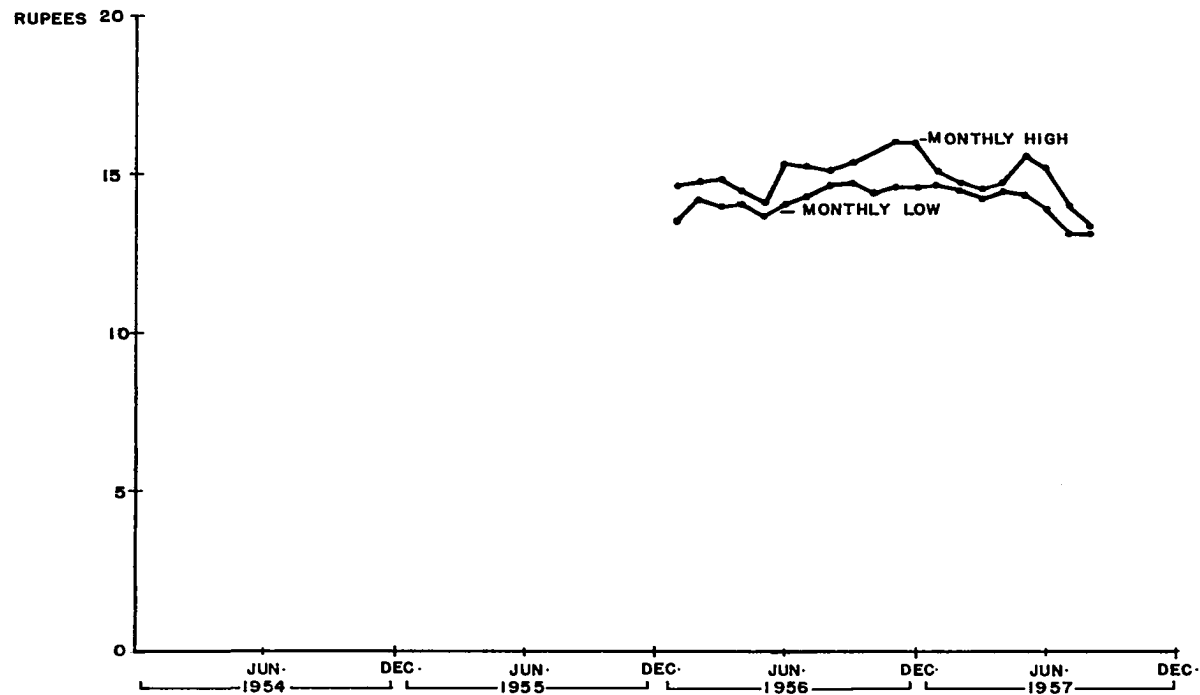
Movement of Price over Time

During the twenty-month period in which Pakistan Tobacco shares were traded on a forward basis their market price retained the stability referred to above. The price spread over the entire period was only about three rupees. Chart 10 has been prepared to show the monthly high and low prices paid for this scrip. It furnishes a picture of the relative stability within months and of the major movement of price from month to month over the period. The trend over the period is seen to be neither markedly up nor markedly down, though price was declining in the last three months of trading. The major variations from this pattern may be noted.

After opening at around Rs. 14 a share, with some fluctuations characteristic of the first weeks of trading, price remained at about that level until March, 1956 when it started a two-month downward slide. This fall is not fully explained from the evidence available, although it occurred at the time preceding issuance of the annual report for the operational year 1955-56. This indicates that rumors of a poor dividend were circulating on the market. When the report was issued, the declaration of a final dividend of 7 1/2 per cent was enough to stimulate a recovery in price. From the new level of about Rs. 15 a share, price rose in October and November, 1956 to a temporary plateau near its all-time high of Rs. 16 a share. This was also a period of considerable fluctuation in price. The rise is

CHART 10

HIGH AND LOW PRICES FOR PAKISTAN TOBACCO SHARES ON THE FORWARD MARKET OF THE KARACHI STOCK EXCHANGE, MONTHLY, JANUARY 1956 THROUGH AUGUST 1957



explained by the announcement of the closing of the share list by the firm preparatory to the issuance of an interim dividend. The fluctuations stemmed from two other factors: the announcement that tobacco was to be included in the commodity aid shipments of the United States to Pakistan, and rumors that a strike was impending at the Jhelum plant of the firm. Since the strike never materialized, it may be that the rumor was circulated by those who wished to buy shares prior to the closing of the list, but at a price lower than dividend expectations were dictating. The final rise in price came in May, 1957 when market rumors were current concerning the soon-to-be-issued annual report for 1956-57. When this report declared an annual dividend of only 3.75 per cent, less than had been anticipated, a steady decline in price resulted. This decline brought the price for Pakistan Tobacco shares to their all-time low of Rs. 13 a share in the last month in which it was traded on a forward basis. It is evident that dividends and, more particularly, rumors about dividends, are major factors in determining short-term price movements on the forward market of the Karachi Exchange.

Pattern of Daily Price Fluctuations

Relative stability of price was generally characteristic of trading in Pakistan Tobacco shares on a day-to-day basis. Table 19 indicates the number of trading days on which price fluctuations of various sizes occurred. On 354 of 437 trading

TABLE 19.--Distribution of the daily fluctuations in the price for Pakistan Tobacco shares on the forward market of the Karachi Stock Exchange, quarterly, 1956 and 1957

Quarter	Total Trading Days	Number of days on which fluctuation was				
		4 annas or less	between 4 annas and 8 annas	between 8 annas and 1 rupee	between 1 rupee and 1 1/2 rupees	more than 1 1/2 rupees
1956						
January-March	68	57	5	4	2	..
April-June	65	48	12	3	2	..
July-September	63	50	13	..	..	..
October-December	70	48	12	7	2	1
1957						
January-March	70	60	10	..	..	..
April-June	62	55	2	3	1	1
July-September	39	36	2	1	..	..
Total	437	354	56	18	7	2

Source: Computed from data in ledgers of the Karachi Stock Exchange.

This scrip was traded for a period of eight months only during 1957.

Dates and sizes of the widest fluctuations were: October 22, 1956--Rs. 2-0-0; and May 30, 1957--Rs. 1-11-0.

days the range from the daily high to the daily low price was not in excess of four annas. On only nine trading days did the spread for the day exceed one rupee. Some of these wider swings occurred in the earlier months of trading but the widest daily fluctuations were in later months. The biggest spread--two rupees--occurred in October, 1956 on the same day on which the scrip's all-time high price was registered. This was the period of interest prior to declaration of an interim dividend, and also of rumors of an impending strike at the firm's main plant. The second largest daily price fluctuation occurred in May, 1957 when price was stimulated upward by rumors of an impending dividend declaration, only to fall off immediately after issuance of the annual report in disappointment at the dividend furnished.

Comparison of closing quotations for this scrip on the ready market with closing quotations for it on the forward market furnishes the same picture as with the other scrips studied. The two price series moved closely together. The difference was generally a matter of only a few annas. The forward market price was usually the higher of the two, but not invariably. The width of the fluctuation from a peak to a trough tended to be somewhat larger for the forward market quotations than for the ready market quotations.

Summary

Introduced to the Indian subcontinent around the sixteenth century, tobacco was found to be well suited to the

climate, and the area is a major producer of the crop. Pakistan Tobacco Company, Limited is the leading domestic manufacturer of western-style cigarettes. Begun as a private limited company immediately after Partition, it was converted to a public limited company in 1954. Though increasing costs relative to sales have reduced the annual profit margin, the firm regularly declared dividends through its first four years as a public limited company. Its financial position was reportedly favorable, and the book value of its stock was more than Rs. 15 a share.

During the twenty-month period January, 1956 through August, 1957 Pakistan Tobacco was the fourth scrip traded on the forward market of the Karachi Stock Exchange. Its shares accounted for about 18 per cent of total purchases during the period in which it was traded, ranking it usually third or fourth in terms of monthly volume. During 1956, activity in this scrip was characterized by the usual wide variations in volume. During 1957, however, interest dropped off steadily except for a brief revival in May, when dividend rumors stimulated renewed interest. Trading in this scrip was dominated by the upper quartile of brokers, who accounted for more than 60 per cent of the total number of shares purchased and of the total number of transactions made. The predominance of these largest brokers was less pronounced for this scrip than for any other scrip on the forward market.

