

BUSINESS ECONOMICS IN CORPORATE SECTOR

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Preface

Business economics in the corporate sector is a multifaceted discipline that applies economic principles and theories to analyze and address challenges and opportunities encountered by businesses. This field encompasses various aspects of corporate operations, including production, pricing, investment, and market strategy.

Business economists utilize demand and supply analysis to understand consumer behaviour and market trends, helping corporate entities make informed decisions regarding production levels, pricing strategies, and resource allocation.

Cost-benefit analysis is a fundamental tool used by business economists to assess the potential costs and benefits of various business decisions, such as investment projects, expansion initiatives, and technological upgrades, helping corporations prioritize and optimize resource allocation.

Business economists play a crucial role in developing pricing strategies that maximize profitability while remaining competitive in the market. They analyze factors such as production costs, demand elasticity, and competitor pricing to determine optimal pricing structures.

Efficient production is essential for corporate success, and business economists help corporations optimize their production processes by analyzing factors such as input costs, production technology, economies of scale, and resource utilization.

Business economists assist corporations in evaluating investment opportunities by conducting risk assessments, analyzing financial feasibility, and forecasting potential returns. They help corporations allocate capital to projects that offer the highest returns while minimizing risk exposure.

Understanding market competition is crucial for corporate strategy, and business economists analyze market structures, competitive dynamics, and consumer preferences to identify opportunities for differentiation, innovation, and market expansion.

Business economists play a key role in strategic planning, helping corporations develop long-term objectives, formulate growth strategies, and adapt to changing market conditions. By providing insights into economic trends and industry dynamics, business economists help corporations navigate uncertainties and seize opportunities for sustainable growth and profitability.

In this book, we explore the intersection of economics and corporate strategy, offering practical insights and strategies to navigate the complexities of the corporate sector.

–Author

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Business Economics and National Income

DEFINITIONS OF NATIONAL INCOME

The definitions of national income can be grouped into two classes: One, the traditional definitions advanced by Marshall, Pigou and Fisher; and two, modern definitions.

The Marshallian Definition

According to Marshall: “The labour and capital of a country acting on its natural resources produce annually a certain net aggregate of commodities, material and immaterial including services of all kinds. This is the true net annual income or revenue of the country or national dividend.” In this definition, the word ‘net’ refers to deductions from the gross national income in respect of depreciation and wearing out of machines. And to this, must be added income from abroad.

It’s Defects: Though the definition advanced by Marshall is simple and comprehensive, yet it suffers from a number of limitations. First, in the present day world, so varied and numerous are the goods and services produced that it is very difficult to have a correct estimation of them.

Consequently, the national income cannot be calculated correctly. Second, there always exists the fear of the mistake of double counting, and hence the national income cannot be correctly estimated. Double counting means that a particular commodity or service like raw material or labour, *etc.*, might get included in the national income twice or more than twice.

For example, a peasant sells wheat worth Rs.2000 to a flour mill which sells wheat flour to the wholesaler and the wholesaler sells it to the retailer who, in turn, sells it to the customers. If each time, this wheat or its flour is taken into consideration, it will work out to Rs.8000, whereas, in actuality, there is only an increase of Rs.2000 in the national income.

Third, it is again not possible to have a correct estimation of national income because many of the commodities produced are not marketed and the producer either keeps the produce for self-consumption or exchanges it for other commodities. It generally happens in an agriculture-oriented country like India. Thus the volume of national income is underestimated.

The Pigouvian Definition

A.C. Pigou has in his definition of national income included that income which can be measured in terms of money. In the words of Pigou, "National income is that part of objective income of the community, including of course income derived from abroad which can be measured in money."

This definition is better than the Marshallian definition. It has proved to be more practical also. While calculating the national income now-a-days, estimates are prepared in accordance with the two criteria laid down in this definition.

First, avoiding double counting, the goods and services which can be measured in money are included in national income. Second, income received on account of investment in foreign countries is included in national income.

It's Defects: The Pigouvian definition is precise, simple and practical but it is not free from criticism. First, in the light of the definition put forth by Pigou, we have to unnecessarily differentiate between commodities which can and which cannot be exchanged for money.

But, in actuality, there is no difference in the fundamental forms of such commodities, no matter they can be exchanged for money. Second, according to this definition when only such commodities as can be exchanged for money are included in estimation of national income, the national income cannot be correctly measured.

According to Pigou, a woman's services as a nurse would be included in national income but excluded when she worked in the home to look after her children because she did not receive any salary for it. Similarly, Pigou is of the view that if a man marries his lady secretary, the national income diminishes as he has no longer to pay for her services.

Thus the Pigouvian definition gives rise to a number of paradoxes. Third, the Pigouvian definition is applicable only to the developed countries where goods and services are exchanged for money in the market.

According to this definition, in the backward and underdeveloped countries of the world, where a major portion of the produce is simply bartered, correct estimate of national income will not be possible, because it will always work out less than the real level of income. Thus the definition advanced by Pigou has a limited scope.

Fisher's Definition

Fisher adopted 'consumption' as the criterion of national income whereas Marshall and Pigou regarded it to be production. According to Fisher, "The National dividend or income consists solely of services as received by ultimate consumers, whether from their material or from the human environments. Thus, a piano, or an overcoat made for me this year is not a part of this year's income, but an addition to the capital. Only the services rendered to me during this year by these things are income."

Fisher's definition is considered to be better than that of Marshall or Pigou, because Fisher's definition provides an adequate concept of economic welfare which is dependent on consumption and consumption represents our standard of living. It's Defects: But from the practical point of view, this definition is less useful, because there are certain difficulties in measuring the goods and services in terms of money. First, it is more difficult to estimate the money value of net consumption than that of net production.

In one country there are several individuals who consume a particular good and that too at different places and, therefore, it is very difficult to estimate their total consumption in terms of money. Second, certain consumption goods are durable and last for many years.

If we consider the example of piano or overcoat, as given by Fisher, only the services rendered for use during one year by them will be included in income.

If an overcoat costs Rs. 100 and lasts for ten years, Fisher will take into account only Rs. 100 as national income during one year, whereas Marshall and Pigou will include Rs. 100 in the national income for the year, when it is made. Besides, it cannot be said with certainty that the overcoat will last only for ten years. It may last longer or for a shorter period. Third, the durable goods generally keep changing hands leading to a change in their ownership and value too. It, therefore, becomes difficult to measure in money the service-value of these goods from the point of view of consumption. For instance, the owner of a Maruti car sells it at a price higher than its real price and the purchaser after using it for a number of years further sells it at its actual price.

Now the question is as to which of its price, whether actual or black market one, should we take into account, and afterwards when it is transferred from one person to another, which of its value according to its average age should be included in national income?

But the definitions advanced by Marshall, Pigou and Fisher are not altogether flawless. However, the Marshallian and Pigovian definitions tell us of the reasons influencing economic welfare, whereas Fisher's definition helps us compare economic welfare in different years.

Modern Definitions

From the modern point of view, Simon Kuznets has defined national income as "the net output of commodities and services flowing during the year from

the country's productive system in the hands of the ultimate consumers." On the other hand, in one of the reports of United Nations, national income has been defined on the basis of the systems of estimating national income, as net national product, as addition to the shares of different factors, and as net national expenditure in a country in a year's time. In practice, while estimating national income, any of these three definitions may be adopted, because the same national income would be derived, if different items were correctly included in the estimate.

ALTERNATIVE METHODS USED FOR MEASURING NATIONAL INCOME

The three alternative methods used for measuring national income are as follows: 1. Value Added Method 2. Income Method 3. Expenditure Method.

Since factor incomes arise from the production of goods and services, and since incomes are spent on goods and services produced, three alternative methods of measuring national income are possible.

Value Added Method

This is also called output method or production method. In this method the value added by each enterprise in the production goods and services is measured. Value added by an enterprise is obtained by deducting expenditure incurred on intermediate goods such as raw materials, unfinished goods (purchased from other firms from the value of output produced by an enterprise.

Value of output produced by an enterprise is equal to physical output (Q) produced multiplied by the market price (P), that is, P.Q. From the value added by each enterprise we subtract consumption of fixed capital (*i.e.*, depreciation) to obtain net value added at market prices (NVA_{MP}).

However, for estimating national income (that is, Net National Product at factor cost (NNP_{FC}) we require to estimate net value added at factor cost (NVA_{FC}) by each enterprise in the economy. NVA_{FC} can be found out by deducting net indirect taxes (*i. e.* indirect taxes less subsidies provided by the Government).

Under this method, the economy is divided into different industrial sectors such as agriculture, fishing, mining, construction, manufacturing, trade and commerce, transport, communication and other services. Then, the net value added at factor cost (NVA_{FC}) by each productive enterprise as well as by each industry or sector is estimated.

It follows from above that in order to arrive at the net value added at factor cost by an enterprise we have to subtract the following from the value of output of an enterprise:

1. Intermediate consumption which is the value of goods such as raw materials, fuels purchased from other firms
2. Consumption of fixed capital (*i.e.*, depreciation)
3. Net indirect taxes.

Summing up the net values added at factor cost (NVA_{FC}) by all productive enterprises of an industry or sector gives us the net value added at factor cost of each industry or sector. We then add up net values added at factor cost by all industries or sectors to get net domestic product at factor cost (NDP_{FC}). Lastly, to the net domestic product we add the net factor income from abroad to get net national product at factor cost (NNP_{FC}) which is also called national income. Thus,

$$NI \text{ or } NNP_{FC} = NDP_{FC} + \text{Net factor income from abroad}$$

This method of calculating national income can be used where there exists a census of production for the year. In many countries, the data of production of only important industries are known. Hence this method is employed along with other methods to arrive at the national income. The one great advantage of this method is that it reveals the relative importance of the different sectors of the economy by showing their respective contributions to the national income.

Precautions

The following precautions should be taken while measuring national income of a country through value added method:

1. Imputed rent values of self-occupied houses should be included in the value of output. Though these payments are not made to others, their values can be easily estimated from prevailing values in the market.
2. Sale and purchase of second-hand goods should not be included in measuring value of output of a year because their values were counted in the year of output of the year of their production. Of course, commission or brokerage earned in their sale and purchase has to be included because this is a new service rendered in the current year.
3. Value of production for self-consumption are be counted while measuring national income. In this method, the production for self-consumption should be valued at the prevailing market prices.
4. Value of services of housewives are not included because it is not easy to find out correctly the value of their services.
5. Value of intermediate goods must not be counted while measuring value added because this will amount to double counting.

Income Method

This method approaches national income from distribution side. In other words, this method measures national income at the phase of distribution and appears as income paid and or received by individuals of the country. Thus, under this method, national income is obtained by summing up of the incomes of all individuals of a country. Individuals earn incomes by contributing their own services and the services of their property such as land and capital to the national production.

Therefore, national income is calculated by adding up the rent of land, wages and salaries of employees, interest on capital, profits of entrepreneurs (including

undistributed corporate profits) and incomes of self-employed people. This method of estimating national income has the great advantage of indicating the distribution of national income among different income groups such as landlords, owners of capital, workers, entrepreneurs.

Measurement of national income through income method involves the following main steps:

1. Like the value added method, the first step in income method is also to identify the productive enterprises and then classify them into various industrial sectors such as agriculture, fishing, forestry, manufacturing, transport, trade and commerce, banking, *etc.*
2. The second step is to classify the factor payments. The factor payments are classified into the following groups:
 - i. Compensation of employees which includes wages and salaries, both in cash and kind, as well as employers' contribution to social security schemes.
 - ii. Rent and also royalty, if any.
 - iii. Interest.
 - iv. Profits:
Profits are divided into three sub-groups:
 - (i) Dividends
 - (ii) Undistributed profits
 - (iii) Corporate income tax
 - v. Mixed income of the self-employed:
In India as in other developing countries there is fifth category of factor income which is termed as mixed income of self-employed. In India a good number of people are engaged in household industries, in family farms and other unorganised enterprises. Because of self-employment nature of the business it is difficult to separate wages for the work done by the self-employed from the surplus or profits made by them. Therefore, the incomes earned by them are mix of wages, rent, interest and profit and are, therefore, called mixed income of the self-employed.
3. The third step is to measure factor payments. Income paid out by each enterprise can be estimated by gathering information about the number of units of each factor employed and the income paid out to each unit of every factor. Price paid out to each factor multiplied by the number of units of each factor employed would give us the factor's income.
4. The adding up of factor payments by all enterprises belonging to an industrial sector would give us the incomes paid out to various factors by a particular industrial sector.
5. By summing up the incomes paid out by all industrial sectors we will obtain domestic factor income which is also called net domestic product at factor cost (NDP_{FC}).
6. Finally, by adding net factor income earned from abroad to domestic factor income or NDP_{FC} we get net national product at factor cost (NNP_{FC}) which is also called national income.

Precautions

While estimating national income through income method the following precautions should be taken:

1. Transfer payments are not included in estimating national income through this method.
2. Imputed rent of self-occupied houses are included in national income as these houses provide services to those who occupy them and its value can be easily estimated from the market value data.
3. Illegal money such as hawala money, money earned through smuggling, *etc.*, are not included as they cannot be easily estimated.
4. Windfall gains such as prizes won, lotteries are also not included.
5. Corporate profit tax (that is, tax on income of the companies) should not be separately included as it has already been included as a part of profits.
6. Death duties, gift tax, wealth tax, tax on lotteries, *etc.*, are paid from past savings or wealth and not from current income. Therefore, they should not be treated as a part of national income of a year.
7. The receipts from the sale of second-hand goods should not be treated as a part of national income. This is because the sale of second-hand goods does not create new flows goods and services in the current year.
8. Income equal to the value of production used for self-consumption should be estimated and included in the measure of national income.

Expenditure Method

Expenditure method arrives at national income by adding up all expenditures made on goods and services during a year. Income can be spent either on consumer goods or capital goods. Again, expenditure can be made by private individuals and households or by government and business enterprises. Further, people of foreign countries spend on the goods and services which a country exports to them. Similarly, people of a country spend on imports of goods and services from other countries. We add up the following types of expenditure by households, government and by productive enterprises to obtain national income.

1. Expenditure on consumer goods and services by individuals and households. This is called final private consumption expenditure, and is denoted by C.
2. Government's expenditure on goods and services to satisfy collective wants. This is called government's final consumption expenditure, and is denoted by G.
3. The expenditure by productive enterprises on capital goods and inventories or stocks. This is called gross domestic-capital formation, or gross domestic investment and is denoted by I or GDCF.

Gross domestic capital formation is divided into two parts:

- (i) Gross fixed capital formation
- (ii) Addition to the stocks or inventories of goods

4. The expenditure made by foreigners on goods and services of a country exported to other countries which are called exports and are denoted by X. We deduct from exports (X) the expenditure by people, enterprises and government of a country on imports (M) of goods and services from other countries. That is, we have to estimate net exports (that is, exports - imports) or $(X - M)$ which is also denoted by NX.

Thus, we add up the above four types of expenditure to get final expenditure on gross domestic product at market prices (GDP_{MP}). Thus,

$GDP_{MP} =$ Private final consumption expenditure + Government's final consumption expenditure + Gross domestic capital formation + Exports — Imports or

$$\begin{aligned} GDP_{MP} &= C + G + I + (X - M) \\ &= C + G + I + NX \end{aligned}$$

On deducting consumption of fixed capital (*i.e.*, depreciation) from gross domestic product at market prices (GDP_{MP}) we get net domestic product at market prices (NDP_{MP}).

Lastly, we add 'net factor income from abroad' to obtain net national product at factor cost (NNP_{FC}), which is called national income. Thus,

$NNP_{FC} = GDP_{MP} -$ Consumption of Fixed capital – Net Indirect taxes + Net Factor Income from Abroad.

Precautions

While estimating Gross Domestic Product through expenditure method or measuring final expenditure on Gross National Product, the following precautions should be taken:

1. *Second-hand goods:* The expenditure made on second-hand goods should not be included because this does not contribute to the current year production of goods and services.
2. *Purchase of shares and bonds:* Expenditure on purchase of old shares and bonds from other people and from business enterprises should not be included while estimating Gross Domestic Product through expenditure method. This is because bonds and shares are mere financial claims and do not represent expenditure on currently produced goods and services.
3. Expenditure on transfer payments by government such as unemployment benefits, old-age pension should also not be included because no goods or productive services are produced in exchange by the recipients of these payments.
4. Expenditure on intermediate goods such as fertilizers and seeds by the farmers and wool, cotton and yarn by manufacturers of garments should also be excluded. This is because we have to avoid double counting. Therefore, for estimating Gross Domestic Product we have to include only expenditure on final goods and services.

A greatest difficulty in the measurement of national income in the developing countries is general lack of adequate statistical data. Inadequacy, non-availability

and unreliability of statistics is a great handicap in measuring national income in these countries. Statistical information regarding agriculture and allied occupations, and household enterprises is not available. Even the statistical information regarding the enterprises in the organised sector is sketchy and unreliable. There is no accurate information available regarding consumption, investment expenditure and savings of either rural or urban population.

GDP AND GNP ON THE BASIS OF MARKET PRICE AND FACTOR COST

Market Price

The Actual transacted price including indirect taxes such as GST, Customs duty, *etc.* Such taxes tend to raise the prices of goods and services in the economy.

Factor Cost

It Includes the cost of factors of production *e.g.*, interest on capital, wages to labour, rent for land profit to the stakeholders. Thus services provided by service providers and goods sold by the producer is equal to revenue price.

Alternatively,

Revenue Price (or Factor Cost) = Market Price (net of) Net Indirect Taxes

Net Indirect Taxes = Indirect Taxes Net of Subsidies received

Hence,

Factor Cost shall be equal to

(Market Price) LESS (Indirect Taxes ADD Subsidies)

Net Domestic Product

The net output of the country's economy during a year is its NDP. During the year a country's capital assets are subject to wear and tear due to its use or can become obsolete.

Hence, we deduct a percentage of such investment from the GDP to arrive at NDP.

So $NDP = GDP \text{ at factor cost LESS Depreciation.}$

The Accumulation of all factors of income earned by residents of a country and includes income earned from the county as well as from abroad.

Thus, National Income at Factor Cost shall be equal to

NNP at Market Price LESS (Indirect Taxes ADD Subsidies)

MEASURES OF NATIONAL INCOME AND OUTPUT

A variety of measures of national income and output are used in economics to estimate total economic activity in a country or region, including gross domestic product (GDP), gross national product (GNP), net national income (NNI), and adjusted national income (NNI adjusted for natural resource depletion – also called as NNI at factor cost). All are specially concerned with counting the total

amount of goods and services produced within the economy and by different sectors. The boundary is usually defined by geography or citizenship, and it is also defined as the total income of the nation and also restrict the goods and services that are counted. For instance, some measures count only goods & services that are exchanged for money, excluding bartered goods, while other measures may attempt to include bartered goods by *imputing* monetary values to them.

National Accounts

The total production of goods and services in a large region like a country entails a large amount of data-collection and calculation. Although some attempts were made to estimate national incomes as long ago as the 17th century, the systematic keeping of national accounts, of which these figures are a part, only began in the 1930s, in the United States and some European countries.

The impetus for that major statistical effort was the Great Depression and the rise of Keynesian economics, which prescribed a greater role for the government in managing an economy, and made it necessary for governments to obtain accurate information so that their interventions into the economy could proceed as well-informed as possible.

Market Value

In order to count a good or service, it is necessary to assign value to it. The value that the measures of national income and output assign to a good or service is its market value – the price it fetches when bought or sold. The actual usefulness of a product (its use-value) is not measured – assuming the use-value to be any different from its market value.

Three strategies have been used to obtain the market values of all the goods and services produced: the product (or output) method, the expenditure method, and the income method. The product method looks at the economy on an industry-by-industry basis.

The total output of the economy is the sum of the outputs of every industry. However, since an output of one industry may be used by another industry and become part of the output of that second industry, to avoid counting the item twice we use not the value output by each industry, but the value-added; that is, the difference between the value of what it puts out and what it takes in. The total value produced by the economy is the sum of the values-added by every industry.

The expenditure method is based on the idea that all products are bought by somebody or some organisation. Therefore, we sum up the total amount of money people and organisations spend in buying things.

This amount must equal the value of everything produced. Usually, expenditures by private individuals, expenditures by businesses, and expenditures by government are calculated separately and then summed to give the total expenditure. Also, a correction term must be introduced to account for imports and exports outside the boundary.

The income method works by summing the incomes of all producers within the boundary. Since what they are paid is just the market value of their product, their total income must be the total value of the product. Wages, proprietor's incomes, and corporate profits are the major subdivisions of income.

METHODS OF MEASURING NATIONAL INCOME

Output

The output approach focuses on finding the total output of a nation by directly finding the total value of all goods and services a nation produces. Because of the complication of the multiple stages in the production of a good or service, only the final value of a good or service is included in the total output. This avoids an issue often called 'double counting', wherein the total value of a good is included several times in national output, by counting it repeatedly in several stages of production. In the example of meat production, the value of the good from the farm may be \$10, then \$30 from the butchers, and then \$60 from the supermarket. The value that should be included in final national output should be \$60, not the sum of all those numbers, \$100. The values added at each stage of production over the previous stage are respectively \$10, \$20, and \$30. Their sum gives an alternative way of calculating the value of final output.

Key formulae are:

GDP(gross domestic product) at market price = value of output in an economy in the particular year minus intermediate consumption

GDP at factor cost = GDP at market price minus depreciation plus NFIA (*net factor income from abroad*) minus net indirect taxes(GNP)

NDP at factor cost = Compensation of employees plus net interest plus rental & royalty income plus profit of incorporated and unincorporated NDP at factor cost

The names of the measures consist of one of the words "Gross" or "Net", followed by one of the words "National" or "Domestic", followed by one of the words "Product", "Income", or "Expenditure". All of these terms can be explained separately.

"Gross" means total product, regardless of the use to which it is subsequently put.

"Net" means "Gross" minus the amount that must be used to offset depreciation – ie., wear-and-tear or obsolescence of the nation's fixed capital assets. "Net" gives an indication of how much product is actually available for consumption or new investment.

"Domestic" means the boundary is geographical: we are counting all goods and services produced within the country's borders, regardless of by whom. "National" means the boundary is defined by citizenship (nationality). We count all goods and services produced by the nationals of the country (or businesses owned by them) regardless of where that production physically takes place.

The output of a French-owned cotton factory in Senegal counts as part of the Domestic figures for Senegal, but the National figures of France.

“Product”, “Income”, and “Expenditure” refer to the three counting methodologies explained earlier: the product, income, and expenditure approaches. However the terms are used loosely.

“Product” is the general term, often used when any of the three approaches was actually used. Sometimes the word “Product” is used and then some additional symbol or phrase to indicate the methodology; so, for instance, we get “Gross Domestic Product by income”, “GDP (income)”, “GDP(I)”, and similar constructions.

“Income” specifically means that the income approach was used.

“Expenditure” specifically means that the expenditure approach was used.

Note that all three counting methods should in theory give the same final figure. However, in practice minor differences are obtained from the three methods for several reasons, including changes in inventory levels and errors in the statistics. One problem for instance is that goods in inventory have been produced (therefore included in Product), but not yet sold (therefore not yet included in Expenditure). Similar timing issues can also cause a slight discrepancy between the value of goods produced (Product) and the payments to the factors that produced the goods (Income), particularly if inputs are purchased on credit, and also because wages are collected often after a period of production.

NATIONAL INCOME: DEFINITION, CONCEPTS AND METHODS OF MEASURING NATIONAL INCOME

National income is an uncertain term which is used interchangeably with national dividend, national output and national expenditure. On this basis, national income has been defined in a number of ways. In common parlance, national income means the total value of goods and services produced annually in a country. In other words, the total amount of income accruing to a country from economic activities in a year’s time is known as national income. It includes payments made to all resources in the form of wages, interest, rent and profits.

DIFFICULTIES OR LIMITATIONS IN MEASURING NATIONAL INCOME

There are many conceptual and statistical problems involved in measuring national income by the income method, product method, and expenditure method.

We discuss them separately in the light of the three methods:

Problems in Income Method

The following problems arise in the computation of National Income by income method:

1. *Owner-occupied Houses:* A person who rents a house to another earns rental income, but if he occupies the house himself, will the services

of the house-owner be included in national income. The services of the owner-occupied house are included in national income as if the owner sells to himself as a tenant its services.

For the purpose of national income accounts, the amount of imputed rent is estimated as the sum for which the owner-occupied house could have been rented. The imputed net rent is calculated as that portion of the amount that would have accrued to the house-owner after deducting all expenses.

2. *Self-employed Persons:* Another problem arises with regard to the income of self-employed persons. In their case, it is very difficult to find out the different inputs provided by the owner himself. He might be contributing his capital, land, labour and his abilities in the business. But it is not possible to estimate the value of each factor input to production. So he gets a mixed income consisting of interest, rent, wage and profits for his factor services. This is included in national income.
3. *Goods meant for Self-consumption:* In under-developed countries like India, farmers keep a large portion of food and other goods produced on the farm for self-consumption. The problem is whether that part of the produce which is not sold in the market can be included in national income or not. If the farmer were to sell his entire produce in the market, he will have to buy what he needs for self-consumption out of his money income. If, instead he keeps some produce for his self-consumption, it has money value which must be included in national income.
4. *Wages and Salaries paid in Kind:* Another problem arises with regard to wages and salaries paid in kind to the employees in the form of free food, lodging, dress and other amenities. Payments in kind by employers are included in national income. This is because the employees would have received money income equal to the value of free food, lodging, etc., from the employer and spent the same in paying for food, lodging, etc.

PROBLEMS IN PRODUCT METHOD

The following problems arise in the computation of national income by product method:

Services of Housewives

The estimation of the unpaid services of the housewife in the national income presents a serious difficulty. A housewife renders a number of useful services like preparation of meals, serving, tailoring, mending, washing, cleaning, bringing up children, etc.

She is not paid for them and her services are not including in national income. Such services performed by paid servants are included in national income. The national income is, therefore, underestimated by excluding the services of a housewife. The reason for the exclusion of her services from national income is

that the love and affection of a housewife in performing her domestic work cannot be measured in monetary terms. That is why when the owner of a firm marries his lady secretary, her services are not included in national income when she stops working as a secretary and becomes a housewife. When a teacher teaches his own children, his work is also not included in national income. Similarly, there are a number of goods and services which are difficult to be assessed in money terms for the reason stated above, such as painting, singing, dancing, *etc.*, as hobbies.

Intermediate and Final Goods

The greatest difficulty in estimating national income by product method is the failure to distinguish properly between intermediate and final goods. There is always the possibility of including a good or service more than once, whereas only final goods are included in national income estimates. This leads to the problem of double counting which leads to the overestimation of national income.

Second-hand Goods and Assets

Another problem arises with regard to the sale and purchase of second-hand goods and assets. We find that old scooters, cars, houses, machinery, *etc.*, are transacted daily in the country. But they are not included in national income because they were counted in the national product in the year they were manufactured.

If they are included every time they are bought and sold, national income would increase many times. Similarly, the sale and purchase of old stocks, shares, and bonds of companies are not included in national income because they were included in national income when the companies were started for the first time. Now they are simply financial transactions and represent claims. But the commission or fees charged by the brokers in the repurchase and resale of old shares, bonds, houses, cars or scooters, *etc.*, are included in national income. For these are the payments they receive for their productive services during the year.

Illegal Activities

Income earned through illegal activities like gambling, smuggling, illicit extraction of wine, *etc.*, is not included in national income. Such activities have value and satisfy the wants of the people but they are not considered productive from the point of view of society. But in countries like Nepal and Monaco where gambling is legalised, it is included in national income. Similarly, horse-racing is a legal activity in England and is included in national income.

Consumers' Service

There are a number of persons in society who render services to consumers but they do not produce anything tangible. They are the actors, dancers, doctors,

singers, teachers, musicians, lawyers, barbers, *etc.* The problem arises about the inclusion of their services in national income since they do not produce tangible commodities. But as they satisfy human wants and receive payments for their services, their services are included as final goods in estimating national income.

Capital Gains

The problem also arises with regard to capital gains. Capital gains arise when a capital asset such as a house, some other property, stocks or shares, *etc.*, is sold at higher price than was paid for it at the time of purchase. Capital gains are excluded from national income because these do not arise from current economic activities. Similarly, capital losses are not taken into account while estimating national income.

Inventory Changes

All inventory changes (or changes in stocks) whether positive or negative are included in national income. The procedure is to take changes in physical units of inventories for the year valued at average current prices paid for them. The value of changes in inventories may be positive or negative which is added or subtracted from the current production of the firm. Remember, it is the change in inventories and not total inventories for the year that are taken into account in national income estimates.

Depreciation

Depreciation is deducted from GNP in order to arrive at NNP. Thus depreciation lowers the national income. But the problem is of estimating the current depreciated value of, say, a machine, whose expected life is supposed to be thirty years. Firms calculate the depreciation value on the original cost of machines for their expected life. This does not solve the problem because the prices of machines change almost every year.

Price Changes

National income by product method is measured by the value of final goods and services at current market prices. But prices do not remain stable. They rise or fall. When the price level rises, the national income also rises, though the national production might have fallen. On the contrary, with the fall in the price level, the national income also falls, though the national production might have increased. So price changes do not adequately measure national income. To solve this problem, economists calculate the real national income at a constant price level by the consumer price index.

PROBLEMS IN EXPENDITURE METHOD

The following problems arise in the calculation of national income by expenditure method:

Government Services

In calculating national income by, expenditure method, the problem of estimating government services arises. Government provides a number of services, such as police and military services, administrative and legal services. Should expenditure on government services be included in national income?

If they are final goods, then only they would be included in national income. On the other hand, if they are used as intermediate goods, meant for further production, they would not be included in national income. There are many divergent views on this issue.

One view is that if police, military, legal and administrative services protect the lives, property and liberty of the people, they are treated as final goods and hence form part of national income. If they help in the smooth functioning of the production process by maintaining peace and security, then they are like intermediate goods that do not enter into national income.

In reality, it is not possible to make a clear demarcation as to which service protects the people and which protects the productive process. Therefore, all such services are regarded as final goods and are included in national income.

Transfer Payments

There arises the problem of including transfer payments in national income. Government makes payments in the form of pensions, unemployment allowance, subsidies, interest on national debt, *etc.* These are government expenditures but they are not included in national income because they are paid without adding anything to the production process during the current year.

For instance, pensions and unemployment allowances are paid to individuals by the government without doing any productive work during the year. Subsidies tend to lower the market price of the commodities. Interest on national or public debt is also considered a transfer payment because it is paid by the government to individuals and firms on their past savings without any productive work.

Durable-use Consumers' Goods

Durable-use consumers' goods also pose a problem. Such durable-use consumers' goods as scooters, cars, fans, TVs, furniture's, *etc.*, are bought in one year but they are used for a number of years. Should they be included under investment expenditure or consumption expenditure in national income estimates? The expenditure on them is regarded as final consumption expenditure because it is not possible to measure their used up value for the subsequent years.

