INVESTMENT

A Student-Centred Approach

Joseph Chilver

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Preface

A few years ago I took twenty-seven young bankers through a course on Investment. They were a pilot group from one of the major banks, sent by their Head Office on a full-time HND (Banking) course. We decided to take the Optional Investment paper of the Institute of Bankers *en route*. The results were pleasing but we were handicapped by a dearth of textbooks suitable for young students without any practical experience of the subject. Subsequently I found myself dealing with a group of overseas students on a similar course, and the problems were magnified.

This book is my attempt to provide material geared to the needs of students who have little or no previous knowledge of investment matters. It is designed with the Institute of Bankers' examination and the new BEC courses in mind though it should be of interest to all students of business. Bearing in mind the eventual need of students to be able to *discuss* investment matters with their clients, a number of assignments have been included to stimulate group discussion where this is possible. At other times the students are invited to tackle a series of multiple-choice questions to test their understanding of the preceding narrative. Guidelines and solutions for the assignments are given at the end of the book.

The case studies which are included are intended to be as realistic as possible but the companies, individuals and situations described are wholly fictional.

Finally, I take the opportunity to acknowledge the assistance I have received from the following friends and associates, who have kindly read the typescript for me and contributed their expertise:

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1 An Overview

A simple definition of Investment would be a 'laying out of money with a view to gaining some future advantage or profit'. This definition would cover the case of an employee who saves a small sum from his wages each week, placing the money on deposit in a Trustee Savings Bank. He is saving for his summer holidays, knowing his money will be earning interest (or appreciating) in the meanwhile. The definition would also cover the case of the great multinational corporation which has decided to spend a vast sum of money exploring a distant continent for new sources of energy. Nor are the two happenings disconnected. The deposit by the working man will be added to similar deposits throughout the vast banking network and will form part of the financial reservoir which is used to provide funds for the multinational's operations. The finance might come by means of a direct loan from one of the major banks or an international banking consortium. But it is just as likely to reach the corporation through a succession of investors. For example, the Trustee Savings Bank in question might carry a balance with one of the commercial banks and this bank might be approached for a loan by one of its customers. The purpose of the loan? To purchase shares in the multinational corporation which have been previously acquired by an Issuing House. The corporation sold the shares to the issuing house in the first place to raise funds for the present programme of exploration. In such ways is the decision by the person to save for his summer holidays linked with the decision by the industrial company to search for new sources of energy.

The 'laying out of money' (or investment) is vital to our economic well-being. It is the means by which we marshal our resources and direct our efforts in a highly complex technologically advanced society.

Where there is a scarce commodity (in this case savings), for which there is an effective demand and a limited supply, a market can be expected to appear. We have already glimpsed some of its basic features:

1. It is international in nature and capital will flow across national boundaries wherever it is allowed to do so. Constraints such as exchange controls, tariffs and embargoes might be imposed, however.
2. It is a system for collecting, collating and transferring resources through the intermediary of money. The resources include people, and people are central to the system in that they are the means by which the system functions and the purpose for which it functions. People remain indispensable to the provision of goods and services and are also the providers of the financial input in the form of savings. The system is effective only so long as it serves the needs of people.

3. The market is diffused. In the words of K. Midgley and R. G. Burns: 'It is in progress all over the land, wherever suppliers and users of capital get together to do business. Much business is transacted over the telephone, so that there need be no geographical site at all for certain activities. However, *parts* of the market are concentrated in well-known centres, the most renowned of these being the Stock Exchange, which deals in company securities and those issued by governments and local authorities.' (*The Capital Market: its nature and significance* (Macmillan, 1977).)
4. It is a system which involves the circulation of funds (see Figure 1). Funds are utilised in projects which produce wages, dividends and interest as well as goods and services, and the part of these earnings which is saved generates the next cycle of investment.