Price for Pakistan Tobacco shares was relatively stable

during the period of trading. The total variation over the twenty-month period was only about three rupees. Temporary rises in price occurred when the annual report was issued or about to be issued and when interim dividends were declared or rumored to be imminent. The peak price accompanied the closing of the share list in late 1956 preparatory to declaration of an interim dividend. The lowest price came in the spring of 1957, when the annual dividend for the preceding year proved smaller than anticipated by the market. Stability also characterized the price from day to day for this scrip. On more than three-fourths of the trading days, the daily fluctuation did not exceed a quarter of a rupee. The largest daily fluctuations accompanied the highest and lowest prices for the entire period. The closing quotations on both the ready and the forward markets were closely related. The forward market quotation was most frequently above the ready market quotation, but the difference was generally a matter of several annas only.

CHAPTER VII

SUMMARY AND CONCLUSIONS

Background

A forward contract is an agreement between two parties to execute a sale at a subsequent date, the quantity and the price being agreed upon in advance. It is in anticipation of price changes and is based upon the differing expectations on this point of the buyer and the seller. This type of trading is most commonly associated with organized commodity exchanges. It is speculative in character but is defended as a means of allowing persons to transfer risk to willing speculators by means of hedging operations. Though not a practice in the United States, forward trading in securities as well as commodities has been a practice in Europe and is a major aspect of stock exchange operations in Pakistan and India.

Some writers take the position that forward trading in securities makes possible the same type of hedging operations as are carried out in organized commodity markets. This position is debatable. Hedging in commodities is carried out

by those purchasing commodities for processing and eventual resale. Purchasers of securities do not engage in processing and their expectation of resale usually includes the hope of a speculative increase in value of the shares purchased. From this standpoint hedging is contrary to their interests. Hedging in securities is also more difficult than in commodities, and the investor uninterested in possible speculative gain has other alternatives open to him. For these reasons it follows that the forward market in securities is primarily speculative in the usual sense of the term, i.e., an attempt to profit from "outguessing the market."

The Karachi Stock Exchange

The Karachi Stock Exchange was formed in 1949, two years after Partition. It is one of the smallest as well as one of the youngest exchanges on the Indian subcontinent. It had 167 members in 1957 of which less than half were regularly active on the market. Membership cards, issued initially for Rs. 2,500 each, have been quoted as high as Rs. 18,000 each. Some eighty securities are listed for trading by the Exchange, though only on the ready market are all of these available for trading. There is no government regulation of stock exchanges in Pakistan. The need for such regulation is likely to increase as the size and importance of the Exchange increases and as other securities markets are established in the new country.

Since October, 1953 the Karachi Exchange has operated both a ready and a forward market. The ready market, on which all listed scrips are traded, consists of trading for immediate delivery. No records are maintained by the Exchange relative to this type of trading, although daily closing quotations are published for the ready market. The forward market is the scene of trading for delivery in the next subsequent month. It is restricted to a few major scrips and members must maintain a special deposit with the Exchange in order to trade on the forward market. All transactions on a forward basis are reported to the Exchange, which records them in its ledgers. In the period from the beginning of forward market operations in 1953 through the end of 1957, the ordinary shares of four firms were listed for forward trading.

The Firms Represented on the Forward Market

The first firm to have its shares listed for forward trading was Adamjee Jute Mills, Limited. Raw jute is Pakistan's primary export commodity, but at the time of Partition the country had no jute processing facilities. Adamjee Jute Mills, which grew out of a project of the Pakistan Industrial Development Corporation, was the first processing firm set up in the new nation. It is still the largest firm in the industry in Pakistan. Its initial years were financially successful and it declared increasing dividends through 1955.

In 1956 its profit margin was severely reduced, and in 1957 it operated at a sizable deficit. No dividends were declared in these years.

Karnaphuli Paper Mills, Limited was the second firm whose shares were traded on a forward basis. It also grew out of a PIDC project. Though Pakistan had raw materials for a paper industry, none existed until 1953 when this firm was incorporated. It has a monopoly in domestic paper production. Its first year of operation was marred by severe labor unrest as well as other production difficulties. Since then it has prospered financially. It received a World Bank loan in 1955. Dividends were declared in each year following 1954 and amounted to 7 1/2 per cent in 1956 and 1957.

The third scrip listed on the forward market was Adamjee Cotton Mills, Limited. Like Karnaphuli Paper, its shares have been traded on a forward basis since January, 1954. Cotton textile manufacturing is the leading manufacturing industry of Pakistan. Both raw cotton and cotton textiles are major export items. Adamjee Cotton, founded in 1953, is one of the leading firms in this field. In 1956, it expanded the scope of its operations to take over two PIDC projects, a paper-board factory and a chemical plant. It has prospered financially and has declared dividends in every year beginning in 1954. In 1957 the dividend amounted to 10 per cent.

The fourth firm listed on the forward market was Pakistan Tobacco Company, Limited. Its shares were traded on a forward basis for only twenty months, from January, 1956 through August, 1957. Pakistan is an important tobacco growing area and Pakistan Tobacco is the leading firm in the cigarette manufacturing field. It has a near-monopoly of the higher-priced brands of cigarettes sold in the country. It began as a private limited company and was subsequently converted to a public limited company. Though it did not operate at a deficit in any of the four years studied, its net income fell off steadily. As a result, dividends decreased over the period.

Scope and Method of the Study

The fact that records are kept and that these were made available to the author by the Exchange made possible the present study of the forward market of the Karachi Exchange in its formative years. The ledgers of the Exchange provided the basic data. These record the names of buying and selling brokers, date of transaction, scrip traded, number of shares, and price. The study was confined to the purchase side of the ledgers. It covers, however, all the 129,000 transactions made during the market's first fifty-one months of existence. The data were transferred from the ledgers to cards for sorting and grouping. Various basic tables were constructed on the basis of different

groupings of cards and these tables were used for analysis purposes.

The volume of activity was studied from the standpoint of number of brokers participating, number of shares traded, number of transactions entered into, and relative importance of the individual scrips. The pattern of trading activity is presented for the forward market as a whole and for each of the individual scrips traded. The structure of the market was analyzed from the standpoint of the distribution of trading activity among large and small brokers. This analysis was carried out by ranking brokers according to their total purchases and dividing them into quartiles. The proportion of the total number of shares purchased and of the total number of transactions entered into by each broker quartile was determined. The stability of membership within the different quartiles was also studied. The pattern of prices for each of the individual scrips was ascertained. This analysis includes the range of variation between the high and low prices registered for each scrip. It also indicates the major movements of price for each scrip over time. On the basis of contemporary market reports, the major factors affecting price movements were studied and presented. In what follows, these findings and the conclusions drawn from them are summarized to furnish a recapitulation of the scope and structure of the forward market of the Karachi Stock Exchange in its formative years.

Quantitative Aspects

During the last months of 1953 only Adamjee Jute shares were traded on a forward basis. From January, 1954 two more scrips were added to the forward list, and in 1956 and part of 1957 four scrips were listed. Eighty-one brokers made purchases on the forward market. The number making purchases in any one month did not exceed forty-two, but represented the majority of brokers active on the Karachi Stock Exchange. The largest broker participation was in 1954, the least in 1956. Most of the brokers made at least some purchases in every scrip traded. The most popular scrip, in terms of broker participation, was Adamjee Jute; second, Karnaphuli Paper; third, Adamjee Cotton; and fourth, Pakistan Tobacco. The "typical" broker was in the market during eighteen of the fifty-one months. Those who traded more consistently made up the ranks of the largest brokers, while the lowest quartile of brokers was made up of men who entered the market only for short periods of time.

Share Volume

During the period studied, about 66 million shares were contracted for on a forward basis. Adamjee Jute accounted for 38 per cent of this total, Karnaphuli Paper for 36 per cent, Adamjee Cotton for 19 per cent, and Pakistan Tobacco for 7 per cent. The heaviest activity occurred in the first full year of trading, 1954. Share volume in the

succeeding three years was somewhat smaller, but the trend over the period was neither markedly up nor markedly down. The pattern of share volume for the individual scrips varied. For the two Adamjee firms, the heaviest trading was in 1954. Trading in Adamjee Jute shares fell off in the next two years but revived in the last year studied. Adamjee Cotton share volume dropped in 1955, revived in 1956 and fell to its lowest ebb in 1957. Karnaphuli Paper shares were traded most heavily in 1955, with interest reaching its ebb in this scrip the following year and reviving somewhat in 1957. The pattern of activity for the forward market as a whole reflect the shifting interest in the various scrips.