But there is one exception. The expenditure on a new house is regarded as investment expenditure and not consumption expenditure. This is because the rental income or the imputed rent which the house-owner gets is for making investment on the new house. However, expenditure on a car by a household is consumption expenditure. But if he spends the amount for using it as a taxi, it is investment expenditure.

Public Expenditure

Government spends on police, military, administrative and legal services, parks, street lighting, irrigation, museums, education, public health, roads, canals, buildings, *etc.*

The problem is to find out which expenditure is consumption expenditure and which investment expenditure is. Expenses on education, museums, public health, police, parks, street lighting, civil and judicial administration are consumption expenditure. Expenses on roads, canals, buildings, *etc.*, are investment expenditure. But expenses on defence equipment are treated as consumption expenditure because they are consumed during a war as they are destroyed or become obsolete. However, all such expenses including the salaries of armed personnel are included in national income.

IMPORTANCE OF NATIONAL INCOME ANALYSIS

The national income data have the following importance:

For the Economy

National income data are of great importance for the economy of a country. These days the national income data are regarded as accounts of the economy, which are known as social accounts. These refer to net national income and net national expenditure, which ultimately equal each other.

Social accounts tell us how the aggregates of a nation's income, output and product result from the income of different individuals, products of industries and transactions of international trade. Their main constituents are inter-related and each particular account can be used to verify the correctness of any other account.

National Policies

National income data form the basis of national policies such as employment policy, because these figures enable us to know the direction in which the industrial output, investment and savings, *etc.*, change, and proper measures can be adopted to bring the economy to the right path.

Economic Planning

In the present age of planning, the national data are of great importance. For economic planning, it is essential that the data pertaining to a country's gross income, output, saving and consumption from different sources should be available. Without these, planning is not possible.

Economic Models

The economists propound short-run as well as long-run economic models or long-run investment models in which the national income data are very widely used.

Research

The national income data are also made use of by the research scholars of economics. They make use of the various data of the country's input, output, income, saving, consumption, investment, employment, *etc.*, which are obtained from social accounts.

Per Capita Income

National income data are significant for a country's per capita income which reflects the economic welfare of the country. The higher the per capita income, the higher the economic welfare of the country.

Distribution of Income

National income statistics enable us to know about the distribution of income in the country. From the data pertaining to wages, rent, interest and profits, we learn of the disparities in the incomes of different sections of the society. Similarly, the regional distribution of income is revealed. It is only on the basis of these that the government can adopt measures to remove the inequalities in income distribution and to restore regional equilibrium. With a view to removing these personal and regional disequilibria, the decisions to levy more taxes and increase public expenditure also rest on national income statistics.

CONCEPTS OF NATIONAL INCOME AND GROSS DOMESTIC PRODUCT (GDP)

There are a number of concepts pertaining to national income and methods of measurement relating to them.

Gross Domestic Product (GDP)

GDP is the total value of goods and services produced within the country during a year. This is calculated at market prices and is known as GDP at market prices. Dernberg defines GDP at market price as "the market value of the output of final goods and services produced in the domestic territory of a country during an accounting year."

There are three different ways to measure GDP:

Product Method, Income Method and Expenditure Method.

These three methods of calculating GDP yield the same result because National Product = National Income = National Expenditure.

1. *The Product Method:* In this method, the value of all goods and services produced in different industries during the year is added up. This is also known as the value added method to GDP or GDP at factor cost by industry of origin. The following items are included in India in this: agriculture and allied services; mining; manufacturing, construction, electricity, gas and water supply; transport, communication and trade; banking and insurance, real estates and ownership of dwellings and

business services; and public administration and defense and other services (or government services). In other words, it is the sum of gross value added.

2. *The Income Method*: The people of a country who produce GDP during a year receive incomes from their work. Thus GDP by income method is the sum of all factor incomes: Wages and Salaries (compensation of employees) + Rent + Interest + Profit.
3. *Expenditure Method*: This method focuses on goods and services produced within the country during one year.

GDP by expenditure method includes:

- (1) Consumer expenditure on services and durable and non-durable goods (C),
- (2) Investment in fixed capital such as residential and non-residential building, machinery, and inventories (I),
- (3) Government expenditure on final goods and services (G),
- (4) Export of goods and services produced by the people of country (X),
- (5) Less imports (M). That part of consumption, investment and government expenditure which is spent on imports is subtracted from GDP. Similarly, any imported component, such as raw materials, which is used in the manufacture of export goods, is also excluded.

Thus GDP by expenditure method at market prices = $C + I + G + (X - M)$, where $(X - M)$ is net export which can be positive or negative.

GDP at Factor Cost

GDP at factor cost is the sum of net value added by all producers within the country. Since the net value added gets distributed as income to the owners of factors of production, GDP is the sum of domestic factor incomes and fixed capital consumption (or depreciation).

Thus GDP at Factor Cost = Net value added + Depreciation.

GDP at factor cost includes:

- (i) Compensation of employees *i.e.*, wages, salaries, *etc.*
- (ii) Operating surplus which is the business profit of both incorporated and unincorporated firms. [Operating Surplus = Gross Value Added at Factor Cost—Compensation of Employees—Depreciation]
- (iii) Mixed Income of Self- employed.

Conceptually, GDP at factor cost and GDP at market price must be identical/ This is because the factor cost (payments to factors) of producing goods must equal the final value of goods and services at market prices. However, the market value of goods and services is different from the earnings of the factors of production.

In GDP at market price are included indirect taxes and are excluded subsidies by the government. Therefore, in order to arrive at GDP at factor cost, indirect taxes are subtracted and subsidies are added to GDP at market price.

Thus, GDP at Factor Cost = GDP at Market Price – Indirect Taxes + Subsidies.

Net Domestic Product (NDP)

NDP is the value of net output of the economy during the year. Some of the country's capital equipment wears out or becomes obsolete each year during the production process. The value of this capital consumption is some percentage of gross investment which is deducted from GDP. Thus Net Domestic Product = GDP at Factor Cost – Depreciation.

Nominal and Real GDP

When GDP is measured on the basis of current price, it is called GDP at current prices or nominal GDP. On the other hand, when GDP is calculated on the basis of fixed prices in some year, it is called GDP at constant prices or real GDP.

Nominal GDP is the value of goods and services produced in a year and measured in terms of rupees (money) at current (market) prices. In comparing one year with another, we are faced with the problem that the rupee is not a stable measure of purchasing power. GDP may rise a great deal in a year, not because the economy has been growing rapidly but because of rise in prices (or inflation).

On the contrary, GDP may increase as a result of fall in prices in a year but actually it may be less as compared to the last year. In both 5 cases, GDP does not show the real state of the economy. To rectify the underestimation and overestimation of GDP, we need a measure that adjusts for rising and falling prices.

This can be done by measuring GDP at constant prices which is called real GDP. To find out the real GDP, a base year is chosen when the general price level is normal, *i.e.*, it is neither too high nor too low. The prices are set to 100 (or 1) in the base year.

Now the general price level of the year for which real GDP is to be calculated is related to the base year on the basis of the following formula which is called the deflator index:

$$\text{Real GDP} = \frac{\text{GDP for the Current Year}}{\text{Current Year Index}} \times \frac{\text{Base Year (=100)}}{\text{Current Year Index}}$$

Suppose 1990-91 is the base year and GDP for 1999-2000 is Rs. 6, 00,000 crores and the price index for this year is 300.

Thus, Real GDP for 1999-2000 = Rs. 6, 00,000 x 100/300 = Rs. 2, 00,000 crores

GDP Deflator

GDP deflator is an index of price changes of goods and services included in GDP. It is a price index which is calculated by dividing the nominal GDP in a given year by the real GDP for the same year and multiplying it by 100. Thus,

$$GDP \text{ Deflator} = \frac{\text{Nominal (or Current Prices) } GDP}{\text{Real (or Constant Prices) } GDP} \times 100$$

$$\text{For example, GDP Deflator in 1997-98} = \frac{1426.7 \text{ th. crores}}{1049.2 \text{ th. crores at}} \times 100 \\ = 135.9$$

It shows that at constant prices (1993-94), GDP in 1997-98 increased by 135.9% due to inflation (or rise in prices) from Rs. 1049.2 thousand crores in 1993-94 to Rs. 1426.7 thousand crores in 1997-98.

Gross National Product (GNP)

GNP is the total measure of the flow of goods and services at market value resulting from current production during a year in a country, including net income from abroad.

GNP includes four types of final goods and services:

- (1) Consumers' goods and services to satisfy the immediate wants of the people;
- (2) Gross private domestic investment in capital goods consisting of fixed capital formation, residential construction and inventories of finished and unfinished goods;
- (3) Goods and services produced by the government; and
- (4) Net exports of goods and services, *i.e.*, the difference between value of exports and imports of goods and services, known as net income from abroad.

In this concept of GNP, there are certain factors that have to be taken into consideration: First, GNP is the measure of money, in which all kinds of goods and services produced in a country during one year are measured in terms of money at current prices and then added together.

But in this manner, due to an increase or decrease in the prices, the GNP shows a rise or decline, which may not be real. To guard against erring on this account, a particular year (say for instance 1990-91) when prices be normal, is taken as the base year and the GNP is adjusted in accordance with the index number for that year. This will be known as GNP at 1990-91 prices or at constant prices.

Second, in estimating GNP of the economy, the market price of only the final products should be taken into account. Many of the products pass through a number of stages before they are ultimately purchased by consumers.

If those products were counted at every stage, they would be included many a time in the national product. Consequently, the GNP would increase too much. To avoid double counting, therefore, only the final products and not the intermediary goods should be taken into account.

Third, goods and services rendered free of charge are not included in the GNP, because it is not possible to have a correct estimate of their market price. For example, the bringing up of a child by the mother, imparting instructions to his son by a teacher, recitals to his friends by a musician, *etc.*

Fourth, the transactions which do not arise from the produce of current year or which do not contribute in any way to production are not included in the GNP.

The sale and purchase of old goods, and of shares, bonds and assets of existing companies are not included in GNP because these do not make any addition to the national product, and the goods are simply transferred.

Fifth, the payments received under social security, *e.g.*, unemployment insurance allowance, old age pension, and interest on public loans are also not included in GNP, because the recipients do not provide any service in lieu of them. But the depreciation of machines, plants and other capital goods is not deducted from GNP.

Sixth, the profits earned or losses incurred on account of changes in capital assets as a result of fluctuations in market prices are not included in the GNP if they are not responsible for current production or economic activity.

For example, if the price of a house or a piece of land increases due to inflation, the profit earned by selling it will not be a part of GNP. But if, during the current year, a portion of a house is constructed anew, the increase in the value of the house (after subtracting the cost of the newly constructed portion) will be included in the GNP. Similarly, variations in the value of assets, that can be ascertained beforehand and are insured against flood or fire, are not included in the GNP.

Last, the income earned through illegal activities is not included in the GNP. Although the goods sold in the black market are priced and fulfill the needs of the people, but as they are not useful from the social point of view, the income received from their sale and purchase is always excluded from the GNP.

There are two main reasons for this. One, it is not known whether these things were produced during the current year or the preceding years. Two, many of these goods are foreign made and smuggled and hence not included in the GNP.

Three Approaches to GNP

After having studied the fundamental constituents of GNP, it is essential to know how it is estimated. Three approaches are employed for this purpose. One, the income method to GNP; two, the expenditure method to GNP and three, the value added method to GNP. Since gross income equals gross expenditure, GNP estimated by all these methods would be the same with appropriate adjustments.

Income Method to GNP

The income method to GNP consists of the remuneration paid in terms of money to the factors of production annually in a country. Thus GNP is the sum total of the following items:

- (i) *Wages and salaries:* Under this head are included all forms of wages and salaries earned through productive activities by workers and

entrepreneurs. It includes all sums received or deposited during a year by way of all types of contributions like overtime, commission, provident fund, insurance, *etc.*

- (ii) *Rents*: Total rent includes the rents of land, shop, house, factory, *etc.*, and the estimated rents of all such assets as are used by the owners themselves.
- (iii) *Interest*: Under interest comes the income by way of interest received by the individual of a country from different sources. To this is added, the estimated interest on that private capital which is invested and not borrowed by the businessman in his personal business. But the interest received on governmental loans has to be excluded, because it is a mere transfer of national income.
- (iv) *Dividends*: Dividends earned by the shareholders from companies are included in the GNP.
- (v) *Undistributed corporate profits*: Profits which are not distributed by companies and are retained by them are included in the GNP.
- (vi) *Mixed incomes*: These include profits of unincorporated business, self-employed persons and partnerships. They form part of GNP.
- (vii) *Direct taxes*: Taxes levied on individuals, corporations and other businesses are included in the GNP.
- (viii) *Indirect taxes*: The government levies a number of indirect taxes, like excise duties and sales tax.
These taxes are included in the price of commodities. But revenue from these goes to the government treasury and not to the factors of production. Therefore, the income due to such taxes is added to the GNP.
- (ix) *Depreciation*: Every corporation makes allowance for expenditure on wearing out and depreciation of machines, plants and other capital equipment. Since this sum also is not a part of the income received by the factors of production, it is, therefore, also included in the GNP.
- (x) *Net income earned from abroad*: This is the difference between the value of exports of goods and services and the value of imports of goods and services. If this difference is positive, it is added to the GNP and if it is negative, it is deducted from the GNP.

Thus GNP according to the Income Method = Wages and Salaries + Rents + Interest + Dividends + Undistributed Corporate Profits + Mixed Income + Direct Taxes + Indirect Taxes + Depreciation + Net Income from abroad.

Expenditure Method to GNP

From the expenditure view point, GNP is the sum total of expenditure incurred on goods and services during one year in a country.

It includes the following items:

- (i) *Private consumption expenditure*: It includes all types of expenditure on personal consumption by the individuals of a country. It comprises

expenses on durable goods like watch, bicycle, radio, *etc.*, expenditure on single-used consumers' goods like milk, bread, ghee, clothes, *etc.*, as also the expenditure incurred on services of all kinds like fees for school, doctor, lawyer and transport. All these are taken as final goods.

- (ii) *Gross domestic private investment*: Under this comes the expenditure incurred by private enterprise on new investment and on replacement of old capital. It includes expenditure on house construction, factory-buildings, and all types of machinery, plants and capital equipment. In particular, the increase or decrease in inventory is added to or subtracted from it. The inventory includes produced but unsold manufactured and semi-manufactured goods during the year and the stocks of raw materials, which have to be accounted for in GNP. It does not take into account the financial exchange of shares and stocks because their sale and purchase is not real investment. But depreciation is added.
- (iii) *Net foreign investment*: It means the difference between exports and imports or export surplus. Every country exports to or imports from certain foreign countries. The imported goods are not produced within the country and hence cannot be included in national income, but the exported goods are manufactured within the country. Therefore, the difference of value between exports (X) and imports (M), whether positive or negative, is included in the GNP.
- (iv) *Government expenditure on goods and services*: The expenditure incurred by the government on goods and services is a part of the GNP. Central, state or local governments spend a lot on their employees, police and army. To run the offices, the governments have also to spend on contingencies which include paper, pen, pencil and various types of stationery, cloth, furniture, cars, *etc.*

It also includes the expenditure on government enterprises. But expenditure on transfer payments is not added, because these payments are not made in exchange for goods and services produced during the current year.

Thus GNP according to the Expenditure Method = Private Consumption Expenditure (C) + Gross Domestic Private Investment (I) + Net Foreign Investment (X-M) + Government Expenditure on Goods and Services (G) = C + I + (X-M) + G.

As already pointed out above, GNP estimated by either the income or the expenditure method would work out to be the same, if all the items are correctly calculated.

VALUE ADDED METHOD TO GNP

Another method of measuring GNP is by value added. In calculating GNP, the money value of final goods and services produced at current prices during a year is taken into account. This is one of the ways to avoid double counting. But it is difficult to distinguish properly between a final product and an intermediate product.

For instance, raw materials, semi-finished products, fuels and services, *etc.*, are sold as inputs by one industry to the other. They may be final goods for one industry and intermediate for others. So, to avoid duplication, the value of intermediate products used in manufacturing final products must be subtracted from the value of total output of each industry in the economy.

Thus, the difference between the value of material outputs and inputs at each stage of production is called the value added. If all such differences are added up for all industries in the economy, we arrive at the GNP by value added. $\text{GNP by value added} = \text{Gross value added} + \text{net income from abroad}$.

The supposition that the entire economy for purposes of total production consists of three sectors. They are agriculture, manufacturing, and others, consisting of the tertiary sector.

Out of the value of total output of each sector is deducted the value of its intermediate purchases (or primary inputs) to arrive at the value added for the entire economy.

Thus the value of total output of the entire economy is Rs. 155 crores and the value of its primary inputs comes to Rs. 80 crores. Thus the GDP by value added is Rs. 75 crores (Rs. 155 minus Rs. 80 crores).

The total value added equals the value of gross domestic product of the economy. Out of this value added, the major portion goes in the form wages and salaries, rent, interest and profits, a small portion goes to the government as indirect taxes and the remaining amount is meant for depreciation.

Thus we find that the total gross value added of an economy equals the value of its gross domestic product. If depreciation is deducted from the gross value added, we have net value added which comes to Rs. 67 crores (Rs. 75 minus Rs. 8 crores).

This is nothing but net domestic product at market prices. Again, if indirect taxes (Rs. 7 crores) are deducted from the net domestic product of Rs. 67 crores, we get Rs. 60 crores as the net value added at factor cost which is equivalent to net domestic product at factor cost.

It's Importance: The value added method for measuring national income is more realistic than the product and income methods because it avoids the problem of double counting by excluding the value of intermediate products.

Thus this method establishes the importance of intermediate products in the national economy.

Second, by studying the national income accounts relating to value added, the contribution of each production sector to the value of the GNP can be found out.

For instance, it can tell us whether agriculture is contributing more or the share of manufacturing is falling, or of the tertiary sector is increasing in the current year as compared to some previous years. Third, this method is highly useful because "it provides a means of checking the GNP estimates obtained by summing the various types of commodity purchases."

It's Difficulties: However, difficulties arise in the calculation of value added in the case of certain public services like police, military, health, education,

etc., which cannot be estimated accurately in money terms. Similarly, it is difficult to estimate the contribution made to value added by profits earned on irrigation and power projects.

GNP at Market Prices

When we multiply the total output produced in one year by their market prices prevalent during that year in a country, we get the Gross National Product at market prices. Thus GNP at market prices means the gross value of final goods and services produced annually in a country plus net income from abroad. It includes the gross value of output of all items from (1) to (4) mentioned under GNP. $\text{GNP at Market Prices} = \text{GDP at Market Prices} + \text{Net Income from Abroad}$.

GNP at Factor Cost

GNP at factor cost is the sum of the money value of the income produced by and accruing to the various factors of production in one year in a country. It includes all items mentioned above under income method to GNP less indirect taxes.

GNP at market prices always includes indirect taxes levied by the government on goods which raise their prices. But GNP at factor cost is the income which the factors of production receive in return for their services alone. It is the cost of production.

Thus GNP at market prices is always higher than GNP at factor cost. Therefore, in order to arrive at GNP at factor cost, we deduct indirect taxes from GNP at market prices. Again, it often happens that the cost of production of a commodity to the producer is higher than a price of a similar commodity in the market.

In order to protect such producers, the government helps them by granting monetary help in the form of a subsidy equal to the difference between the market price and the cost of production of the commodity. As a result, the price of the commodity to the producer is reduced and equals the market price of similar commodity. For example if the market price of rice is Rs. 3 per kg but it costs the producers in certain areas Rs. 3.50. The government gives a subsidy of 50 paise per kg to them in order to meet their cost of production. Thus in order to arrive at GNP at factor cost, subsidies are added to GNP at market prices.

$\text{GNP at Factor Cost} = \text{GNP at Market Prices} - \text{Indirect Taxes} + \text{Subsidies}$.

Net National Product (NNP)

NNP includes the value of total output of consumption goods and investment goods. But the process of production uses up a certain amount of fixed capital. Some fixed equipment wears out, its other components are damaged or destroyed, and still others are rendered obsolete through technological changes.

All this process is termed depreciation or capital consumption allowance. In order to arrive at NNP, we deduct depreciation from GNP. The word 'net' refers to the exclusion of that part of total output which represents depreciation. So $NNP = GNP - \text{Depreciation}$.

NNP at Market Prices

Net National Product at market prices is the net value of final goods and services evaluated at market prices in the course of one year in a country. If we deduct depreciation from GNP at market prices, we get NNP at market prices. So $NNP \text{ at Market Prices} = GNP \text{ at Market Prices} - \text{Depreciation}$.

NNP at Factor Cost

Net National Product at factor cost is the net output evaluated at factor prices. It includes income earned by factors of production through participation in the production process such as wages and salaries, rents, profits, *etc.* It is also called National Income. This measure differs from NNP at market prices in that indirect taxes are deducted and subsidies are added to NNP at market prices in order to arrive at NNP at factor cost. Thus

$$\begin{aligned} \text{NNP at Factor Cost} &= \text{NNP at Market Prices} - \text{Indirect taxes} + \text{Subsidies} \\ &= \text{GNP at Market Prices} - \text{Depreciation} - \text{Indirect taxes} + \text{Subsidies} \\ &= \text{National Income}. \end{aligned}$$

Normally, NNP at market prices is higher than NNP at factor cost because indirect taxes exceed government subsidies. However, NNP at market prices can be less than NNP at factor cost when government subsidies exceed indirect taxes.

Domestic Income

Income generated (or earned) by factors of production within the country from its own resources is called domestic income or domestic product.

Domestic income includes: (i) Wages and salaries, (ii) rents, including imputed house rents, (iii) interest, (iv) dividends, (v) undistributed corporate profits, including surpluses of public undertakings, (vi) mixed incomes consisting of profits of unincorporated firms, self-employed persons, partnerships, *etc.*, and (vii) direct taxes.

Since domestic income does not include income earned from abroad, it can also be shown as: $\text{Domestic Income} = \text{National Income} - \text{Net income earned from abroad}$.

Thus the difference between domestic income and national income is the net income earned from abroad. If we add net income from abroad to domestic income, we get national income, *i.e.*, $\text{National Income} = \text{Domestic Income} + \text{Net income earned from abroad}$.

But the net national income earned from abroad may be positive or negative. If exports exceed imports, net income earned from abroad is positive. In this case, national income is greater than domestic income. On the other hand, when imports exceed exports, net income earned from abroad is negative and domestic income is greater than national income.

Private Income

Private income is income obtained by private individuals from any source, productive or otherwise, and the retained income of corporations. It can be arrived at from NNP at Factor Cost by making certain additions and deductions.

The additions include transfer payments such as pensions, unemployment allowances, sickness and other social security benefits, gifts and remittances from abroad, windfall gains from lotteries or from horse racing, and interest on public debt. The deductions include income from government departments as well as surpluses from public undertakings, and employees' contribution to social security schemes like provident funds, life insurance, *etc.*

Thus Private Income = National Income (or NNP at Factor Cost) + Transfer Payments + Interest on Public Debt — Social Security — Profits and Surpluses of Public Undertakings.

Personal Income

Personal income is the total income received by the individuals of a country from all sources before payment of direct taxes in one year. Personal income is never equal to the national income, because the former includes the transfer payments whereas they are not included in national income. Personal income is derived from national income by deducting undistributed corporate profits, profit taxes, and employees' contributions to social security schemes. These three components are excluded from national income because they do not reach individuals.

But business and government transfer payments, and transfer payments from abroad in the form of gifts and remittances, windfall gains, and interest on public debt which are a source of income for individuals are added to national income. Thus Personal Income = National Income – Undistributed Corporate Profits – Profit Taxes – Social Security Contribution + Transfer Payments + Interest on Public Debt. Personal income differs from private income in that it is less than the latter because it excludes undistributed corporate profits.

Thus Personal Income = Private Income – Undistributed Corporate Profits – Profit Taxes.

Disposable Income

Disposable income or personal disposable income means the actual income which can be spent on consumption by individuals and families. The whole of the personal income cannot be spent on consumption, because it is the income that accrues before direct taxes have actually been paid. Therefore, in order to obtain disposable income, direct taxes are deducted from personal income. Thus Disposable Income = Personal Income – Direct Taxes.

But the whole of disposable income is not spent on consumption and a part of it is saved. Therefore, disposable income is divided into consumption expenditure and savings. Thus Disposable Income = Consumption Expenditure + Savings.

If disposable income is to be deduced from national income, we deduct indirect taxes plus subsidies, direct taxes on personal and on business, social security payments, undistributed corporate profits or business savings from it and add transfer payments and net income from abroad to it.

Thus Disposable Income = National Income – Business Savings – Indirect Taxes + Subsidies – Direct Taxes on Persons – Direct Taxes on Business – Social Security Payments + Transfer Payments + Net Income from abroad.

Real Income

Real income is national income expressed in terms of a general level of prices of a particular year taken as base. National income is the value of goods and services produced as expressed in terms of money at current prices. But it does not indicate the real state of the economy.

It is possible that the net national product of goods and services this year might have been less than that of the last year, but owing to an increase in prices, NNP might be higher this year. On the contrary, it is also possible that NNP might have increased but the price level might have fallen, as a result national income would appear to be less than that of the last year. In both the situations, the national income does not depict the real state of the country. To rectify such a mistake, the concept of real income has been evolved.

In order to find out the real income of a country, a particular year is taken as the base year when the general price level is neither too high nor too low and the price level for that year is assumed to be 100. Now the general level of prices of the given year for which the national income (real) is to be determined is assessed in accordance with the prices of the base year. For this purpose the following formula is employed.

Real NNP = NNP for the Current Year x Base Year Index (=100)/Current Year Index

Suppose 1990-91 is the base year and the national income for 1999-2000 is Rs. 20,000 crores and the index number for this year is 250. Hence, Real National Income for 1999-2000 will be = $20000 \times 100/250 = \text{Rs. } 8000$ crores. This is also known as national income at constant prices.

CONCEPT OF NATIONAL INCOME

The National Income is the total amount of income accruing to a country from economic activities in a years time. It includes payments made to all resources either in the form of wages, interest, rent, and profits.

The progress of a country can be determined by the growth of the national income of the country

National Income Definition

There are two National Income Definition:

- Traditional Definition
- Modern Definition

Traditional Definition

According to Marshall: “The labour and capital of a country acting on its natural resources produce annually a certain net aggregate of commodities, material and immaterial including services of all kinds. This is the true net annual income or revenue of the country or national dividend.”

The definition as laid down by Marshall is being criticized on the following grounds. Due to the varied category of goods and services, a correct estimation is very difficult. There is a chance of double counting, hence National Income cannot be estimated correctly.

For example, a product runs in the supply from the producer to distributor to wholesaler to retailer and then to the ultimate consumer. If on every movement commodity is taken into consideration then the value of National Income increases.

Also, one other reason is that there are products which are produced but not marketed. For example, In an agriculture-oriented country like India, there are commodities which though produced but are kept for self-consumption or exchanged with other commodities. Thus there can be an underestimation of National Income. Simon Kuznets defines national income as “the net output of commodities and services flowing during the year from the country’s productive system in the hands of the ultimate consumers.”

Following are the Modern National Income definition

- GDP
- GNP

Gross Domestic Product

The total value of goods produced and services rendered within a country during a year is its Gross Domestic Product.

Further, GDP is calculated at market price and is defined as GDP at market prices. Different constituents of GDP are:

1. Wages and salaries
2. Rent
3. Interest
4. Undistributed profits
5. Mixed-income
6. Direct taxes
7. Dividend
8. Depreciation

Gross National Product

For calculation of GNP, we need to collect and assess the data from all productive activities, such as agricultural produce, wood, minerals, commodities, the contributions to production by transport, communications, insurance companies, professions such (as lawyers, doctors, teachers, etc). at market prices.

It also includes net income arising in a country from abroad. Four main constituents of GNP are:

1. Consumer goods and services
2. Gross private domestic income
3. Goods produced or services rendered
4. Income arising from abroad.

METHODS OF MEASURING NATIONAL INCOME

There are four methods of measuring national income. Which method is to be used depends on the availability of data in a country and the purpose in hand.

- (1) *Product Method:* According to this method, the total value of final goods and services produced in a country during a year is calculated at market prices. To find out the GNP, the data of all productive activities, such as agricultural products, wood received from forests, minerals received from mines, commodities produced by industries, the contributions to production made by transport, communications, insurance companies, lawyers, doctors, teachers, *etc.*, are collected and assessed at market prices. Only the final goods and services are included and the intermediary goods and services are left out.
- (2) *Income Method:* According to this method, the net income payments received by all citizens of a country in a particular year are added up, *i.e.*, net incomes that accrue to all factors of production by way of net rents, net wages, net interest and net profits are all added together but incomes received in the form of transfer payments are not included in it. The data pertaining to income are obtained from different sources, for instance, from income tax department in respect of high income groups and in case of workers from their wage bills.
- (3) *Expenditure Method:* According to this method, the total expenditure incurred by the society in a particular year is added together and includes personal consumption expenditure, net domestic investment, government expenditure on goods and services, and net foreign investment. This concept is based on the assumption that national income equals national expenditure.
- (4) *Value Added Method:* Another method of measuring national income is the value added by industries. The difference between the value of material outputs and inputs at each stage of production is the value added. If all such differences are added up for all industries in the economy, we arrive at the gross domestic product.

2

Market Structure, Pricing Dynamics, and Perfect Competition

PERFECT COMPETITION

In economics, specifically general equilibrium theory, a perfect market, also known as an atomistic market, is defined by several idealizing conditions, collectively called perfect competition, or atomistic competition. In theoretical models where conditions of perfect competition hold, it has been theoretically demonstrated that a market will reach an equilibrium in which the quantity supplied for every product or service, including labour, equals the quantity demanded at the current price. This equilibrium would be a Pareto optimum.

Perfect competition provides both allocative efficiency and productive efficiency:

- Such markets are allocatively efficient, as output will always occur where marginal cost is equal to average revenue *i.e.*, price ($MC = AR$). In perfect competition, any profit-maximizing producer faces a market price equal to its marginal cost ($P = MC$). This implies that a factor's price equals the factor's marginal revenue product. It allows for derivation of the supply curve on which the neoclassical approach is based. This is also the reason why "a monopoly does not have a supply curve". The abandonment of price taking creates considerable difficulties for the demonstration of a general equilibrium except under other, very specific conditions such as that of monopolistic competition.

- In the short-run, perfectly competitive markets are not necessarily productively efficient as output will not always occur where marginal cost is equal to average cost ($MC = AC$). However, in long-run, productive efficiency occurs as new firms enter the industry. Competition reduces price and cost to the minimum of the long run average costs. At this point, price equals both the marginal cost and the average total cost for each good ($P = MC = AC$).

The theory of perfect competition has its roots in late-19th century economic thought. Léon Walras gave the first rigorous definition of perfect competition and derived some of its main results. In the 1950s, the theory was further formalized by Kenneth Arrow and Gérard Debreu. Real markets are never perfect. Those economists who believe in perfect competition as a useful approximation to real markets may classify those as ranging from close-to-perfect to very imperfect. Share and foreign exchange markets are commonly said to be the most similar to the perfect market. The real estate market is an example of a very imperfect market. In such markets, the theory of the second best proves that if one optimality condition in an economic model cannot be satisfied, it is possible that the next-best solution involves changing other variables away from the values that would otherwise be optimal.