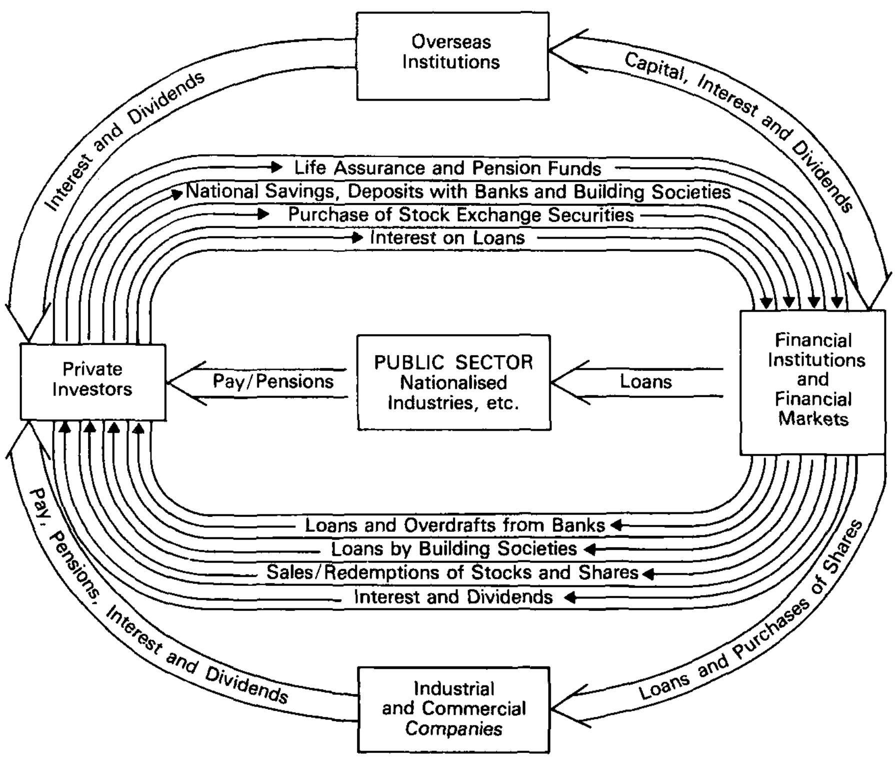


Figure 1 *The main investment flows*

The need for such a system arose out of the original Industrial Revolution. Goods and services were required to be produced on a larger and larger scale. The resources of a single individual were not enough to provide the capital required for operations of such a magnitude and even those with great wealth were unwilling to stake the whole or part of it on a single project which might be drastically unsuccessful. It was in order to escape from this impasse that the concepts of limited liability and the joint-stock company were developed. To this day it remains a central feature of the system that small sums are brought together to provide the large sums required to promote major technological progress.

SAVINGS

It is apparent that savings play a central role in the system. As a first step we might distinguish savings from consumption. Savings are represented by the gap, if any, between what one earns and what one spends, though one might spend money on goods which last for a period of time, in which case they can be viewed as an investment. In other words, the consumption of these goods is delayed or spread over time. Thinking along the same lines, we would include in savings contributions to pension funds and premiums paid on insurance policies which would similarly have the effect of delaying consumption.

However, we also need to consider another type of saving which might be termed 'involuntary saving'. This would happen where, for example, the government reduced our earnings by taxing them and used our money to invest in motorways, hospitals, schools and improved railway services. In a mixed economy such as ours there is both a private and public sector. The private sector contains the myriad of sole traders, partners and joint-stock companies, while the public sector consists of the various state enterprises such as the National Coal Board and the Post Office. The point is that much of our savings are diverted into the public sector where they are virtually invested for us by our representatives in Parliament or the Town Hall (i.e. the local authority).

TAXATION v. PROFIT

One of the taxes levied by the central government is Corporation Tax and through this tax on company profits we might observe how the flow of investment funds is divided between the public and private sectors. By levying this tax the government is, in effect, removing decision-making powers from the companies subject to the tax. Instead of the companies selecting investment projects it is the government which does so, though the government can decide to distribute funds for immediate consumption rather than investment if it so wishes. The effect of distributing funds rather than investing them is to pass on the investment or consumption choice to those who receive the distributions.