The most striking characteristic of share volume for the market as a whole and for the individual scrips was its wide variations. Periods of explosive interest were followed by equally sharp drops in activity. This pattern is in keeping with the speculative character of the market. The periods of heavy activity were usually associated with rapid changes in price and with wide fluctuations in price. They were frequently periods marked by rumors concerning prospective dividends or possible announcements which might affect market price. Comparison of the monthly data on share volume with a computed twelve-month moving average for the same series failed to reveal any pronounced seasonal pattern of activity. If seasonal factors affect trading activity on the forward market, they are overshadowed by the random

variations reflected in the wide swings in share volume. This was true of share volume for all individual scrips as well as for the market as a whole.

Number and Size of Transactions

An alternative measure of activity on the market is furnished by the data on the number of transactions entered into. The pattern is essentially the same as that of share volume. The largest number of transactions occurred in 1954, the smallest number in 1957. About 45 per cent of all transactions were in Adamjee Jute shares, about 30 per cent in Karnaphuli Paper shares, 19 per cent in Adamjee Cotton, and 7 per cent in Pakistan Tobacco. The monthly data on this aspect of trading followed closely those on share volume. There was wide variation from month to month. The months of heavy activity and of light activity were the same for both share volume and for number of transactions.

The series on the number of transactions exhibited more of a downward trend over the period than did that on share volume. This was a reflection of the fact that the average number of shares purchased per transaction increased over time. The average number of shares involved in a transaction in the early months of trading was about 200. In the last few months of 1957, an average of about 900 shares was involved in each transaction. The market lot traded was typically largest for contracts in Karnaphuli Paper shares. It was typically smallest in Adamjee Jute trading. It

increased for all scrips during the period. The largest brokers typically traded in the largest market lots, while the smallest brokers typically traded in the smallest lots.

Conclusions on Pattern of Activity

Two things stand out in the pattern of trading activity on the forward market of the Karachi Exchange. First, there was wide variation in volume. There is no steady tempo of trading on this market but rather surges of activity from time to time as traders sense an opportunity for speculative gain, followed by apathy as the market waits for another reason to get excited. The stimulus for these periods of explosive interest is generally the same as that affecting price movements on the market. As frequently as not, it is a rash of rumors rather than a concrete event or announcement. This is to be expected in a market where the interest centers around what the price of shares will be next month and not around what the value of ownership in a particular firm is currently. Second, the volume of activity in a scrip was not necessarily related to the economic or financial status of that firm. Interest in Adamjee Jute shares fell off in the years of its best profits. It revived in the wake of financial reverses for the firm. Activity in Karnaphuli Paper was at its lowest following an increase in the firm's annual dividend. Interest in Adamjee Cotton shares declined while the firm's dividends were increasing. This aspect also

reflects the fact that the market is, in the nature of things, a speculative one, interested in its own valuations of shares rather than the basis for the valuation.

The Structure of the Market

To ascertain to what extent the largest brokers tend to dominate trading on the forward market of the Karachi Exchange, brokers were grouped into quartiles according to the size of their total share purchases. The distribution of trading among the quartiles was then determined to see what the structure of the market was in these terms. This grouping technique was applied to the market as a whole, to each year of trading, and to each individual scrip.

Distribution of Trading

During the first four years of the forward market's existence, one-fourth of the brokers accounted for 83 per cent of the total number of shares purchased. On the other hand, one-half of the brokers accounted for only about 3 per cent of the total number of shares purchased. The same group of about twenty big brokers were the purchasers in 76 per cent of the transactions made during the fifty-one month period. The two lower quartiles of brokers accounted for less than 5 per cent of the total number of transactions. The typical member of the upper quartile was in the market in almost twenty times as many months as the typical broker in the lowest quartile. The typical upper quartile member

made more than one hundred times as many transactions as did the average broker in the lowest quartile. Finally, the upper quartile broker typically purchased more than twice as many shares in a single transaction as did his opposite number in the lowest quartile.

Analysis of the distribution of trading on an annual basis reveals a less accentuated picture of dominance by the largest brokers, but their importance is still clear. The upper quartile accounted for two-thirds to three-fourths of the total number of shares purchased in each year. It accounted for 58 to 72 per cent of the total number of transactions in each year. The lowest quartile usually accounted for less than 2 per cent of both share volume and the total number of transactions. Although the difference from year to year was not great, the lower two quartiles were relatively more important in 1954 and 1956, the years of heaviest trading. This indicates that the largest brokers remain in the market rather consistently, while the smaller brokers increase their activity in periods of heavy trading. Application of the grouping technique to the individual scrips confirms the dominance of the largest brokers. In the three scrips traded over the longer period the upper quartile accounted for at least 70 per cent of all share purchases and for more than 64 per cent of the total number of transactions. Their predominance is most marked in trading in the two major scrips, Adamjee Jute and Karnaphuli Paper.

Stability of Membership of the Broker Quartiles

The membership of the upper quartile of brokers is notably stable throughout the period. Of the ten brokers who accounted for the largest number of shares purchased during the entire period, one was in the ranks of the top ten in all four full years of trading, and five others were so ranked in three different years. Of the twenty brokers who were in the upper quartile in any one year, eight were in it in at least three years and thirteen in at least two years. There were changes in the personnel of the elite traders to be sure, but the upper quartile exhibited greater stability of membership than any other quartile. The pattern of stability was similar in each of the individual scrips. Of eighteen brokers ranked in the upper quartile of Adamjee Jute trading in any one year, six were so ranked in at least three years. This scrip exhibited slightly greater stability of upper quartile membership than the other two major scrips, but the differences were not large. Of twenty brokers who ranked in the upper quartile for Karnaphuli Paper in any one year, four were so ranked in three years.

The brokers who dominated trading in one scrip tended also to be the same ones who dominated trading in other scrips. Of the twenty brokers who ranked in the upper quartile for any one scrip, fifteen were so ranked in at least three scrips. Finally, there was some evidence that the membership of the upper quartile of brokers was becoming more fixed as

time passed. Only six of the eleven brokers who were in the upper quartile in 1955 had been in the upper quartile the previous year. In 1957, eight of the ten brokers in the upper quartile had been in the upper quartile the year before.

Conclusions on Market Structure

Though the forward market of the Karachi Exchange generally has as many as forty to fifty brokers trading actively, a group of ten to fifteen of those brokers play the dominant role. Their activity sets the general tone of the market, and it is primarily their judgment that the market reflects. Their names may change, but not rapidly. The membership of this elite is largely the same for trading in one scrip as for another. Specialization is not an important characteristic of forward trading on the Karachi Exchange. It is this aspect of the forward market's structure that led to the complaint of one broker that any time he tried to take advantage of a "good tip" the rest of the market was immediately alerted. The activities of a single broker, if he is one of the elite, can bulk large in the total picture. It is difficult to see that such a market functions effectively as an arbiter of real stock values in the short run, or as a means of facilitating the flow of investment funds to business and industry.

Price Patterns

Specific price movements were generally different from

scrip to scrip, but there were some basic similarities. All three major scrips began 1954 with relatively high prices on the forward market. For Karnaphuli Paper and Adamjee Cotton both, the all-time high was registered in January, 1954. For Adamjee Jute, it was reached in the previous month. Price for all three of these scrips exhibited a clear downward trend through 1954 and the first half of 1955. In all three cases a temporary recovery in price occurred in the summer of 1954, reaching its short-term peak in July. In Adamjee Jute it was stimulated by a dividend announcement, and in Karnaphuli Paper by news of a possible World Bank loan. Adamjee Cotton appears to have risen with the rest of the market. For all three scrips the all-time low price was reached at the end of this sustained fall. It was registered in May for the two Adamjee firms and in June for Karnaphuli Paper. Finally, all three scrips had rising prices in August, 1955. This is easily explained as it was the time of the announcement of devaluation. This action had the strongest effect on Adamjee Jute and the least effect on Karnaphuli Paper. During the remainder of the period, the price pattern was not uniform.

The Individual Scrips

Following the general decline in the first year of trading, which affected all three of the scrips then listed, and the sharp recovery that accompanied devaluation, Adamjee Jute shares continued to exhibit considerable instability of

price. A sharp decline in the latter half of 1955 was followed by a recovery in early 1956. This was followed by another sustained decline through the rest of 1956. This general pattern of downward movement in price was in spite of successively larger dividend announcements during the period. In both instances, rumors reportedly led to expectations of even larger dividends than those declared. Relative stability of price during the first half of 1957 was followed by another sharp decline in the second half of the year. This final drop represented the market's delayed reaction to the poor earnings record of the previous operational year.