Equilibrium in perfect competition

Equilibrium in perfect competition is the point where market demands will be equal to market supply. A firm's price will be determined at this point. In the short run, equilibrium will be affected by demand. In the long run, both demand and supply of a product will affect the equilibrium in perfect competition. A firm will receive only normal profit in the long run at the equilibrium point.

CHARACTERISTICS OF PERFECT COMPETITION

The following are the conditions for the existence of perfect competition:

Large Number of Buyers and Sellers

The first condition is that the number of buyers and sellers must be so large that none of them individually is in a position to influence the price and output of the industry as a whole. The demand of individual buyer relative to the total demand is so small that he cannot influence the price of the product by his individual action.

Similarly, the supply of an individual seller is so small a fraction of the total output that he cannot influence the price of the product by his action alone. In other words, the individual seller is unable to influence the price of the product by increasing or decreasing its supply.

Rather, he adjusts his supply to the price of the product. He is "output adjuster". Thus no buyer or seller can alter the price by his individual action. He has to accept the price for the product as fixed for the whole industry. He is a "price taker".

Freedom of Entry or Exit of Firms

The next condition is that the firms should be free to enter or leave the industry. It implies that whenever the industry is earning excess profits, attracted by these profits some new firms enter the industry. In case of loss being sustained by the industry, some firms leave it.

Homogeneous Product

Each firm produces and sells a homogeneous product so that no buyer has any preference for the product of any individual seller over others. This is only possible if units of the same product produced by different sellers are perfect substitutes. In other words, the cross elasticity of the products of sellers is infinite.

No seller has an independent price policy. Commodities like salt, wheat, cotton and coal are homogeneous in nature. He cannot raise the price of his product. If he does so, his customers would leave him and buy the product from other sellers at the ruling lower price.

The above two conditions between themselves make the average revenue curve of the individual seller or firm perfectly elastic, horizontal to the X-axis. It means that a firm can sell more or less at the ruling market price but cannot influence the price as the product is homogeneous and the number of sellers very large.

Absence of Artificial Restrictions

The next condition is that there is complete openness in buying and selling of goods. Sellers are free to sell their goods to any buyers and the buyers are free to buy from any sellers. In other words, there is no discrimination on the part of buyers or sellers.

Moreover, prices are liable to change freely in response to demand-supply conditions. There are no efforts on the part of the producers, the government and other agencies to control the supply, demand or price of the products. The movement of prices is unfettered.

Profit Maximisation Goal

Every firm has only one goal of maximising its profits.

Perfect Mobility of Goods and Factors

Another requirement of perfect competition is the perfect mobility of goods and factors between industries. Goods are free to move to those places where they can fetch the highest price. Factors can also move from a low-paid to a high-paid industry.

Perfect Knowledge of Market Conditions

This condition implies a close contact between buyers and sellers. Buyers and sellers possess complete knowledge about the prices at which goods are

being bought and sold, and of the prices at which others are prepared to buy and sell. They have also perfect knowledge of the place where the transactions are being carried on. Such perfect knowledge of market conditions forces the sellers to sell their product at the prevailing market price and the buyers to buy at that price.

PERFECT COMPETITION VS PURE COMPETITION

Perfect competition is often distinguished from pure competition, but they differ only in degree. The first five conditions relate to pure competition while the remaining four conditions are also required for the existence of perfect competition. According to Chamberlin, pure competition means, competition unalloyed with monopoly elements,” whereas perfect competition involves perfection in many other respects than in the absence of monopoly.”

The practical importance of perfect competition is not much in the present times for few markets are perfectly competitive except those for staple food products and raw materials. That is why, Chamberlin says that perfect competition is a rare phenomenon.” Though the real world does not fulfil the conditions of perfect competition, yet perfect competition is studied for the simple reason that it helps us in understanding the working of an economy, where competitive behaviour leads to the best allocation of resources and the most efficient organisation of production. A hypothetical model of a perfectly competitive industry provides the basis for appraising the actual working of economic institutions and organisations in any economy.

IMPORTANCE OF PERFECT COMPETITION

Idealizing Conditions of Perfect Competition

There is a set of market conditions which are assumed to prevail in the discussion of what perfect competition might be if it were theoretically possible to ever obtain such perfect market conditions. These conditions include:

- *A large number of buyers and sellers:* A large number of consumers with the willingness and ability to buy the product at a certain price, and a large number of producers with the willingness and ability to supply the product at a certain price.
- *Perfect information:* All consumers and producers know all prices of products and utilities they would get from owning each product.
- *Homogeneous products:* The products are perfect substitutes for each other, (*i.e.*, the qualities and characteristics of a market good or service do not vary between different suppliers).
- *Well defined property rights:* These determine what may be sold, as well as what rights are conferred on the buyer.
- No barriers to entry or exit
- Every participant is a price taker: No participant with market power to set prices

- Perfect factor mobility – In the long run factors of production are perfectly mobile, allowing free long term adjustments to changing market conditions.
- Profit maximization of sellers – Firms sell where the most profit is generated, where marginal costs meet marginal revenue.
- Rational buyers: Buyers make all trades that increase their economic utility and make no trades that do not increase their utility.
- No externalities – Costs or benefits of an activity do not affect third parties. This criteria also excludes any government intervention.
- Zero transaction costs – Buyers and sellers do not incur costs in making an exchange of goods in a perfectly competitive market.
- Non-increasing returns to scale and no network effects – The lack of economies of scale or network effects ensures that there will always be a sufficient number of firms in the industry.
- Anti-competitive regulation - It is assumed that a market of perfect competition shall provide the regulations and protections implicit in the control of and elimination of anti-competitive activity in the market place.

Normal Profit

In a perfect market the sellers operate at zero economic surplus: sellers make a level of return on investment known as normal profits.

Normal profit is a component of (implicit) costs and not a component of business profit at all. It represents the opportunity cost, as the time that the owner spends running the firm could be spent on running a different firm. The enterprise component of normal profit is thus the profit that a business owner considers necessary to make running the business worth her or his while *i.e.*, it is comparable to the next best amount the entrepreneur could earn doing another job. Particularly if enterprise is not included as a factor of production, it can also be viewed a return to capital for investors including the entrepreneur, equivalent to the return the capital owner could have expected (in a safe investment), plus compensation for risk. In other words, the cost of normal profit varies both within and across industries; it is commensurate with the riskiness associated with each type of investment, as per the risk-return spectrum.

Only normal profits arise in circumstances of perfect competition when long run economic equilibrium is reached; there is no incentive for firms to either enter or leave the industry.

In Competitive and Contestable Markets

Economic profit does not occur in perfect competition in long run equilibrium; if it did, there would be an incentive for new firms to enter the industry, aided by a lack of barriers to entry until there was no longer any economic profit. As new firms enter the industry, they increase the supply of the product available in the market, and these new firms are forced to charge a lower price to entice

consumers to buy the additional supply these new firms are supplying as the firms all compete for customers. Incumbent firms within the industry face losing their existing customers to the new firms entering the industry, and are therefore forced to lower their prices to match the lower prices set by the new firms. New firms will continue to enter the industry until the price of the product is lowered to the point that it is the same as the average cost of producing the product, and all of the economic profit disappears. When this happens, economic agents outside of the industry find no advantage to forming new firms that enter into the industry, the supply of the product stops increasing, and the price charged for the product stabilizes, settling into an equilibrium.

The same is likewise true of the long run equilibria of monopolistically competitive industries and, more generally, any market which is held to be contestable. Normally, a firm that introduces a differentiated product can initially secure a *temporary* market power for a *short while*. At this stage, the initial price the consumer must pay for the product is high, and the demand for, as well as the availability of the product in the market, will be limited. In the long run, however, when the profitability of the product is well established, and because there are few barriers to entry, the number of firms that produce this product will increase until the available supply of the product eventually becomes relatively large, the price of the product shrinks down to the level of the average cost of producing the product. When this finally occurs, all monopoly profit associated with producing and selling the product disappears, and the initial monopoly turns into a competitive industry. In the case of contestable markets, the cycle is often ended with the departure of the former “hit and run” entrants to the market, returning the industry to its previous state, just with a lower price and no economic profit for the incumbent firms. Profit can, however, occur in competitive and contestable markets in the short run, as firms jostle for market position. Once risk is accounted for, long-lasting economic profit in a competitive market is thus viewed as the result of constant cost-cutting and performance improvement ahead of industry competitors, allowing costs to be below the market-set price.

In Uncompetitive Markets

Economic profit is, however, much more prevalent in uncompetitive markets such as in a perfect monopoly or oligopoly situation. In these scenarios, individual firms have some element of market power: Though monopolists are constrained by consumer demand, they are not price takers, but instead either price-setters or quantity setters. This allows the firm to set a price which is higher than that which would be found in a similar but more competitive industry, allowing them economic profit in both the long and short run.

The existence of economic profits depends on the prevalence of barriers to entry: these stop other firms from entering into the industry and sapping away profits, like they would in a more competitive market. In cases where barriers are present, but more than one firm, firms can collude to limit production, thereby

restricting supply in order to ensure the price of the product remains high enough to ensure all of the firms in the industry achieve an economic profit.

However, some economists, for instance Steve Keen, a professor at the University of Western Sydney, argue that even an infinitesimal amount of market power can allow a firm to produce a profit and that the absence of economic profit in an industry, or even merely that some production occurs at a loss, in and of itself constitutes a barrier to entry.

In a single-goods case, a positive economic profit happens when the firm's average cost is less than the price of the product or service at the profit-maximizing output. The economic profit is equal to the quantity of output multiplied by the difference between the average cost and the price.

Government Intervention

Often, governments will try to intervene in uncompetitive markets to make them more competitive. Antitrust (US) or competition (elsewhere) laws were created to prevent powerful firms from using their economic power to artificially create the barriers to entry they need to protect their economic profits. This includes the use of predatory pricing towards smaller competitors. For example, in the United States, Microsoft Corporation was initially convicted of breaking Anti-Trust Law and engaging in anti-competitive behaviour in order to form one such barrier in *United States v. Microsoft*; after a successful appeal on technical grounds, Microsoft agreed to a settlement with the Department of Justice in which they were faced with stringent oversight procedures and explicit requirements designed to prevent this predatory behaviour. With lower barriers, new firms can enter the market again, making the long run equilibrium much more like that of a competitive industry, with no economic profit for firms.

If a government feels it is impractical to have a competitive market – such as in the case of a natural monopoly – it will sometimes try to regulate the existing uncompetitive market by controlling the price firms charge for their product. For example, the old AT&T (regulated) monopoly, which existed before the courts ordered its breakup, had to get government approval to raise its prices. The government examined the monopoly's costs, and determined whether or not the monopoly should be able raise its price and if the government felt that the cost did not justify a higher price, it rejected the monopoly's application for a higher price. Although a regulated firm will not have an economic profit as large as it would in an unregulated situation, it can still make profits well above a competitive firm in a truly competitive market.

Results

In a perfectly competitive market, the demand curve facing a firm is perfectly elastic.

As mentioned above, the perfect competition model, if interpreted as applying also to short-period or very-short-period behaviour, is approximated only by markets of homogeneous products produced and purchased by very many sellers

and buyers, usually organized markets for agricultural products or raw materials. In real-world markets, assumptions such as perfect information cannot be verified and are only approximated in organized double-auction markets where most agents wait and observe the behaviour of prices before deciding to exchange (but in the long-period interpretation perfect information is not necessary, the analysis only aims at determining the average around which market prices gravitate, and for gravitation to operate one does not need perfect information).

In the absence of externalities and public goods, perfectly competitive equilibria are Pareto-efficient, *i.e.*, no improvement in the utility of a consumer is possible without a worsening of the utility of some other consumer. This is called the First Theorem of Welfare Economics. The basic reason is that no productive factor with a non-zero marginal product is left unutilized, and the units of each factor are so allocated as to yield the same indirect marginal utility in all uses, a basic efficiency condition (if this indirect marginal utility were higher in one use than in other ones, a Pareto improvement could be achieved by transferring a small amount of the factor to the use where it yields a higher marginal utility).

A simple proof assuming differentiable utility functions and production functions is the following. Let w_j be the 'price' (the rental) of a certain factor j , let MP_{j1} and MP_{j2} be its marginal product in the production of goods 1 and 2, and let p_1 and p_2 be these goods' prices. In equilibrium these prices must equal the respective marginal costs MC_1 and MC_2 ; remember that marginal cost equals factor 'price' divided by factor marginal productivity (because increasing the production of good by one very small unit through an increase of the employment of factor j requires increasing the factor employment by $1/MP_{ji}$ and thus increasing the cost by w_j/MP_{ji} , and through the condition of cost minimization that marginal products must be proportional to factor 'prices' it can be shown that the cost increase is the same if the output increase is obtained by optimally varying all factors). Optimal factor employment by a price-taking firm requires equality of factor rental and factor marginal revenue product, $w_j = p_i MP_{ji}$, so we obtain $p_1 = MC_1 = w_j / MP_{j1}$, $p_2 = MC_2 = w_j / MP_{j2}$.

Now choose any consumer purchasing both goods, and measure his utility in such units that in equilibrium his marginal utility of money (the increase in utility due to the last unit of money spent on each good), $MU_1/p_1 = MU_2/p_2$, is 1. Then $p_1 = MU_1$, $p_2 = MU_2$. The indirect marginal utility of the factor is the increase in the utility of our consumer achieved by an increase in the employment of the factor by one (very small) unit; this increase in utility through allocating the small increase in factor utilization to good 1 is $MP_{j1} MU_1 = MP_{j1} p_1 = w_j$, and through allocating it to good 2 it is $MP_{j2} MU_2 = MP_{j2} p_2 = w_j$ again. With our choice of units the marginal utility of the amount of the factor consumed directly by the optimizing consumer is again w , so the amount supplied of the factor too satisfies the condition of optimal allocation.

Monopoly violates this optimal allocation condition, because in a monopolized industry market price is above marginal cost, and this means that

factors are underutilized in the monopolized industry, they have a higher indirect marginal utility than in their uses in competitive industries. Of course this theorem is considered irrelevant by economists who do not believe that general equilibrium theory correctly predicts the functioning of market economies; but it is given great importance by neoclassical economists and it is the theoretical reason given by them for combating monopolies and for antitrust legislation.

Shutdown Point

In the short run, a firm operating at a loss [$R < TC$ (revenue less than total cost) or $P < ATC$ (price less than unit cost)] must decide whether to continue to operate or temporarily shut down. The shutdown rule states “in the short run a firm should continue to operate if price exceeds average variable costs”. Restated, the rule is that for a firm to continue producing in the short run it must earn sufficient revenue to cover its variable costs. The rationale for the rule is straightforward: By shutting down a firm avoids all variable costs. However, the firm must still pay fixed costs. Because fixed costs must be paid regardless of whether a firm operates they should not be considered in deciding whether to produce or shut down. Thus in determining whether to shut down a firm should compare total revenue to total variable costs (VC) rather than total costs (FC + VC). If the revenue the firm is receiving is greater than its total variable cost ($R > VC$), then the firm is covering all variable costs and there is additional revenue (“contribution”), which can be applied to fixed costs. (The size of the fixed costs is irrelevant as it is a sunk cost. The same consideration is used whether fixed costs are one dollar or one million dollars.) On the other hand, if $VC > R$ then the firm is not covering its production costs and it should immediately shut down. The rule is conventionally stated in terms of price (average revenue) and average variable costs. The rules are equivalent (if one divides both sides of inequality $TR > TVC$ by Q gives $P > AVC$). If the firm decides to operate, the firm will continue to produce where marginal revenue equals marginal costs because these conditions insure not only profit maximization (loss minimization) but also maximum contribution.

Another way to state the rule is that a firm should compare the profits from operating to those realized if it shut down and select the option that produces the greater profit. A firm that is shut down is generating zero revenue and incurring no variable costs. However, the firm still has to pay fixed cost. So the firm’s profit equals fixed costs or “FC. An operating firm is generating revenue, incurring variable costs and paying fixed costs. The operating firm’s profit is $R - VC - FC$. The firm should continue to operate if $R - VC - FC > -FC$, which simplified is $R > VC$. The difference between revenue, R , and variable costs, VC , is the contribution to fixed costs and any contribution is better than none. Thus, if $R > VC$ then firm should operate. If $R < VC$ the firm should shut down.

A decision to shut down means that the firm is temporarily suspending production. It does not mean that the firm is going out of business (exiting the

industry). If market conditions improve, and prices increase, the firm can resume production. Shutting down is a short-run decision. A firm that has shut down is not producing. The firm still retains its capital assets; however, the firm cannot leave the industry or avoid its fixed costs in the short run. Exit is a long-term decision. A firm that has exited an industry has avoided all commitments and freed all capital for use in more profitable enterprises.

However, a firm cannot continue to incur losses indefinitely. In the long run, the firm will have to earn sufficient revenue to cover all its expenses and must decide whether to continue in business or to leave the industry and pursue profits elsewhere. The long-run decision is based on the relationship of the price and long-run average costs. If $P \geq AC$ then the firm will not exit the industry. If $P < AC$, then the firm will exit the industry. These comparisons will be made after the firm has made the necessary and feasible long-term adjustments. In the long run a firm operates where marginal revenue equals long-run marginal costs.

Short-run Supply Curve

The short-run (SR) supply curve for a perfectly competitive firm is the marginal cost (MC) curve at and above the shutdown point. Portions of the marginal cost curve below the shutdown point are not part of the SR supply curve because the firm is not producing any positive quantity in that range. Technically the SR supply curve is a discontinuous function composed of the segment of the MC curve at and above minimum of the average variable cost curve and a segment that runs on the vertical axis from the origin to but not including a point at the height of the minimum average variable cost.

Examples

Though there is no actual perfectly competitive market in the real world, a number of approximations exist:

An example is that of a large action of identical goods with all potential buyers and sellers present. By design, a stock exchange resembles this, not as a complete description (for no markets may satisfy all requirements of the model) but as an approximation.

The flaw in considering the stock exchange as an example of Perfect Competition is the fact that large institutional investors (*e.g.*, investment banks) may solely influence the market price. This, of course, violates the condition that “no one seller can influence market price”.

Horse betting is also quite a close approximation. When placing bets, consumers can just look down the line to see who is offering the best odds, and so no one bookie can offer worse odds than those being offered by the market as a whole, since consumers will just go to another bookie. This makes the bookies price-takers. Furthermore, the product on offer is very homogeneous, with the only differences between individual bets being the pay-off and the horse. Of course, there are not an infinite amount of bookies, and some barriers to entry exist, such as a license and the capital required to set up.

Criticisms

The use of the assumption of perfect competition as the foundation of price theory for product markets is often criticized as representing all agents as passive, thus removing the active attempts to increase one's welfare or profits by price undercutting, product design, advertising, innovation, activities that – the critics argue – characterize most industries and markets. These criticisms point to the frequent lack of realism of the assumptions of product homogeneity and impossibility to differentiate it, but apart from this the accusation of passivity appears correct only for short-period or very-short-period analyses, in long-period analyses the inability of price to diverge from the natural or long-period price is due to active reactions of entry or exit.

Some economists have a different kind of criticism concerning perfect competition model. They are not criticizing the price taker assumption because it makes economic agents too “passive”, but because it then raises the question of who sets the prices. Indeed, if everyone is price taker, there is the need for a benevolent planner who gives and sets the prices, in other word, there is a need for a “price maker”. Therefore, it makes the perfect competition model appropriate not to describe a decentralize “market” economy but a centralized one. This in turn means that such kind of model has more to do with communism than capitalism.

Another frequent criticism is that it is often not true that in the short run differences between supply and demand cause changes in price; especially in manufacturing, the more common behaviour is alteration of production without nearly any alteration of price.

The critics of the assumption of perfect competition in product markets seldom question the basic neoclassical view of the working of market economies for this reason. The Austrian School insists strongly on this criticism, and yet the neoclassical view of the working of market economies as fundamentally efficient, reflecting consumer choices and assigning to each agent his contribution to social welfare, is esteemed to be fundamentally correct. Some non-neoclassical schools, like Post-Keynesians, reject the neoclassical approach to value and distribution, but not because of their rejection of perfect competition as a reasonable approximation to the working of most product markets; the reasons for rejection of the neoclassical ‘vision’ are different views of the determinants of income distribution and of aggregated demand.

In particular, the rejection of perfect competition does not generally entail the rejection of free competition as characterizing most product markets; indeed it has been argued that competition is stronger nowadays than in 19th century capitalism, owing to the increasing capacity of big conglomerate firms to enter any industry: therefore the classical idea of a tendency towards a uniform rate of return on investment in all industries owing to free entry is even more valid today; and the reason why General Motors, Exxon or Nestlé do not enter the computers or pharmaceutical industries is not insurmountable barriers to entry but rather that the rate of return in the latter industries is already sufficiently in

line with the average rate of return elsewhere as not to justify entry. On this few economists, it would seem, would disagree, even among the neoclassical ones. Thus when the issue is normal, or long-period, product prices, differences on the validity of the perfect competition assumption do not appear to imply important differences on the existence or not of a tendency of rates of return towards uniformity as long as entry is possible, and what is found fundamentally lacking in the perfect competition model is the absence of marketing expenses and innovation as causes of costs that do enter normal average cost.

The issue is different with respect to factor markets. Here the acceptance or denial of perfect competition in labour markets does make a big difference to the view of the working of market economies. One must distinguish neoclassical from non-neoclassical economists. For the former, absence of perfect competition in labour markets, *e.g.*, due to the existence of trade unions, impedes the smooth working of competition, which if left free to operate would cause a decrease of wages as long as there were unemployment, and would finally ensure the full employment of labour: labour unemployment is due to absence of perfect competition in labour markets. Most non-neoclassical economists deny that a full flexibility of wages would ensure the full employment of labour and find a stickiness of wages an indispensable component of a market economy, without which the economy would lack the regularity and persistence indispensable to its smooth working. This was, for example, John Maynard Keynes's opinion.

Particularly radical is the view of the Sraffian school on this issue: the labour demand curve cannot be determined hence a level of wages ensuring the equality between supply and demand for labour does not exist, and economics should resume the viewpoint of the classical economists, according to whom competition in labour markets does not and cannot mean indefinite price flexibility as long as supply and demand are unequal, it only means a tendency to equality of wages for similar work, but the level of wages is necessarily determined by complex sociopolitical elements; custom, feelings of justice, informal allegiances to classes, as well as overt coalitions such as trade unions, far from being impediments to a smooth working of labour markets that would be able to determine wages even without these elements, are on the contrary indispensable because without them there would be no way to determine wages.

PRICE AND OUTPUT DETERMINATION

Price discrimination is a microeconomic pricing strategy where identical or largely similar goods or services are transacted at different prices by the same provider in different markets. Price discrimination is distinguished from product differentiation by the more substantial difference in production cost for the differently priced products involved in the latter strategy. Price differentiation essentially relies on the variation in the customers' willingness to pay and in the elasticity of their demand. Price discrimination, very differently, relies on monopoly power, including market share, product uniqueness, sole pricing power, *etc.*

The term differential pricing is also used to describe the practice of charging different prices to different buyers for the same quality and quantity of a product, but it can also refer to a combination of price differentiation and product differentiation. Other terms used to refer to price discrimination include equity pricing, preferential pricing, dual pricing and tiered pricing. Within the broader domain of price differentiation, a commonly accepted classification dating to the 1920s is:

- Personalized pricing (or first-degree price differentiation) — selling to each customer at a different price; this is also called one-to-one marketing. The optimal incarnation of this is called perfect price discrimination and maximizes the price that each customer is willing to pay.
- Product versioning or simply versioning (or second-degree price differentiation) — offering a product line by creating slightly different products for the purpose of price differentiation, *i.e.*, a *vertical* product line. Another name given to versioning is menu pricing.
- Group pricing (or third-degree price differentiation) — dividing the market into segments and charging a different price to each segment (but the same price to each member of that segment). This is essentially a heuristic approximation that simplifies the problem in face of the difficulties with personalized pricing. Typical examples include student discounts and seniors' discounts.

Theoretical Basis

In a theoretical market with perfect information, perfect substitutes, and no transaction costs or prohibition on secondary exchange (or re-selling) to prevent arbitrage, price discrimination can only be a feature of monopolistic and oligopolistic markets, where market power can be exercised. Otherwise, the moment the seller tries to sell the same good at different prices, the seller at the lower price can arbitrage by selling to the consumer buying at the higher price but with a tiny discount. However, product heterogeneity, market frictions or high fixed costs (which make marginal-cost pricing unsustainable in the long run) can allow for some degree of differential pricing to different consumers, even in fully competitive retail or industrial markets.

The effects of price discrimination on social efficiency are unclear. Output can be expanded when price discrimination is very efficient. Even if output remains constant, price discrimination can reduce efficiency by misallocating output among consumers.

Price discrimination requires market segmentation and some means to discourage discount customers from becoming resellers and, by extension, competitors. This usually entails using one or more means of preventing any resale: keeping the different price groups separate, making price comparisons difficult, or restricting pricing information. The boundary set up by the marketer to keep segments separate is referred to as a *rate fence*. Price discrimination is

thus very common in services where resale is not possible; an example is student discounts at museums: In theory, students, for their condition as students, may get lower prices than the rest of the population for a certain product or service, and later will not become resellers, since what they received, may only be used or consumed by them. Another example of price discrimination is intellectual property, enforced by law and by technology. In the market for DVDs, laws require DVD players to be designed and produced with hardware or software that prevents inexpensive copying or playing of content purchased legally elsewhere in the world at a lower price. In the US the Digital Millennium Copyright Act has provisions to outlaw circumventing of such devices to protect the enhanced monopoly profits that copyright holders can obtain from price discrimination against higher price market segments.

Price discrimination can also be seen where the requirement that goods be identical is relaxed. For example, so-called “premium products” (including relatively simple products, such as cappuccino compared to regular coffee with cream) have a price differential that is not explained by the cost of production. Some economists have argued that this is a form of price discrimination exercised by providing a means for consumers to reveal their willingness to pay.

First Degree

Exercising first degree (or perfect or primary) price discrimination requires the monopoly seller of a good or service to know the absolute maximum price (or reservation price) that every consumer is willing to pay. By knowing the reservation price, the seller is able to sell the good or service to each consumer at the maximum price they are willing to pay, and thus transform the consumer surplus into revenues, leading it to be the most profitable form of price discrimination. So the profit is equal to the sum of consumer surplus and producer surplus. The marginal consumer is the one whose reservation price equals the marginal cost of the product. The seller produces more of their product than they would to achieve monopoly profits with no price discrimination, which means that there is no deadweight loss. Examples of this might be observed in markets where consumers bid for tenders, though, in this case, the practice of collusive tendering could reduce the market efficiency.

Second Degree

In second-degree price discrimination, price varies according to quantity demanded. Larger quantities are available at a lower unit price. This is particularly widespread in sales to industrial customers, where bulk buyers enjoy discounts.

Additionally to second-degree price discrimination, sellers are not able to differentiate between different types of consumers. Thus, the suppliers will provide incentives for the consumers to differentiate themselves according to preference, which is done by quantity “discounts”, or non-linear pricing. This allows the supplier to set different prices to the different groups and capture a larger portion of the total market surplus.

In reality, different pricing may apply to differences in product quality as well as quantity. For example, airlines often offer multiple classes of seats on flights, such as first-class and economy class, with the first-class passengers receiving wine, beer and spirits with their ticket and the economy passengers offered only juice, pop, and water. This is a way to differentiate consumers based on preference, and therefore allows the airline to capture more consumer's surplus.

Third Degree

Third degree price discrimination means charging a different price to different consumer groups. For example, rail and tube (subway) travellers can be subdivided into commuter and casual travellers, and cinema goers can be subdivided into adults and children, with some theatres also offering discounts to full-time students and seniors. Splitting the market into peak and off peak use of a service is very common and occurs with gas, electricity, and telephone supply, as well as gym membership and parking charges. Some parking lots charge less for "early bird" customers who arrive at the parking lot before a certain time.

(Some of these examples are not pure "price discrimination", in that the differential price is related to production costs: the marginal cost of providing electricity or car parking spaces is very low outside peak hours. Incentivizing consumers to switch to off-peak usage is done as much to minimize costs as to maximize revenue.)

Modern Taxonomy

The first/second/third degree taxonomy of price discrimination is due to Pigou (*Economics of Welfare*, 4th edition, 1932). The modern taxonomy of price discrimination. However, these categories are not mutually exclusive or exhaustive. Ivan Png (*Managerial Economics*, 2nd edition, 2002) suggests an alternative taxonomy:

Complete discrimination where each user purchases up to the point where the user's marginal benefit equals the marginal cost of the item;

Direct segmentation where the seller can condition price on some attribute (like age or gender) that *directly* segments the buyers;

Indirect segmentation where the seller relies on some proxy (*e.g.*, package size, usage quantity, coupon) to structure a choice that *indirectly* segments the buyers.

The hierarchy—complete/direct/indirect—is in decreasing order of profitability and information requirement. Complete price discrimination is most profitable, and requires the seller to have the most information about buyers. Indirect segmentation is least profitable, and requires the seller to have the least information about buyers.

Two Part Tariff

The two-part tariff is another form of price discrimination where the producer charges an initial fee then a secondary fee for the use of the product. An example of this is razors, you pay an initial cost for the razor and then pay for the replacement blades. This pricing strategy works because it shifts the demand curve to the right: since you have already paid for the initial blade holder you will buy the blades which are now cheaper than buying a disposable razor.

Explanation

The purpose of price discrimination is generally to capture the market's consumer surplus. This surplus arises because, in a market with a single clearing price, some customers (the very low price elasticity segment) would have been prepared to pay more than the single market price. Price discrimination transfers some of this surplus from the consumer to the producer/marketer. Strictly, a consumer surplus need not exist, for example where some below-cost selling is beneficial due to fixed costs or economies of scale. An example is a high-speed internet connection shared by two consumers in a single building; if one is willing to pay less than half the cost, and the other willing to make up the rest but not to pay the entire cost, then price discrimination is necessary for the purchase to take place.

It can be proved mathematically that a firm facing a downward sloping demand curve that is convex to the origin will always obtain higher revenues under price discrimination than under a single price strategy. This can also be shown geometrically.

A single price (P) is available to all customers. The amount of revenue is represented by area P, A, Q, O . The consumer surplus is the area above line segment P, A but below the demand curve (D).

With price discrimination, the demand curve is divided into two segments (D_1 and D_2). A higher price (P_1) is charged to the low elasticity segment, and a lower price (P_2) is charged to the high elasticity segment. The total revenue from the first segment is equal to the area P_1, B, Q_1, O . The total revenue from the second segment is equal to the area E, C, Q_2, Q_1 . The sum of these areas will always be greater than the area without discrimination assuming the demand curve resembles a rectangular hyperbola with unitary elasticity. The more prices that are introduced, the greater the sum of the revenue areas, and the more of the consumer surplus is captured by the producer.

