Theoretical Fundamentals

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The first step in understanding finance is to understand some basic concepts and the underlying economics. Basic concepts are critical because without them any discussion concerning finance will make no sense; everyone should be on the same page of the songbook. The good news is that there are only a few concepts that are really basic, and the more complex applications of these concepts are easily developed. An absolutely fundamental building block for understanding all types of business behavior is to know about "things". Economic principles then provide insights into the behavior of market participants. Once the foundations for behavior have been established, it is necessary to understand the nature of financial contracts.

"Things"

A primary concept that must be understood is the role of "things". Everything that is done in business involves "things". A "thing" is an item or unit of service. Some "things" are composed of many smaller "things". An automobile is a "thing", just as is the engine or the tune-up that was given the engine. A "thing" is something that someone else would be willing to pay for, usually by trading with other "things".

When caveman Og discovered that caveman Urf would trade meat for a spear point, Og became the first manufacturer and distributor of spear points and never had to go hunting again because the quality of his spear points was so good that other cavemen would trade their "things", like meat and hides, for those spear points. This is what economists call differential advantage (because economists like to have impressive sounding terms for fairly obvious concepts). It simply means that one party can produce certain "things" more efficiently than another party, and if both parties concentrate on doing what they do best and trading between themselves, both parties wind up better off.

All of business activities involve "things" in a similar manner, but it is really too complicated to try to trade big "things" like automobiles or buildings for collections of other

"things" like picture frames and cans of corn. That is why money was invented. Money is an artificial “thing” that was created to facilitate trade in other “things”. While money has many characteristics, the most important one is that it acts as a repository of wealth. If a person makes more “things” than he can possibly use or trade for right now, he can sell the extra “things” for money, hide the money under a rock, and use that money to buy “things” later. Much of the motivation behind investing is the result of wanting to spend money later, like after a person retires. The whole area of finance in business deals with the “thing” called money.

When learning about finance and other aspects of business, it is important to remember that all transactions ultimately deal with “things”, either for immediate or delayed consumption. The concept of “thing” is a touchstone that puts other activities into perspective. Whenever an investment in either physical or financial assets is analyzed, it is wise to think about how “things” are involved in the process. If the underlying “thing” cannot be identified, the entire investment may be a "castle in the air". And while it is possible to make money selling that kind of real estate, the law of gravity always is applicable and mercilessly enforced.

Contracts

The concept of contract is fundamental to all business dealings. A contract is the formal expression of a "unit" of business. It is the agreement made between two parties concerning "things" to be exchanged, and the contract sets the terms of that exchange. The exchange might involve money or could be a swap of "things", it makes no difference. Whether the concern is for the management, production, marketing, or financial aspects of business, the contract is what everyone is working towards.

Contracts may be formal or informal. Most business is conducted with formal contracts, papers that are signed to verify that both parties understood the nature of the contract and entered into it freely. These written contracts provide the basis for legal resolution of differences should the parties of the contract later have a disagreement. If there is no disagreement, the papers are put in files and gather dust.