Price for Karnaphuli Paper shares was relatively stable following the mid-1955 recovery. A gradual decline through most of 1956 was offset by a gradual rise through late 1956 and early 1957. Major variations in price were associated with periods of dividend rumors, but the decline is not fully explained by market reports. The recovery which followed was in keeping with the firm's earnings record. Adamjee Cotton shares exhibited relative price stability after the recovery that was registered at the time of devaluation. Price continued to climb slowly for a few months, but this rise died out when actual dividends failed to meet market expectations. As in Karnaphuli Paper, major variations from the generally stable trend occurred at times of prospective dividend announcement and were accompanied by

the usual rumors. Stability of price was associated with decreasing interest in it on the forward market. Pakistan Tobacco shares were traded only during 1956 and part of 1957. The price trend for this scrip was also relatively stable, though a marked decline was observable during the last three months of trading. Once more variations were generally stimulated by market rumors. In one instance the actual dividend was larger than the market anticipated, resulting in a rise. In another, the more familiar pattern occurred with the actual dividend falling short of expectation.

Price Variability

Each of the shares traded on the forward market had a par value of Rs. 10 each. The book value indicated by the firms' reported net worth was above this in every case. The variability of price, however, differed from scrip to scrip. Adamjee Jute shares exhibited the highest level of prices of any scrip. In all but nine of the fifty-one months in which it was traded it registered prices of above Rs. 15 a share. At the same time this scrip exhibited the greatest variability of price. This was true of both price movements over long periods and daily fluctuations in price. Karnaphuli Paper shares were characterized by the lowest prices on the forward market. It was the one scrip in which market price was below par value in several months. The variability of price for this scrip was less marked than for Adamjee Jute, but slightly greater than in Adamjee Cotton. Again, by

variability we refer to the total range of prices during the period and to the pattern of daily fluctuations in price.

When allowance is made for the fact that Adamjee Cotton shares were traded more than twice as long as Pakistan Tobacco, the variability of price for these two scrips was of roughly the same magnitude. Both exhibited the smallest variations over long periods and in daily fluctuations.

Daily fluctuation in price for all scrips was generally small. On most trading days the price range did not exceed eight annas for any scrip. The wider fluctuations were characteristic of periods of sharply falling or sharply rising price. Most of them occurred in the first months of trading. This was not only the year of the general decline in prices on the market, but it was the year in which the largest number of brokers participated in forward trading. As the number of regular traders became smaller and forward trading a more familiar part of their operations, the wide daily variations in price grew more rare.

Extended analysis of the relationship between the ready market and the forward market was not possible since detailed records are not maintained for the ready market. A comparison of the daily closing quotations for both markets was possible. Judging from these recorded closing prices the difference between the two markets was generally small. The forward market price was most frequently the higher of the two, though not invariably. The two prices generally moved

together, i.e., rose and fell more or less simultaneously. The swings in the forward market price, however, were usually wider than those in the ready market quotations.

Conclusions on Price Patterns

Price movements on the forward market of the Karachi Stock Exchange were stimulated by both real and imaginary factors, and by the relationship between the two. Among the real factors were such things as governmental policies, general economic conditions, the financial position of the firms, and dividends. The imaginary factors were generally rumors concerning the real factors and particularly rumors of prospective dividends. The relationship between rumor and reality was exemplified by the many instances of market disappointment with a dividend, not because there was no dividend, but because it was not as great as market expectations. The frequency with which market price rose on the expectations and fell immediately after the dividend announcement suggests the possibility that traders circulated rumors as a means of influencing market behavior.

The pattern of price behavior on this market indicates that there was no necessary relation between the earnings record of a firm and the market value of its shares. Trading in Adamjee Jute shares most clearly illustrates this point. It continued to exhibit the highest general level of price in a period when its profit margin was not only declining

sharply, but turning into a sizable deficit. This aspect of the market is strengthened by the delay which generally occurs between the end of a firm's operational year and the publication of its annual report. Such a market may serve the needs and desires of speculative trading, but it does not reflect widespread participation of investors. The major conclusion drawn from the patterns of price behavior on the forward market is that this market does not serve as a reliable reflector of real stock values in the short run. The empirical evidence accords with the logical conclusion that forward trading in securities on the Karachi Exchange is an arena for the pursuit of speculative gain. If this type of trading is to serve a more general economic purpose, it will require at least a greater variety of securities and a lessening of the degree of dominance by a relatively small number of large traders.

Although not based directly upon the empirical evidence furnished by the study, one final conclusion is to be drawn from the general picture of forward trading on the Karachi Stock Exchange. The present self-regulation of the Exchange's operations should be supplemented by legal regulation of it by the central government. Such regulation would place the Exchange, and such other exchanges as develop in the country, on a basis more comparable with those in the United States, England, and other nations. Legislative regulation, such as

that furnished by the Securities and Exchange Act in the United States, would not only militate against the growth of market manipulation and other abuses. It would encourage the further healthy development of the Exchange and its role in the Pakistan economy.

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APPENDIX

TABLE I.--Number of brokers making purchases on the forward market of the Karachi Stock Exchange, monthly, October 1953 through December 1957

Month	1953	1954	1955	1956	1957
January	. . .	39	34	25	27
February	. . .	42	33	25	27
March	. . .	41	31	27	27
April	. . .	42	25	26	28
May	. . .	37	25	27	31
June	. . .	35	21	29	26
July	. . .	36	24	29	25
August	. . .	37	24	26	26
September	. . .	37	24	25	27
October	32	37	24	24	27
November	33	35	21	24	27
December	17	32	22	28	25

Source: Tabulated from data in ledgers of the Karachi Stock Exchange.

One scrip was traded October-December 1953, three scrips were traded January 1954-December 1955, four scrips were traded January 1956-August 1957, three scrips were traded thereafter.

A total of 82 different brokers participated in trading during the entire period.

TABLE II.--Number of shares purchased on the forward market of the Karachi Stock Exchange, monthly, October 1953 through December 1957
(thousands of shares)

Month	1953	1954	1955	1956	1957
January	. . .	1,444	855	884	1,704
February	. . .	1,829	1,048	1,441	1,402
March	. . .	2,208	948	1,622	1,836
April	. . .	761	770	1,316	1,368
May	. . .	1,121	776	1,621	1,128
June	. . .	1,549	1,565	1,952	844
July	. . .	3,108	929	955	1,191
August	. . .	1,376	1,890	979	1,266
September	. . .	1,736	1,574	1,069	1,686
October	359	1,889	1,242	1,268	941
November	598	2,082	833	1,192	805
December	506	1,217	956	1,972	580
Total	1,462	20,320	13,387	16,274	14,751
Monthly Average	488	1,693	1,116	1,356	1,229

Source: Tabulated from data in ledgers of the Karachi Stock Exchange.

One scrip was traded October-December 1953, three scrips were traded January 1954-December 1955, four scrips were traded January 1956-August 1957, three scrips were traded thereafter.

TABLE III.--Number of transactions on the forward market of the Karachi Stock Exchange, monthly, October 1953 through December 1957

Month	1953	1954	1955	1956	1957
January	. . .	4,888	2,179	1,497	2,478
February	. . .	4,785	2,512	2,547	2,147
March	. . .	6,558	1,860	2,916	3,003
April	. . .	2,133	1,540	2,155	1,860
May	. . .	2,876	1,694	2,451	1,369
June	. . .	3,785	3,021	3,379	1,021
July	. . .	7,192	1,664	1,841	1,640
August	. . .	2,456	3,414	1,477	1,827
September	. . .	2,946	2,863	1,688	2,670
October	1,323	3,426	2,519	2,077	1,366
November	2,411	4,504	1,524	2,156	865
December	2,126	3,315	1,550	2,654	677
Total	5,860	48,864	26,340	26,838	20,923
Monthly Average	1,953	4,072	2,195	2,236	1,744

Source: Tabulated from data in ledgers of the Karachi Stock Exchange.

One scrip was traded October-December 1953, three scrips were traded January 1954-December 1956, four scrips were traded January 1956-August 1957, three scrips were traded thereafter.

TABLE IV.--Average number of shares purchased per transaction on the forward market of the Karachi Stock Exchange, monthly, October 1953 through December 1957 (shares)

Month	1953	1954	1955	1956	1957
January	. . .	295	392	591	688
February	. . .	382	417	566	653
March	. . .	337	510	556	611
April	. . .	357	501	611	735
May	. . .	390	458	662	824
June	. . .	409	518	578	826
July	. . .	432	558	519	726
August	. . .	560	554	663	693
September	. . .	589	550	633	923
October	271	552	493	611	689
November	248	462	546	553	931
December	238	367	617	743	857
Annual Average	250	416	508	606	705

Source: Computed from data in ledgers of the Karachi Stock Exchange.