Note that the above requires both first and second degree price discrimination: the right segment corresponds partly to different people than the left segment, partly to the same people, willing to buy more if the product is cheaper.

It is very useful for the price discriminator to determine the optimum prices in each market segment. Each segment is considered as a separate market with its own demand curve. As usual, the profit maximizing output (Q_t) is determined by the intersection of the marginal cost curve (MC) with the marginal revenue curve for the total market (MRT).

The firm decides what amount of the total output to sell in each market by looking at the intersection of marginal cost with marginal revenue (profit maximization). This output is then divided between the two markets, at the equilibrium marginal revenue level. Therefore, the optimum outputs are Q_a and Q_b . From the demand curve in each market we can determine the profit maximizing prices of P_a and P_b .

It is also important to note that the marginal revenue in both markets at the optimal output levels must be equal, otherwise the firm could profit from transferring output over to whichever market is offering higher marginal revenue.

Given that Market 1 has a price elasticity of demand of E_1 and Market 2 of E_2 , the optimal pricing ration in Market 1 versus Market 2 is $\{ \displaystyle P_1/P_2 = [1 + 1/E_2] / [1 + 1/E_1] \}$.

3

The Concept of Production Function

CONCEPT OF PRODUCTION FUNCTIONS

In micro-economics, a production function is a function that specifies the output of a firm for all combinations of inputs. A meta-production function (sometimes metaproduction function) compares the practice of the existing entities converting inputs into output to determine the most efficient practice production function of the existing entities, whether the most efficient feasible practice production or the most efficient actual practice production. In either case, the maximum output of a technologically-determined production process is a mathematical function of one or more inputs. Put another way, given the set of all technically feasible combinations of output and inputs, only the combinations encompassing a maximum output for a specified set of inputs would constitute the production function. Alternatively, a production function can be defined as the specification of the minimum input requirements needed to produce designated quantities of output, given available technology. It is usually presumed that unique production functions can be constructed for every production technology. By assuming that the maximum output technologically possible from a given set of inputs is achieved, economists using a production function in analysis are abstracting from the engineering and managerial problems inherently associated with a particular production process.

The engineering and managerial problems of technical efficiency are assumed to be solved, so that analysis can focus on the problems of allocative efficiency. The firm is assumed to be making allocative choices concerning how much of each input factor to use and how much output to produce, given the cost (purchase

price) of each factor, the selling price of the output, and the technological determinants represented by the production function. A decision frame in which one or more inputs are held constant may be used; for example, (physical) capital may be assumed to be fixed (constant) in the short run, and labour and possibly other inputs such as raw materials variable, while in the long run, the quantities of both capital and the other factors that may be chosen by the firm are variable. In the long run, the firm may even have a choice of technologies, represented by various possible production functions.

The relationship of output to inputs is non-monetary; that is, a production function relates physical inputs to physical outputs, and prices and costs are not reflected in the function. But the production function is not a full model of the production process: it deliberately abstracts from inherent aspects of physical production processes that some would argue are essential, including error, entropy or waste. Moreover, production functions do not ordinarily model the business processes, either, ignoring the role of management. The primary purpose of the production function is to address allocative efficiency in the use of factor inputs in production and the resulting distribution of income to those factors. Under certain assumptions, the production function can be used to derive a marginal product for each factor, which implies an ideal division of the income generated from output into an income due to each input factor of production.

Specifying the Production Function

A production function can be expressed in a functional form as the right side of

$$Q = f(X_1, X_2, X_3, \dots, X_n)$$

where:

Q = quantity of output

$X_1, X_2, X_3, \dots, X_n$ = quantities of factor inputs (such as capital, labour, land or raw materials).

If Q is not a matrix (*i.e.*, a scalar, a vector, or even a diagonal matrix), then this form does not encompass joint production, which is a production process that has multiple co-products. On the other hand, if f maps from R^n to R^k then it is a joint production function expressing the determination of k different types of output based on the joint usage of the specified quantities of the n inputs.

One formulation, unlikely to be relevant in practice, is as a linear function:

$$Q = a + bX_1 + cX_2 + dX_3 + \dots$$

where a, b, c , and d are parameters that are determined empirically.

Another is as a Cobb-Douglas production function:

$$Q = aX_1^b X_2^c \dots$$

The Leontief production function applies to situations in which inputs must be used in fixed proportions; starting from those proportions, if usage of one input is increased without another being increased, output will not change. This production function is given by

$$Q = \min(aX_1, bX_2, \dots).$$

Other forms include the constant elasticity of substitution production function (CES), which is a generalized form of the Cobb-Douglas function, and the quadratic

production function. The best form of the equation to use and the values of the parameters (a, b, c, \dots) vary from company to company and industry to industry. In a short run production function at least one of the X 's (inputs) is fixed. In the long run all factor inputs are variable at the discretion of management.

Any of these equations can be plotted on a graph. A typical (quadratic) production function is shown in the following diagram under the assumption of a single variable input (or fixed ratios of inputs so they can be treated as a single variable). All points above the production function are unobtainable with current technology, all points below are technically feasible, and all points on the function show the maximum quantity of output obtainable at the specified level of usage of the input. From the origin, through points A, B, and C, the production function is rising, indicating that as additional units of inputs are used, the quantity of output also increases. Beyond point C, the employment of additional units of inputs produces no additional output (in fact, total output starts to decline); the variable input is being used too intensively. With too much variable input use relative to the available fixed inputs, the company is experiencing negative marginal returns to variable inputs, and diminishing total returns. In the diagram this is illustrated by the negative marginal physical product curve (MPP) beyond point Z, and the declining production function beyond point C.

From the origin to point A, the firm is experiencing increasing returns to variable inputs: As additional inputs are employed, output increases at an increasing rate. Both marginal physical product (MPP, the derivative of the production function) and average physical product (APP, the ratio of output to the variable input) are rising. The inflection point A defines the point beyond which there are diminishing marginal returns, as can be seen from the declining MPP curve beyond point X. From point A to point C, the firm is experiencing positive but decreasing marginal returns to the variable input. As additional units of the input are employed, output increases but at a decreasing rate. Point B is the point beyond which there are diminishing average returns, as shown by the declining slope of the average physical product curve (APP) beyond point Y. Point B is just tangent to the steepest ray from the origin hence the average physical product is at a maximum. Beyond point B, mathematical necessity requires that the marginal curve must be below the average curve.

PRODUCTION PROCESS

The production process is concerned with transforming a range of inputs into those outputs that are required by the market. This involves two main sets of resources - the transforming resources, and the transformed resources. The transforming resources include the buildings, machinery, computers, and people that carry out the transforming processes. The transformed resources are the raw materials and components that are transformed into end products.

Any production process involves a series of links in a production chain. At each stage value is added in the course of production. Adding value involves making a product more desirable to a consumer so that they will pay more for

it. Adding value therefore is not just about manufacturing, but relates to all processes *e.g.*, advertising, promotion, distribution, *etc.*, that make the final product more desirable. It is very important for businesses to identify the processes that add value, so that they can enhance these processes to the ongoing benefit of the business. There are three main types of process: job, batch and flow production.

JOB PRODUCTION

Job or 'make complete' production is the creation of single items by either one operative or a team of operative's *e.g.*, the Humber Bridge or a frigate for the navy. It is possible for a number of identical units to be produced in parallel under job production, *e.g.*, several frigates of a similar type. Smaller projects can also be seen as a form of job production, *e.g.*, hand knitting a sweater, writing a book, rewiring a house, *etc.*

Job production is unique in the fact that the project is considered to be a single operation, which requires the complete attention of the operative before he or she passes on to the next job. A good example of job production is the work carried out by Portakabin in creating modular buildings such as offices, which it designs, assembles and maintains for clients. Examples from the service industries include cutting hair, and processing a customers' order in a store like Argos.

The benefits of job production are:

1. The job is a unique product, which exactly matches the requirements of the customer, often from as early as the design stage. It will therefore tend to be specific to a customer's order and not in anticipation of a sale. For example, someone doing a customised spray paint job on a motorcycle will first discuss with a customer the sort of design he would like. A detailed sketch would then be produced on a piece of paper. Once the sketch has been approved the back of the sketch will be chalked over and traced on to the relevant piece of the motorbike. The background work is then sprayed on with an airbrush before the fine detail is painted on. The finished work is then inspected by the customer who will pay for a unique product.
2. As the work is concentrated on a specific unit, supervision and inspection of work are relatively simple.
3. Specifications for the job can change during the course of production depending upon the customer's inspection to meet his or her changing needs. For example, when a printing firm like Polestar is asked to produce a catalogue for a grocery chain it is relatively simple to change the prices of some of the goods listed in the catalogue.
4. Working on a single unit job, coping with a variety of tasks and being part of a small team working towards the same aim would provide employees with a greater level of satisfaction. For example, aircrews working for United Airways would treat each flight as a specific job, with passengers requiring individual attention to their specific needs - *e.g.*, for vegetarian dishes, wheelchair access to the flight, *etc.*

BATCH PRODUCTION

The term batch refers to a specific group of components, which go through a production process together. As one batch finishes, the next one starts. For example on Monday, Machine A produces a type 1 engine part, on Tuesday it produces a type 2 engine part, on Wednesday a type 3 and so on. All engine parts will then go forward to the final assembly of different categories of engine parts.

Batches are continually processed through each machine before moving on to the next operation. This method is sometimes referred to as ‘intermittent’ production as different job types are held as work-in-progress between the various stages of production.

The benefits of batch production are:

1. It is particularly suitable for a wide range of almost similar goods, which can use the same machinery on different settings. For example batches of letters can be sent out to customers of an insurance company.
2. It economises upon the range of machinery needed and reduces the need for a flexible workforce.
3. Units can respond quickly to customer orders by moving buffer stocks of work-in-progress or partly completed products through the final production stages.
4. It makes possible economies of scale in techniques of production, bulk purchasing and areas of organisation.
5. It makes costing easy and provides a better information service for management.

FLOW PRODUCTION

Batch production is described as ‘intermittent’ production and is characterised by irregularity. If the rest period in batch production disappeared it would then become flow production. Flow production is therefore a continuous process of parts and sub-assemblies passing on from one stage to another until completion. Units are worked upon in each operation and then passed straight on to the next work stage without waiting for the batch to be completed. To make sure that the production line can work smoothly each operation must be of standard lengths and there should be no movements or leakages from the line, *i.e.*, hold-ups to work-in-progress. For flow production to be successful there needs to be a continuity of demand. If demand varied, this could lead to a constant overstocking of finished goods. Although with modern robotics it is possible to create variations in products being produced through continuous flow techniques, typically such products will be relatively standardised.

Achieving a smooth flow of production requires considerable pre-production planning to make sure that raw materials are purchased and delivered just-in-time, that sufficient labour is employed and that there is continuous attention to quality throughout the production process.

The benefits of flow production are:

- Ease of using just-in-time techniques to eliminate waste and minimise costs
- Labour and other production costs will be reduced through detailed planning and the use of robotics and automation
- Deviations in the line can be quickly spotted through ongoing quality control techniques
- As there is no rest between operations, work-in-progress levels can be kept low
- The need for storage space is minimal
- The physical handling of items is minimal
- Investment in raw materials and parts are quickly converted into sales
- Control is easy.

METHODS OF PRODUCTION

Two major processes should come together in the preparation of a product or service for market:

1. Market research to find out what people want to buy, and how they want it
2. Product design and development to look at different ways of producing a good or service.

There are several different methods of producing goods and services.

JOB PRODUCTION

Involves the production of single, individual items. For example, a boat-builder might get an order to produce a one-off yacht, or a hairdresser may be asked to create a style for one person for a special occasion.

Firms might specialise in producing one-off jobs such as customised motor bikes.

BATCH PRODUCTION

Means the production of batches of similar products. For example, a baker might produce batches of jam doughnuts, cream buns, eccles cakes and so on.

FLOW PRODUCTION

Involves passing sub-assemblies/parts from one stage of production to another in a regular flow. Each stage adds to the products. For example a modern bottling plant used by Coca-Cola or Cadbury Schweppes would use this approach.

MASS PRODUCTION

Involves the production of products on a large scale. This sometimes involves flow production, but there may be only one stage in the production process. Of mass produced products using continuous flow techniques include:

- Bottling plant *e.g.*, Coca-Cola
- Car manufacturing *e.g.*, Audi
- Printing *e.g.*, Polestar
- Construction *e.g.*, Portakabin.

Operations

Operating activities (or operations) are the ongoing activities that a business is involved in - *e.g.*, processing a customer's order in an Argos store, producing a biro or razor in a BIC plant, *etc.* It is important that these operations are controlled effectively to make sure that managers achieve desired objectives.

For example, production managers may have created a production schedule for a particular line whereby, 1,000 razors are produced on a production line, in an hour with zero defects. If it is noticed that there is a defect to a single razor it is essential to put into effect control procedures so that the line can be put right immediately.

Production variety is inevitable and this can lead to organisational problems. For example, an increase in the number of component types will require more space in the stores. Control of variety is essential in reducing storage space, the number of production runs, types of machines, production aids and in making production control easier. As firms move towards specialisation, opportunities increase for mass production. Mass production is the production of goods on a large scale. Typically the greater the volume of mass production, the greater the benefits of economies of scale as the firm moves towards its lowest unit cost size. It is often assumed that mass production will affect quality. However, this is rarely the case. With mass production, quality will be more uniform and will not depend upon the scale of production but upon the skill of managers.

Automation and robotics have enabled managers to gain far more control over operating systems. Computer Aided Design (CAD) enables high levels of efficiency in the design of products. Computer Aided Manufacturing enables high levels of control and standardisation in manufacturing processes.

CONTROL SYSTEMS

The Nissan factory at Sunderland provides an excellent example of modern control systems in manufacturing. Advanced computer systems enable the factory to order components and materials from supplier's just-in-time for use in the factory. Sub-assemblies are then brought together just-in-time for production into the final vehicles, which roll off the assembly lines just in time to meet the demands of final consumers. Everyone that works in the plant is encouraged to involve themselves in identifying problems as and when they occur - and this level of control means that faults and waste are reduced to a minimum.

CAD/CAM - computer-aided design, and computer-aided manufacturing. A product is designed with a CAD programme and then the design is translated into instructions which are transmitted to machines that are dedicated to the manufacture of items such as car parts, or the finished assembly.

PRODUCTION AND QUALITY

The term 'quality' in a business sense means 'fitness for purpose'. A supplier supplies a quality product when it exactly meets the requirements of the end customer.

When an airline provides a first class premium service to customers who are delighted with the service, then they have provided a quality service.

Alternatively when a low cost, no frills airline provides a bargain basement flight to a passenger and the passenger is satisfied with the service - then this would also be considered a 'quality' service. You can see therefore that quality can be achieved at all levels of the price spectrum for products and services. What businesses are interested in is achieving total quality systems. What this means is that they concentrate on quality at every stage in the production process.

Everyone that works for a firm deals with internal customers, many also deal with external customers. Take for example, the case of a product that goes through 3 processes before being sold to the end (external consumer): Teams of workers are involved in carrying out the 3 processes.

Each team should be responsible for guaranteeing the quality for their process. In this way there should be no defects or waste from the process - enabling total quality management. Many companies today operate a system of continuous improvement whereby teams and individuals are constantly seeking to identify small step improvements in production methods so as to make quality improvements to create even more satisfied internal and external consumers.

Today total quality management is more important than end of production line quality checking, to ensure the highest level of customer satisfaction and wherever possible 'zero defects'.

PRODUCTION AND RESOURCE REQUIREMENTS

Production consists of all those processes which involve converting inputs into finished outputs that can be sold in the marketplace. In order to carry out production activities you need to use up resources. What then are the typical resources used in the production process?

Let us take the example of producing biscuits in a factory.

The key resources that you need to produce biscuits will include:

- Raw materials - e.g., sugar, dough, water, currants, chocolate, etc.
- People - the employees that are involved in running the machinery
- Machinery - to mix the ingredients, cook the biscuits, pack the biscuits and check on quality
- Finance - the wages of the employees, the cost of the raw materials, and the purchase of the machinery will all need financial resources
- Time - is a resource that is often neglected. However, the timing of operations needs to be well planned and organised
- Plant - the building in which the production process takes place

- Land - on which the plant is built
- Marketing and advertising resources
- Managerial resources.

When you look at the list you can see that it is quite extensive. To make sure that the biscuits are produced in the way they are required and when they are required needs organisation. Production planning is the process of organising the production process so that all the various component parts are organised in a structured way. Production schedules need to be set out and these are usually created using a diagrammatic format with numbers written in to show the quantities of the various resources that are required at particular times.

Production managers are responsible for production planning. Nowadays a lot of production planning can be carried out using Information and Communications Technology (ICT) packages. This enables the use of such techniques as Just-In-Time production when the timing of the use of production resources is carefully set out in diagrams.

INPUT-OUTPUT DECISIONS IN PRODUCTION

By “*Cost of Production*” is meant the total sum of money required for the production of a specific quantity of output. In the word of Gulhrie and Wallace:

“In Economics, cost of production has a special meaning. It is all of the payments or expenditures necessary to obtain the factors of production of land, labour, capital and management required to produce a commodity. It represents money costs which we want to incur in order to acquire the factors of production”. In the words of Campbell: “Production costs are those which must be received by resource owners in order to assume that they will continue to supply them in a particular time of production”.

STAGES OF PRODUCTION

To simplify the interpretation of a production function, it is common to divide its range into 3 stages. In Stage 1 (from the origin to point B) the variable input is being used with increasing output per unit, the latter reaching a maximum at point B (since the average physical product is at its maximum at that point). Because the output per unit of the variable input is improving throughout stage 1, a price-taking firm will always operate beyond this stage. In Stage 2, output increases at a decreasing rate, and the average and marginal physical product are declining.

However, the average product of fixed inputs (not shown) is still rising, because output is rising while fixed input usage is constant. In this stage, the employment of additional variable inputs increases the output per unit of fixed input but decreases the output per unit of the variable input. The optimum input/output combination for the price-taking firm will be in stage 2, although a firm facing a downward-sloped demand curve might find it most profitable to operate in Stage 1. In Stage 3, too much variable input is being used relative to the available fixed inputs: variable inputs are over-utilized in the sense that their

presence on the margin obstructs the production process rather than enhancing it. The output per unit of both the fixed and the variable input declines throughout this stage. At the boundary between stage 2 and stage 3, the highest possible output is being obtained from the fixed input.

Shifting a Production Function

By definition, in the long run the firm can change its scale of operations by adjusting the level of inputs that are fixed in the short run, thereby shifting the production function upward as plotted against the variable input. If fixed inputs are lumpy, adjustments to the scale of operations may be more significant than what is required to merely balance production capacity with demand. For example, you may only need to increase production by a million units per year to keep up with demand, but the production equipment upgrades that are available may involve increasing productive capacity by 2 million units per year.

If a firm is operating at a profit-maximizing level in stage one, it might, in the long run, choose to reduce its scale of operations (by selling capital equipment). By reducing the amount of fixed capital inputs, the production function will shift down. The beginning of stage 2 shifts from B1 to B2. The (unchanged) profit-maximizing output level will now be in stage 2.

Homogeneous and Homothetic Production Functions

There are two special classes of production functions that are often analysed. The production function $Q = f(X_1, X_2)$ is said to be homogeneous of degree n , if given any positive constant k , $f(kX_1, kX_2) = k^n f(X_1, X_2)$. If $n > 1$, the function exhibits increasing returns to scale, and it exhibits decreasing returns to scale if $n < 1$. If it is homogeneous of degree 1, it exhibits constant returns to scale.

The presence of increasing returns means that a one percent increase in the usage levels of all inputs would result in a greater than one percent increase in output; the presence of decreasing returns means that it would result in a less than one percent increase in output. Constant returns to scale is the in-between case. In the Cobb-Douglas production function referred to above, returns to scale are increasing if $b + c + \dots > 1$, decreasing if $b + c + \dots < 1$, and constant if $b + c + \dots = 1$.

If a production function is homogeneous of degree one, it is sometimes called “linearly homogeneous”. A linearly homogeneous production function with inputs capital and labour has the properties that the marginal and average physical products of both capital and labour can be expressed as functions of the capital-labour ratio alone. Moreover, in this case if each input is paid at a rate equal to its marginal product, the firm’s revenues will be exactly exhausted and there will be no excess economic profit. Homothetic functions are functions whose marginal technical rate of substitution (the slope of the isoquant, a curve drawn through the set of points in say labour-capital space at which the same quantity of output is produced for varying combinations of the inputs) is homogeneous of degree zero. Due to this, along rays coming from the origin, the slopes of the

isoquants will be the same. Homothetic functions are of the form $F(h(X_1, X_2))$ where $F(y)$ is a monotonically increasing function (the derivative of $F(y)$ is positive ($dF/dy > 0$)), and the function $h(X_1, X_2)$ is a homogeneous function of any degree.

Aggregate Production Functions

In macroeconomics, aggregate production functions for whole nations are sometimes constructed. In theory they are the summation of all the production functions of individual producers; however there are methodological problems associated with aggregate production functions, and economists have debated extensively whether the concept is valid.

Criticisms of Production Functions

There are two major criticisms of the standard form of the production function.

On the Concept of Capital

During the 1950s, '60s, and '70s there was a lively debate about the theoretical soundness of production functions. Although the criticism was directed primarily at aggregate production functions, microeconomic production functions were also put under scrutiny. The debate began in 1953 when Joan Robinson criticized the way the factor input capital was measured and how the notion of factor proportions had distracted economists.

According to the argument, it is impossible to conceive of capital in such a way that its quantity is independent of the rates of interest and wages.

The problem is that this independence is a precondition of constructing an isoquant. Further, the slope of the isoquant helps determine relative factor prices, but the curve cannot be constructed (and its slope measured) unless the prices are known beforehand.

On the Empirical Relevance

As a result of the criticism on their weak theoretical grounds, it has been claimed that empirical results firmly support the use of neoclassical *well behaved* aggregate production functions. Nevertheless, Anwar Shaikh has demonstrated that they also has no empirical relevance, as long as alleged good fit outcomes from an accounting identity, not from any underlying laws of production/distribution.

Natural Resources

Often natural resources are omitted from production functions. When Solow and Stiglitz sought to make the production function more realistic by adding in natural resources, they did it in a manner that economist Georgescu-Roegen criticized as a "conjuring trick" that failed to address the laws of thermodynamics, since their variant allows capital and labour to be infinitely substituted for natural resources. Neither Solow nor Stiglitz addressed his criticism, despite an invitation to do so in the September 1997 issue of the journal *Ecological Economics*.

MEANING AND TYPES OF PRODUCTION FUNCTION

Why Production should be studied Next. We have made human wants, consumption, and demand the first subjects of our study of economic theory because it is from these that all other economic phenomena take their rise. We have seen why men exert themselves in the work of production.

The next logical step is to inquire how men go about the work of production. We have studied the cause and the laws of demand. We have next to make a similar inquiry regarding supply. Our present study therefore is of the general subject of production," says John Stuart Mill, "of putting things into fit places for being acted upon by their own internal forces, and by those residing in other natural objects, is all that man does or can do with matter."

All Production essentially the Same: It has seemed to some, even among economists of an earlier time, that the farmer is more truly a producer than the manufacturer, and the manufacturer than the merchant; but careful thought discloses the fallacy of such a view. All industrial classes alike produce one or more of the four sorts of utility which we have described, and they do so by changing the relations of things in time or space. The farmer changes the position of grains of corn by dropping them into the earth. Then he removes weeds and throws earth about the rising stalks. Thus man's acts in changing the relations and position of things, aided by nature's materials and forces, result in more corn for human consumption.

The manufacturer in the same way changes the position of pieces of matter, and, aided by natural forces within and without the object of production, he causes matter to assume a form which fits it, or better fits it, for human needs. So, too, the merchant changes the places of things from where they are less useful to where they are more useful, or holds them in one place until a change of external circumstances gives them a greater time utility. He is producing utilities as truly as is the farmer or the manufacturer.

Of course it is possible that the utilities actually produced by merchants could be produced with a smaller expenditure of economic force than they are at present, and that saving could be effected by a better organization of the work of production.

Again, it may be that the merchant may now and then secure a larger return for the production of a given quantity of social utility than does the farmer. But all this affords no justification for the popular impression that his work is really less productive in its nature than is that of any other industrial class. The only difference is in the kind of utility that the different classes are engaged in producing. Finally, it must be remembered that in the same way the physician, the teacher, and all others who are engaged in rendering personal services, are creating utilities, and are therefore producers.

Production, then, we may define as the creation of utilities by the application of man's mental and physical powers to the physical universe, which furnishes materials and forces. This application of man's powers we call labour.

We have already defined goods and economic goods: It remains for us here to call attention to the fact that those quantities of utility which result from labour are economic goods, but that not all economic goods are to the same extent the result of labour. One may pick up a diamond or a nugget of gold upon which one has stumbled: in such a case it can hardly be said that the economic good is the result of labour at all. But even in such rare cases it must be remembered that while the one diamond or the one nugget may have required no labour in getting, yet the whole stock of such goods is the result of toil and suffering and privation for which the value of our diamonds and gold, it is frequently said, does not represent anything like a proper recompense.

There is one clearly marked case of value creation which is not wealth production. The land on which New York and Chicago stand could have been purchased only a few centuries ago for a very small sum of money. The great value which that land now has is to a considerable degree the result of human labour, but much of it is due to the great increase in population, which of itself represents no idea of labour. Such value is a product of social aggregation, not of individual effort. The question of the expediency of allowing individuals to appropriate these individually unearned increments of value will be discussed later. Here it concerns us only to notice that such unearned increments exist; in other words, that there is such a thing in the world as value creation which is not at the same time wealth production.

Individual and Social Wealth: This distinction between the individual and the social standpoint runs all the way through economics, and it is particularly important in the case of the conception of wealth or economic goods. What is wealth to the individual may not be wealth to society, and, on the other hand, what is wealth to society may not be within the ownership of an individual.

Thus a mortgage is wealth to the individual who holds it, but it is not a part of social wealth, since if the claim for which it stands is extinguished, society is neither richer nor poorer. The case is the same with bonds issued by a city, a state, or a nation.

Productive Elements often Overlooked: There are many important facts regarding production which are often overlooked. Thus we are likely to forget that even today a large part of production is household production, and is not designed for the market place at all. The labour of at least half the women of the country is expended in producing material good things for the use of producers.

Again, we are likely to overlook the fact that in the country, where over one-half of the population of the United States lives and works, there is annually produced a vast amount of goods which are destined not for the market but for home consumption. Vegetables, small fruits, cultivated and wild, butter, eggs, meat, fish caught in public waters, and game are some of the things that occur most readily to the mind. Considerations of this character show the great need of caution in attempting to compare the annual production of one country with that of another, or to compare the annual production of the same country at different periods. Household production is becoming relatively less important,

while the production of things for the market, the value of which is readily measured in money, is constantly gaining in importance. Hence, apparent annual production the production of things which have a market price set upon them is increasing more rapidly than is the real annual production. The result is a tendency to overestimate our progress and even to count as progress what may not be progress at all.

Thus, should boarding-house and hotel life displace private housekeeping, annual production might appear to increase as a result of the change, though the real wealth and income of the country would evidently be affected in no such degree. Still further care must be exercised in studying census estimates of wealth. These estimates are ordinarily made in terms of money. Now if commodities are very abundant, their price, other things being equal, will be low, though the real wealth of the country is great. If, for instance, the quantity of cotton cloth produced doubles between two census periods, while the price falls one-half, the total value of the product will appear in the census estimates as equal in the two cases, though it is evident that society in the second period has twice the amount of this valuable commodity.

DEFINING THE PRODUCTION FUNCTION

The production function relates the maximum amount of output that can be obtained from a given number of inputs. In economics, a production function relates physical output of a production process to physical inputs or factors of production. It is a mathematical function that relates the maximum amount of output that can be obtained from a given number of inputs – generally capital and labour. The production function, therefore, describes a boundary or frontier representing the limit of output obtainable from each feasible combination of inputs.

Firms use the production function to determine how much output they should produce given the price of a good, and what combination of inputs they should use to produce given the price of capital and labour. When firms are deciding how much to produce they typically find that at high levels of production, their marginal costs begin increasing. This is also known as diminishing returns to scale – increasing the quantity of inputs creates a less-than-proportional increase in the quantity of output. If it weren't for diminishing returns to scale, supply could expand without limits without increasing the price of a good.

Increasing marginal costs can be identified using the production function. If a firm has a production function $Q=F(K,L)$ (that is, the quantity of output (Q) is some function of capital (K) and labour (L)), then if $2Q < F(2K,2L)$, the production function has increasing marginal costs and diminishing returns to scale. Similarly, if $2Q > F(2K,2L)$, there are increasing returns to scale, and if $2Q = F(2K,2L)$, there are constant returns to scale.

Examples of Common Production Functions

One very simple example of a production function might be $Q=K+L$, where Q is the quantity of output, K is the amount of capital, and L is the amount of

labour used in production. This production function says that a firm can produce one unit of output for every unit of capital or labour it employs. From this production function we can see that this industry has constant returns to scale – that is, the amount of output will increase proportionally to any increase in the amount of inputs.

Another common production function is the Cobb-Douglas production function. One example of this type of function is $Q=K^{0.5}L^{0.5}$. This describes a firm that requires the least total number of inputs when the combination of inputs is relatively equal. For example, the firm could produce 25 units of output by using 25 units of capital and 25 of labour, or it could produce the same 25 units of output with 125 units of labour and only one unit of capital.

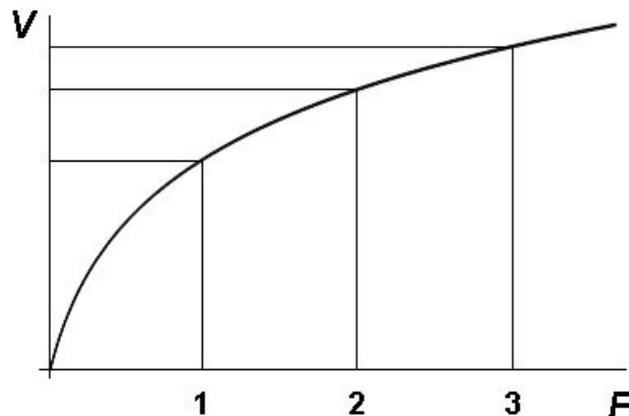
Finally, the Leontief production function applies to situations in which inputs must be used in fixed proportions; starting from those proportions, if usage of one input is increased without another being increased, output will not change. This production function is given by $Q=\text{Min}(K,L)$. For example, a firm with five employees will produce five units of output as long as it has at least five units of capital.

The Law of Diminishing Returns

The law of diminishing returns states that adding more of one factor of production will at some point yield lower per-unit returns.

In economics, diminishing returns (also called diminishing marginal returns) is the decrease in the marginal output of a production process as the amount of a single factor of production is increased, while the amounts of all other factors of production stay constant. The law of diminishing returns states that in all productive processes, adding more of one factor of production, while holding all others constant (“ceteris paribus”), will at some point yield lower per-unit returns.