To the extent that company profits are left intact by the government, the investment or consumption decision rests with the company. It will be free to choose how much profit is to be distributed to the shareholders and how much is to be retained for investment within the company. The object of 'ploughing back' profits is to ensure that future profits are enhanced. It is a form of self-finance which is common in the business world, but it has to be remembered that the profits of a company are eroded by inflation. The real value of paper profits may be much less than they appear.

While the example of corporation tax has been used, other taxes such as Value Added Tax and Income Tax will also siphon profits away from companies and thereby transfer investment decisions into the public sector. The only difference is that the effect of these other taxes will be less obvious.

Who is better suited to make investment decisions, the government or businessmen? It is a subject for political debate, but it can be said that in Britain we have made our decision. By choosing a mixed economy we have decided that the decision-making powers should be shared, though there will inevitably be some who think the government have too much power, while others would like to see Parliament's control over the economy increased. Without taking sides in the debate we can note that businessmen will be guided mainly by motives of profit. When we see profit as simply an essential gap between economic inputs and outputs - a measure of efficiency - it seems logical that decisions should be made with profitability in mind. There are two justifications for this attitude towards profit:

(1) Our economic well-being depends on the profitability of our business enterprises, and
(2) A welfare state presupposes economic surpluses (or profits) having been generated somewhere in the economic system.

On the other hand, a contribution from our political representatives is equally essential to ensure that:

(1) Wider social implications are brought into account from time to time and in certain key areas, and
(2) The economic surpluses achieved within the system are distributed among the members of society in an acceptably fair manner.

THE ECONOMIST'S ROLE

The economist has a vital role to play in two distinct areas of the decision-making process. First, he has a contribution to make in evaluating prospects in the economy generally and in particular industries. The data he collects and the forecasts he makes will determine to a large extent which options are taken and which directions the investment flows take within the overall system. It is logical that the economist who is concerned with the allocation of scarce resources should have a role to play in discussing both the range of options and the pros and cons of such options.

The second area of interest for the economist is related to the economy's growth, which is tied up with savings and investment. Consider the machinations of the industrial company with regards to the distribution of profits to its shareholders. We have seen that profits retained by the company become available for investment and are thus used to generate higher profits and dividends in the future. This operation can be viewed as a microcosm of what is happening in the economy at large. When individuals forgo immediate consumption their savings become available for investment. And the present scale of investment determines the future limits of consumption. Such factors are obviously related to economic growth and are therefore of concern to the economist. One of the facets of the problem is that the poorest people in society have the least opportunity to forgo immediate consumption. While this may be a truism it also represents a dilemma for a society which is seeking both a high level of investment and a fairer spread of wealth. The two goals are not always compatible.

Economists are also concerned with investment because investment is closely associated with unemployment. Investment creates employment in the manner previously explained and since unemployment statistics are an indication of the state of health of the economy, the concern of economists is understandable. Tied in with the overall problem of unemployment is the debate on the extent to which central government should provide incentives for industrial and commercial firms so that work is created in areas of high unemployment.

THE CONTINUUM

Man is a decision-making animal. He is constantly called upon to choose one course of action rather than another. The mechanism for decision-making is the same whether he is choosing a girl-friend or an investment. He looks at the range of alternatives, weighs up the pros and cons, and then chooses the option which seems to offer him most profit, though some benefits are non-monetary. The methodology is always the same and the advent of the computer was no more than an extension to man's own thinking patterns. The microprocessor simply adds a further degree of sophistication to an unchanged decision-making process. Figure 1 (p. 2) might be looked at again with these latest notions in mind. The diagram represents a flow of funds. But it also represents the results of a myriad of decisions made by a mass of divergent investors over a continuum of time.