Data cover trading in one scrip October-December 1953, three scrips January 1954-December 1955, four scrips January 1956-August 1957, and three scrips thereafter.

TABLE V.--Number of shares purchased on the forward market of the Karachi Stock Exchange, by broker quartile, annually, 1953 through 1957
(thousands of shares)

Broker Group	1953 ^a	1954	1955	1956	1957
Upper quartile	988	13,728	10,030	11,290	10,988
Second quartile	266	4,529	2,772	3,526	2,717
Third quartile	158	1,820	528	1,146	850
Lowest quartile	50	242	56	312	196
Total	1,462	20,320	13,387	16,274	14,751

Source: Computed from data in ledgers of the Karachi Stock Exchange.

^aTrading began in October 1953, so only three months are represented.

Components do not always add to totals because of rounding.

TABLE VI.--Number of transactions on the forward market of the Karachi Stock Exchange,
by broker quartile, annually, 1953 through 1957

Broker Group	1953 ^a	1954	1955	1956	1957
Upper quartile	3,798	28,089	18,129	18,391	14,964
Second quartile	1,078	13,936	6,521	6,586	4,085
Third quartile	782	6,021	1,555	1,581	1,651
Lowest quartile	202	818	135	280	223
Total	5,860	48,864	26,340	26,838	20,923

Source: Computed from data in ledgers of the Karachi Stock Exchange.

^aTrading began in October 1953, so only three months are represented.

TABLE VII.--Number of shares purchased on the forward market of the Karachi Stock Exchange, by broker quartile, by scrip, 1953 through 1957
(thousands of shares)

Broker Group	Adamjee Jute	Karnaphuli Paper	Adamjee Cotton	Pakistan ^a Tobacco
Upper quartile	19,369	17,622	8,976	2,983
Second quartile	4,528	4,784	2,635	1,349
Third quartile	1,077	1,195	781	344
Lowest quartile	205	137	153	56
Total	25,180	23,738	12,546	4,732

Source: Computed from data in ledgers of the Karachi Stock Exchange.

^aPakistan Tobacco was traded on a forward basis for only 20 months.

Components do not always add to totals because of rounding.

TABLE VIII.--Number of transactions on the forward market of the Karachi Stock Exchange, by broker quartile, by scrip, 1953 through 1957

Broker Group	Adamjee Jute	Karnaphuli Paper	Adamjee Cotton	Pakistan ^a Tobacco
Upper quartile	39,838	26,036	15,557	5,153
Second quartile	13,675	9,555	5,825	2,733
Third quartile	3,235	2,556	2,227	530
Lowest quartile	911	423	441	130
Total	57,659	38,570	24,050	8,546

Source: Computed from data in ledgers of the Karachi Stock Exchange.

^aPakistan Tobacco was traded on a forward basis for only 20 months.

TABLE IX.--Comparative stability of membership of the upper quartile of brokers on the forward market of the Karachi Stock Exchange, annually, 1954 through 1957 (number of brokers)

Item	Total Trading	Trading in Adamjee Jute shares	Trading in Karnaphuli Paper shares	Trading in Adamjee Cotton shares
Number of years ranked in upper quartile				
Four years	1	1	0	0
Three years	7	5	4	4
Two years	5	4	7	7
One year	7	8	9	7
Total	20	18	20	18
Remaining in upper quartile from previous year				
1955	6 of 11	4 of 8	4 of 9	4 of 8
1956	7 of 9	4 of 7	5 of 8	6 of 8
1957	8 of 10	5 of 8	4 of 9	3 of 6

Source: Computed from data in ledgers of the Karachi Stock Exchange.

Trading in Pakistan Tobacco shares is excluded since it did not extend over the full four-year period.

TABLE X.--Consolidated balance sheet for Adamjee Jute Mills, Limited, annually,
1953 through 1957
(thousands of rupees)

Item	1953	1954	1955	1956	1957
Assets					
Cash and other balances	729	564	408	634	1,056
Accounts receivable ¹	4,940	3,277	3,450	6,396	10,223
Inventory ²	16,102	17,507	21,438	34,196	29,700
Total current assets	21,771	21,348	25,296	41,226	40,979
Fixed capital, at cost	57,602	61,449	71,736	90,224	94,670
Less: Depreciation	7,996	12,927	18,237	24,814	30,863
Plus: Capital work in process	18,826	22,103	16,696	3,489	2,751
Net property	68,432	70,624	70,195	68,899	66,558
Total assets	90,203	91,973	95,491	110,125	107,537
Liabilities and Net Worth					
Trade and other liabilities	4,011	2,877	4,772	5,437	4,502
Provision for taxation	• • • • •	• • • • •	6,900	3,651	3,651
Loans outstanding	25,510	21,036	15,181	34,916	42,907
Proposed and unpaid dividends	2,500	4,537	3,851	129	95
Total liabilities	32,021	28,450	30,704	44,133	51,154

Capital stock ³	50,000	50,000	50,000	50,000	50,000
Reserves:					
General ⁴	2,015	7,015	8,515	10,015	10,015
Taxation contingency ⁵	5,000	5,000	5,000	5,000	5,000
Labor quarters and welfare	750	750	750	750	750
Retained earnings	416	757	522	227	-9,382
Total net worth	58,181	63,523	64,787	65,992	56,383
Total liabilities and net worth	90,203	91,973	95,491	110,125	107,537

Source: Based on annual reports of Adamjee Jute Mills, Limited.

¹Including advances.

²Including stores and spare parts.

³Five million shares of ordinary, paid up at par of Rs. 10 each.

⁴Includes Rs. 15,130 from reserve prior to incorporation.

⁵For period after exhaustion of rapid depreciation privileges.

Data are as of the end of the year.

Components do not always add to totals because of rounding.

TABLE XI.--Consolidated statement of income and earnings of Adamjee Jute Mills,
Limited, annually, 1953 through 1957
(thousands of rupees)

Item	1953	1954	1955	1956	1957
Sales	47,178	46,329	66,765	87,927	98,806
Change in inventory	7,339	1,663	22,893	5,563	-6,369
Manufacturing expense	22,895	23,597	39,166	68,165	75,863
Sale and other expense ¹	9,621	9,114	12,553	17,323	18,550
Managing agency fees	801	666	854	128	30
Depreciation	7,996	4,932	5,315	6,624	6,310
Net operating profit	13,205	9,724	12,751	1,250	-8,316
Other income ²	94	54	12	740	179
Interest on debt	2,632	902	848	785	1,579
Net income before taxes	10,666	8,837	11,914	1,205	-9,716
Provision for taxes	5,000 ^a	. . . .	6,900	b	. . . .
Net income after taxes	5,666	8,837	5,014	1,205	-9,716
Retained earnings from prior year	. . . .	45 ^c	757	522	227
Total surplus	5,666	8,882	5,772	1,727	-9,382 ^d
Dividends ³	2,500	3,125	3,750	. . . .	. . . .

Transfer to reserves	2,750	5,000	1,500	1,500	
Retained earnings	416 ^c	757	522	227	-9,382

Source: Based on annual reports of Adamjee Jute Mills, Limited.

¹Including directors' fees, share issue expense, losses on sale of machinery, bad debts, and other miscellaneous expenses.

²Including interest receipts, profits on sale of machinery, transfer fees, and other "sundry receipts."

³Five per cent in 1953, 6 $\frac{1}{4}$ per cent in 1954, and 7 $\frac{1}{2}$ per cent in 1955.

^aTransfer into taxation contingency reserve for use after exhaustion of special depreciation privileges.

^bTaxes in the amount of Rs. 3,249 thousand for the period 1952-55 were paid in 1956, but from the taxation provision fund set up in 1955 rather than from current income.

^cAn error in the calculation of the value of stock (inventory) in the 1953 report necessitated adjustment of retained earnings figure from Rs. 416 thousand to Rs. 45 thousand in the 1954 report.

^dAfter reduction of Rs. 107 thousand by means of "adjustment in respect of stores."

Data are as of the end of the year.

Components do not always add to totals because of rounding.

TABLE XII.--Number of shares of Adamjee Jute purchased on the forward market of the Karachi Stock Exchange, monthly, October 1953 through December 1957
(thousands of shares)

Month	1953	1954	1955	1956	1957
January	. . .	930	564	129	727
February	. . .	546	439	312	585
March	. . .	1,202	368	354	585
April	. . .	243	348	331	279
May	. . .	578	327	411	261
June	. . .	825	177	353	190
July	. . .	1,274	220	415	594
August	. . .	759	618	90	660
September	. . .	896	510	224	1,014
October	359	874	427	196	500
November	598	911	316	412	328
December	506	437	260	469	246
Total	1,462	9,476	4,575	3,697	5,969
Monthly Average	488	790	381	308	497

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Source: Tabulated from data in ledgers of the Karachi Stock Exchange.