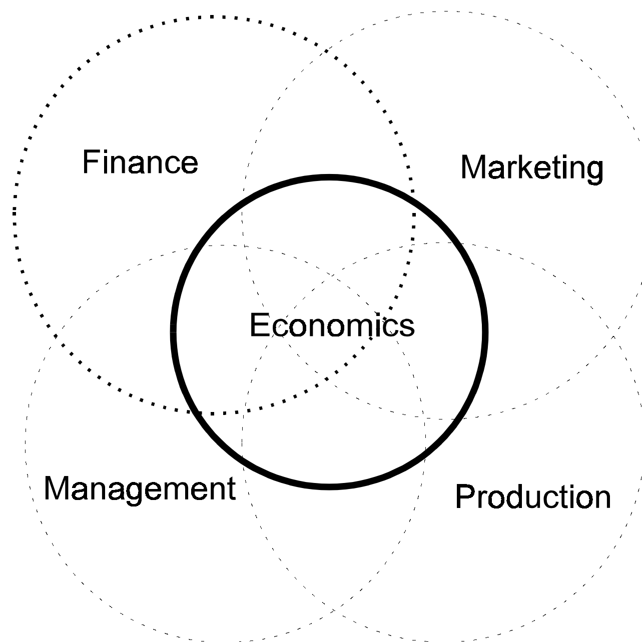
Informal contracts have no papers. An informal contract is an understanding between two parties about what will happen in a business arrangement. An informal contract thus implies a degree of trust between the two parties that the agreement will be carried out. Informal contracts may actually be more powerful than formal contracts. A formal contract has a definite scope, but an informal contract can be very comprehensive. Suppose that a supplier of sheet metal may has been doing business with a certain machine shop for years. Over the years, formal contracts have been used to execute business transactions, and since both parties carried out their ends of these contracts in an honorable way a degree of trust has developed between the two. If the machine shop falls on hard times, the supplier might extend credit and advance raw materials so that the machine shop can recover. If the supplier needs cash quickly, the machine shop might speed up payments, or buy a little extra sheet metal for inventory. There is a value to having a good business relationship, and both parties might go the extra mile for a business partner who has proved to be reliable but is having some temporary problems. This type of relationship is really an informal contract between the two parties, and each party carries out his obligations voluntarily for the good of both parties.

In the area of finance, the contracts of concern are formal financial contracts. These deals are written down so there can be no misunderstanding about who does what. While a contract in the general form may deal with any "thing", financial contracts deal with money. A financial contract specifies cash flows or claims on cash flows. For example, a person who buys a share of stock from a company, gives the company some money (a specified cash flow), and in return the company promises that individual a claim on the future earnings (variable cash flows) of the company. Depending on the amount that is paid for the share of stock and the amount of money that is received in the future, the person who bought the stock may get a good deal or a bad deal. The concept of a contract does not guarantee the result will be good or bad for either party, it simply specifies the nature of the transaction.

Economics

Economics is the social science that studies people and the way they behave in business settings. While sociology, psychology, and other social sciences study how people interact in non-business environments, economics attempts to discover the underlying principles of how people trade “things” with one another. Though economic principles form the basis for the study of financial behavior, it is smart to remember that sometimes principles from psychology and sociology may be important, too.

Economics is the grandfather of all the particular business disciplines such as finance, management, production, and marketing. The various business disciplines are interrelated through basic economic principles, and understanding these same principles is necessary to understand any of the particular disciplines.



Each of the distinct disciplines studies certain aspects of human behavior in the business setting. Often there can be overlaps, such as the study of financial markets. In this case, the marketer might be more concerned with the trading behavior of the buyers and sellers while the financial analyst might focus on the prices at which securities trade. When overlaps occur, it is necessary to consider all sides of the situation rather than focus on a single aspect. If your vision is too narrow, you will miss something important.

One aspect of economics that occasionally causes confusion is just the definition of words. In normal conversation, a given word might have several meanings depending on context. For example, if someone is described as "bad", he could be regarded either with condemnation or praise. When someone says "Right!", it could mean agreement, disagreement, or the direction opposite left. Many of the words used in economics have different meanings or connotations when used in different disciplines or in everyday speech. In order to understand economics, it is important to know the exact definitions of the words that are being used in their current context.

Price

One word that needs a clear definition is the word "price". The price of an object is not just the number written on a tag. The price does not even have to be denominated in money. The price of an object depends strictly on how badly the “thing” is wanted by someone else. If several people want an object, they can bid for it (like at an auction), and the person that offers the most of what the seller wants (usually, but not necessarily, money) will win the bid and have the right to take control of the "thing".