The vast majority of people are employed by organisations of one sort or another, either in the public or private sectors. They receive pay, but this is depleted by (a) taxation, (b) national insurance (for old-age pensions and the health service) and (c) contributions to occupational pension funds. The first two of these are used to transfer spending power from one section of society to another. The less privileged benefit at the expense of the more privileged. The sick benefit at the expense of the more healthy. At the same time be it noted that in these cases the investment/consumption decisions are transferred from the individuals to the government. By contrast the contributions to pension funds might be described as quasi-voluntary.

Apart from the constraints mentioned, the individual is able to select his own spending patterns. He can indulge in immediate consumption such as food or entertainment, or he can delay consumption either by purchasing consumer durables such as refrigerators or motor-cars or by entrusting his savings to others such as banks and insurance companies. In either case chains of interlinked investments develop. The individual invests his savings in a life assurance policy. Others do the same. The insurance company invests the funds in the purchase of shares on the Stock Exchange. As a result the persons or companies selling the shares acquire funds and the need for a decision on how those funds are to be invested.

The role of the financial institutions is to lubricate the transfer of funds from those with surpluses to those who are prepared to pay for the use of them. The distinction between the Stock Exchange and the other major financial institutions is that it organises investment for others without providing funds directly, while institutions such as banks and insurance companies are closely involved in borrowing and lending operations. The Stock Exchange, for its part, offers a market for existing securities and a mechanism by which new capital can be raised by companies which have been approved by the Stock Exchange Council. It is reassuring for investors in Stock Exchange securities to know that their investments can be converted back into cash without undue delay.

Through the medium of the financial institutions the accumulation of funds is passed on as loans or in the purchase of shares to:

(i) Overseas governments and companies
(ii) Industrial and commercial companies in the United Kingdom
(iii) National and local governments and public corporations in the United Kingdom.

The various institutions employing the funds in the promulgation of their own projects will generate a return flow of interest and dividends as well as payment of wages to workforces and a return of the capital invested in due course.

Among the overseas institutions involved in the investment process are the international banking organisations such as the European Investment Bank,which offers funds to industrial companies operating in the European Economic Community (EEC). Another institution is the World Bank, which consists of three separate institutions catering respectively for:

(i) National governments (the International Bank for Reconstruction and Development),
(ii) Underdeveloped countries (the International Development Association),

and

(iii) Industrial and commercial companies (the International Finance Corporation).

For the larger companies access is also available to the Eurodollar market.

RISK AND RETURNS

An investor is concerned essentially with the degree of risk and the volume of returns likely to be associated with his investment. Risk has two particular dimensions. First, there is the danger that the whole or part of the capital sum might be lost. And, second, there is the uncertainty about payment of interest and dividends. The objective of all investors is to minimise risk and maximise returns, but price can be seen to act as a regulator in that investments which are regarded as riskless and give high returns are comparatively expensive while high-risk/low-return investments are comparatively cheap. In other words the price mechanism tends to compensat for the varying degrees of risk and the likely level of returns, intro ing an equilibrium in much the same way as it does for the demand and supply of any commodity.

There are a number of ways of avoiding or eliminating risk, but it usually involves some expense. One way is to pool a large number of similar risks. For example, it would be very risky for an individual to agree to meet any losses sustained during the course of a year by a motorist friend in return for a single and comparatively small payment. Yet the insurance companies are able to eliminate risk both for themselves and their policyholders by combining a large number of similar risks.

Another way of avoiding risk is to hedge against loss, and this necessitates choosing two eventualities which will cancel each other out. It is like betting that both teams in the Football Cup Final will win. As F. W. Paish and R. J. Briston explain:

Not infrequently the loss to one man means a gain to another, if the two can get together, they can exchange risks in such a way that neither of them runs a chance either of an exceptional gain or of an exceptional loss. Thus a producer can protect himself against the risk of being unable to sell his product when it is made if he can find a buyer who is willing to enter into a firm contract for its purchase at a future date. If the price to be paid is also fixed, the seller is protected against a fall in price (though not against a rise in costs of production) and the buyer against a rise in price (though not against a fall in the price at which he can resell). (*Business Finance*, 5th ed. (Pitman, 1978).)