Components do not always add to totals because of rounding.

TABLE XIII.--Number of shares of Adamjee Jute purchased on the forward market of the Karachi Stock Exchange, by broker quartile, annually, 1954 through 1957
(thousands of shares)

Broker Group	1954	1955	1956	1957
Upper quartile	6,207	3,119	2,376	4,169
Second quartile	2,198	1,037	990	1,171
Third quartile	891	374	243	484
Lowest quartile	180	46	89	144
Total	9,476	4,575	3,697	5,969

Source: Computed from data in ledgers of the Karachi Stock Exchange.

Components do not always add to totals because of rounding.

TABLE XIV.--Number of transactions in Adamjee Jute shares on the forward market of the Karachi Stock Exchange, by broker quartile, annually, 1954 through 1957

Broker Group	1954	1955	1956	1957
Upper quartile	14,007	6,940	4,416	5,839
Second quartile	7,117	2,370	1,919	2,029
Third quartile	3,470	1,228	433	1,042
Lowest quartile	553	139	110	314
Total	25,147	10,677	6,878	9,224

Source: Computed from data in ledgers of the Karachi Stock Exchange.

TABLE XV.--High and low prices for Adamjee Jute shares on the forward market of the Karachi Stock Exchange, monthly, October 1953 through December 1957 (rupees-annas-pies)

Month	High	Low	Month	High	Low
1953--October	21-8-0	19-13-0	December	18-12-6	17-5-6
November	26-15-0	20-12-0	1956--January	18-12-6	17-7-0
December	30-12-0	22-10-0	February	19-11-0	18-2-6
1954--January	27-2-0	23-3-0	March	19-10-6	17-4-6
February	25-8-0	22-14-0	April	18-5-6	17-5-0
March	23-14-0	17-3-6	May	20-0-0	16-13-3
April	20-0-0	18-7-0	June	17-9-0	16-10-0
May	19-11-6	16-1-0	July	16-15-0	16-2-0
June	19-6-0	16-0-0	August	16-11-0	16-2-0
July	20-7-0	17-13-0	September	18-14-9	15-13-6
August	20-5-0	18-10-0	October	16-11-0	15-5-0
September	19-14-0	18-12-0	November	16-12-6	14-7-9
October	19-7-0	17-5-6	December	17-2-0	16-0-0
November	18-6-0	16-2-6	1957--January	17-15-9	16-4-3

December	17-4-0	14-3-6	February	17-9-9	16-2-0
1955--January	16-14-0	15-1-0	March	17-8-0	16-10-3
February	17-4-0	16-0-0	April	17-1-0	16-0-0
March	18-8-0	15-14-0	May	16-12-0	16-5-0
April	16-8-6	14-12-0	June	16-9-9	15-13-6
May	15-14-6	12-1-0	July	17-6-0	16-7-0
June	14-11-0	13-14-0	August	17-5-0	16-0-0
July	14-13-6	14-0-0	September	16-11-0	13-13-0
August	19-7-0	16-7-0	October	14-13-6	13-3-3
September	18-14-0	17-10-0	November	13-14-0	13-0-6
October	18-9-0	16-10-0	December	13-9-0	13-7-9
November	17-15-6	16-9-3			

Source: Computed from data in ledgers of the Karachi Stock Exchange.

A rupee is worth \$0.21 at the official exchange rate; there are sixteen annas in a rupee, the anna being thus worth about \$0.013; there are twelve pies in an anna, or 192 pies in a rupee, the pie being thus worth about \$0.0011.

TABLE XVI.--Consolidated balance sheet for Karnaphuli Paper Mills, Limited, annually,
1954 through 1957
(thousands of rupees)

Item	1954	1955	1956	1957
Assets				
Cash and other balances	759	664	2,934	933
Accounts receivable ¹	1,616	4,596	18,649 ^a	13,022 ^b
Inventory ²	15,734	20,421	18,065	18,636
Total current assets	18,109	25,681	39,647	32,591
Fixed capital, at cost ³	69,423	73,281	78,762	83,637
Less depreciation	2,559	6,263	9,896	14,679
Net property	66,865	67,018	68,866	68,958
Total assets	84,974	92,700	108,513	101,549
Liabilities and Net Worth				
Trade and other liabilities	13,586 ^c	6,712	8,722	6,472
Vendor's account ⁴	20,205	22,547	8,862	6,595
Loans outstanding ⁵	4,959	12,827	36,007 ^d	34,254 ^e
Dividends proposed and unpaid	. . . .	1,725	5,154	3,715
Total liabilities	3,750	43,811	58,745	51,035
Capital stock ⁶	46,000	46,000	46,000	46,000
General reserve	. . . .	2,651 ^f	3,158	2,826

Special reserve for IBRD loan	· · · · ·	· · · · ·	495	1,522
Retained earnings	223	238	115	167
Total net worth	46,223	48,889	49,768	50,514
Total liabilities and net worth	84,974	92,700	108,513	101,549

Source: Based on annual reports of Karnaphuli Paper Mills, Limited.

¹Including advances.

²Including stores on hand and in transit.

³Including formation and research and development expenses.

⁴Owed to Government of Pakistan for plant and equipment taken over from PIDC.

⁵Including in 1956 and after a loan from the International Bank for Reconstruction and Development.

⁶Consisting of 4,600,007 ordinary shares at par value of Rs. 10 each.

^aIncludes item of Rs. 16,675,566 for "sundry debtors."

^bIncludes item of Rs. 11,408,208 for "sundry debtors."

^cIncludes managing agent's (PIDC) account for Rs. 4,141,776. This item was less than Rs. 1 million in all subsequent years.

^dConsisting of Rs. 16,593,638 in "overdrafts from National Bank of Pakistan" and IBRD loan of Rs. 19,413,305.

^eConsisting of Rs. 15,867,094 in "overdrafts from National Bank of Pakistan" and IBRD loan of Rs. 18,386,625 outstanding.

^fRefund from PIDC of premium earned from sale of firm's stock.

Data are as of September 30.

Components do not always add to totals because of rounding.

TABLE XVII.--Consolidated statement of income and earnings of Karnaphuli Paper Mills, Limited, annually, 1954 through 1957
(thousands of rupees)

Item	1954	1955	1956	1957
Sales	9,406	26,464	41,732	46,640
Change in inventory	a	4,336	-4,822	-3,057
Manufacturing expense	7,607	21,587	26,034	32,348
Sales and other expense	767	2,323	1,452	1,641
Managing agency fees	. . . .	30	130	431
Depreciation	145	3,828	3,797	4,336
Net operating profit	886	3,033	5,497	4,826
Other income	3	2,673 ^b	378	57
Interest paid	666	1,439	2,033	107
Net income	223	4,267	3,842	4,777
Retained earnings from previous year ¹	. . . .	347	725	389
Total surplus	223	4,614	4,567	5,166
Dividends ²	. . . .	1,725	3,450	3,450
Transferred to reserves	. . . .	2,651	1,002	1,549
Retained earnings	223	238	115	167

Source: Based on annual reports of Karnaphuli Paper Mills, Limited.

¹After adjustments. In 1955, 1956, and 1957, earnings were adjusted upward for excess depreciation taken in the previous year. In 1956 and 1957 there were also other adjustments listed only as "adjustment in respect of previous year."

²Of 3 3/4 per cent for 1955, 7½ per cent for 1956 (2½ per cent interim dividend and 5 per cent final dividend), and 7½ per cent for 1957.

^aAdjustment included in "sales."

^bIncludes Rs. 2,650,943 refunded to company by PIDC from premium obtained on sale of shares. This amount was transferred to the capital reserve account.

Data are as of September 30.

Components do not always add to totals because of rounding.

TABLE XVIII.--Number of shares of Karnaphuli Paper purchased on the forward market of the Karachi Stock Exchange, monthly, October 1953 through December 1957
(thousands of shares)

Month	1954	1955	1956	1957
January	321	205	250	565
February	745	449	645	517
March	461	421	391	874
April	326	200	253	948
May	377	330	298	670
June	509	1,228	450	316
July	1,011	529	203	348
August	233	908	334	488
September	283	917	354	631
October	451	648	386	384
November	618	379	370	422
December	458	283	1,061	288
Total	5,792	6,498	4,997	6,451
Monthly Average	483	542	416	538

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Source: Tabulated from data in ledgers of the Karachi Stock Exchange.