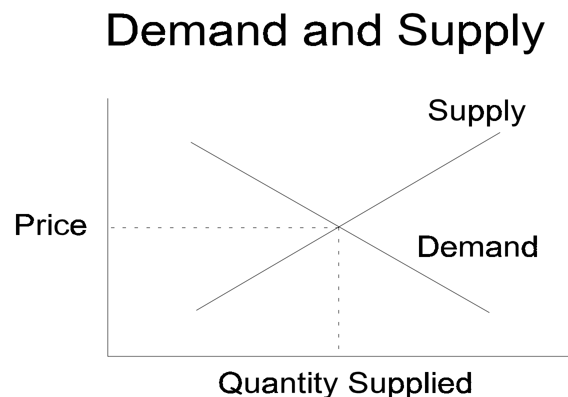
Take a special notice of the previous sentence. It says the winner of the auction will take control of the “thing”. There is no reference to ownership. Ownership is a legal term, and an owner may or may not have control of a “thing”. Control is the key concept; if a person controls the "thing", actual ownership is a moot point. There is even a metaphysical connection here. In the final analysis, everyone either dies outright or goes to some final reward. You really cannot take it with you. The concept of ownership is personal while the concept of control is impersonal. The market for financial securities is the most impersonal market that exists. The players regard the “things” as game pieces. A person who develops a personal relationship with “things” like shares of stock will make mistakes and most assuredly lose to those players who maintain their perspective.

In a broad market, the price of an item is set by the market via an auction process. The high bidder will win. Once the high bidder is satisfied, others may be able to buy some of the "thing" if there is extra left over (these later buyers may even get a lower price). If

a "thing" is scarce in the market, the high bidder's offered price may induce other suppliers to produce and offer a similar product.

This process of setting the price by auction is sometimes referred to as the law of supply and demand. This terminology is obviously wrong since the demand for the "thing" comes before the supply. It is really the law of demand and supply. (Some countries that have tried to enforce supply/demand through their central governments, like the former Soviet Union and Communist China, have created really messed up national economies.)

This figure shows the traditional way demand and supply are represented in basic economics texts. There are many demanders of a "thing" and many potential suppliers. The market will establish how much individuals will pay for a "thing", and that is the market price. At this price, suppliers will provide enough of these "things" to meet the demands of the last individual willing to pay the market price. Please notice that no judgment is being made for how much the "thing" is really worth. The worth of a "thing", its value, is subjective. Some "things" mean more to certain buyers than to other buyers (consider what some people will pay for a pair of shoes). Just remember that price is determined by the market and may have nothing at all to do with money.



This discussion also reveals that price and value are not the same. Price is determined by the market and is a ratio of the desired "thing" to some other "thing" (usually money). The value of an object is purely subjective with the individual and may determine the price the individual will pay for the "thing". For example, a parka might be very valuable to someone living in Anchorage, Alaska, and that individual might be willing to part with a good number of "things" (or a great deal of money) to have a nice, warm coat. The very same parka might have very little value to someone living in Miami Beach, Florida. The

value of a “thing” depends on the use to which it can be put, and the price of a thing will reflect that usage within a given market.

A businessperson must never forget that there is a difference between price and value. The price of an asset, be it real estate or a share of stock, is a market determined characteristic and can change as the market participants change their individual and collective minds. Value is what an investment is really worth, and this too can be different for different investors (remember the parka). Given the number of businesses and the potential investments available, there is always the opportunity for anyone to make a good investment, or a bad one. The trick is to identify those assets which have a higher value than price, but since everyone else is trying to do the same thing, it will take a little work. The complexity of the business world virtually guarantees that such opportunities exist; it remains for the businessperson to find those investment opportunities.

Wealth Maximization

Wealth maximization simply means that people act as if they believe that more of a thing is better than less. More food is better than less food, two cars are better than one, many friends are better than fewer friends. These examples point out the difficulty in measuring wealth. Too much of the wrong kind of food can lead to all sorts of physical ailments. One car that runs well is better than two which will not start. Too many girlfriends have gotten more than one guy into hot water. Wealth is a complex measurement that considers both the quality and the quantity of the “things” around us.