The law of diminishing returns does not imply that adding more of a factor will decrease the total production, a condition known as negative returns, though in fact this is common.



Diminishing Returns: As a factor of production (F) increases, the resulting gain in the volume of output (V) gets smaller and smaller. For example, the use of fertilizer improves crop production on farms and in gardens; but at some point, adding more and more fertilizer improves the yield less per unit of fertilizer, and excessive quantities can even reduce the yield. A common sort of example is adding more workers to a job, such as assembling a car on a factory floor. At some point, adding more workers causes problems such as workers getting in each other's way or frequently finding themselves waiting for access to a part. In all of these processes, producing one more unit of output will eventually cost increasingly more, due to inputs being used less and less effectively.

This increase in the marginal cost of output as production increases can be graphed as the marginal cost curve, with quantity of output on the x axis and marginal cost on the y axis. For many firms, the marginal cost curve will initially be downward sloping, representing added efficiency as production increases. If the law of diminishing returns holds, however, the marginal cost curve will eventually slope upward and continue to rise, representing the higher and higher marginal costs associated with additional output.

The Law of Diminishing Returns and Average Cost

The average total cost of production is the total cost of producing all output divided by the number of units produced. For example, if the car factory can produce 20 cars at a total cost of \$200,000, the average cost of production is \$10,000. Average total cost is interpreted as the cost of a typical unit of production. So in our example each of the 20 cars produced had a typical cost per unit of \$10,000. Average total cost can also be graphed with quantity of output on the x axis and average cost on the y-axis.

What will this average total cost curve look like? In the short run, a firm has a set amount of capital and can only increase or decrease production by hiring more or less labour. The fixed costs of capital are high, but the variable costs of labour are low, so costs increase more slowly than output as production increases. As long as the marginal cost of production is lower than the average total cost of production, the average cost is decreasing. However, as marginal costs increase due to the law of diminishing returns, the marginal cost of production will eventually be higher than the average total cost and the average cost will begin to increase. The short run average total cost curve (SRAC) will therefore be U-shaped for most firms.

The long-run average cost curve (LRAC) depicts the cost per unit of output in the long run—that is, when all productive inputs' usage levels can be varied. The typical LRAC curve is also U-shaped but for different reasons: it reflects increasing returns to scale where negatively-sloped, constant returns to scale where horizontal, and decreasing returns (due to increases in factor prices) where positively sloped.

4

Business and Corporation Finance

You have learnt that in every business activity money is an important as well as essential component. Now let us see the nature and type of financial requirement of the business enterprises.

The type and amount of funds required usually differs from one business to another. For instance, if the size of business is large, the amount of funds required will also be large.

Likewise, the financial requirements are more in manufacturing business as compared to trading business. The business need funds for longer period to be invested in fixed assets like land and building, machinery, *etc.* Sometimes, the business also needs fund to be invested in shorter period. So based on the period for which the funds are required, the business finance is classified into three categories.

SHORT-TERM FINANCE

Funds required to meet day-to-day expenses are known as short-term finance. This is required for purchase of raw materials, payment of wages, rent, insurance, electricity and water bills, *etc.* The short-term finance is required for a period of one year or less.

This financial requirement for short period is also known as working capital requirement or circulating capital requirement. It may be noted that a part of the working capital requirement is of a long-term nature, as certain minimum amount of funds are always kept to meet the requirement of stock and regular day-to-day expenses.

MEDIUM-TERM FINANCE

Medium-term finance is utilised for all such purposes where investments are required for more than one year but less than five years. Amount required to fund modernisation and renovation, special promotional programmes, *etc.*, fall in this category.

LONG-TERM FINANCE

The amount of funds required by a business for more than five years is called long-term finance. Generally this type of finance is required for the purchase of fixed assets like land and building, plant and machinery furniture, *etc.* The long-term finance is also known as fixed capital as such need in fact is, of a permanent nature.

Every organization need different types of finance *i.e.*, long-term, medium-term as well as short-term. But the combination in which these are used differ from one business to another. For example, steel industry requires more long-term finance to be invested in land and building and machinery as compared to the manufacturing of leather goods or plastic buckets. Similarly, for manufacturing hosiery items, requirement of short-term finance would be more than that of long-term finance.

IMPORTANCE OF BUSINESS FINANCE

Finance is the most important requirement of every business and it is considered as lifeline of the business. Inadequate finance poses many problems and may bring an end to the life of the business.

The importance of finance has considerably increased in modern days due to following reasons in addition to the usual need:

- *Need for Large Scale Operation:* Now-a-days business activities are generally undertaken on a large scale. The products of any country are now freely and easily available in other countries. The entire world has become a big market. So to survive in the business world the businessman has to expand the horizon of his activities and function on large scale. This expansion of business always demands more funds.
- *Use of Modern Technology:* Use of latest technology in the process of production as well as distribution has become imperative for every business now-a-days. To meet the competition, production process now demands use of modern machinery, equipments and tools. Hence, there is a greater need for finance to meet the challenge of the world's markets successfully.
- *Promotion of Sales:* In this era of competition lot of money is to be spent on activities for promoting sales. This involves advertisement, personal selling, use of sales promotional schemes, providing after sales service and free home delivery, *etc.*, which need huge amount of funds.

FINANCE: ACCOUNTING FOR DECISIONS

Management accounting uses financial information in order to enable better decision making within the organisation. The format and content of management accounts will depend on the specific needs of the particular business. They are typically prepared to a clearly structured timetable on a monthly basis, often reporting within one week of the period end. The layout of the accounts is organised to best meet the needs of users-typically providing an analysis of costs and revenues with a breakdown by cost or profit centres, by departments, or other relevant areas of the business. Comparative figures are provided from the budget and the previous years accounts. The accounts may include a revised forecast of results up to the year end and performance indicators including accounting ratios.

MANAGEMENT ACCOUNTS

Managers in a car manufacturing company will regularly receive management accounts related to production. These accounts will have been prepared by management accountants, and will show such details as:

- Production figures to date
- Budgeted production figures
- Production figures this time last year
- Actual and budgeted costs, and comparative costs in the previous year
- Actual and budgeted revenues, and comparative revenues in the previous year.

These figures enable managers to get a feel of such issues as:

- Whether costs and revenues are in line with budgeted figures
- Whether there are production problems arising from rising costs, sales, etc.

You can see that such management accounts are relevant for department managers in all areas of the organisation, enabling them to control their organisations more effectively.

CORPORATION PARTNERSHIP

Liquidity and Shares can be exchanged without Units are subject to substantial marketability termination of the corporation, restrictions on transferability. There Common stock can be listed on is usually no established trading stock exchange, market for partnership units. Voting rights Usually each share of common stock Some voting rights by limited entitles the holder to one vote per partners. However, general partner share on matters requiring a vote has exclusive control and on the election of the directors, management of operations. Directors determine top management.

Taxation Corporations have double taxation: Partnerships are not taxable. Partners Corporate income is taxable, and pay personal taxes on partnership dividends to shareholders are also profits. Reinvestment and Corporations have broad latitude on Partnerships are generally prohibited dividend payout dividend

payout decisions from reinvesting partnership profits. All profits are distributed to partners. Liability Shareholders are not personally liable Limited partners are not liable for obligations of the corporation obligations of partnerships.

General partners may have unlimited liability. Continuity of existence Corporations may have a perpetual life. Partnerships have limited life.

TRADING IN CORPORATE SECURITIES

The equity shares of most of the large firms in the United States trade in organized auction markets. The largest such market is the New York Stock Exchange (NYSE), which accounts for more than 85 percent of all the shares traded in auction markets. Other auction exchanges include the American Stock Exchange (AMEX) and regional exchanges such as the Pacific Stock Exchange. In addition to the stock exchanges, there is a large OTC market for stocks. In 1971, the National Association of Securities Dealers (NASD) made available to dealers and brokers an electronic quotation system called NASDAQ (which originally stood for NASD Automated Quotation system and is pronounced “naz-dak”).

There are roughly two times as many companies on NASDAQ as there are on NYSE, but they tend to be much smaller in size and trade less actively. There are exceptions, of course. Both Microsoft and Intel trade OTC, for example. Nonetheless, the total value of NASDAQ stocks is much less than the total value of NYSE stocks.

There are many large and important financial markets outside the United States, of course, and U.S., corporations are increasingly looking to these markets to raise cash. The Tokyo Stock Exchange and the London Stock Exchange (TSE and LSE, respectively) are two well-known examples. The fact that OTC markets have no physical location means that national borders do not present a great barrier, and there is now a huge international OTC debt market. Because of globalization, financial markets have reached the point where trading in many investments never stops; it just travels around the world.

EXCHANGE TRADING OF LISTED STOCKS

Auction markets are different from dealer markets in two ways. First, trading in a given auction exchange takes place at a single site on the floor of the exchange. Second, transaction prices of shares traded on auction exchanges are communicated almost immediately to the public by computer and other devices. The NYSE is one of the preeminent securities exchanges in the world. All transactions in stocks listed on the NYSE occur at a particular place on the floor of the exchange called a *post*. At the heart of the market is the specialist. Specialists are members of the NYSE who *make a market* in designated stocks. Specialists have an obligation to offer to buy and sell shares of their assigned NYSE stocks. It is believed that this makes the market liquid because the specialist assumes the role of a buyer for investors if they wish to sell and a seller if they wish to buy.

RELATIONSHIP WITH OTHER AREAS IN FINANCE

INVESTMENT BANKING

Use of the term “corporate finance” varies considerably across the world. In the United States it is used, as above, to describe activities, decisions and techniques that deal with many aspects of a company’s finances and capital. In the United Kingdom and Commonwealth countries, the terms “corporate finance” and “corporate financier” tend to be associated with investment banking - *i.e.*, with transactions in which capital is raised for the corporation. These may include:

- Raising seed, start-up, development or expansion capital
- Mergers, demergers, acquisitions or the sale of private companies
- Mergers, demergers and takeovers of public companies, including public-to-private deals
- Management buy-out, buy-in or similar of companies, divisions or subsidiaries - typically backed by private equity
- Equity issues by companies, including the flotation of companies on a recognised stock exchange in order to raise capital for development and/or to restructure ownership
- Raising capital via the issue of other forms of equity, debt and related securities for the refinancing and restructuring of businesses
- Financing joint ventures, project finance, infrastructure finance, public-private partnerships and privatisations
- Secondary equity issues, whether by means of private placing or further issues on a stock market, especially where linked to one of the transactions listed above.
- Raising debt and restructuring debt, especially when linked to the types of transactions listed above.

FINANCIAL RISK MANAGEMENT

Risk management is the process of measuring risk and then developing and implementing strategies to manage that risk. Financial risk management focuses on risks that can be managed (“hedged”) using traded financial instruments (typically changes in commodity prices, interest rates, foreign exchange rates and stock prices). Financial risk management will also play an important role in cash management.

This area is related to corporate finance in two ways. Firstly, firm exposure to business and market risk is a direct result of previous Investment and Financing decisions. Secondly, both disciplines share the goal of enhancing, or preserving, firm value. All large corporations have risk management teams, and small firms practice informal, if not formal, risk management. There is a fundamental debate on the value of “Risk Management” and shareholder value that questions a shareholder’s desire to optimize risk versus taking exposure to pure risk. The

debate links value of risk management in a market to the cost of bankruptcy in that market. Derivatives are the instruments most commonly used in financial risk management. Because unique derivative contracts tend to be costly to create and monitor, the most cost-effective financial risk management methods usually involve derivatives that trade on well-established financial markets or exchanges. These standard derivative instruments include options, futures contracts, forward contracts, and swaps. More customized and second generation derivatives known as exotics trade over the counter aka OTC.

PERSONAL AND PUBLIC FINANCE

Corporate finance utilizes tools from almost all areas of finance. Some of the tools developed by and for corporations have broad application to entities other than corporations, for example, to partnerships, sole proprietorships, not-for-profit organizations, governments, mutual funds, and personal wealth management. But in other cases their application is very limited outside of the corporate finance arena. Because corporations deal in quantities of money much greater than individuals, the analysis has developed into a discipline of its own. It can be differentiated from personal finance and public finance.

CORPORATE WORKING CAPITAL MANAGEMENT

Several recent business studies suggest that corporations, on average, over-invest in working capital. For example, REL Consultancy Group has for years conducted an annual survey of corporate working capital management practices for CFO Magazine, which CFO Magazine then reports.

The *REL 2005 Working Capital Survey* concludes that U.S., corporations had roughly \$460 billion unnecessarily tied up in working capital. Similarly, the results of a study arguing that poor working capital management practices cost IT companies billions of dollars annually. Do US corporations over-invest in working capital? If so, to what extent is this due to agency problems? We address both of these questions in this study. To see how important the efficiency of a corporation's working capital management can be, we use an example given in Shin and Soenen (1998).

Shin and Soenen (1998) point out that Wal-Mart and Kmart had similar capital structures in 1994, but because Kmart had a cash conversion cycle of roughly 61 days while Wal-Mart had a cash conversion cycle of 40 days, that Kmart likely faced an additional \$198.3 million per year in financing expenses. Such evidence demonstrates that Kmart's poor management of its working capital contributed to its going bankrupt. As their 2005 U.S., survey report points out, there is a high positive correlation between the efficiency of a corporation's working capital policies and its return on invested capital. Using data on a panel of U.S., corporations from 1990 through 2004, we find evidence of a significantly negative relationship between firm value and investment in working capital that is consistent with over-investment in working capital.

An additional \$1 million investment in working capital is associated with a roughly 119 to 129 thousand dollar reduction in firm value. To put this in perspective, a firm that under-utilizes debt by \$1 million, can increase firm value by roughly \$140 thousand at current rates by increasing its interest tax shield. Consequently, it is clear that working capital management decisions have corporation valuation effects of the same magnitude of corporate capital structure decisions – and so probably warrant just as much attention.

Turning to what influences a firm's management of working capital, we find that a firm's working capital policy is influenced by its industry's working capital policies, its size, its expected sales growth, the proportion of outside directors on its board, the current compensation of its CEO, and its CEO's share ownership. Consequently, managerial incentives and the monitoring of management are significant influences on a firm's working capital management performance.

Shin and Soenen point out that a corporation's working capital is the result of the time lag between the expenditure for the purchase of raw materials and the collection from the sale of finished goods. As such, it involves many different aspects of corporate operational management: management of receivables, management of inventories, use of trade credit, *etc.* Consequently, there are streams of research on individual aspects of working capital management (cash and marketable securities, *e.g.*, Mauer, Sherman and Kim, trade credit, *e.g.*, Rajan and Peterson, *etc.*).

However, Schiff and Lieber, Sartoris and Hill, and Kim and Chung (1990) all emphasize the need to consider the joint effects of these individual policies, particularly with respect to inventory and credit decisions. For this reason, we only discuss the prior literature that focuses on overall working capital management. With respect to the effect of working capital management on firm value, we find no direct evidence. While Schiff and Lieber (1974), Sartoris and Hill (1983), and Kim and Chung (1990) model the effects of working capital management practices on firm value, they do not provide evidence on whether firms actually do maximize their value by their working capital management choices.

The study that comes nearest to addressing this issue is the study by Shin and Soenen (1998), which examines the relation between different accounting profitability measures and net trade cycles, a summary efficiency measure of a firm's working capital management. Shin and Soenen's study implies, without providing direct evidence, that firms that manage their working capital more efficiently (*i.e.*, shorter net trade cycle) experience higher operating cash flow and are potentially more valuable.

However, this last implication does not necessarily follow because firms that have longer net trade cycles are also investing in short-term assets which may pay off in subsequent periods. Further, their evidence does not speak to whether the market sees firms as over-investing in net working capital. So the question as to whether firms over-invest in net working capital on average is unanswered by prior research.

As for the determinants of working capital practices, we find even less prior evidence on which to draw. Nunn uses the PIMS database to examine why some product lines have low working capital requirements, while other product lines have high working capital requirements. In addition, Nunn is interested in “permanent” rather than temporary working capital investment as he uses data averaged over four years. Using factor analysis, he identifies factors associated with the production, sales, competitive position, and industry. Reinforcing the role of industry practices on firm practices, Hawawini, Viallet, and Vora examine the influence of a firm’s industry on its working capital management.

Using data on 1,181 U.S., firms over the period 1960 to 1979, they conclude that there is a substantial industry effect on firm working capital management practices that is stable over time. From these studies, we conclude that sales growth and industry practices are important factors influencing a firm’s investment in working capital. There are models to describe how working capital management practices influence firm value, there is practically no evidence that firms manage their working capital so as to maximize their value. Further, there is little evidence on what factors influence a firm’s management of working capital, particularly whether agency cost issues are concerns.

Sample and Sample Data

To address these questions, we examine samples of U.S., public corporations from 1990 through 2004. We begin by identifying all U.S., corporations with Compustat and CRSP data over this time period. Next, we exclude all firms in financial service industries as working capital has a very different meaning in these industries. This sample is what we examine when we study the effect of investment in net working capital on firm value. To study what influences working capital management performance; we add data from a number of different data sources, which reduces our sample in different analyses. First, we use the Investor Responsibility Research Centre (IRRC) Governance database to obtain data on certain corporate governance features over the 1990 through 2004 time period.

The availability of these data underlies our choice of time period to study. Specifically, IRRC collects data on governance provisions in effect for at least 3,155 major US corporations consisting of the S&P 1500 firms and other companies selected “primarily on the basis of market capitalization and high institutional ownership levels” over the years 1990 to 2004. As the original IRRC data is biennial and sometimes triennial, we use the filling method adopted by Gompers Ishii and Metrick (2003) and lately followed by Bebchuk Cohen and Ferrell (2004) in building our sample for all the years over the sample period.

We say the maximum number because the number of firms with IRRC data is larger than the number of firms with S&P Execucomp data and the number of firms with IRRC’s Directors data. We use the IRRC’s Directors database to collect information on the board of directors of sample firms. We use S&P

Execucomp database to collect information on CEO compensation and share ownership. The use of these data further in our analysis of what factors influence a firm's working capital performance

Capital Cash Flow Analysis

While earlier examples focused on the costs associated with investment in working capital, they do not address the potential benefits. Clearly a company has to have stock on hand in order to make some sales. Further, competition between firms may require them to provide customers with interim financing in the form of trade credit – which becomes a receivable to the supplier. Thus, the net effect of investment in working capital is not as straightforward as earlier examples suggest. To discern if firms over-invest in working capital, we use the capital cash flow valuation model used in Kaplan and Ruback (1995) as our guide.

Like Kaplan and Ruback, we add the firm's current cash balances and use a net working capital definition that excludes investment in cash balances. This approach is particularly valuable in our context as it allows us to separate out cash management issues, which have been the focus of a separate literature and Pinkowitz and Williamson, from working capital management issues. Based upon this DCF valuation model, we develop two regression models to ascertain the relationship between firm investment in net working capital and its market value. Thus we are able to address the question of whether or not the market sees firms as over-investing in net working capital.

Regression Model 2

Our first regression model follows the DCF valuation approach taken in Kaplan and Ruback (1995). However, the analysis ignores incremental investment in cash and marketable securities. Whether such incremental investment should be included or excluded is unclear because some formulations of the DCF valuation framework use definitions of working capital that includes cash and marketable securities and some do not. To estimate these two regression models, we use Compustat data. The first variable, $MVF(t)$, represents the market value of the firm computed as in Fama and French (2002). Specifically, we start with total assets, subtract the book value of equity and add back the market value of equity as of the end of fiscal year.

To estimate, $CASH(t)$, we use the cash and marketable securities balance of the firm at the same point in time as we measure its market value. We do this to be consistent with the way that Kaplan and Stein measured cash balances in their valuation model. To estimate $OCF(t+1)$, we use the two approaches described in Kaplan and Stein (1995), and like their paper, we only report the results based on the second approach as the results are similar. Specifically, we start with net income; add back depreciation and amortization expense, interest expense, and the proceeds from the sale of fixed assets.

To estimate $INVLT(t+1)$, we use the firm's investment in long-term assets (PPE) from its cash flow statement. Using changes in PPE as an alternative

measure does not change our ceases and so we only report results using this measure. To estimate $INVS(t+1)$, we use a definition of net working capital that is consistent with the one in Kaplan and Stein's paper. Specifically, we use current assets minus cash and marketable securities, minus accounts payable, and minus accrued expenses. There are two important points to note about this definition. First, we are separating out investment in cash and marketable securities.

Second, we are focused on the investment in current assets that must be financed with non-spontaneous or outside sources of financing. This definition is consistent with our valuation model. To estimate $INVC(t+1)$, we compute the change in the balance of cash and marketable securities between fiscal years. It is important to note that we estimate for the fiscal year subsequent to the date on which we measure the value of a firm and its cash balances. We do this to be consistent with our valuation model. The next issue that we have to confront is how to specify the data generating process for our regression models. It should be fairly obvious that $MVF(t)$ is a nonnegative random variable. While some researchers have scaled $MVF(t)$ by the book value of assets to create an estimate of Tobin's q . We do not take this approach, though as suggested, see that it does not later, as it introduces additional problems when there is more variation in book values of assets than in any of the explanatory variables. One alternative is to take the logarithm of the dependent variable and use OLS to estimate a linear regression on it. Unfortunately, as Manning (1997) explains, this is not always appropriate, and can lead to biased estimates of the marginal effects of the explanatory variables.

Consequently, we follow the recommendation of Hardin and Hilbe and use a generalized linear model approach with a log link assumption. Specifically, we adopt a general estimating equation approach (a GMM approach) using the logarithm link function, $\ln(E(y|x))$, and estimate the standard errors using the Rogers/Huber/White estimators adjusted for clustering at the firm level. Both models give fairly similar results. Current cash balances, operating cash flow, and investment in fixed assets are all positively priced. The last inference suggests that additional investment in fixed assets for most firms increases their value.

Interestingly, all these inferences are consistent with those that would be derived from estimates reported in either Faulkender or Wang (2005) or Pinkowitz and Williamson (2005). More importantly, for our study, we find that the coefficient on the investment in working capital variable is significantly negative. Following the interpretation of equation (4), this result implies that at the margin, firms tend to over-invest in working capital on average. As well as various annual REL Working Capital Surveys.

Apparently, the market recognizes this over-investment and discounts firms for it. Evaluated at the mean values of the explanatory variables, an additional \$1 million investment in working capital is associated with a roughly \$129 thousand reduction in firm value. To put this in perspective, a firm that under-utilizes debt by \$1 million, can increase firm value by roughly \$140 thousand at

current rates by increasing its interest tax shield.¹¹ Consequently, it is clear that working capital management decisions have corporation valuation effects of the same magnitude of corporate capital structure decisions – and so probably warrant just as much attention.

The analysis provides evidence that on the margin, firms appear to over invest in net working capital on average. It is important to note that this result does not suggest that the value of net working capital is negative, but rather the incremental value of working capital is negative as we only examine investment at the margin. Since our valuation model is not typically that used in empirical corporate finance, we use the valuation framework proposed in Pinkowitz and Williamson (2005), which is an extension of the valuation framework proposed in Fama and French (1998), to explore the robustness of our results.

To implement this approach we use Compustat data for the sample firms in our prior valuation analysis to compute the following variables taken from Pinkowitz and Williamson (2005). M is the market value of equity following Fama and French's (1998) definition. E is earnings before extraordinary terms, plus interest, deferred tax credits and investment tax credits. NA is assets minus cash. NNA is NA minus accounts receivable and inventory. RD is research and development expense. I is interest expense. DIV is common cash dividends. C is cash and marketable securities. NWC is account receivable plus inventory minus accounts payable. Following Pinkowitz and Williamson, we divide each of these variables by total assets for the period, so that $X(t)$ is the level of variable X in year t divided by the level of assets in year t . In addition, we compute $dX(t)$ as the change in the level of X from year $t-2$ to year t divided by total assets in year t .

And finally, we compute $dX(t+2)$ as the change in the level of X from year t to year $t+2$ divided by total assets in year t . Pinkowitz and Williamson argue that if the firm is not at some optimum, then changes are important to include to capture movements towards or away from the optimum. While we are dubious of this interpretation, we follow their example. While Pinkowitz and Williamson uses the methodology of Fama and MacBeth (1973) to estimate their regression models, we use the panel data approach advocated in Peterson (2005) as it appears superior to the Fama and MacBeth methodology. Thus all our standard errors are estimated using Roger estimators adjusted for clustering on the firm level.

Our results for their base specification are somewhat different than theirs as our estimated coefficient on the level of cash variable is 0.701, rather than 0.97 as in their study. This difference may be due to the difference in time period studied: their regression covers 1950 to 1999, while ours covers 1990 through 2004. Other than differences in numerical values, our estimates share the same signs as their estimates. Building on this base specification, we next estimate a regression model with net assets reduced by investment in accounts receivable and inventory and then add a variable for investment in net working capital, defined by accounts receivable plus inventory minus accounts payable as this mimics our prior definition of net working capital.

The negative and significant coefficient on the level of net working capital investment is consistent with our prior estimated valuation model result in that it suggests that firms on average over-invest in net working capital. Before reaching a cease on how much, we next estimate a specification that includes prior and future changes in net working capital investment and report. The reported results suggest that prior and future investment in net working capital increase firm value. Such estimated coefficients suggest that Pinkowitz and Williamson interpretation of their change variables is somewhat questionable as we should not observe a negative sign on the coefficient associated with the current level of investment in net working capital if their interpretation was correct.

Nevertheless, we can estimate the total effect of investment in net working capital on firm value by evaluating its effect through current, past and future investment in net working capital. Evaluated at our sample averages, the total effect is that an additional \$1 million investment in net working capital overall reduces firm value by roughly \$119,326. What is striking about this estimate is that it is close to the \$129,000 estimate that we derive from our prior valuation analysis. Given this consistency, we conclude 12 that our valuation analysis suggests that the market views firms as over-investing in net working capital on average.

That corporations over-invest in net working capital, the next question is why. One obvious possibility is that managers do not expend the effort necessary to minimize net working capital because of incentive compatibility problems, or agency problems. Prior literature suggests that there are three likely sources of misalignment: (1) CEO incentives, (2) board incentives, and (3) the structure of corporate governance. As suggested, explore each of these possibilities, but before we do we must first develop a basic model to identify potential control variables. Thus, we conduct this analysis in a series of steps.

We first develop a core model, and then we explore the influence of board characteristics, CEO compensation and ownership, and finally corporate charter provisions on a corporation's efficiency in managing its working capital. As our dependent variable in these regressions, we use a firm's cash conversion cycle (*i.e.*, the inventory conversion period plus the receivables collection period minus the payables deferral period using Compustat data) as our measure of the efficiency of its working capital management. While there are alternatives, such as Shin and Soenen's NTC measure, the cash conversion cycle measure (*CCC*) is standard in many corporate finance textbooks and is used in the *REL Working Capital Surveys* as a summary measure.

Consequently, we follow industry and textbook practice and use this measure for the efficiency of a firm's overall working capital management. Note that we winsorize this and all of our accounting and compensation variables at the 1% level to avoid distortions due to outliers. For our core model, we conjecture that the following factors are significant influences on a firm's working capital management. First, prior research such as Hawawini, Viallet, and Vora (1986)

suggests that industry practices are significant determinants of a firm's working capital management practices. The working capital 13 policies of say a software company are going to be quite different from those of a retail shoe company. Consequently, it is important to control for the influence of industry practices on a firm's working capital practices.

To do this, we use the median cash conversion cycle of firms within a firm's industry, *CCCM*, to proxy for the typical working capital practices within such industry. For our identification of a firm's industry we use the Fama and French (1997) 48 industry delineations. Second, firm size may influence the efficiency of a firm's working capital management. Larger firms may require larger investments in working capital because of their larger sales levels. Or, alternatively, larger firms may be able to use their size to forge relationships with suppliers that are necessary for reductions in investments in working capital.

Current supply chain management practices require a lot of coordination between companies and are typically easier for a larger firm to implement than for a smaller firm to implement. Thus, firm size is likely to influence the efficiency of a firm's working capital management, though the direction of the effect is an open question. We use a firm's total assets, *TA*, as our proxy for its size.

Third, the proportion of a firm's assets accounted for by fixed assets might exercise an influence on a firm's working capital performance. For example, the inventory problems of an automobile parts manufacturer are likely to be quite different from that of a software manufacturer. Further, the receivables problems of these types of companies are also likely to be different. To measure this variable, we take the ratio of a firm's property, plant and equipment to its total assets, and name it *PTA*.

Fourth, based upon Nunn's (1981) evidence, we expect firm sales to influence a firm's working capital management. In this connection, and consistent with our earlier regression results, we expect a firm's expected future sales to influence its working capital investment, and so its cash conversion cycle. For example, a firm might build up inventories in anticipation of future sales growth, and as a result, may also increase its use of trade credit. To proxy for such growth, we use the firm's percentage sales growth over the future two years and name this variable, *FSG*. Finally, some might argue that firms with some degree of market power are able to work deals with suppliers and customers that give them an advantage over competitors. To capture this possibility, we compute the Herfindahl-Hirschman index using sales data for each firm's industry, again using Fama and French's (1997) 48 industry delineations.

The more concentrated the industry the more likely this will influence the cash conversion cycles of firms within it. We denote this variable as *HHI*. To determine the relevance of the above core factors to the efficiency of a firm's working capital management, we regress the firm's cash conversion cycle, *CCC*, on these above factors.

Before conducting this analysis, we must address the specification of the data generating process as *CCC* is a non-negative random variable. While we

would prefer to use the same data generating process specification used in our valuation analysis, it does not appear appropriate for these data. A Hausman type test indicates that a random effects model is inappropriate in this case, and so we use a fixed effect model on a logarithmic transformed dependent variable and estimate Rogers/Huber/White standard errors adjusted for firm level clustering.

These results suggest that firms do not use their size or market power to reduce their cash conversion cycle. If anything, they use their position to relax their efforts. Of the factors examined, industry practices are the main determinant of a firm's working capital practices. In addition, positive future sales growth is associated with increased investment in net working capital.

And finally, firms with more tangible long-term assets reduce their investment in net working capital. These results, we now add the board characteristics of a firm to our core regression model to extend it. We use two characteristics to capture the essential features of a corporation's board: its size measured by the number of directors (*DIR*), and its proportion of outsiders on the board (*POD*). Prior literature leads us to expect that larger boards might be lax in monitoring management and so be associated with longer cash conversion cycles than other firms in their industry.

Conversely, prior literature suggests that more outsiders on the board lead to greater monitoring of management, which we expect will result in shorter cash conversion cycles for these firms. These results suggest that board size is not a significant influence, but that board composition is. The greater the proportion of outsiders on the board, the better the performance of the firm's working capital management. This result is consistent with the monitoring role of outsider directors.