Components do not always add to totals because of rounding.

TABLE XIX.--Number of shares of Karnaphuli Paper purchased on the forward market of the Karachi Stock Exchange, by broker quartile, annually, 1954 through 1957
(thousands of shares)

Broker Group	1954	1955	1956	1957
Upper quartile	3,522	4,535	3,293	4,748
Second quartile	1,518	1,514	1,339	1,155
Third quartile	643	370	310	458
Lowest quartile	110	78	55	90
Total	5,792	6,498	4,997	6,451

Source: Computed from data in ledgers of the Karachi Stock Exchange.

Components do not always add to totals because of rounding.

TABLE XX.--Number of transactions in Karnaphuli Paper shares on the forward market of the Karachi Stock Exchange, by broker quartile, annually, 1954 through 1957

Broker Group	1954	1955	1956	1957
Upper quartile	5,998	6,936	4,572	5,433
Second quartile	3,622	3,131	2,260	1,651
Third quartile	1,967	965	470	761
Lowest quartile	408	191	37	168
Total	11,995	11,223	7,339	8,013

Source: Computed from data in ledgers of the Karachi Stock Exchange.

TABLE XXI.--High and low prices for Karnaphuli Paper shares on the forward market of the Karachi Stock Exchange, monthly, January 1954 through December 1957
(rupees-annas-pies)

Month	High	Low	Month	High	Low
1954--January	19-7-0	14-6-6	1956--January	9-15-6	9-5-0
February	17-7-0	13-4-6	February	11-7-0	9-13-0
March	14-12-6	11-11-0	March	10-14-6	9-10-0
April	14-7-0	13-5-6	April	10-2-0	9-10-9
May	13-14-0	11-0-0	May	10-11-6	9-5-6
June	14-6-0	11-13-0	June	10-7-0	9-5-9
July	14-11-0	12-9-6	July	10-0-0	8-7-6
August	13-15-0	13-2-6	August	9-9-3	8-7-6
September	13-14-0	12-5-6	September	9-3-6	8-9-6
October	13-14-0	12-4-6	October	9-9-0	8-6-0
November	13-13-6	11-0-0	November	9-3-0	8-7-3
December	12-8-0	10-5-6	December	10-1-6	8-12-6
1955--January	11-7-6	10-4-0	1957--January	9-15-0	9-6-0
February	11-11-0	10-4-0	February	10-1-0	9-8-6

March	11-7-6	10-13-6
April	11-5-0	10-9-0
May	10-12-0	9-2-6
June	10-7-0	8-0-6
July	9-11-0	9-1-6
August	11-10-6	9-3-9
September	11-1-6	10-0-3
October	10-9-6	9-2-9
November	9-13-6	9-2-0
December	9-14-0	9-5-9

March	10-15-0	9-11-6
April	11-3-0	9-12-0
May	11-0-0	10-4-9
June	10-9-9	10-4-0
July	10-7-6	10-2-0
August	10-4-9	9-10-0
September	10-8-0	9-9-6
October	10-7-0	10-2-6
November	10-7-0	10-1-0
December	10-7-3	10-2-6

Source: Computed from data in ledgers of the Karachi Stock Exchange.

A rupee is worth \$0.21 at the official exchange rate; there are sixteen annas in a rupee, the anna being thus worth about \$0.013; there are twelve pies in an anna, or 192 pies in a rupee, the pie being thus worth about \$0.0011.

TABLE XXII.--Consolidated balance sheet for Adamjee Cotton Mills, Limited, annually,
1954 through 1957
(thousands of rupees)

Item	1954	1955	1956	1957
Assets				
Cash and other balances	1,496	3,862	4,982	1,091
Accounts receivable ¹	620	2,167	5,353	7,783
Inventory ²	8,385	9,040	14,269	21,139
Total current assets	10,501	15,070	24,605	30,009
Fixed capital, at cost	26,284	27,017	27,476	52,898
Less depreciation	2,878	5,629	8,242	14,503
Net property	23,407	21,389	19,233	38,395
Total assets	33,908	36,459	43,838	68,408
Liabilities and Net Worth				
Trade and other liabilities	1,826	1,881	1,797	3,795
Provision for taxation	3,000	3,850	3,390	3,667
Loans outstanding	• • • •	• • • •	2,000	21,909
Proposed and unpaid dividends	1,562	1,913	1,942	3,083
Total liabilities	6,388	7,643	9,130	32,455
Capital stock ³	25,000	25,000	29,887	30,000

General reserve	2,000	3,500	4,500	5,500
Retained earnings	520	315	321	453
Total net worth	27,520	28,815	34,708	35,953
Total liabilities and net worth	33,908	36,459	43,838	68,408

Source: Based on annual reports of Adamjee Cotton Mills, Limited.

¹Including advances.

²Including stores and spare parts.

³Authorized capital of Rs. 30 million to be in the form of 3 million ordinary shares with a par value of Rs. 10 each. Initially 1 million shares were issued for cash and 1.5 million shares for "other considerations." In 1956 an additional issue of 500 thousand shares was marketed, of which 488,722 shares were sold by the end of the year. The remainder were paid up in 1957.

Data are as of September 30.

Components do not always add to totals because of rounding.

TABLE XXIII.--Consolidated statement of income and earnings of Adamjee Cotton Mills,
Limited, annually, 1954 through 1957
(thousands of rupees)

Item	1954	1955	1956	1957
Sales	28,483	22,905	22,499	34,030
Change in inventory	1,618	3,529	3,940	3,257
Manufacturing expense	18,404	18,462	18,357	23,172
Sale and other expense ¹	969	898	957	1,585
Managing agency fees	602	350	363	481
Depreciation	2,878	2,796	2,653	6,267
Net operating profit	7,248	3,928	4,108	5,782
Other income ²	13	105	174	99
Interest on debt	178	12	102	249
Net income before taxes	7,082	4,020	4,181	5,632
Provision for taxes	3,000	850	1,300	1,500
Net income after taxes	4,082	3,170	2,881	4,132
Retained earnings from previous year	. . . .	520	315	321
Total surplus	4,082	3,690	3,196	4,453
Dividends ³	1,562	1,875	1,875	3,000
Transfer to reserves	2,000	1,500	1,000	1,000
Retained earnings for current year	520	315	321	453

Source: Based on annual reports of Adamjee Cotton Mills, Limited.

¹Including rent, insurance, transportation, and other miscellaneous expenses.

²Including transfer fees, profits from sale of assets, interest receipts, and other "sundry receipts."

³Dividends of $6\frac{1}{4}$ per cent in 1954, $7\frac{1}{2}$ per cent in 1955 and 1956 (excluding the new issue in the latter year), and 10 per cent in 1957.

Data are as of September 30.

Components do not always add to totals because of rounding.

TABLE XXIV.--Number of shares of Adamjee Cotton purchased on the forward market of the Karachi Stock Exchange, monthly, January 1954 through December 1957
(thousands of shares)

Month	1954	1955	1956	1957
January	193	86	297	146
February	538	161	295	116
March	454	160	550	227
April	192	222	570	45
May	166	118	738	226
June	214	160	654	165
July	822	179	162	138
August	385	364	280	81
September	557	147	163	40
October	565	166	117	58
November	553	137	114	56
December	322	414	124	46
Total	5,052	2,315	4,062	1,343
Monthly Average	421	193	338	112

Source: Tabulated from data in ledgers of the Karachi Stock Exchange.

Components do not always add to totals because of rounding.

TABLE XXV.--Number of shares of Adamjee Cotton purchased on the forward market of the Karachi Stock Exchange, by broker quartile, annually, 1954 through 1957
(thousands of shares)

Broker Group	1954	1955	1956	1957
Upper quartile	3,245	1,589	2,714	872
Second quartile	1,203	514	987	349
Third quartile	466	178	264	101
Lowest quartile	137	35	98	20
Total	5,052	2,315	4,062	1,343

Source: Computed from data in ledgers of the Karachi Stock Exchange.

Components do not always add to totals because of rounding.

TABLE XXVI.--Number of transactions in Adamjee Cotton shares on the forward market of the Karachi Stock Exchange, by broker quartile, annually, 1954 through 1957

Broker Group	1954	1955	1956	1957
Upper quartile	5,795	2,722	3,870	1,226
Second quartile	3,898	1,123	1,639	626
Third quartile	1,635	475	503	186
Lowest quartile	521	120	65	76
Total	11,849	4,440	6,077	2,114

Source: Computed from data in ledgers of the Karachi Stock Exchange.