Though some folks think money and wealth are identical, they are really quite different. Money is merely one aspect of wealth. Wealth is a measure of everything a person has while money is a "thing" used to get other "things". After all, money cannot buy love (although it can rent it). The difference between money and wealth can sometimes lead to confusion.

Another aspect of wealth is that it spans time, and this is the aspect that makes it hard to put a collar on the concept. Since wealth measures a person’s total situation, it

must do so over the person’s entire life. Everyone makes trade offs by not doing things today so that he or she can do them tomorrow. Current consumption of goods and services is limited by putting money into the bank so that consumption will be possible in the future. Since each person has a different set of attitudes about the present and future, attempting to quantify the concept is an exercise in futility and inanity.

Time is an important factor in the wealth equation, even if it is not known exactly how time fits into the grand scheme. Different people have different patterns of consumption, and these patterns help define a person's wealth. An example of the time dimension of wealth can be shown with food. Any person with a reasonable level of wealth should be able to have enough to eat for the next year. If all that food were served on January first, it would not satisfy hunger for very long. The consumption of wealth implicitly assumes a time dimension, so time will have to be considered when measuring wealth.

The assumption is made that people are wealth maximizers. Each person wants to be as wealthy as possible. Having as much wealth as possible gives a person the ability to purchase and do things, though he or she may not do everything that can be afforded. This type of behavior is sometimes called “greed” and frowned upon in polite society. Actually, greed has nothing at all to do with the accumulation of wealth; greed is evidenced by what a person does with his wealth once it is accumulated. Even after his visitation by the various ghosts of Christmas, Ebenezer Scrooge did not give up his lucrative business; he just began to share the wealth. Rich people can be generous, and poor people can be greedy. Greed is not how much a person has but what he does with it.

Greed is not a relevant concept in the study and practice of finance. Assets and their management deal with amassing wealth, not the dispersal of the amassed wealth. Attaining wealth and sharing wealth are two entirely different processes, and they need to be considered separately. For the purposes of finance, the focus is on attaining wealth; a person must look elsewhere for dispersal plans. Learning to be wealthy is no reason for a person to feel guilt. You need only plan which charities you will favor once you have made your million(s).

An assumption that follows along with wealth maximization is that those people involved with maximizing their wealth are behaving and will behave rationally. Now there is the problem with defining what is “rational” and what is not. Given the peculiarities of individual investors, trying to define “rational” behavior would itself be crazy. Everybody is going to do his or her own thing, even if the rest of us do not understand. In order to finesse this problem, it is assumed that anyone engaging in wealth maximizing behavior is rational, while any action that does not lend to wealth maximization is irrational. This is a bit of circular logic, but it works.

It is quite possible that a person could make a seemingly irrational decision concerning an investment and still be maximizing his wealth. For example, Joe Bigbucks might buy shares in Joe Jr's chicken plucking company. Big Joe might know for a fact that Little Joe is likely to get plucked in this business endeavor, but at least it keeps Little Joe busy and out of the house. Though Big Joe might lose some money, his wealth (as measured by his satisfaction with life) would increased by having some peace and quiet.

For the most part, wealth maximizers will be money maximizers, too. With enough money, Big Joe could buy Little Joe a condo in Honolulu. Little Joe would effectively be out of the way, and Big Joe would own a piece of property that could increase in value. The concept of "wealth maximization" fits into finance pretty easily as "money maximization", but there might be cases where something seems a bit strange. Investors and businesspeople who are wealth maximizing may not always be money maximizing. That is the nature of the market, and you must learn to live with it. With a little luck and some smarts, a person could wind up on the good side of such a deal and profit from someone else's irrational (non-money-maximizing) behavior.

Underlying all this business about wealth maximization is the concept that wealth has to do with "things". This is where investments come into the story. Since most people anticipate living longer than they want to work, it is necessary for them to store up the “things” they will need in retirement. An investment is where a person can store money so that it can be used at a later time. Just like a farmer can put corn in a silo, any person with

extra money can buy an investment. And just like the farmer can take corn out of storage, the investor can sell the investment for money. Investments actually have one big benefit over silos. The right investment can yield more money than was originally invested. But the market does not require investors to wait until retirement to use the money that was stored in financial investments. In fact, it is possible to choose investments that will provide additional current income and change a person's current standard of living (hopefully upward).