A third way of at least reducing risk is to be well-informed about both the options and the dangers when assessing projects for investment. Thus a company which is marketing a new product will normally engage in market research, and the investor contemplating the purchase of shares in a particular company will study the company's past records and, as far as possible, its future prospects.

THE TIME FACTOR

While the flow diagram shows a spatial movement of funds, there are other dimensions to the flow. The movement of funds obviously takes place over time and there is, for example, a time-lag between people making deposits in a building society account and other people receiving mortgages to enable them to buy houses. In the same way there is a period of time between the purchase of shares in a company and the receipt of dividends.

Interest has been described as the reward for waiting, but the rewards are often completely eroded in a time of high inflation. An investor is now obliged to allow for a depreciating currency in his reckonings, but this shows again that the time factor is not peripheral to the subject of investment. Time is of the essence.

AN EXPLANATION OF WHAT FOLLOWS

A study of the system is essential for business students since they will be able to function more effectively - and profitably - if they know as much as possible about business operations including the various financial aspects. From a broad point of view everyone living in a mixed economy such as ours should understand how it works so that the system can be evaluated, criticised and improved where possible, through the democratic machinery which is available to us. The Stock Exchange in particular is a vital component in our economic system and merits study on these grounds alone.

Furthermore, the majority of people employed in banks, insurance companies and other financial institutions will find themselves discussing with clients at some time in the future the various channels of investment open to them. They will be expected to display a reasonable grasp of the subject and their views will be treated as those of experts. What follows is aimed at giving students a grasp of the basic principles and an appetite for further study. Investment is a technical subject, but that is only part of the story. It is an ongoing subject and all serious students will need to read the financial press regularly if they are to keep abreast of developments.

An overview of the text? In the early chapters we look at various types of investment media which are available, considering their merits and demerits from a variety of angles. We follow up with a study of some of the detailed mechanisms by means of which the system functions. At that stage we are able to contemplate some simple exercises in portfolio planning.

In the final chapters the attempt is made to remind the students of other dimensions and different perspectives. One has only to note the infinite range of factors which affect the prices of securities on the Stock Exchange to appreciate that there is nothing narrow or parochial about a study of investment. Vision and perspective are essential. This is particularly true now that exchange controls have been suspended. A new vista of markets have been opened up for the UK investor providing a wealth of opportunities and no doubt a mass of pitfalls.

The volume as well as the composition of the various flows of investment are important to an understanding of the processes involved and this explains the statistical diagrams which have been included at strategic points in the text.

A final section is devoted to the subject of examinations, which remains for the great majority of students the vital target. A technique for helping students to pass examinations is offered, together with an assortment of questions and model answers.

2 Ordinary and Preference Stocks

Before we commence our analysis of the various investment media it will be necessary to clarify the way it is intended to use the basic terms of *Stocks* and *Shares*. The following definitions will indicate the range of interpretations possible:

> '*Stocks:* In the U.K. the term is usually used in reference to a fixed-interest security issued and quoted in units of £100. However, the term is sometimes used synonymously with ordinary shares (or with ordinary shares and fixed-interest securities collectively), as in the term *growth stocks*. In the U.S.A., however, where ordinary shares are called *common stock*, the term is used quite generally in reference to ordinary shares.' - *A Dictionary of Economics and Commerce*, edited by S. E. Stiegeler and Glyn Thomas (Pan Books, 1976).

> '*Stocks and Shares:* Terms which tend to be used interchangeably, the distinction becoming blurred. Stocks, however, denote money lent to a government, local council or company and involving a fixed rate of interest; shares denote part-ownership of a company's capital, issued in a variety of terms and yielding variable returns.' - Alan Gilpin, *A Dictionary of Economic Terms*, 4th ed. (Butterworth, 1977).