TABLE XXVII.--High and low prices for Adamjee Cotton shares on the forward market of the Karachi Stock Exchange, monthly, January 1954 through December 1957 (rupees-annas-pies)

Month	High	Low	Month	High	Low
1954--January	20-4-0	19-5-6	1956--January	15-11-6	14-11-6
February	19-13-0	17-0-0	February	16-3-6	14-8-0
March	18-1-0	14-10-0	March	16-5-0	14-1-0
April	15-13-6	15-1-0	April	15-6-6	14-2-0
May	15-14-0	14-12-0	May	15-7-0	14-5-6
June	15-12-6	15-0-0	June	15-9-0	14-3-3
July	17-5-0	15-10-0	July	14-7-0	13-13-6
August	16-13-0	15-14-0	August	14-15-6	13-10-0
September	17-0-0	16-5-0	September	13-15-0	13-10-0
October	16-10-6	14-8-0	October	13-15-0	13-10-6
November	15-7-6	13-6-6	November	14-4-0	13-11-0
December	14-2-0	12-4-0	December	14-10-0	13-15-0
1955--January	13-3-6	12-11-0	1957--January	14-12-3	14-6-0
February	13-13-0	12-14-0	February	14-11-0	14-6-6

March	13-1-6	12-6-6
April	12-15-0	11-13-0
May	12-2-6	11-8-0
June	12-14-0	12-0-0
July	12-14-0	12-6-0
August	14-15-0	13-2-0
September	14-9-0	14-0-6
October	14-3-9	13-12-0
November	14-8-6	13-10-0
December	15-12-0	14-4-0

March	15-5-0	14-5-0
April	14-9-6	14-5-0
May	15-8-6	14-4-9
June	15-4-0	14-4-0
July	14-12-6	14-7-6
August	14-9-0	14-0-6
September	14-12-0	14-2-6
October	14-8-6	13-13-0
November	14-0-0	13-9-0
December	14-10-6	13-10-6

Source: Computed from data in ledgers of the Karachi Stock Exchange.

A rupee is worth \$0.21 at the official exchange rate; there are sixteen annas in a rupee, the anna thus being worth about \$0.013; there are twelve pies in an anna, or 192 pies in a rupee, the pie being thus worth about \$0.0011.

TABLE XXVIII.--Consolidated balance sheet for Pakistan Tobacco Company, Limited,
annually, 1955 through 1958
(thousands of rupees)

Item	1955	1956	1957	1958
Assets				
Cash and other balances	9,057	12,018	3,326	5,245
Accounts receivable	5,566	5,082	4,733	2,607
Advances	1,847	4,983	3,844	3,310
Inventory	31,934	36,933	40,870	39,342
Total current assets	48,405	59,017	52,772	50,504
Fixed capital (after depreciation)	14,081	19,125	25,240	29,046
Goodwill	25,000	25,000	25,000	25,000
Total assets	87,486	103,141	103,012	104,550
Liabilities and Net Worth				
Trade and other liabilities ¹	6,538	9,592	8,359	6,170
Provision for taxation	4,337	1,535	1,451	2,691
Dividends (proposed and payable)	8,000	4,125	2,097	1,598
Total liabilities	18,925	15,251	11,907	10,458
Capital ²	40,000	55,000	55,000	55,000

Reserves:				
Capital Reserve	25,000	25,340	25,350	25,340
General Reserve	3,000	5,400	7,500	9,500
Other Reserves ³	289	2,064	3,210	4,233
Retained earnings	272	87	56	19
Total net worth	68,561	37,890	91,106	94,092
Total liabilities and net worth	87,436	103,141	103,012	104,550

Source: Based on annual reports of Pakistan Tobacco Company, Limited.

¹Including, as largest item in all years, "cash security deposit."

²Authorized capital of Rs. 60 million to be in the form of 6 million ordinary shares of Rs. 10 each. Of this, by 1955 there had been 2 million shares issued for cash and 2 million for "consideration other than cash." During fiscal 1956 an additional 1.5 million shares were issued and sold for cash.

³Includes reserves for replacement of fixed assets and stock, for workmen's compensation, for doubtful accounts, and "other revenue reserves."

Data are as of March 31.

Components do not always add to totals because of rounding.

TABLE XXIX.--Consolidated statement of income and earnings for Pakistan Tobacco Company, Limited, annually, 1955 through 1958
(thousands of rupees)

Item	1955	1956	1957	1958
Sales	118,651	123,625	133,458	147,693
Manufacturing and sales expense	89,592	99,579	113,465	125,815
Other expense ¹	3,990	4,594	5,128	5,819
Depreciation	1,349	1,574	2,033	2,575
Net operating profit	23,720	17,879	12,831	13,485
Other income ²	46	62	34	. . .
Net income before taxes	23,766	17,941	12,865	13,485
Net income after taxes	13,498	10,175	7,025	6,080
Retained earnings from previous year	300	272	87	56
Total surplus	13,798	10,446	7,112	6,136
Dividends ³	8,000	6,125	3,781	3,094
Transfer to reserves	5,526	4,234	3,275	3,024
Retained earnings for current year	272	87	56	19

Source: Based on annual reports of Pakistan Tobacco Company, Limited.

¹Including loss on disposal of fixed assets, and remuneration for directors as managers.

²Interest income in 1955 and 1956; transfer from "other revenue reserve" in 1957.

³Interim dividend of 19 per cent to 2 million shares and final dividend of $10\frac{1}{2}$ per cent to 4 million shares in 1955; interim dividend of 5 per cent on 4 million shares and final dividend of $7\frac{1}{2}$ per cent on 5.5 million shares in 1956; interim dividend of $3\frac{1}{8}$ per cent and final dividend of $3\frac{3}{4}$ per cent in 1957; interim and final dividends of $2\frac{13}{16}$ per cent each in 1958.

Data are as of March 31.

TABLE XXX.--Number of shares of Pakistan Tobacco purchased on the forward market of the Karachi Stock Exchange, monthly, January 1956 through August 1957

Month	1956	1957
January	209	265
February	168	185
March	327	150
April	163	96
May	174	197
June	495	172
July	176	112
August	275	37
September	327	. . .
October	569	. . .
November	297	. . .
December	318	. . .
Total	3,518	1,214
Monthly Average	293	152

Source: Tabulated from data in ledgers of the Karachi Stock Exchange.

Components do not always add to totals because of rounding.

TABLE XXXI.--Number of shares of Pakistan Tobacco purchased on the forward market of the Karachi Stock Exchange, by broker quartile, annually, 1956 and 1957
(thousands of shares)

Broker Group	1956	1957
Upper quartile	2,224	721
Second quartile	926	322
Third quartile	293	138
Lowest quartile	74	33
Total	3,518	1,214

Source: Computed from data in ledgers of the Karachi Stock Exchange.

This scrip was traded for a period of only eight months during 1957.

Components do not always add to totals because of rounding.

TABLE XXXII.--Number of transactions in Pakistan Tobacco shares on the forward market of the Karachi Stock Exchange, by broker quartile, annually, 1956 and 1957

Broker Group	1956	1957
Upper quartile	4,120	1,117
Second quartile	1,883	540
Third quartile	366	281
Lowest quartile	170	64
Total	6,539	2,002

Source: Computed from data in ledgers of the Karachi Stock Exchange.

This scrip was traded for a period of only eight months during 1957.

TABLE XXXIII.--High and low prices for Pakistan Tobacco shares on the forward market of the Karachi Stock Exchange, monthly, January 1956 through August 1957 (rupees-annas-pies)

Month	High	Low
1956--January	14-11-9	13-2-0
February	14-12-6	14-1-0
March	14-13-6	13-12-0
April	14-8-0	13-13-9
May	14-0-6	13-8-0
June	15-5-6	13-15-0
July	15-3-3	14-6-6
August	15-1-9	14-10-6
September	15-4-0	14-11-0
October	16-0-6	14-0-6
November	16-0-6	14-7-0
December	15-1-0	14-8-0
1957--January	15-2-6	14-11-0
February	14-14-0	14-7-0
March	14-13-3	14-3-0
April	14-13-9	14-8-0
May	15-12-0	14-1-0
June	15-2-6	13-7-6
July	13-13-0	13-0-0
August	13-3-0	13-0-6

Source: Computed from data in ledgers of the Karachi Stock Exchange.

A rupee is worth \$0.21 at the official exchange rate; there are sixteen annas in a rupee, the anna being thus worth about \$0.013; there are twelve pies in an anna, or 192 pies in a rupee, the pie being thus worth about \$0.0011.