Continuing this line of inquiry, we now include the compensation and share ownership of the CEO in our expanded regression model. The more the CEO is paid, the more likely they will have incentives to reduce a firm's cash conversion cycle. Consequently, we expect the firm's cash conversion cycle to be negatively correlated with the CEO's total current compensation. We measure such compensation that comprises of CEO's salary and bonus using the Execucomp database and denote it as *TCCOMP*. Note that we exclude their current period stock option grants from this measure and only focus on their current non-stock compensation.

We exclude their current stock option grants because we instead focus on their total unexercised stock option holdings. Stock options granted in the past might be just as important an influence as current stock option grants in our attempt to capture managerial incentive alignment with shareholder interests. Consequently, it might be better to recognize a CEO's total unexercised stock option position. To estimate this quantity, we use the Execucomp database to estimate the dollar value of the CEO's unexercised stock options and denote this variable as *TUO*. Finally, we can expect the CEO's current shareholdings to influence the management of the firm's cash conversion cycle. For this reason,

we construct the proportion of stocks held by the CEO and call it *CEOPS*. Unfortunately, the effect of this variable is less clear as it could either create incentives for the manager to tightly control this cycle, or if it could create incentives for managers to expend less effort on this activity if they have the power to avoid the expenditure of such effort.

While both CEO compensation components have a negative influence on their firm's cash conversion cycle, only the total current compensation component has a statistically significant effect. In some ways this is consistent with our earlier expectation that a firm's investment in working capital primarily influences its performance in the current and near future periods. Consequently, we should expect current CEO compensation to have a greater influence on the firm's cash conversion cycle, while we might expect their unexercised stock options to influence their long-term investment decisions.

Interestingly, the CEO share ownership is significantly positively related to their firm's cash conversion cycle. So, the incentive effect of stock ownership appears to be dominated by other effects of CEO stock ownership. Expanding our regression model further, we now include a consideration of the firm's corporate charter provisions. Such provisions have figured prominently in recent literature on cash management as result of Gompers, Ishii, and Metrick's (2003) evidence on the relationship between these corporate characteristics and equity returns.

To begin this analysis, we follow Harford, Mansi, and Maxwell and simply include Gompers, Ishii and Metrick's governance index, *GINDEX*. The reported evidence does not suggest that these firm characteristics are significant influences on a corporation's working capital performance. Whether this cease is correct is somewhat unclear as the *GINDEX* assumes that all of charter provisions have the same influence on a firm's cash conversion cycle and that assumption has been subject to criticism in recent governance literature. For example, executive severance agreements such as golden parachutes can give management an incentive to agree to a takeover, while poison pills ostensibly are intended to deter takeovers. More importantly, some provisions (*e.g.*, advance notice requirements) are intended to primarily influence internal changes in corporate governance, while other provisions (*e.g.*, supermajority requirements for a merger) are intended to solely deter external changes in corporate control without any impact on internal governance.

Consequently, we create several indices which group governance features by intended purpose. Our component indices are: internal provisions, external provisions, compensation and liability provisions, minority voting provisions, and state laws. The rationale for each is as follows. Primarily influences its performance in the current and near future periods. Consequently, we should expect current CEO compensation to have a greater influence on the firm's cash conversion cycle, while we might expect their unexercised stock options to influence their long-term investment decisions.

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The rationale for each is as follows. The internal provisions index, INTERNAL, includes provisions that limit the constitutional rights of shareholders, like staggered boards, limitations on shareholder rights to amend charter and bylaws, and advance notice requirements. Therefore, the internal provisions index focuses on provisions that primarily influence internal governance or changes in the internal control of a firm. The external provisions index, EXTERNAL, which is constituted of provisions like poison pills, supermajority requirements to approve mergers, fair price, and anti-greenmail, focuses on provisions that are primarily used to thwart external control contests (*i.e.*, takeover bids).

The compensation and liability provisions index, C&L, focuses on provisions that primarily influence directors' legal liability costs, or compensation received by officers and directors in the event of a control change. The minority voting provisions index, MVP, focuses on shareholder voting rules, mainly cumulative and confidential voting rules. The state laws index, SLAWS, focuses on anti takeover provisions endorsed state law. Because these anti takeover statutes are often implemented by default in all firms incorporated in a particular state, and are sometimes redundant with the presence of firm level anti-takeover defences, it is not clear that they add much. The regression results from substituting these component indices for the GINDEX. While the negative sign on both the internal provisions index and the compensation and liabilities index are consistent with

the arguments in Baranchuk, Kieschnick, and Moussawi (2005) in that such provisions help managers to maximize the value of potential growth options in their establishments, neither coefficient is statistically significant.

Further, none of the coefficients of the different corporate charter indices are statistically significant and so we conclude that the corporate charter characteristics of a corporation do not significantly influence its working capital management performance. Overall, our evidence for the compensation and governance variables suggest that monitoring of management and managerial compensation are more important influences on a firm's management of its working capital.

Several recent business studies suggest that US corporations, on average, over invest in working capital. If correct, and if recognized by the market, then one should observe a negative relation between investment in working capital and firm value. We address this issue by examining data on samples of U.S., corporations from 1990 through 2004. We find that on average firms have over-invested in their working capital in the sense that additional investment in working capital is associated with a reduction in firm value. Such a cease appears consistent with the various annual surveys by REL Consultancy for the *CFO Magazine* on corporate working capital performance.

Apparently the market recognizes this over-investment and discounts firms for it. However, one can also view the flip side of this evidence and explain why firms like Wal-Mart suggest that their working capital management practices are a source of their value. Given this evidence, we then turn to the question of what factors influence the efficiency of a corporation's working capital management. We find that the inefficiency of a firm's working capital management is positively correlated with firm size and uncorrelated with its industry's concentration. We interpret these results as suggesting that firms are not using their market power at the margin to improve the efficiency of their working capital management practices. Instead, they tend to follow the practices of their industry. Further, they tend to invest in working capital in anticipation of future sales growth. Expanding this analysis to include different firm governance features, we find evidence that the larger the proportion of outsiders on a firm's board, the better its working capital management performance.

Such evidence is consistent with the monitoring of management role of outside directors. Taking the CEO's compensation and stock ownership also proves important. The larger the CEO's current compensation the better the firm's working capital management performance. However, the larger the CEO's share of the firm's stock, the contrary behaviour is shown. Finally, taking corporate charter features in account, we find no evidence that any such features are significant influences on a corporation's working capital management practices.

Consequently our evidence appears to emphasize the role of board monitoring of management and management's compensation in its control of the firm's working capital. One question that is raise by our study is what determines

industry practices, as it is clear from our firm level analyses that industry practices are a critical determinant of firm practices. We defer this issue to future research.

USING AIMS AND OBJECTIVES TO CREATE A BUSINESS STRATEGY

When preparing a strategy for success, a business needs to be clear about what it wants to achieve. It needs to know how it is going to turn its desires into reality in the face of intense competition. Setting clear and specific aims and objectives is vital for a business to compete. However, a business must also be aware of why it is different to others in the same market.

Setting clear and specific aims and objectives is vital for a business to compete. This case study looks at the combination of these elements and shows how Kellogg prepared a successful strategy by setting aims and objectives linked to its unique brand.

BRANDING

One of the most powerful tools that organisations use is branding. A brand is a name, design, symbol or major feature that helps to identify one or more products from a business or organisation. The reason that branding is powerful is that the moment a consumer recognises a brand, the brand itself instantly provides a lot of information to that consumer. This helps them to make quicker and better decisions about what products or services to buy.

PRODUCT POSITIONING

Managing a brand is part of a process called product positioning. The positioning of a product is a process where the various attributes and qualities of a brand are emphasised to consumers. When consumers see the brand, they distinguish the brand from other products and brands because of these attributes and qualities. Focused on Kellogg, this case study looks at how aims and objectives have been used to create a strategy which gives Kellogg a unique position in the minds of its consumers.

THE INTERNATIONALIZATION OF BUSINESS AND FINANCE

The existence of global competition and global markets for goods, services, and capital is a fundamental economic reality that has altered the behaviour of companies and governments worldwide. For example, Tandon Corp, a major California-based supplier of disk drives for microcomputers, cut its U.S., work force by 39% and transferred production overseas in an effort to achieve “cost effectiveness in an extremely competitive marketplace.”

As the president of Tandon put it, “We can wait for the Japanese to put us out of business or we can be cost-effective.” Increasingly, companies are bringing an international perspective to bear on their key production, marketing,

technology, and financial decisions. This international perspective is exemplified by the following statement in General Electric's 1999 Annual Report, which explains why globalization is one of its key initiatives:

Globalization evolved from a drive to export, to the establishment of global plants for local consumption, and then to global sourcing of products and services. Today, we are moving into its final stages—drawing upon intellectual capital from all over the world—from metallurgists in Prague, to software engineers in Asia, to product designers in Budapest, Monterrey, Tokyo, Paris and other places around the globe... Our objective is to be the “global employer of choice,” and we are striving to create the exciting career opportunities for local leaders all over the world that will make this objective a reality. This initiative has taken us to within reach of one of our biggest and longest-running dreams—a truly global GE.

The forces of globalization have reached into some unlikely places. For example, at Astro Apparels India, a clothing factory in Tirupur, India that exports Tshirts to American brands like Fubu, employees begin their workday with an unusual prayer: “We vow to manufacture garments with high value and low cost, and meet our delivery. Let us face the challenge of globalblization and win the world market.”

This prayer captures the rewards of globalization—and what it takes to succeed in such a world. It is also a timely one, for on January 1, 2005, a quota system that for 30 years restricted exports from poor countries to rich ones ended. Indian companies hope that with the ending of quotas they can use their low labour costs to boost textile exports more than fourfold by 2010, to \$50 billion. However, the Indian textile industry also faces hurdles in battling China for market share, including low productivity (which negates the advantage of Indian labour costs that are 15 percent lower than China's), a lack of modern infrastructure, and small-scale plants that find it difficult to compete with China's integrated mega factories.

Yet despite the many advantages of operating in a world economy, many powerful interest groups feel threatened by globalization and have fought it desperately. Political and Labour Union Concerns about Global Competition Politicians and labour leaders, unlike corporate leaders, usually take a more parochial view of globalization. Many instinctively denounce local corporations that invest abroad as job “exporters,” even though most welcome foreign investors in their own countries as job creators. However, many U.S., citizens today view the current tide of American asset sales to foreign companies as a dangerous assault on U.S., sovereignty. They are unaware, for example, that foreign-owned companies account for more than 20% of industrial production in Germany and more than 50% in Canada, and neither of those countries appears to have experienced the slightest loss of sovereignty.

Regardless of their views, however, the global rationalization of production will continue, as it is driven by global competition. The end result will be higher

living standards brought about by improvements in worker productivity and private sector efficiency. Despite the common view that U.S., direct investment abroad comes at the expense of U.S., exports and jobs, the evidence clearly shows the opposite. By enabling MNCs to expand their toeholds in foreign markets, such investments tend to increase U.S., exports of components and services and create more and higher-paying jobs in the United States.

Ford and IBM, for example, would be generating less U.S., based employment today had they not been able earlier to invest abroad—both by out sourcing the production of parts to low-wage countries such as Mexico and by establishing assembly plants and R&D centres in Europe and Japan. Similarly, the argument that poor countries drain jobs from rich countries and depress wages for all—a major theme of 1999’s “Battle in Seattle” over reductions in trade barriers sponsored by the World Trade Organization (WTO)—is demonstrably false. The fact is that as poor countries prosper, they buy more of the advanced goods produced by the richer countries that support higher-paying jobs. Indeed, the growth in trade and investment flows since the end of World War II has raised the wealth and living standards of developed countries while lifting hundreds of millions of people around the world out of abject poverty.

The Asian tigers are the most obvious example of this phenomenon. According to then-President Ernesto Zedillo of Mexico, “Every case where a poor nation has significantly overcome poverty has been achieved while engaging in production for export and opening itself to the influx of foreign goods, investment, and technology; that is, by participating in globalization.” Moreover, by generating growth and introducing values like accountability, openness, and competition, globalization has been a powerful force for spreading democracy and freedom in places as diverse as Mexico, Korea, and Poland. Opponents of free trade and globalization also claim that competition by Third World countries for jobs and investment by multinational corporations encourages a “race to the bottom” in environmental and labour standards. However, this concern ignores the fact that the surest way to promote higher environmental standards for a country is to raise its wealth. The economic growth stimulated by expanded trade and capital flows will help developing countries to better afford the cleaner environment their wealthier citizens will now demand. Similarly, although protestors claim that Nike and other apparel makers contract out work to foreign “sweatshops” where underpaid workers toil in unhealthy conditions, in factories where Nike goods are made are, comparatively speaking, progressive for their countries. Statistics that show very low employee turnover in such factories indicate that workers do not have better prospects.

Moreover, although employees of U.S., affiliates in developing countries are paid much less than equivalent U.S., employees, they are paid significantly more than the average local wage. The evidence is clear that the surest way to improve the lives of the many desperately poor workers in developing countries is to pursue market-opening reforms that further globalization and facilitate wealth creation. Conversely, as North Korea shows, economic isolation is the

fast track to poverty, disease, poor working conditions, environmental degradation, and despair. As such, protectionist governments in the West victimize the Third World entrepreneurs and their employees who have begun to make a better life for themselves by selling their goods in Western markets.

The moral basis for free trade was spelled out by President George W. Bush in May 2001:

Open trade is not just an economic opportunity, it is a moral imperative. Trade creates jobs for the unemployed. When we negotiate for open markets, we are providing new hope for the world's poor. And when we promote open trade, we are promoting political freedom. Societies that are open to commerce across their borders will be open to democracy within their borders, not always immediately, and not always smoothly, but in good time.

The growing irrelevance of borders for corporations will force policy makers to rethink old approaches to regulation. For example, corporate mergers that once would have been barred as anticompetitive might make sense if the true measure of a company's market share is global rather than national. International economic integration also reduces the freedom of governments to determine their own economic policy. If a government tries to raise tax rates on business, for example, it is increasingly easy for business to shift production abroad. Similarly, nations that fail to invest in their physical and intellectual infrastructure—roads, bridges, R&D, education—will likely lose entrepreneurs and jobs to nations that do invest. Capital—both financial and intellectual—will go where it is wanted and stay where it is well treated. In short, economic integration is forcing governments, as well as companies, to compete. For example, after America's 1986 tax reform that slashed income tax rates, virtually every other nation in the world followed suit. In a world of porous borders, governments found it difficult to ignore what worked. Similarly, big U.S., mutual funds are wielding increasing clout in developing nations, particularly in Latin America and Asia. In essence, the funds are trying to do overseas what they are already doing domestically: pressure management (in this case governments) to adopt policies that will maximize returns. The carrot is more money; the stick is capital flight. Simply put, the globalization of trade and finance has created an unforgiving environment that penalizes economic mismanagement and allots capital and jobs to the nations delivering the highest risk-adjusted returns. As markets become more efficient, they are quicker to reward sound economic policy—and swifter to punish the profligate. Their judgments are harsh and cannot be appealed.

THE ASIAN TIGERS FALL PREY TO WORLD FINANCIAL MARKETS

For years, the nations of East Asia were held up as economic icons. Their typical blend of high savings and investment rates, autocratic political systems, export-oriented businesses, restricted domestic markets, government-directed

capital allocation, and controlled financial systems were hailed as the ideal recipe for strong economic growth, particularly for developing nations. However, by the summer of 1997, the financial markets became disenchanted with this region, beginning with Thailand. Waves of currency selling left the Thai baht down 40% and the stock market down 50%. Thailand essentially went bankrupt. Its government fell and the International Monetary Fund (IMF) put together a \$17 billion bailout package, conditioned on austerity measures. What the financial markets had seen that others had not was the rot at the core of Thailand's economy. Thais had run up huge debts, mostly in dollars, and were depending on the stability of the baht to repay these loans. Worse, Thai banks, urged on by the country's corrupt political leadership, were shoveling loans into money-losing ventures that were controlled by political cronies. As long as the money kept coming, Thailand's statistics on investment and growth looked good, but the result was a financially troubled economy that could not generate the income necessary to repay its loans.

Investors then turned to other East Asian economies and saw similar flaws there. One by one, the dominoes fell, from Bangkok to Kuala Lumpur, Jakarta to Manila, Singapore to Taipei, Seoul to Hong Kong. The Asian tigers were humbled as previously stable currencies were crushed, local stock markets crashed, interest rates soared, banking systems tottered, economies contracted, bankruptcies spread, and governments were destabilized. The international bailout for the region grew to over \$150 billion, crowned by \$60 billion for South Korea, as the United States and other developed nations poured in funds for fear that the events in East Asia would spin out of control, threatening the world financial system with ruin and leading to a global recession. How to stave off such crises? The answer is financial markets that are open and transparent, leading to investment decisions that are based on sound economic principles rather than cronyism or political considerations. What is the bright side of the awesome power wielded by the global financial markets? Simply this: These markets bring economic sanity even to nations run by corrupt elites. Global markets have no tolerance for regimes that suppress enterprise, reward cronies, or squander resources on ego-building but economically dubious, grandiose projects.

Indeed, although Asian business still has a long way to go, the forced restructuring that had already occurred resulted by the summer of 2000, three years later, in a dramatic recovery of the Asian economies. Paradoxically, however, even as people are disturbed at the thought of their government losing control of events, they have lost faith in government's ability to solve many of their problems. One result has been the collapse of Communism in Eastern Europe and the spread of free-market economics in developed and developing countries alike. Rejecting the statist policies of the past, they are shrinking, closing, pruning, or privatizing state-owned industries and subjecting their economies to the rigours of foreign competition. In response to these changes, developing countries in 1996, just prior to the Asian currency crisis, received

over \$240 billion in new foreign investment. Five years earlier, by contrast, they were exporting savings, as they paid service costs on their large foreign debts and as local capital fled hyperinflation and confiscatory tax and regulatory regimes. These dramatic shifts in policy—and the rewards they have brought to their initiators—have further strengthened the power of markets to set prices and priorities around the world. Consequences of Global Competition.

The stresses caused by global competition have stirred up protectionists and given rise to new concerns about the consequences of free trade. For example, the sudden entry of three billion people from low-wage countries such as China, Mexico, Russia, and India into the global marketplace is provoking anxiety among workers in the old industrial countries about their living standards. As the accompanying illustration of the U.S., auto industry indicates, companies and unions are quite rational in fearing the effects of foreign competition. It disrupts established industry patterns, and it limits the wages and benefits of workers by giving more choice to consumers. The U.S.–Canada trade agreement, which ended tariff barriers by 2000, has caused major disruption to Canada's manufacturing industry. Plants are closing, mergers are proliferating, and both domestic and multinational companies are adjusting their operations to the new continental market. Similarly, the North American Free Trade Agreement (NAFTA), which created a giant free-trade area from the Yukon to the Yucatán, has forced formerly sheltered companies, especially in Mexico, to cut costs and change their way of doing business. It led U.S., Companies to shift production both into and out of Mexico, while confronting American and Canadian workers with a new pool of lower-priced (but also less productive) labour.

JAPANESE COMPETITION AFFECTS THE U.S., AUTO INDUSTRY

Until recently, Japanese competition steadily eroded the influence of the Big Three U.S., automakers in the auto industry. During the 1980s, Japanese auto companies raised their U.S., market share 8 points, to 28%, versus 65% for Detroit and 5% for Europe. The tough Japanese competition was a big factor in the sales and profit crunch that hit the Big Three. General Motors, Ford, and Chrysler responded by shutting down U.S., plants and by curbing labour costs. Thus, Japanese competition has limited the wages and benefits that United Auto Workers (UAW) union members can earn, as well as the prices that U.S., Companies can charge for their cars. Both unions and companies understand that in this competitive environment, raising wages and car prices leads to fewer sales and fewer jobs. One solution, which allows both the Big Three and the UAW to avoid making hard choices—sales volume versus profit margin, and jobs versus wages and benefits—is political: Limit Japanese competition through quotas, tariffs, and other protectionist devices, and thereby control its effects on the U.S., auto industry. Unfortunately, American consumers get stuck with the tab for this apparent free lunch in the form of higher car prices and less choice.

The best argument against protectionism, however, is long-term competitiveness. It was, after all, cutthroat competition from the Japanese that

forced Detroit to get its act together. The Big Three swept away layers of unneeded management, raised productivity, and dramatically increased the quality of their cars and trucks. They also shifted their focus towards the part of the business in which the Japanese did not have strong products but which just happened to be America's hottest and fastest growing automotive segment—light trucks, which includes pickups, minivans, and sport-utility vehicles. Combined with a strong yen and higher Japanese prices, these changes helped Detroit pick up three percentage points of market share in 1992 and 1993 alone, mostly at the expense of Japanese nameplates. By 1994, the Japanese share of the U.S., auto market, which peaked at 29% in 1991, had fallen to 25%. The inescapable fact is that Japanese automakers forced Detroit to make better cars at better prices. Handicapping the Japanese could not possibly have had the same effect. So it is all the more encouraging that political leaders keep trying to stretch borders.

The world's long march towards a global economy should accelerate considerably in the next few years if the U.S.–Canada–Mexico free-trade pact, the European Community's drive to create a truly common market, and China's entrance into the WTO proceed as planned. The greater integration of national economies is likely to continue despite the stresses it causes as politicians worldwide increasingly come to realize that they either must accept this integration or watch their respective nations fall behind.

5

Corporate Social Responsibility and Business Ethical Behaviour

BUSINESS BENEFITS

The scale and nature of the benefits of CSR for an organization can vary depending on the nature of the enterprise, and are difficult to quantify, though there is a large body of literature exhorting business to adopt measures beyond financial ones (*e.g.*, Deming's Fourteen Points, balanced scorecards). Orlitzky, Schmidt, and Rynes found a correlation between social/environmental performance and financial performance. However, businesses may not be looking at short-run financial returns when developing their CSR strategy.

The definition of CSR used within an organisation can vary from the strict "stakeholder impacts" definition used by many CSR advocates and will often include charitable efforts and volunteering. CSR may be based within the human resources, business development or public relations departments of an organisation, or may be given a separate unit reporting to the CEO or in some cases directly to the board. Some companies may implement CSR-type values without a clearly defined team or programme. The business case for CSR within a company will likely rest on one or more of these arguments:

Human Resources

A CSR programme can be seen as an aid to recruitment and retention, particularly within the competitive graduate student market. Potential recruits often ask about a firm's CSR policy during an interview, and having a

comprehensive policy can give an advantage. CSR can also help to improve the perception of a company among its staff, particularly when staff can become involved through payroll giving, fundraising activities or community volunteering.

Risk Management

Managing risk is a central part of many corporate strategies. Reputations that take decades to build up can be ruined in hours through incidents such as corruption scandals or environmental accidents. These events can also draw unwanted attention from regulators, courts, governments and media. Building a genuine culture of 'doing the right thing' within a corporation can offset these risks.

Brand Differentiation

In crowded marketplaces, companies strive for a unique selling proposition which can separate them from the competition in the minds of consumers. CSR can play a role in building customer loyalty based on distinctive ethical values. Several major brands, such as The Co-operative Group and The Body Shop are built on ethical values. Business service organisations can benefit too from building a reputation for integrity and best practice.

License to Operate

Corporations are keen to avoid interference in their business through taxation or regulations. By taking substantive voluntary steps, they can persuade governments and the wider public that they are taking issues such as health and safety, diversity or the environment seriously, and so avoid intervention. This also applies to firms seeking to justify eye-catching profits and high levels of boardroom pay. Those operating away from their home country can make sure they stay welcome by being good corporate citizens with respect to labour standards and impacts on the environment.

Critical Analysis

CSR is entwined in the strategic planning process of many multinational organizations. The reasons or drive behind social responsibility towards human and environmental responsibility whether driven by ulterior motives, enlightened self-interest, or interests beyond the enterprise, is subject to much debate and criticism.

Some critics argue that corporations are fundamentally entities responsible for generating a product and/or service to gain profits to satisfy shareholders. Milton Friedman and others argue that there is no place for social responsibility as a business function. These critics point to the rule of corporate law that prohibits a corporation's directors from any activity that would reduce profits. Other critics argue that the practice cherry-picks the good activities a company is involved with and ignores the others, thus 'greenwashing' their image as a

socially or environmentally responsible company. Still other critics argue that it inhibits free markets or seeks to pre-empt the role of governments in controlling the socially or environmentally damaging effects of corporations' pursuit of self-interest.

Disputed Business Motives

Some critics believe that CSR programmes are often undertaken in an effort to distract the public from the ethical questions posed by their core operations. Examples of companies that have been accused of this motivation include British American Tobacco (BAT), which produces major CSR reports, and the petroleum giant BP, which is well-known for its high-profile advertising campaigns on environmental aspects of its operations.

Self-interest

Some CSR critics argue that the only reason corporations put in place social projects is for the commercial benefit they see in raising their reputation with the public or with government. They suggest a number of reasons why self-interested corporations, solely seeking to maximise profits, are unable to advance the interests of society as a whole. They point to examples where companies have spent a lot of time promoting CSR policies and commitment to Sustainable Development on the one hand, whilst damaging revelations about business practices emerge on the other.

For example, the McDonald's Corporation has been criticized by CSR campaigners for unethical business practices and was the subject of a decision by Justice Roger Bell in the McLibel case which upheld claims regarding mistreatment of workers, misleading advertising, and unnecessary cruelty to animals. Similarly Shell has a much-publicised CSR policy and was a pioneer in triple bottom line reporting, but was involved in 2004 in a scandal over the misreporting of its oil reserves which seriously damaged its reputation and led to charges of hypocrisy. Since this has happened, the Shell Foundation has become involved in many projects across the world, including a partnership with Marks and Spencer (UK) in three flower and fruit growing communities across Africa.

These critics generally suggest that stronger government and international regulation, rather than voluntary measures, are necessary to ensure that companies behave in a socially responsible manner.

Other views from this perspective include:

- Corporations really care little for the welfare of workers or the environment, and given the opportunity will move production to sweatshops in less well-regulated countries.
- Companies do not pay the full costs of their impact. For example, the costs of cleaning pollution often fall on society in general. As a result profits of corporations are enhanced at the expense of social or ecological welfare.

Hindrance of Free Trade

These critics are generally supporters of Milton Friedman, who argued that a corporation's principal purpose is to maximize returns to its shareholders, while obeying the laws of the countries within which it works. Friedman argued that only people can have responsibilities.

Because of this, moderate critics suggest that CSR activity is most effective in achieving social or environmental outcomes when there is a direct link to profit. This approach to CSR requires that the resources applied to CSR activities must have at least as good a return as that that these resources could generate if applied anywhere else. This analysis drastically narrows the possible scope of CSR activities.

Critics who believe that CSR runs against capitalism would go further and say that improvements in health, longevity or infant mortality have been created by economic growth attributed to free enterprise. Investment in less developed countries contributes to the welfare of those societies, notwithstanding that these countries have fewer protections in place for workers. Failure to invest in these countries decreases the opportunity to increase social welfare.

Drivers

Corporations may be influenced to adopt CSR practices by several drivers:

Ethical Consumerism

The rise in popularity of ethical consumerism over the last two decades can be linked to the rise of CRR. As global population increases, so does the pressure on limited natural resources required to meet rising consumer demand. Industrialization in many developing countries is booming as a result of technology and globalization. Consumers are becoming more aware of the environmental and social implications of their day-to-day consumer decisions and are beginning to make purchasing decisions related to their environmental and ethical concerns. However, this practice is far from consistent or universal.

Globalization and Market Forces

As corporations pursue growth through globalization, they have encountered new challenges that impose limits to their growth and potential profits. Government regulations, tariffs, environmental restrictions and varying standards of what constitutes labour exploitation are problems that can cost organizations millions of dollars. Some view ethical issues as simply a costly hindrance.

Some companies use CSR methodologies as a strategic tactic to gain public support for their presence in global markets, helping them sustain a competitive advantage by using their social contributions to provide a subconscious level of advertising. Global competition places particular pressure on multinational corporations to examine not only their own labour practices, but those of their entire supply chain, from a CSR perspective.

Social Awareness and Education

The role among corporate stakeholders to work collectively to pressure corporations is changing. Shareholders and investors themselves, through socially responsible investing are exerting pressure on corporations to behave responsibly. Non-governmental organizations are also taking an increasing role, leveraging the power of the media and the Internet to increase their scrutiny and collective activism around corporate behaviour. Through education and dialogue, the development of community in holding businesses responsible for their actions is growing.

Ethics Training

The rise of ethics training inside corporations, some of it required by government regulation, is another driver credited with changing the behaviour and culture of corporations. The aim of such training is to help employees make ethical decisions when the answers are unclear. Tullberg believes that humans are built with the capacity to cheat and manipulate, a view taken from, hence the need for learning normative values and rules in human behaviour.

The most direct benefit is reducing the likelihood of "dirty hands", fines and damaged reputations for breaching laws or moral norms. Organizations also see secondary benefit in increasing employee loyalty and pride in the organization. Caterpillar and Best Buy are examples of organizations that have taken such steps.

INTERNATIONAL BUSINESS IN INDIA

The current scenario for 'International Business in India' is more than heartening. With stupendous growth of more than 7% annually, improvement and stabilization of relations with neighbouring countries and record setting rise of its stock indexes, India continues to grab international attention. It is destination of opportunity with its high-potential workforce and burgeoning middle class and as an increasingly dynamic competitor.

India being a multi-cultural, multi-lingual and multi-religion state, it is not advisable to formulate a uniform business strategy. The eastern part of the country is known as the 'land of the intellectuals' and is regarded as the cultural hub of the country. The southern part is known for its technology acumen and western part is the commercial-capital of the country. The north is where the political power sits and operates the country. 'International Business Opportunity in India' exists in areas like-

- Information Technology and Electronics Hardware.
- Telecommunication.
- Pharmaceuticals and Biotechnology.
- R&D.
- Banking, Financial Institutions and Insurance & Pensions.
- Capital Market.

- Chemicals and Hydrocarbons.
- Infrastructure.
- Agriculture and Food Processing.
- Retailing.
- Logistics.
- Manufacturing.
- Power and Non-conventional Energy.

Sectors like Health, Education, Housing, Resource Conservation & Management Group, Water Resources, Environment, Rural Development, Small and Medium Enterprises (SME) and Urban Development are untapped and offers huge scope. With highest numbers of technical, medical, business management graduates and highest numbers of Phd.s coupled with an energetic English speaking mass India offers 'services' with 50-70% less cost from their western counterparts.

For 'International Business in India' bodies like CII, FICCI and different Chambers of Commerce provides a variety of business facilitation services by:

- Closely working with Government and business promotion organizations in India and the respective partner countries.
- Also hosts high-level Government dignitaries and help build close working relationships between Governments and business organizations.
- It also exchanges business delegations, joint task forces and identify bilateral business co-operation potential and make suitable policy recommendations to Governments.

With opportunities galore for 'International Business in India' the trend is mind boggling. 'India International Business' community along with Indian Domestic Business community is steadily emerging as the Knowledge Capital of the world. The World Bank and different rating organizations have forecast that at 7-8% of Economic growth, she will be worlds second largest economy by 2050.