The same is true for businesses. Managers use investors' money to purchase assets that will be used to produce "thing" that can be sold in the market. The right decisions will result in sales which will generate money for the investors. All financial assets eventually trace their ability to generate wealth back to creating "things" that are then sold.

Though wealth is a slippery concept and assuming rational behavior of market participants is itself irrational, these assumptions are still made. But the distinction between wealth and money must never be forgotten because in this distinction lies the possibility to realize a monetary profit from someone else's seemingly irrational behavior. It must always be remembered that wealth is a measure of the quality and quantity of "things" a person can control while money is only one form of wealth.

Risk

Another behavioral concept that is assumed is that people consider risk in making their decisions about what to do with their money. It is also assumed that people prefer less risk for a given quality of investment. This means that people are assumed not to want to take unnecessary chances with the wealth they are trying to maximize.

The concept of risk contains rigorous definitions and carries with it some very specific implications concerning behavior. It must be understood that risk is not the probability of loss. Risk deals with the uncertainty of the outcome of an event. The riskiest chance a person can take is a 50-50 bet. When a fair coin is flipped (heads or tails), no

one has any idea what will happen. It does not matter if the coin flip is for a pile of money or just for funsies. Risk is part of the process, not part of the bet. This is another one of those crucial concepts, so it bears repeating. **Risk is a part of the game and does not depend on the size of the bet; risk is not the probability of loss.** If this concept cannot be mastered, you should not get involved in the financial markets because people who do understand risk will eventually wind up with all of your money.

The fact that the size of the bet is irrelevant in measuring risk may seem strange at first, but the game being played and the bet being made must be considered separately. The size of the bet just determines who the players in the game will be. If the minimum bet is $10,000, not too many people will be playing. Most folks do not have that kind of change, and even if they did they could not afford to lose it. (That is how the gambling casinos keep the riff-raff away from the "fancier" tables; they set high minimum bets. The odds are still the same, and they still favor the house.) In business, only larger companies can afford to make the investment necessary to produce items like automobiles, aircraft, and computer chips. Companies with less money are in less expensive lines of business.

Games that have small minimum bets attract a different type of player. Every time someone plunks down a dollar to play the Powerball lottery, he knows that the odds of winning is a 120 million to one. There is very little risk in a lottery ticket; the player is going to lose unless an extremely rare event occurs. The outcome of playing the lottery is a foregone conclusion. The few times someone gets lucky on some of the smaller prizes, he makes a couple dollars, and this is often enough to convince him to put his winnings back into the lottery, and of course he loses. A person lucky enough to win should quit if he wants to keep his winnings. That is the only way to make anything in a lottery.

Businesses with low startup costs face a similar problem. If you develop a product that can be produced inexpensively that the market really demands, it might seem that you have created a money machine. The truth is that unless there are barriers to entry, like patents or copyrights, someone else will just copy the product and take away market share. Even with the existence of barriers to entry, success will signal competitors that a lucrative

market exists, and they will figure some way to take a piece of that market. Smaller businesses have a very low probability of generating a lot of money.

The point is that the game and the bet are entirely different. If you cannot make the bet, you cannot play the game. Risk has to do entirely with the game being played. With investments and business there are a lot of different games that can be played. Some of these games include financial assets or physical assets, and some very tricky games may include a little bit of each. Each game has its own specific level of risk which is independent of the size of the bet or the cost to enter the business.

Investing and Speculating

Another basic concept has to do with the difference between investing and speculating. Anyone can make and lose money whether he is an investor or a speculator, the only difference between the two has to do with the speed of the game. From a temporal viewpoint, investors are in for the long run while speculators are trying to make a quick hit. Investors play a slower game, and this game might require a lot of knowledge about the securities or physical assets in which money is invested. Speculators might not need to know a thing about the underlying strength or weakness of an investment, if they can trade on a rumor and make money on it.