For the purpose of this study the terms *stocks* and *shares* will be regarded as interchangeable in so far as they relate to the securities of limited companies, while the term *stock(s)* will be used to describe the fixed-interest securities discussed in subsequent chapters.

So an investor who wishes to acquire a stake in an industrial or commercial concern can do so by buying stocks or shares in a limited company. The ordinary capital of a company is usually stated in £s of stock (or shares) which is divided into units of, say, £1 or 25p (or shares of £1 or 25p), or whatever nominal value is chosen by the company for its units of capital. The use of the term 'stock' indicates that the units have been fully paid, while the use of the term 'shares' indicates that the units are either wholly or partly paid for. In the vast majority of cases the shares will be fully paid, which is why it is suggested we should regard the terms as synonymous here.

A variety of stocks are available which give an investor both a stake in, and membership of, a company. For example:

ORDINARY STOCKS (OR SHARES)

These are commonly described as 'equities', indicating that the holders are entitled to what is left of the assets and profits, after certain prior claims have been met.

The stock is broken down into units of, say, 50p each, which is then described as the nominal value. This is the value used for the calculation of dividends. So, if a dividend of 10 per cent is paid on a 50p stock unit, the dividend will amount to 10 per cent of 50p, i.e. 5p.

The dividends on ordinary stock will be related to the profits made by the company. Thus, if the profits are good the ordinary stockholder can expect to receive an attractive dividend. However, before the dividend is paid the directors of the company may wish to recommend part of the profits being ploughed back into the business.

The fact that dividends normally vary in line with profits gives the person who holds ordinary stock some possible protection against the falling value of money - another description for inflation. This hedge against inflation operates in the following manner. In the case of a typical manufacturing company, where there is a rise in the cost of raw materials and wages, the company can usually compensate for this by raising the price of its finished goods. In this way its profits can be increased, wholly or partially, in line with the general rate of inflation.

Ordinary stocks normally, but not invariably, carry voting power. Some stock units are even issued which give more than one vote per stock unit, but multiple voting stock, as it is called, is not common. Details of voting rights will be found in the terms of issue or in the Memorandum and Articles of Association.

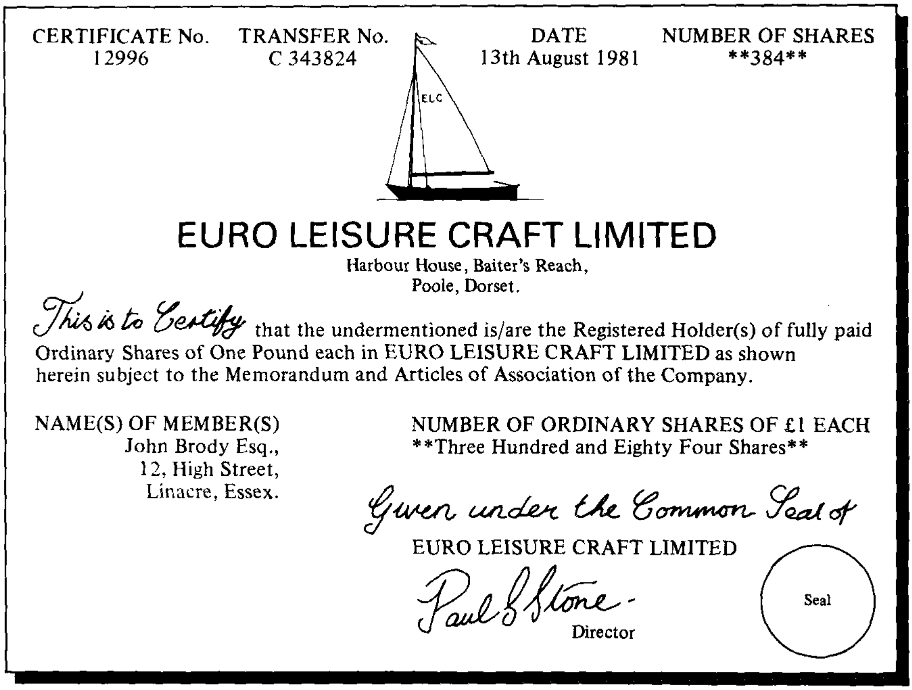
Some investors are willing to accept non-voting ordinary stock (usually designated 'A' stock) on the grounds that they do not wish to exercise voting power in any case. However, when there is a takeover in the offing the voting stocks could become more valuable and for this reason the market price of the voting stocks would be expected to stand at a premium over the price of the non-voting stocks. It is Stock Exchange policy to discourage new companies from issuing non-voting stocks and they are pleased when a company arranges to grant voting rights to hitherto non-voting stock. In this case the existing voting stockholders often receive a small scrip bonus (additional stock units) by way of compensation.