INDIAN BUSINESSES

Indian Businesses are slowly shifting their base from agriculture to major industrialization. Numerous types of Businesses in India are coming up. As India is developing the Iron & Steel Businesses in India, IT Businesses in India, Indian Businesses in Travel & Tourism, Indian Businesses in Business Process Outsourcing, Food Business market in India, Soft Drinks Businesses in India and various other types of businesses are coming to the forefront and taking the centre stage. The marketplace for Indian Businesses is quite varied including industries in the field of Agriculture & Forestry, Automobiles, Business Services, Chemicals, Computers, Construction, Education, Electrical, Electronics, Engineering/Machinery, Entertainment, Import & Export, Fashion & Advertising, Food Processing, Government of India Websites, Immigration, India Neighbourhood, Intelligence, International, IT/ITes, Minerals & Metals, Packaging & Paper, Real Estate in India, Regional Portals, Travel & Tourism and many others. The scope of doing business in India has grown in its magnitude.

Some of the major companies in the IT sector are Wipro, Tata Consultancy Services, Infosys Technologies, HCL Ltd, Satyam Computer Services, Cognizant Technology Solutions, Patni Computers, BFL Mphasis, Polaris, i-flex, IBM, Hewlett-Packard and Accenture. In general the major Indian Businesses are the Tatas, Birlas, Ambanis and many more.

The Government has played a major role in the transformation of the Indian Business scenario in India. The major changes initiated by the Government for the betterment of the Indian Businesses are in the form of macroeconomic reforms, tax reforms, finance reforms and freeing of capital markets, reforms in the regulation of business firms, revitalization of the Indian private sector, removal of exchange controls and convertibility, trade reforms, and foreign direct investment. The Foreign companies are showing massive interest in the Indian Businesses. The number of Businesses in India have increased at an impressive rate. More and more foreign companies are having their branches in India. They are either holding hands with the Indian Businesses by entering into a partnership with them or they are building up their own offices in India. The future of Indian Businesses looks bright and assuring.

ETHICS MATTERS IN BUSINESS

Ethical behaviour by employees is important to the viability of all organizations. “Doing what’s right” matters to organizations, their employees, stakeholders, and the public-at-large. To organizations and employees, acting ethically and legally means saving billions of dollars each year in theft, lawsuits, and settlements. As noted, a number of organizations have paid significant financial penalties for acting unethically. And many of them will undoubtedly never fully recover from their ethical misdeeds. Studies have estimated that workplace theft costs businesses \$40 billion each year and that employees accounted for a higher percentage of retail thefts than did customers.

Costs to businesses also include ineffective information flow throughout the organization; deterioration of relationships; declining productivity, creativity, and loyalty; and absenteeism. Organizations that have a strong reputation of unethical and uncaring behaviour towards employees also have a difficult time recruiting and retaining valued professionals. For today’s business leaders, and managers, leading and managing ethically also means managing with integrity. Integrity cascades throughout an organization. It shapes, influences and maintains the values, tone, climate, or culture of the organization; communications among all its members; and the commitment, imagination, and realism of everyone in the organization. Ethics matters in business because all the internal and external stakeholders stand to gain when organizations, groups, and individuals seek to do what is right, as well as to do things the right way.

Employees care about ethics because they are attracted to ethically and socially responsible companies. A list of the 100 best companies to work for is regularly published in *Fortune* magazine. While the list continues to change, it is instructive to observe some of the characteristics of good employers that

surveyed employees repeatedly cite. The most frequently mentioned characteristics include profit sharing, bonuses, and monetary awards. However, the list also contains policies and benefits that balance work and personal life and those that encourage social responsibility, all of which are part of the new social contract discussed.

Consider these policies described by employees:

- “When it comes to flextime requests, managers are encouraged to ‘do what is right and human.’”
- “An employee hotline to report violations of company values.”
- “Will fire clients who don’t respect its security officers.”
- “Employees donated more than 28,000 hours of volunteer labour last year.”

There are moral benefits to business ethics as well as other types of benefits. The following paragraphs describe various types of benefits from managing ethics in the workplace. Attention to business ethics has substantially improved society. For example, some decades ago, when workers’ limbs could be torn off on the job, and disabled workers were condemned to poverty and often to starvation. Children in our country worked sixteen-hour days.

Trusts controlled some markets to the extent that prices were fixed and small businesses choked out. Price fixing crippled normal market forces. Employees were terminated based on personalities. Influence was applied through intimidation and harassment. Then society reacted and demanded that businesses place high value on fairness and equal rights. Anti-trust laws were instituted. Government agencies were established. Unions were organized. Laws and regulations were established. Ethics programmes help maintain a moral course in turbulent times.

Attention to business ethics is critical during times of fundamental change—times much like those faced now by businesses, both nonprofit or for-profit. During times of change, there is often no clear moral compass exists to guide leaders through complex conflicts about what is right or wrong. Continuing attention to ethics in the workplace sensitizes leaders and staff to how they want to act—consistently. A commitment to ethics cultivates strong teamwork and productivity, two very important characteristics for today’s successful organizations.

Ethics programmes align employee behaviours with the most important ethical values preferred by leaders of the organization. Ongoing attention and dialogue regarding values in the workplace build openness, integrity, and community—critical ingredients of strong teams in the workplace. Employees feel strong alignment between their values and those of the organization. They react with strong motivation and performance. Ethics programmes support employee growth and meaning.

Attention to ethics in the workplace helps employees face reality, both good and bad, in the organization and themselves. Employees feel full confidence they can admit and deal with whatever comes their way. Ethical climates and institutionalized organizational ethics are an insurance policy; they help ensure that policies are legal.

There are an increasing number of lawsuits over human resources management (HRM) matters and over the effects of an organization's services or products on stakeholders. Ethical principles are often state-of-the-art legal matters. These principles are often applied to current major ethical issues to become legislation.

Attention to ethics ensures highly ethical policies and procedures in the workplace. It's far better to incur the cost of mechanisms to ensure ethical practices now than to incur costs of litigation later. A major intent of well-designed HRM policies is to ensure ethical treatment of employees, *e.g.*, in matters of hiring, evaluating, disciplining, and firing. Some have noted that "an employer can be subject to suit for breach of contract for failure to comply with any promise it made, so the gap between stated corporate culture and actual practice has significant legal, as well as ethical implications."

Organizational ethics emphases help avoid criminal acts "of omission" and can lower fines. Ethics programmes tend to detect ethical issues and violations early so that they can be reported or addressed. In some cases, when an organization is aware of an actual or potential violation and does not report it to the appropriate authorities, this failure can be considered a criminal act, as in business dealings with certain government agencies such as the Defence Department. The Federal Sentencing Guidelines specify major penalties for various types of major ethics violations. However, the guidelines allow for lower fines if an organization has clearly made an effort to operate ethically.

Ethics programmes identify preferred values and ensure that organizational behaviours are aligned with those values. This effort includes recording the values, developing policies and procedures to align behaviours with preferred values, and then training all personnel about the policies and procedures. This overall effort is very useful for several other programmes in the workplace that require behaviours to be aligned with values, including quality management, strategic planning, and diversity management. For example, successful team performance in a "Six Sigma" quality organization includes high priority on certain operating values such as trust among stakeholders, performance, reliability, measurement, and feedback.

Many of these organizations use ethics tools in their quality programmes to ensure integrity in their relationships with stakeholders. Ethics management techniques are also highly useful for managing strategic values, such as expand marketshare or reduce costs. Ethics management programmes are also useful in managing diversity. Diversity programmes require recognizing and applying diverse values and perspectives; these activities are the basis of an organization committed to sound ethics.

As noted earlier, a commitment to ethics promotes a strong public image. Attention to ethics is strong public relations. Admittedly, managing ethics should not be done primarily for reasons of public relations. But, frankly, the fact that an organization regularly gives attention to its ethics can portray a strong positive to the public. People see those organizations as valuing people more than profit,

as striving to operate with the utmost of integrity and honour. Aligning behaviour with values is critical to effective marketing and public relations programmes. Consider how Johnson & Johnson handled the Tylenol crisis versus how Exxon handled the oil spill in Alaska. In companies like Johnson & Johnson ethical values, consistently applied, are the cornerstones in building a competitive, successful and socially responsible business.

A commitment to ethical values in the workplace legitimizes managerial actions, strengthens the coherence and balance of the organization's culture, improves trust in relationships between individuals and groups, supports greater consistency in standards and qualities of products, and cultivates greater sensitivity to the impact of the enterprise's values and messages.

Last—and most important—an unwavering commitment to ethics in the workplace is the right thing to do.

There is evidence that paying attention to ethical issues pays off for companies. In the early 1990s, James Burke, then the CEO of Johnson & Johnson, put together a list of companies that devoted a great deal of attention to ethics. The group included Johnson & Johnson, Coca-Cola, Gerber, Kodak, 3M, and Pitney Bowes. Over a forty-year period the market value of these organizations grew at an annual rate of 11.3 percent, as compared to 6.2 percent for the Dow Jones industrials as a whole.

Other evidence has also demonstrated that ethics and financial performance are linked. In a recent study of the 500 largest U.S., public corporations, those that claim a commitment to ethical behaviour towards their stakeholders have a better financial performance than those firms that do not. While these results do not demonstrate a causal relationship between ethics and performance, the findings hint at the presence of a relationship between the two. Doing the right thing can have a positive effect on an organization's performance.

ARISTOTELIAN APPROACHES TO BUSINESS ETHICS

There are two basic approaches to integrating ethics in business: the action-based approach, and the agent-based approach. The traditional approach is action-based in that it focusses on developing rules or guidelines to constrain management's actions. These rules or guidelines generally manifest themselves in corporate codes-of-conduct, or codes-of-ethics.

Contrarily, rather than the action-based focus on rules governing action, the agent-based approach concerns the fundamental character and motivations of the individual agent. Under the agent-based approach, moral behaviour is not limited to adherence to a rule or guideline but rather involves the individual rationally pursuing moral excellence as a goal in and of itself. In essence, ethics becomes central to the rationality concept as an objective rather than a constraint: "something positively good, something to be sought after".

Agent-based approaches generally derive their philosophical foundation from virtue-ethics theory. This theory is attracting increasing interest from business

ethicists. In essence, the 'virtue' in virtue-ethics is defined as some desirable character trait, such as courage, that lies between two extremes, such as rashness and cowardice.

Thus the 'virtuous' agent is involved in a continual quest to find balance in decision-making. Such an agent does not apply any specific 'rules' in making decisions, but rather attempts to make decisions that are consistent with the pursuit of a particular kind of excellence that in turn entails exercising sound moral judgement guided by such 'virtues' as courage, wisdom, temperance, fairness, integrity, and consistency.

Rather than stepping outside one's professional role, virtue ethics would have one evaluate an ethically charged decision from within that role. Ethics becomes contextual and connected to a given person and situation, rather than separate and abstract to person and place. This is clearly a very different concept to that of ethics as adherence to a set of abstract rules, which is so common in contemporary professional codes of conduct.

For example, a financial accountant may be able to enhance her company's reported results of operations by crafting a sale-leaseback arrangement whereby some of the company's assets are sold, a gain is recorded, all the appropriate accounting pronouncements are adhered to, and the company still has use of its assets. The intent of the transaction was never to rid the company of unwanted assets, but rather to record a gain and thus possibly avoid breaching debt-covenant agreements or circumvent regulatory requirements.

In order to examine whether or not this example of creative financial-accounting is unethical, action-based approaches would have the individual step out of her accounting role and don the hat of a Kantian (*e.g.*, "does this action violate the rights of users of the financial statements to fairly presented financial information?"), or of a utilitarian (*e.g.*, "does this action maximize the welfare of all stakeholders?"). In this approach, the agent adopts a type of moral schizophrenia in which being a good professional in the sense of being an economically effective accountant becomes separable from being a good professional in the sense of being an ethical accountant. Thus, given this action-based approach, an accountant could be a 'good' accountant, in the sense of being very efficient and effective, yet at the same time not be a 'good' accountant, in the sense of being ethical.

The great strength of virtue ethics is that it overcomes this moral schizophrenia. Ethics is no longer merely a list of constraints on behaviour. For example, our financial accountant, if she were virtuous, would not have to weigh the goal of maximizing firm profits against the constraints of an ethics code. Maximizing firm profits would simply no longer be her ultimate objective.

Indeed it is this holistic motivational focus, transcending contextual specificity, that is the great contribution of virtue-ethics theory. This theory provides an alternative value base upon which to build a morally sensitive theory of financial economics. At first blush, however, the virtue-ethics approach might appear too esoteric for application in business: How could a financial manager

pursue moral excellence through virtue? On closer scrutiny, however, the focus of virtue-ethics on the fundamental motivations of the agent actually dovetails rather neatly with the increasing focus among financial economists on the motivations of agents in business.

Why do people act wrongly, when they know full well what right conduct demands? This phenomenon, known to philosophers as incontinence or *akrasia*, receives extensive treatment in Book Seven of Aristotle's *Nicomachean Ethics*. Like Newsweek, Aristotle holds that *akrasia* presents a special challenge for moral education. How does Aristotle conceive this challenge, and what might contemporary educators learn from Aristotle's analysis? To appreciate Aristotle's insights into *akrasia* and moral instruction, it is helpful to begin by looking at popular views of the akratic's dilemma.

Popular beliefs about incontinence are varied and often contradictory, Aristotle contends. Two, however, bear scrutiny. Aristotle summarizes them as follows:

1. The continent person seems to be the same as one who abides by his rational calculation; and the incontinent person seems to be the same as one who abandons it.
2. The incontinent person knows that his actions are base, but does them because of his feelings, while the continent person knows that his appetites are base, but because of reason does not follow them.

In short, popular opinion concludes that with respect to *akrasia*, feeling overpowers reason; the individual, as a consequence, is seduced into acting irrationally. This conclusion, in turn, is marked by two deeper suppositions: a) feeling (or appetite) is distinct from reason; b) reason can be disciplined, but feelings cannot.

Although voiced in ancient Greece, these common beliefs about *akrasia* are held no less widely today. Like Aristotle's compatriots, we tend to divorce reason from desires and appetites. The latter we regard as urges we cannot help but feel; reason, by contrast, bespeaks a capacity for considered control. When we act against our better judgment, it is because we cannot hold our feelings at bay. We lose control and behave irrationally.

This entire set of assumptions is wrong, Aristotle insists. *Akrasia* cannot be explained as the seduction of reason by appetite. Nor can we say that akratics have lost control. On Aristotle's view, *akrasia* is a form of practical judgment. More precisely, it is a form of practical judgment that has gone astray. In what respect is *akrasia* a kind of reasoned evaluation? How does this judgment represent a conflict between knowledge and action? To answer these questions, Aristotle takes a closer look at the two popular beliefs about *akrasia*.

According to Aristotle, the first belief, that akratics "abandon logical calculation," derives from Socrates. For Socrates, knowledge of (or correct reasoning about) the good naturally leads to correct action. "No one, (Socrates) thought, supposes while he acts that his action conflicts with what is best; our action conflicts with what is best only because we are ignorant of the conflict." Insofar as akratics act wrongly, then, they either a) are ignorant of the good; or b) know the good, but choose to discount this knowledge. In so doing, they act irrationally.

While Aristotle acknowledges the appeal of Socrates' position, he feels that it does not really capture the akratic's situation. "It is evident," Aristotle writes, "that before he is affected the person who acts incontinently does not think he should do the action he eventually does." The empirical world, in other words, attests to the fact that incontinentals do possess knowledge of the good. Inasmuch as akratics manage to achieve correct knowledge, they must be exercising reason. The first belief is thus mistaken: *akrasia* connotes neither ignorance nor irrationality.

The second popular belief, that feeling overtakes the akratic's knowledge of the good, is mired in contradiction. According to advocates of this position, "When the incontinent person is overcome by pleasure he has only belief, not knowledge." This view, in other words, assumes that pleasurable feelings overwhelm or dissolve knowledge of the good, converting it into opinion or supposition. It is impossible, therefore, to simultaneously possess both knowledge of the good and strong feelings of pleasure. Contrary to its manifest wording, then, this position assumes that incontinentals cannot know that their actions are base.

For Aristotle, in sum, popular opinion is wrong (1) to define *akrasia* as an abandonment of reason, and (2) to assume that it occurs in the face of appetite or pleasurable feelings. Nonetheless, Aristotle declares, these common beliefs should not be discounted: while neither is entirely correct, each does contain a key insight regarding *akrasia*. The second premise is right to maintain that appetite is central to incontinence. What it fails to consider is the possibility that appetite is central to continence as well. In and of itself, in other words, appetite is not the villain in the drama of *akrasia*. Its role must be explained in some other way.

For its part, the first premise is right to assume that correct reasoning leads to correct behaviour. However, it fails to entertain the possibility that reasoned judgment can conflict with a person's actual conduct. Indeed, it is precisely the conflict between reason and behaviour which makes *akrasia* so puzzling. "Though persuaded to act otherwise, (the incontinent) still acts wrongly," Aristotle declares. "The incontinent person thinks it is wrong to pursue (the pleasant thing at hand), yet still pursues it."

Exploring common beliefs about incontinence thus leads Aristotle to ask a series of questions which brings the dilemma of *akrasia* into sharper focus. How (pace Socrates) is it possible for the akratic to arrive at correct conclusions, yet still act wrongly? What role do feelings and appetites play in the puzzle of *akrasia*? Aristotle considers two reasons to explain why knowledge and action conflict.

The first reason, Aristotle says, derives from the fact that correct reasoning requires premises that are both universal and particular. Individuals, however, sometimes attend to one premise at the expense of the other. Concentrating exclusively on the universal premise leads to incorrect conduct, because it is the particular premise which controls action.

Focusing solely on the particular premise also can be misleading. Correct reasoning requires that the particular premise be properly classified. Correct classification, Aristotle says, cannot take place without a universal premise, for it is the universal premise which articulates general concepts and categories. Insofar as the universal premise is ignored, then, mis-classification is likely. Incorrect classification of the particular, in turn, results in incorrect action.

The second reason why knowledge and behaviour sometimes conflict does not concern the knowing process but rather the conditions under which knowledge is achieved. Individuals may possess knowledge. But they also may be "asleep or mad or drunk." These states are characterized by the presence of strong feelings, feelings not unlike "emotions" and "sexual appetites." Such feelings, Aristotle tells us, "clearly both disturb knowledge and the body as well."

It is this second state of affairs which for Aristotle best describes *akrasia*. Like those who are asleep or mad or drunk, the incontinent is affected by strong feelings. Such persons, Aristotle asserts, "both have knowledge in a way and do not have it." That is, people affected by strong feelings may say knowledgeable things. They may "even recite demonstrations and verses of Empedocles." This does not mean, however, that these persons actually understand the words they espouse. In this respect, the incontinent is like an actor who can convincingly recite verses even though he does not comprehend them, or a young learner who is able to string together words without fully grasping their meaning.

The central question thus comes into view: how, precisely, do appetites and strong feelings affect the reasoning process when persons knowingly act against their better judgment? Aristotle offers the following explanation:

Suppose, then, that someone has (a) the universal belief, and it hinders him from tasting; he has (b) the second belief, that everything sweet is pleasant and this is sweet, and this belief (b) is active; and he also has appetite. Hence the belief (c) tells him to avoid this, but appetite leads him on, since it is capable of moving each of the (bodily) parts.

The result, then, is that in a way reason and belief make him act incontinently. The belief (b) is contrary to correct reason (a), but only coincidentally, not in itself. For it is the appetite, not the belief, that is contrary (in itself to correct reason.)

Hence beasts are not incontinent, because they have no universal supposition, but (only) appearance and memory of particulars.

Aristotle's account here is obscure, largely because it has been preserved in the form of scanty lecture notes. In an extended footnote to his translation of the *Ethics*, Terence Irwin offers one interpretation of Aristotle's ideas. Irwin's interpretation may be summarized as follows.

1. The incontinent is working with three premises or beliefs. One belief (a) is universal ("Sweet things shouldn't be tasted"). A second belief (b) entails perception and contains both a universal and a particular component ("Everything sweet is pleasant; this particular thing is sweet"). A third belief (c) represents the inference that is drawn from the other two premises ("This sweet and pleasant thing shouldn't be tasted").

2. Besides these three beliefs, the incontinent also has appetite.
3. Now, belief (b), "Everything sweet is pleasant; this is sweet," acts to excite appetite. Consequently, belief (b) detaches itself from the universal belief (a) and joins instead to appetite. This does not necessarily deter inference (c) from being reached. But because (a) and (b) have become disconnected (the latter having joined with appetite), (c) is not genuinely derived from premises (a) and (b). Thus, while the incontinent may be able to correctly recite inference (c), he does not really know (c), because he has not derived it from an integrated set of premises.
4. In a similar vein, the incontinent both has and doesn't have belief (b). Insofar as (b) is the focus of the incontinent's attention, we can say he has this belief. But since (b) is attached to appetite, it is detached from (a). It thus does not genuinely follow in the reasoning process. Consequently, while the incontinent may "know" premise (b), he does not "really" know it.

On Irwin's account, then, the key move in the phenomenon of *akrasia* is the dissociation of particular premise (b) from universal premise (a) and its subsequent attachment to appetite. As a consequence, appetite ("Taste this sweet thing!") overcomes the better syllogism ("Don't taste it!"). The incontinent knows better, but his behaviour conflicts with his knowledge.

While this interpretation of Aristotle seems promising, it ultimately fails to explain how, exactly, the better syllogism is overcome. Is it because the incontinent's feelings simply are stronger than those of the continent person? This explanation is unlikely: Aristotle insists that the continent person, no less than the *akratic*, possesses strong feelings. What role, then, do feelings play in cases of *akrasia*?

In an essay entitled, "Aristotle On Learning To Be Good," M.F. Burnyeat offers an illuminating angle from which to consider this question. Unlike Irwin, Burnyeat does not believe that incontinence represents the triumph of feeling over reason. This would suggest that reason alone leads to virtuous conduct and that feelings hinder this outcome. Such a conclusion, Burnyeat maintains, is precisely the opposite of what Aristotle intends. Feeling for Aristotle is not an obstacle to correct behaviour: on the contrary, feeling is essential if virtuous conduct is to be realised. Framing the issue this way, incontinence becomes a striking example of what happens when feelings are ignored, repressed, or misdirected.

To appreciate this line of argument, Burnyeat directs us to look beyond the immediate circumstances of the incontinent's conflicted decision and view *akrasia* instead as a phenomenon evolves over time. As Burnyeat puts it, we must "account for (the *akratic*'s) present conflict in terms of stages in the development of his character which he has not yet completely left behind. For on Aristotle's picture of moral development, as I have drawn it, an important fact about the better syllogism is that it represents a later and less established stage of development."

Given this perspective, the crucial questions become: In what condition is the person prior to akrasia? Can this original condition be nurtured or educated in such a way as to prevent akrasia from developing? What kind of education fosters the disposition for continence? When and how can moral education go wrong and open the door to conflict? Burnyeat offers the following analysis. Long before reflective judgments about behaviour are achieved, a wide range of desires and feelings works to shape patterns of motivation and response.

Pleasure and pain constitute the poles of this "feeling range." Physiologically-based appetites and instinctive reactions propel us between these two poles. Appetite moves us to pursue pleasure; instincts such as fear impel us to avoid pain. It is important to note, Burnyeat contends, that the powerful feelings of appetite and fear are not divorced from the realm of thought. Insofar as the ability to recognize pleasure and pain is a function of perception, appetite and instinct do represent cognitive processes.

Specifically, they are evaluative responses. Burnyeat puts the matter like this:

It is not that evaluative responses have no thought component (no intentionality): on the contrary, something is desired as noble or just, something inspires shame, because it is thought of as disgraceful. The responses are grounded in an evaluation of their object, parallel to the way appetite is oriented to a conception of its object as something pleasant; in this sense both have their "reasons." These "reasons," of course, are very low-level. They are primitive, Burnyeat tells us, because they do not invariably or immediately lose efficacy in the face of contrary considerations.

They are, in short, "pockets" of thought that remain relatively unaffected by our overall view of things. Thus, while appetite and instinct may be evaluations, they do not signify logical or analytical reasoning. To denote this idea, Burnyeat calls appetites and instincts, "unreasoned evaluative responses." Insofar as basic evaluations are non-analytical, they do not distinguish "good" objects from "bad" ones.

Instead, they pursue whatever happens to be pleasant at the time. Because of this, unreasoned evaluative responses must be directed towards good objects by means of guided practice and habituation. "The underlying idea," Burnyeat observes, "is that the child's sense of pleasure, which to begin with and for a long while is his only motive, should be hooked up with just and noble things so that his unreasoned evaluative responses may be developed in connection with right objects."

An Aristotelian approach to moral education thus begins by matching the child's natural desire for pleasant experiences with behaviours that are deemed virtuous. Behavioural shaping alone, however, will not develop continence. As Burnyeat points out, learning to act correctly is one thing; it is quite a different matter to accept that a particular act is virtuous. In the former sense, learning is simply the acquisition of neutral information.

This kind of learning is "weak," Burnyeat explains: its objects do not affect the child in any lasting way. To "really" learn, by contrast, one must come to

endorse the behaviour one performs. As Aristotle puts it, the behaviour must "grow into" the child, become accepted by the child as something people do. In this regard, learning is "strong." The child is internally motivated to continue acting virtuously.

How is the transition from practice to acceptance achieved? How can children be educated not simply to perform virtuous acts but to accept certain acts as virtuous? On Burnyeat's reading of Aristotle, opportunities to behave ethically must continue to be offered and associated with pleasurable feelings. Eventually, children will come to see that with respect to certain acts, pleasure is not merely a contingent consequence: these acts always produce pleasure. They are, in effect, intrinsically pleasurable. Children therefore continue to perform them, simply because they enjoy doing so.

We might expect that once children reach the stage of acceptance, they will act virtuously for the rest of their lives. Insofar as they encounter familiar situations, this expectation holds. What happens, however, when a new situation is confronted? The correct course of action is not always clear; children cannot depend on their tutors to guide them forever. Children instead must develop the capacity to discriminate virtue from vice, to judge for themselves what a given set of circumstances requires.

How, exactly, does reflective reason take hold of a person's motivational patterns, transforming them from pre-dispositions into considered principles for ethical conduct? The whole of the *Nicomachean Ethics*, Burnyeat explains, is a response to this question. In Burnyeat's view, Aristotle intends the *Ethics* to be "a course in practical thinking (that can) enable someone who already wants to be virtuous to understand better what he should do and why." The *Ethics*, in short, is a guide which can assist those persons who already act virtuously to become more reflective about the judgments which drive their behaviour.

What, in sum, can we say about Aristotle's model of moral education as articulated by Burnyeat? Of the three instructional stages, the third - the stage of reasoned reflection - is at once the most complex and also the least critical. Reflection alone, Aristotle insists, cannot promote ethical conduct. Long before the capacity for analysis develops, the propensity to embrace virtue must already have taken hold. The ground from which this proclivity springs is seeded very early, during the first two stages of the child's education.

During the first stage, two principles are crucial to the development of continence. First, right action is not self-evident to the untutored child. The good instead must be pointed out by those who know better. Second, no attempt is made during the process of habituation to eliminate the child's feelings. Feelings instead are elicited and then modified.

During the second stage of instruction, a key transformation takes place. No longer is virtuous conduct viewed simply as an external principle which children identify and exhibit. Through continued association of pleasurable feelings and good behaviour, virtuous acts come to be identified as intrinsically pleasurable. Children repeat them because they want to; acting virtuously becomes "second

nature." Thus unlike an actor who recites Empedocles without endorsing the words, the child educated on Aristotle's model does more than simply assert the good and assent to do it. The good, rather, is assimilated into the child's very being; the child comes to see virtuous conduct as an integral part of who he or she is.

In the end, moral education for Aristotle is profoundly integrative. Pleasurable feelings are articulated to correct conduct; ethical conduct thereby is internalized and becomes constitutive of one's character. In effect, personal desires and social norms form a seamless tapestry. One wants to do what ought to be done; conduct accords with knowledge.

The situation of *akrasia* displays most vividly what happens when the integration of moral education is not achieved. In the incontinent individual, the match between appetite and correct behaviour has not been completely articulated or habituated. Aristotle does not stipulate how, exactly, a person "gets stuck" in incontinence. Presumably, early associations between pleasurable feelings and virtuous behaviours either were insufficient or inconsistent.

At any rate, enough repetition seems to have occurred for the incontinent to be able to recognize ethical behaviour, but not enough for this behaviour to have become internalized. As a consequence, the incontinent possesses knowledge of the good, but this knowledge is not personally compelling. Pleasure continues to pursue its own ends, and the potential for conflict is born.

The conflict of *akrasia*, Aristotle observes, is maddeningly intractable. He writes: It is hard, if not impossible, to remove by argument the traits that have long been incorporated into the character. . . . For he who lives as passion directs will not hear argument that dissuades him, nor understand it if it does; and how can we persuade one in such a state to change his ways? And in general passion seems to yield not to argument but to force. The character, then, must somehow be there already with a kinship to virtue, loving what is noble and hating what is base.

Not even his own lectures, Aristotle concludes, can redeem the *akratic* from conflict. Unless an individual sees him or herself as a person who acts virtuously, no amount of argument or analysis can compel ethical conduct. The road to continence begins with the very first inklings of pleasure. Only by consolidating desire with the good can conflict be averted.

What can educators today learn from Aristotle's analysis of *akrasia*? Can the teaching of ethics really help students act on the virtues they espouse and thereby cleanse the business world of its shady dealings? How might such an education proceed? What might be its limits?

Clearly, Aristotle would say, ethics classes for conflicted business-people offer too little too late. These classes can echo the good which students already acknowledge. But they cannot insure ethical conduct, much less assuage the conflict of *akrasia*. Our students may know the good; they may even agree that the good should be followed. Insofar as they are conflicted, however, the good remains extrinsic to how students see themselves. They thus are neither invested in the good nor motivated internally to pursue it.

Unless students already are disposed to behave as virtuous persons, no amount of reflective analysis can persuade them to act on their knowledge.

Aristotle would have us begin moral instruction when children are very young. Three features distinguish education on Aristotle's model. First, instruction would not engage students in analyses of ethical dilemmas. It rather would focus on children's natural desire for pleasure, striving to harmonize the pursuit of pleasure with the pursuit of virtuous ends. The presumption is that desires can indeed be disciplined; they are no less subject to considered control than the faculty of reason.

The focus on pleasure, Aristotle continues, serves a specific purpose. Objects that are a source of pleasure are taken into oneself. By identifying the good with desire, children come to internalize it; to act virtuously thereby becomes part of the child's self-image. Moral education on Aristotle's model thus does not stop with conduct: it strives instead to cultivate character, to develop children who see themselves as persons who pursue the good out of passionate commitment.

Finally, Aristotle would remind us that moral education does not occur in a vacuum. It takes place, rather, within the parameters of social values and norms. Without these norms, educators have no guide for shaping behaviour, no "target," as it were, at which to direct untutored desires and appetites. In this respect, the kind of education one receives very much depends on the kind of society in which one lives. An educational system may explicate society's values. It may even call them into question. In and of itself, however, a system of instruction on Aristotle's model cannot reform society or "cleanse" it of "shady dealings." The process of self-evaluation, rather, is everybody's business.