Suppose that against all odds Little Joe Bigbucks actually makes a success of his chicken plucking company and even expands into other areas of food preparation. An investor would be the type of person who would research the firm and try to identify future profit opportunities before investing in the company's stock. A speculator would be the type of person who would immediately buy (or sell) shares in the firm upon hearing a rumor that the Surgeon General was about to release a study showing that a diet of chicken and a mattress stuffed with chicken feathers improved a person's sex life. It would make no difference to the speculator whether or not the rumor or the report were actually true. The speculator would be trying to position himself in the market to take advantage of the market's reaction when the news became widespread.

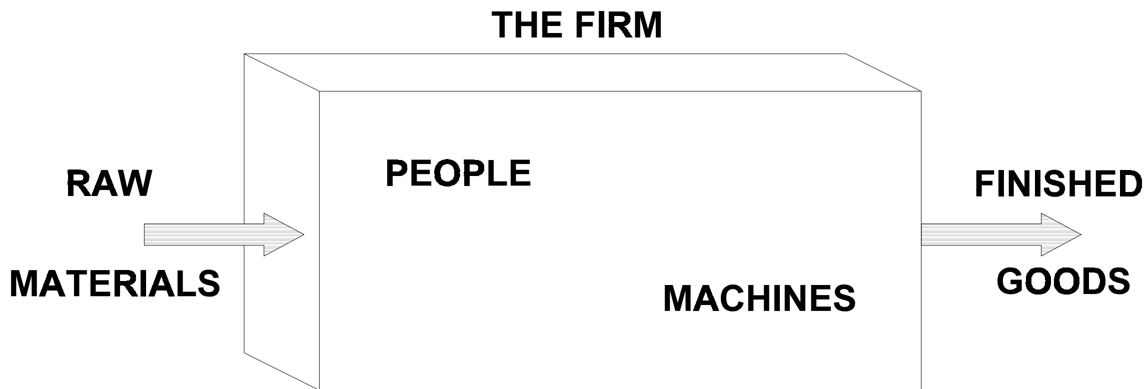
In the business arena, speculation takes different forms. Entrepreneurs start businesses which they later sell to someone else and then go out to start another business. Established firms speculate with research and development and the products that arise therefrom. While these activities tend to follow a longer time line than investing in financial instruments, they are still speculative endeavors.

Another way to draw the line between investing and speculating is to consider the final level of control sought by the principal in the transaction. An investor will seek control of a “thing” that he really wants to control. A speculator does not seek ultimate control but merely tries to anticipate price movements. This version of speculation is most common in the securities markets.

The Firm

Most financial investments involve business organizations that make "things" that are sold in the market. These organizations vary in the size, location, and types of "things" they make. Most of these organizations are incorporated under the appropriate laws and pay taxes to all the governmental organizations that can legitimately hold a hand out. These organizations are called firms for the simple reason that the word "firm" conveys no connotations with respect to size or structure. From a financial viewpoint, only the financial characteristics count, so "firm" seems to be a good word. There is a lot of discussion about exactly what a firm is. Most people would know one when they see one, but the exact definition is a bit slippery.

A firm is a legal creation. It exists because the law says it exists. The government gives the firm an identity and some special characteristics, like limited liability, and for this identity the government charges a fee, taxes. This legal entity that is called a firm is a box filled with all the things that make businesses work. The box contains people, machines, money, raw materials, finished goods, and such stuff as that. The legal entity of the firm is even allowed to act like a person and make contracts.