Whoever owns over 50 per cent of the voting stock is sure of controlling the elections to the Board of Directors. Yet many boards own much less than this proportion of voting stock between them. They are able to select their own replacements for any directors who die or retire, but at each Annual General Meeting a proportion of the directors have to be re-elected under a rota system. The directors remain in effective control so long as the company's performance satisfies the majority of the voting stockholders. But if the company falters there could be a stockholders' revolt leading to the replacement of the existing board - or at least elements of it.

A typical equity certificate is shown in Figure 2.

PREFERENCE STOCKS

Dividend rates on Preference Stocks are fixed at the time of issue and when payment is due to the stockholder this is calculated by using the rate in conjunction with the nominal value of the stock. So, if you hold £1000 6½ per cent preference stock you can expect to receive a dividend of £65 less tax per annum. Since the introduction of corporation tax and tax credits, however, Preference Dividends are stated at a net rate i.e. the rate payable after tax has been deducted.



CERTIFICATE No.	TRANSFER No.	DATE	NUMBER OF SHARES
12996	C 343824	13th August 1981	**384**

ELC

EURO LEISURE CRAFT LIMITED

Harbour House, Baiter's Reach,
Poole, Dorset.

This is to Certify that the undermentioned is/are the Registered Holder(s) of fully paid Ordinary Shares of One Pound each in EURO LEISURE CRAFT LIMITED as shown herein subject to the Memorandum and Articles of Association of the Company.

NAME(S) OF MEMBER(S)	NUMBER OF ORDINARY SHARES OF £1 EACH
John Brody Esq., 12, High Street, Linacre, Essex.	**Three Hundred and Eighty Four Shares**

Given under the Common Seal of
EURO LEISURE CRAFT LIMITED

Paul S Stone
Director

Seal

Figure 2 *A typical share certificate*

The preference dividend has to be paid before any profits are allocated to the ordinary stockholders. A common misconception is that the preference stockholders necessarily have a prior right to the repayment of capital in the event of a winding-up of the company. They usually do have priority, but in some cases the preference stocks rank equally with the ordinary stocks *(pari passu)*. It is essential to refer to the terms of issue or the Memorandum and Articles of Association in order to ascertain the respective rights of the ordinary and preference stockholders.

If the preference stock is described as non-cumulative it means that when the directors decide to pass a dividend (i.e. they decide not to pay it) the dividend is lost permanently by the stockholder. By contrast, a cumulative preference stock will rank for payment of all unpaid dividends before the ordinaries receive further payments. The stockholder is entitled to assume the stock is cumulative unless it is described as non-cumulative.

A worked example

A Ltd makes a distributable profit of £312,000 on the year's trading. The directors decide to recommend a transfer of £112,000 to Reserve, which leaves £200,000 to be distributed. The capital structure is:

	£
Ordinary Stock (units of £1 each)	1,000,000
8% Preference Stock (units of £1 each)	500,000