For all its individual characteristics, there is one thing that a firm is not; a firm is not a person. A firm can own things just like a person and enter into contracts just like a person, but it is merely a legal fiction. A firm is really a set of contracts, actual and implied, that exists between real people. A firm has actual contracts with suppliers and customers stating how many "things" will be exchanged and on what terms. The same firm might have implied contracts with the same suppliers and customers, understandings that a profitable long-term relationship might involve extending credit a bit longer than usual once in a while if times are tough. The most important contracts, however, are those between the people inside the firm, the labor and management. The way these folks act relative to each other will determine the success or failure of the firm.

A firm is definitely not a person, but in some ways it might act like one, even beyond its legal definition. Since the firm depends so heavily on people for success, the operating characteristics of the firm will depend on the way the people inside the firm operate. Many different operating styles can be successful, as long as everyone within the firm is able to work in that operating environment. People outside the firm sometimes see these operating characteristics and act as if this "personality" is a characteristic of the firm rather than the people inside the firm, and in some ways this might be correct.

Different types of people work best in different environments, and most people prefer to work in an environment that is comfortable. A successful firm will have developed an operating environment in which the people can work best, or the people in the firm develop

the environment of the firm. It is one of those chicken-and-egg problems, but it does not really matter whether the people invented the environment or the environment attracted the people. A successful firm and the people within the firm will have a corporate "personality" that transcends legal definitions.

This corporate personality can be either a benefit or a detriment to the firm, depending on the personality. The corporate personality is one of the factors that either attracts or repels the other firms or individuals. But this is an intangible item; it cannot be quantified. From a financial point of view, only quantifiable monetary factors are important. This is not a case of short-sightedness, it is a matter of focus. Other disciplines like management and marketing can create and use a corporate personality to make the firm successful, but this success is measured in money. If the best-loved firm in the world goes broke, the firm dies. The nastiest firm might be very successful. and profitable. It is the money that counts in finance. All else is window dressing.

The Goal of the Firm

It is a good idea to know what the firm is designed to do. Different firms make different “things”, but for every profit-oriented firm in existence there is one and only one goal. The goal of the firm is to maximize the shareholders’ wealth. That deserves repeating in big letters. THE GOAL OF THE FIRM IS TO MAXIMIZE SHAREHOLDERS’ WEALTH. There is no other goal that surpasses this one in importance, and all other goals are subordinate to this one.

At first glance, this goal seems to be built along the lines of greed and fleecing the flock, but the first glance is incorrect. Wealth maximization requires the long-term survival of the firm. For a firm to survive it must do all the right things. The firm must be a good corporate citizen and operate in a socially responsible manner. Any firm that tries to make a few extra bucks in the short run by turning off the pollution control equipment or cheating the customers will soon be out of business. Once a firm is out of the game it cannot make any more money for the shareholders. Maximization of shareholder wealth is the one and

only goal which encompasses all other sub-goals, and it is totally consistent with responsible corporate behavior.

Few firms will state that shareholder wealth maximization is their prime goal because of the possible bad press it would entail, but the goal will pop to the surface every once in a while when management announces some action that is designed to increase shareholder returns. Usually the goal of the firm will be stated to be something like "making a superior product and providing superior service to our customers". These are actually sub-goals, but they are reasonable sub-goals. These intentions might be good, but the purpose of the firm is to focus on business, not to solve the world's problems. The problems of the world must be solved by people, but not within the rather restricted confines of what is called business.

Summary

Understanding finance requires an understanding of a few basic concepts from economics and business. It is especially important not to accept casual definitions or run-of-the-mill knowledge concerning such concepts. Definitions have specific meanings that can be crucial to a firm's success. Misuse of terms can result in misunderstanding, and misunderstanding always results in losses.

Concepts critical to business are price and value, and they are indeed different concepts. Risk must never be used in a casual sense since it carries very specific implications concerning the nature of an investment. The differences between investment and speculation must be understood so that the behavior of all the players can be put in the proper perspective.

Fortunately, the basic principles are simple. Even if a person has never thought about them before, they become obvious after they are presented. The whole of finance is like that; it is obvious once it has been presented. From then on it will be your skills and abilities that will show whether or not you really understand finance.