Aristotle's vision gives educators much to consider. Nonetheless, two features of Aristotle's model give me pause. First, Aristotle assumes that the effects of environment are cumulative and irreversible. Consequently, if individuals are not consistently exposed to good behaviour as children, they will lack the predisposition to endorse virtuous conduct as adults. In many cases, this claim seems true. But is it always the case? Some individuals who witness a great deal of unethical behaviour as children manage to overcome the past and grow into adults who act virtuously. Are these people simply exceptional? Or do they reveal something about human nature and the good which Aristotle overlooks?

Second, Aristotle's model rests on the premise that "the good" is an intrinsic feature of certain ends. Some pursuits are undeniably good; with proper upbringing, anyone can recognize goodness. In many ways, this premise is appealing. It presumes, however, a society that is relatively homogeneous. In a pluralistic society, by contrast, the good (pace Newsweek) is not "comparatively easy" to know. The good is less a discovery than a negotiated agreement, resulting from on-going and often painful conversations. Moral education for a pluralistic world thus is a far more complex enterprise than Aristotle might have imagined. Education today must do more than shape virtuous behaviour: it also must engage everyone to define just what "the good" means.

Virtue Ethics

Virtue ethics is concerned with pursuing a certain type of morally inclusive excellence. Aristotle called it eudaimonia, which can be roughly translated as 'happiness', or 'human flourishing'. For present purposes, this approach to ethics can be thought of as exhibiting four basic attributes.

Its primary attribute is a strong emphasis on the importance of certain generally accepted virtues of character; indeed it is through honing and perfecting these virtues that an individual becomes truly ethical. Secondly, a strong emphasis is placed on the existence of an active community that nurtures these virtues. Thirdly, virtue-ethics theory makes clear that in the moral life one cannot rely merely on rules or guidelines, in addition an ability to exercise sound moral judgement is requisite. Finally, the successful identification and emulation of moral exemplars or role models is essential for the dissemination of morality within the aforementioned nurturing community.

The remainder of this article will describe virtue ethics from these four perspectives: the role of the virtues, the role of community, the role of moral judgement, and the role of exemplars.

The Role of The Virtues

An essential feature of rationality within virtue ethics is that, rather than focussing on the material goals of the agent, it focusses on the character and motivations of the agent, and on the agent's ability to pursue a certain very particular type of excellence. A characteristic of this excellence is that its pursuit necessitates adherence to certain virtues or traits of character. These virtues place emphasis on the motivation for an action and entail the exercise of sound judgement. "Virtue lies in the reasons for which one acts rather than in the type of action one performs". Virtues can be split into two broad categories, namely self-regarding and other-regarding:

When, furthermore, we look at the whole range of traits commonly recognized as virtues, we once again see that self-regarding and other-regarding considerations are both capable of underlying the kind of high regard that leads us to regard various traits as virtues. Justice, kindness, probity, and generosity are chiefly admired for what they lead those who possess these traits to do in their relations with other people, but prudence, sagacity, circumspection, equanimity, and fortitude are esteemed primarily under their self-regarding aspect, and still other traits - notably self-control, courage, and (perhaps) wisdom in practical affairs - are in substantial measure admired both for what they do for their possessors and for what they lead their possessors to do with regard to other people.

A succinct definition of virtue is supplied by MacIntyre: "A virtue is an acquired human quality the possession and exercise of which tends to enable us to achieve those goods which are internal...". He distinguishes between internal and external goods as follows:

It is characteristic of what I have called external goods that when achieved they are always some individual's property or possession. Moreover characteristically they are such that the more someone has of them, the less there is for other people....External goods are therefore characteristically objects of competition in which there must be losers as well as winners. Internal goods are indeed the outcome of competition to excel, but it is characteristic of them that their achievement is a good for the whole community who participate in the practice.

The pursuit of external goods, therefore, is no longer recognized as the ultimate end of human endeavour, but rather as a means to the achievement of excellence. Martha Nussbaum defines this excellence as "the end of all desires, the final reason why we do whatever we do; and it is thus inclusive of everything that has intrinsic worth [*i.e.*, internal goods], lacking in nothing that would make a life more valuable or more complete".

A central feature of virtue ethics is its concept of professional development as fundamentally a moral process; "one cannot be practically rational without being just - or indeed without the other central virtues". Thus rather than being some peripheral appendage or constraint on a substance-based rationality concept, this approach places morality at centre stage.

In a business context, Kenneth Goodpaster lists five key virtues:

1. *Prudence*: Neither too short-term nor too long-term in time horizon;
2. *Temperance*: Neither too narrowly materialistic (want-driven) nor too broadly dispassionate (idea-driven);
3. *Courage*: Neither reckless nor too risk-averse;
4. *Justice*: Neither too anarchic regarding law nor too compliant;
5. *Loyalty*: Neither too shareholder-driven (private sector thinking) nor too driven by other stakeholders (public sector thinking).

Clearly, to achieve excellence through the exercise of these virtues of character requires a sense of moderation. Thus managers who are said to be 'weathering the storm' or 'sticking to their guns' may well be exercising the virtue of courage. But so might a manager who 'knows when to call it quits'. It is the reason or judgement underlying the action that will determine whether the agent is truly courageous. Thus a virtue is not a maximum or a minimum. Unlike rationality in the finance paradigm, practical rationality concerns moderation and balance.

The crucial difference, therefore, between traditional approaches to business ethics and the approach adopted in virtue-ethics theory is that the latter focusses on the character and motivations of the agent, and on the agent's ability to pursue excellence through virtuous acts.

As mentioned earlier, Klein succinctly distinguishes between the traditional approach to business ethics and the new virtue-ethics approach by labelling them as "action-based" and "agent-based" respectively: the former tending to focus on moral rules that can be generally applied to contractual situations (*e.g.*, Kantianism and utilitarianism), whereas virtue ethics concerns the aspirations of the agent, and the agent's ability to exercise the moral 'virtues'. Klein describes a similar individual in his analysis of Cervantes's Don Quixote:

The ideal of craftsmanship is to create that which has quality or excellence; personal satisfaction, pride in accomplishment, and a sense of dignity derived from the consequent self-development are the motivations. In an 'excellent' company it is this ideal that permeates the firm, and management should provide the moral example of such an ideal; a business management craftsman attempts to create a quality organization, and quality products and services are the result of such an organization.

Klein's managers recognize their business universe as essentially one of chaotic disorder and unpredictability where rules of logic and rationality will never fit comfortably. These managers endeavour to achieve some sort of balance and harmony in their chaotic environment. In this endeavour they are not quixotic, but rather are guided by conceptions of quality, excellence, the Good, Aristotelian eudaimonia, and by conceptions of desirable character traits -- virtues -- that may lead to these ideals.

The acquisition of these character traits and the concomitant pursuit of these ideals is not achieved simply by the application of certain rules of logic, or of rationality. Indeed the whole pursuit is characterized by a marked absence of rules and set goals.

The Role of Community

Virtue ethics theory also has implications for the role of the firm or professional organization. For the virtues to flourish requires a conducive infrastructure; "one cannot think for oneself if one thinks entirely by oneself, it is only by participation in a rational practice-based community that one becomes rational..". MacIntyre defines a practice as...

.. any coherent and complex form of socially established cooperative human activity through which goods internal to that form of activity are realised in the course of trying to achieve those standards of excellence which are appropriate to, and partially definitive of, that form of activity, with the result that human powers to achieve excellence, and human conceptions of the ends and goods involved, are systematically extended.

Thus rationality in virtue ethics is a shared rationality with a shared conception of what is ultimately desirable in all human endeavour. This shared conception must be supported by, and indeed be the *raison d'être* of, the organizations and institutions that control and direct human activity. This infrastructure is an aspect of what was known in the city-states of ancient Greece as the polis: "the form of social order whose shared mode of life already expresses the collective answer or answers of its citizens to the question 'What is the best mode of life for human beings?'". Such an infrastructure is essential for virtue ethics:

Aristotle is articulating at the level of theoretical enquiry a thought inherited from the poets when he argues in Book I of the Politics that a human being separated from the polis is thereby deprived of some of the essential attributes of a human being... A human being stands to the polis as a part to its whole... For the polis is human community perfected and completed by achieving its telos.

The virtue-ethics approach thus casts the firm or professional organization in a role that is far more active and intrusive than merely what Jensen and Meckling call a "contractual nexus" or what Miller describes as a "wealth creating machine". The firm becomes a nurturing community, a polis. "Corporations are real communities, and therefore the perfect place to start understanding the nature of the virtues".

Solomon emphasizes the link between virtue-ethics and this expanded role of the firm as a nurturing community: "It [virtue-ethics] is an Aristotelian ethics precisely because it is membership in a community, a community with collective goals and a stated mission - to produce quality goods and/or services and to make a profit for the stockholders". Within the rubric of virtue-ethics theory, therefore, the goals and aspirations of the individual are nurtured and directed by the business organizations and institutions of which that individual forms a part.

The Role of Moral Judgment

Another significant aspect of virtue ethics is its rejection of a rule-based approach to moral education. Acting ethically in a given situation is less a function of rule adherence and more a function of exercising sound moral judgement. MacIntyre makes this very clear:

What can never be done is to reduce what has to be learned in order to excel at such a type of activity to the application of rules. There will of course at any particular stage in the historical development of such a form of activity be a stock of maxims which are used to characterize what is taken at that stage to be the best practice so far. But knowing how to apply these maxims is itself a capacity which cannot be specified by further rules, and the greatest achievements in each area at each stage always exhibit a freedom to violate the present established maxims, so that achievement proceeds both by rule-keeping and by rule-breaking. And there are never any rules to prescribe when it is the one rather than the other that we must do if we are to pursue excellence.

This does not mean that, for example, derivatives traders should ignore exchange standards or codes of conduct, but rather that these should be viewed - not as the entire professional ethic - but as the foundation from which to pursue the professional ideal in this activity. This professional ideal will be defined in terms of the internal goods specific to the practice of derivatives trading, but more on this later.

The Role of Moral Exemplars

The role of exemplars is critical for the application of virtue ethics because it is from these individuals that the virtues are disseminated throughout the profession. Thus, in virtue ethics, ethics is something which is learnt through observation of others' behaviour. For example, in his article on "Good Works", Michael Pritchard concludes that "beyond discussing codes of ethics, principles of right and wrong, dilemmas... and moral disaster stories, we need stories of a

different sort - stories of good professionals whose lives might inspire emulation". A resurgence in recognition of the critical importance of moral exemplars is supplied by cognitive science in its invocation of "exemplar theory". Alvin Goldman summarizes the theory as follows:

Moral theorists often assume that people's usage of moral terms is underpinned by some sort of rules or principles they learn to associate with those terms: rules governing honesty, for example, or fairness. The exemplar theory suggests, however, that what moral learning consists in may not be (primarily) the learning of rules but the acquisition of pertinent exemplars or examples. This would accord with the observable fact that people, especially children, have an easier time assimilating the import of parables, myths, and fables than abstract principles. A morally suitable role model may be didactically more effective than a set of behavioural maxims.

What this overview of virtue-ethics theory makes clear is that an individual, whether finance professional or otherwise, cannot be ethical in a vacuum. The individual must be educated in the virtues by a nurturing community, and by the guidance of exemplars.

This approach takes ethics far deeper than merely a credo or code of conduct. Ethics becomes integral to the professional's whole conception of what it is he or she is about. Rather than the opportunist of financial agency theory, the virtuous agent adopts a different notion of substantive rationality: Practical Rationality.

6

Exploring Capital Markets in Business Economics

CAPITAL MARKET

Capital Market is one of the significant aspect of every financial market. Hence it is necessary to study its correct meaning. Broadly speaking the capital market is a market for financial assets which have a long or indefinite maturity. Unlike money market instruments the capital market intruments become mature for the period above one year. It is an institutional arrangement to borrow and lend money for a longer period of time. It consists of financial institutions like IDBI, ICICI, UTI, LIC, *etc.* These institutions play the role of lenders in the capital market. Business units and corporate are the borrowers in the capital market. Capital market involves various instruments which can be used for financial transactions. Capital market provides long term debt and equity finance for the government and the corporate sector. Capital market can be classified into primary and secondary markets. The primary market is a market for new shares, where as in the secondary market the existing securities are traded. Capital market institutions provide rupee loans, foreign exchange loans, consultancy services and underwriting.

A capital market is a market for securities (equity and debt), where business enterprises (companies) and governments can raise long-term funds. It is defined as a market in which money is provided for periods longer than a year (raising of short-term funds takes place on other markets like the money market). Financial regulators, such as SEBI and RBI regulate and oversee the capital

market in their designated jurisdictions to ensure an orderly development of the market and protection of investors. Capital market can be classified into primary market and secondary market. In the primary market, new stocks and bonds are sold by companies to investors. In the secondary market, the existing issued securities are sold and bought among investors or traders through a stock exchange.

Capital market development is essential for the economic development of a country. The objective of economic activity in any country is to promote the well-being and standard of living of its people, which depends upon the distribution of income in terms of goods and services in the economy. For the growth process in the economy, production plays a vital role. Production of output depends upon material inputs, human inputs, and financial inputs. Material inputs are in the form of raw materials; plant, and machinery, *etc.*, Human inputs are in the form of intellectual, managerial and labour manpower. Financial inputs are in the shape of capital, cash, credit, *etc.* The proper availability and utilization of these inputs promotes the economic growth of a country.

The financial inputs, among other sources, emanate from the capital market system. The capital market thrives with investors' confidence based upon their return on investment as well as from anticipated capital appreciation from their investment.

Investors are a heterogeneous group; they comprise wealthy and middle class, educated and illiterate, young and old, expert and lay man. However, all investors need protection; not protection for assured growth of their investments but protection from malpractices and frauds. An investor typically has three objectives: safety of the invested money, liquidity of the invested money and returns on the investments.

There can often be conflicts in the objective of allowing raising of capital for economic development on one hand and protection of investors on the other. However, it is beyond debate that unless the interests of investors are protected, raising of capital would be difficult. An efficient capital market should, therefore, provide a mechanism for efficient raising capital as well as have adequate safeguards to protect the interests of the investors.

In the Indian scenario, efforts were made right since Independence, to create a healthy and efficient capital market through legislative measures. The Capital Issues (Control) Act, 1947 was the first piece of legislation passed in India to control the capital market. Subsequently, The Companies Act was enacted in 1956.

The watershed event in this direction was in 1992 when the Capital Issues Control Act was replaced by the Securities and Exchange Board of India Act, 1992. This Act provides

“For the establishment of a Board to protect the interests of investors in securities and to promote the development of, and to regulate, the securities market and for matters connected therewith or incidental thereto.”

SEBI has given priority to both the development, promotion and regulation of the capital market and to investor protection. Its greater focus on investor protection has earned it the name of the Watchdog of the capital market. SEBI strongly believes that investors are the backbone of the capital market as they are the providers of the capital for the economic growth of the country and also are the fulcrum around which the trading in securities takes place.

SEBI has laid down guidelines for almost all constituents of the capital market—from issuers on one hand to stock exchanges on the other hand and all other intermediaries like stock brokers, merchant bankers and underwriters. It also regulates the intermediary fund managers like mutual funds, portfolio managers and collective investment schemes.

Alert to the changing markets—both domestic and international, SEBI continuously revises its various guidelines and regulations.

In the primary market, the focus is on regulation through disclosures. Starting of with the Disclosure and Investor Protection (DIP) Guidelines, SEBI has recently converted these guidelines into the Issue of Capital and Disclosure Requirements) Regulations) (ICDR). These Regulations prescribe detailed norms and directions on disclosures.

However, many investors, especially small investors, do not possess adequate expertise/knowledge to take informed investment decisions. Many of them are not aware of the risk-return profiles of various investment products. A large number of investors are not fully aware of the precautions they should take while dealing with the market intermediaries. Many are not familiar with the market mechanisms and practices as well as with their rights and obligations.

In the last decade, far-reaching developments have taken place in the capital market. These have impacted the issuers, the intermediaries as well as the investors. The present capital market is significantly different from what it used to be even in the nineties, leave aside the period prior to that. However, new challenges emerge almost on a daily basis. These are substantially fuelled by the huge rewards that the capital market has the potential to offer compared to any other form of investment. At the same time, wrong investment decisions can lead to huge losses too. As such, this market requires considerable skill and expertise, and a higher-than-normal risk profile

Different securities carry different risk-return profiles. Generally, higher risks carry higher returns and vice-versa. The risks may be in the form of credit risk (counter party may default on payment), return risk (the returns from the investment depends upon several contingent factors) and liquidity risk (it may be difficult to convert the securities into cash]. While the counter party risk has been significantly mitigated by the regulator, the other two risks are market-related risks.

Various investment options are available in the capital market and an investor should choose the right products based upon his life cycle stage and upon various parameters like liquidity, safety, returns and taxes, He of course needs to decide whether he has the skills and time for active management of his investments or

would he rather pass on this responsibility to a mutual fund or a portfolio manager. Investors do not have any control over the day to day activities of any company. Investor cannot guide the fate or destiny of the money invested. An investor to that extent is quite fragile. Worse, he is exposed to additional risks if the promoters of the company siphon off or misutilize his money. There are, no doubt, laws some of which are adequate to protect the interests of investors, but inadequacies of certain legislative measures have come to light wherein innocent investors have been deprived of their hard earned money.

“Investor protection” is a very popular phrase which all those concerned with regulation of the capital market use these days, be it SEBI, stock exchanges, investors associations, and even the companies themselves. The term “Investor Protection” is a wide term encompassing various measures designed to protect the investors from malpractices of companies, merchant bankers, depository participants and other intermediaries.

“Investors Beware” should be the watchword of all programmes for mobilization of savings for investment. As all investments have some risk element, this should be borne in mind by the investors. If caution is thrown to the winds, they have only to blame themselves.

DEFINITION OF ‘CAPITAL MARKETS’

Markets for buying and selling equity and debt instruments. Capital markets channel savings and investment between suppliers of capital such as retail investors and institutional investors, and users of capital like businesses, government and individuals. Capital markets are vital to the functioning of an economy, since capital is a critical component for generating economic output. Capital markets include primary markets, where new stock and bond issues are sold to investors, and secondary markets, which trade existing securities.

THE CAPITAL MARKETS

Selling securities to investors in the various capital markets provides the means for corporations, governments and government agencies to satisfy their need for capital, thus providing investors the opportunity to profit by trading capital for securities, which are transferable claims on the assets of the entity that originally sold the securities. More specifically, securities are financial assets that are transferable claims on the real assets of the issuer of the securities. The capital markets, a.k.a. securities markets, consist of the primary capital markets where securities are first sold to institutional investors and the various stock, bond and commodities exchanges where securities are subsequently traded.

There are two primary types of securities: debt and equity. Equities include common stock and preferred stock. Debt securities include bonds, convertible bonds, commercial paper, short-term government debt and certificates of deposit. A third type of security, derivatives, derive their value from some underlying asset that may be another security, a tangible asset, the option to buy or sell an

asset at a predetermined price or a contract to buy or sell an asset at a predetermined price. However, derivatives are not used as a means for raising capital, rather, they are typically used as a means of hedging, financial engineering or speculating.

Mutual funds are securities comprised of pools of other securities that may be debt, equities or derivatives. With the exception of commodities funds, mutual funds typically restrict their use of derivatives to hedging. Commodities funds use derivatives extensively to either model an index or to model a portfolio of their own design, thus eliminating the unnecessary expense and inconvenience of actually taking possession of the commodities in their portfolios.

Corporations, government agencies and municipal governments raise capital by selling their securities in the primary capital markets to institutional investors. After this initial sale the securities are traded in the secondary capital markets, which is where individual investors buy and sell securities. The U.S., Treasury sells its securities directly to institutional and individual investors. After its initial sale, Treasury debt also is sold in the secondary market. CDs also are sold directly to institutional and individual investors.

Nearly all U.S., equities are traded on one of the three U.S., stock exchanges: The New York Stock Exchange, the American Stock Exchange and the Nasdaq. These exchanges and the lesser-known exchanges make up the secondary market for equities, which serve both individual and institutional investors. The New York and American stock exchanges are physical auction-type exchanges where securities are traded at bid and asked prices and liquidity is provided by specialists who make up any imbalances between buy and sell orders. The specialists provide liquidity by keeping inventories of the stocks in which they specialize and by setting the bid price to maintain a balance between supply and demand (*i.e.*, sell orders and buy orders). When a balance can't be maintained, they absorb any excess sell orders and add to their inventories or sell from their inventories to cover excess buy orders. The bid-ask spread is the market specialists' profit, which compensates them for providing liquidity to these capital markets.

The Nasdaq, which stands for National Association of Securities Dealers Automated Quotation System, was formed in 1971 by the National Association of Securities Dealers (Nasd) then subsequently sold in 2000 and 2001, at which time it became The Nasdaq Stock Market. The Nasdaq also operates on a bid-ask basis but it is a fully automated electronic system. Liquidity is provided to this capital market by brokerages who act as dealers that fulfill the same function as the specialists on the physical exchanges. The dealers are said to make a market in the stocks in which they specialize and are thus known as market makers. They, too, are compensated for this service by the bid-ask spread.

Mutual fund shares are sold and redeemed by the fund companies and an exact balance is maintained between sales and redemptions by issuing or dissolving shares, thus there is no need for secondary capital markets for these securities. Individuals can deal directly with the mutual fund companies or through a discount or full-service broker. In the case of no load mutual funds,

there will never be a charge for purchases or redemptions, but trades made through a discount brokerage may be subject to a transaction fee and trades made through a full-service brokerage will always be subject to a transaction fee. Individuals can buy and sell Treasury bonds through the U.S., Treasury's Treasury Direct service, which is the Treasury's exclusive capital market. Individuals must trade corporate and municipal bonds through a brokerage in one of the secondary capital markets. Mutual funds and other institutional investors can purchase corporate and municipal bonds in the primary market and have more options than individuals for trading existing issues of all types of bonds.

Whenever the need for capital arises, corporations, governments and government agencies will return to the capital markets to sell more debt and/or equity securities. Occasionally, corporations will use excess cash to buy back a portion of their outstanding common stock or callable bonds, or issue new debt when interest rates drop and use the proceeds to "call back" their older, higher interest callable bonds. When high-interest bonds are called and replaced with bonds that have a lower coupon, the companies' cost of capital is decreased assuming there is no concurrent change in the company's capital structure. There are a number of opinions as to what effect these actions could have on a company's stock under various scenarios. That issue is beyond the scope of this subsection.

The U.S., Federal Reserve Board of Governors' Federal Open Market Committee (FOMC) will from time to time buy Treasury debt in the capital markets as part of its monetary policy. By purchasing Treasury debt on the open market, the Fed increases the money supply.

This is usually done to decrease interest rates and stimulate the economy. It also is done to ward off deflation, which is extremely rare. So rare, indeed, that it hasn't happened since the Great Depression, although we were close, by some accounts, in the early and late 2000s and looking at a distinct possibility in the early 2010s. Increasing the money supply for any reason other than to keep pace with ordinary economic expansion is inflationary, so there needs to be a good reason to do it, like reviving a faltering economy or countering deflation.

CONSUMER MARKET

The consumer market is composed of individuals who buy a specific good or service. Rarely does one product interest the entire population. This statement applies even to staples, such as sugar, flour, and salt. A small percentage of households do not eat these products, so even if a company did target the entire population, not everyone would be a potential consumer. The same statistical truth applies to cultural products. However, because of the extremely fragmented nature of the cultural sector, some distinctions are in order. For example, looking at this sector as a whole, it can be said that nearly 100% of the population consumes one type of cultural product or another. Indeed, in its broadest sense, the cultural sector encompasses everything from the performing arts to heritage,

compact disks, movies, book and magazine publishing, and radio and television, with each of these disciplines appropriating a more or less important share of global demand.

In Canada, for example, statistics¹ show that 37.0% of families attend a performing arts event at least once a year: movies 62.2%, museums and art galleries 32.9%. In the United States the figures for cultural consumption are: classical music 15.6%, opera 4.7%, musicals 24.5%, plays 15.8%, ballet 5.8%, art museums 34.5%, and historical parks 46.9%.² In Australia³ the figures are: musical theatre 19.3%, classical music 7.7%, festivals 21.9%, concerts 23%, and museums 27.8%. Of course, within each of these sectors, consumers cluster just as to specific poles of interest.

This leads to sharper market segmentation. The consumer makes a discriminating choice among various cultural products to acquire or consume the type of product desired. The distribution of consumers just as to various market segments differs in both time and space. Markets undergo and reflect the influence of opinion leaders, trends, tastes, and societal characteristics.

Markets also vary from country to country just as to different social structures. Over the past 40 years, various surveys focusing on the sociodemographic profile of consumers of cultural products have been carried out in nearly every European country as well as in Canada, the United States, Australia, and Japan.⁴ It is fascinating to note that, regardless of whether the surveys were conducted in the 1970s, 1980s, or 1990s, they all obtained the same attendance rates and the same sociodemographic profiles.

Differences in the measuring tools used can sometimes make it difficult to compare countries; nonetheless, these studies have consistently and systematically revealed strong polarization of audiences between high art and popular culture across all countries over the past four decades. They show, for example, that cultural products catering to high art attract educated consumers, whereas those catering to popular culture draw on all segments of the population, in accordance with the relative weight of each.

The proportion of university graduates making up Canadian audiences, for example, ranges between 50% and 70% for high art, compared with 10% to 25% for popular culture. By way of comparison, the overall percentage of university graduates in Canada is 25%. Similar results have been found in other countries, most notably in France⁵ but also in Russia, where university graduates make up 50% of performing arts audiences but only 7% of the general population. Other sociodemographic variables are also linked to attendance, including average income and type of occupation. It should be pointed out once again that this profile is based on averages. Less-educated individuals with lower income may be great consumers of culture, as is the case for students and those specialized or working in the cultural milieu.

Indeed, it is well known that, as a rule many people active in the arts are highly educated yet so ill paid that they struggle to stay above the poverty line. On the other hand, there are people with both very high salaries and very high

educational levels who are not interested in the arts and gladly keep their distance. Four factors are known to influence an individual's penchant for complex cultural products: family values that encourage or discourage high art; the educational milieu and the value it places on high art; the fact of having attended performances or visited museums as a child; and amateur art practice.

A more detailed analysis of the typical cultural consumer's traits reveals other nuances based on the different disciplines. For example, dance audiences are relatively younger and even more female in composition than those of the other performing arts; similarly, more women than men read novels, although a larger proportion of men read daily newspapers. In the film sector, there are two very different segments of avid cinema-goers; one of these segments is dominated by a young clientele, while the other is made up of educated people. The majority of consumers in the film sector belong to one or the other of these two segments.

CONSUMER BOYCOTTS AND CERTIFICATION SCHEMES

Consumer markets also offer opportunities to punish and/or reward corporate behaviour. Product boycotts and product certification schemes represent contrasting mechanisms used by civil society groups, occasionally with governmental involvement or support, to influence MNE activities. Organized consumer boycotts usually target individual companies, either because the specific firm's actions are deemed particularly offensive or the company plays a prominent and influential role within an industry whose common practices generate opposition.

Boycott mechanisms do not work equally well in all situations. Boycotts enjoy greatest success when directed against recognizable consumer goods whose market position relies on brand-name image and reputation and where substitute products of satisfactory quality and price are readily available. In addition, the issue motivating the boycott must be conveyed in an easily understandable fashion that will evoke broad sympathy in the general consuming public. By contrast, companies that engage in minimal advertising and produce intermediate products for sale to other businesses are less vulnerable to a consumer boycott mechanism.

The use of consumer boycotts to protest MNE actions developed from the same general time period and set of issues that produced the capital market mechanisms. Anti-apartheid campaigns included product boycotts, including the adoption by many US state and city governments of selective procurement regulations that restricted purchases from companies maintaining investments in South Africa.

The loss of large sales contracts to state and municipal agencies may have provided more measurable effective leverage against MNEs than stock divestment actions by activist pension funds. Another high-profile campaign urged a boycott of Nestlé's numerous consumer products to protest the corporation's methods of promoting its infant formula in developing countries.

Similar to shareholder activism, the potential effects of consumer boycotts often surpass the actual financial loss in terms of immediate sales. In order to reach the broad consuming public, boycott organizers generally seek maximum publicity and may organize demonstrations, marches or even engage in acts of civil disobedience to draw media attention to their cause. The short-term demand on management response time and potential for longer-term damage to a company's reputation can add significantly to overall boycott costs.

Opponents often assert that boycott campaigns unfairly single out one or a small number of companies to protest actions undertaken by many enterprises, including MNEs in countries where comparable consumer actions seldom occur. Sometimes boycott targets show only minimal or distant causal connections to wrong actions. Similar to secondary rather than primary boycotts, the targeted firm or product may simply be used as a means to exert leverage on a different offending actor.

For example, in 1990 a civil society group called Neighbour to Neighbour helped organize a boycott action against Folger's coffee, sold by Procter & Gamble. In this case, the boycott campaign stemmed from opposition to human rights violations by right-wing death squads in El Salvador, allegedly connected with that country's government. Although less than 2 percent of the beans in Folger's coffee reportedly came from El Salvador, those purchases represented an important share of the country's coffee exports which in turn provided significant revenue to the government.

To help publicize their cause, the boycotting groups sponsored a dramatic television advertisement attacking Folger's and showing blood running from an overturned coffee cup. The advertisement was characterized by a P&G spokesperson as "inaccurate, grossly misleading and offensive." The company responded with its own type of boycott action, suspending advertising on some television stations that aired the anti-Folger's commercial. US government officials offered clear statements supporting P&G's coffee bean purchases, calling the actions "in the best interest of the peace process and the people of El Salvador." The case illustrates how boycotts, even when motivated by laudable objectives, may become ethically problematic as causal and capability connections grow more distant between a targeted product or company and the offending actor and actions. Another case of a successful boycott describes a campaign organized by the Rainforest Action Network (RAN) against Scott Paper, aimed at stopping Scott's plans to use a rain forest concession on the Indonesian island of Irian Jaya to develop a eucalyptus plantation and sawmill to supply pulp for its various paper products.

An observer reports that, despite corporate efforts to work with local representatives to limit the project's environmental and social impact, "RAN convinced environmental groups from all over the world to boycott Scott products if the company did not withdraw from Irian Jaya. The campaign focused on a single thing: Scott's name, the company's most valuable, and most vulnerable, asset." The company announced its withdrawal from the project

just before the boycott began, prompting RAN to take out newspaper advertisements “declaring victory” and “hailing the power of consumer boycotts.”

Without necessarily disputing the impact of the boycott mechanism, some critics subsequently questioned the substance of the victory as a state-owned forestry company replaced Scott in the project and, not subject to similar consumer pressures, reportedly engaged in broad deforestation actions. This case points up the challenge of projecting a boycott’s effects which may depend on when outcomes are measured and whether or not potential impacts on other boycott actions are considered.

Product certification schemes also depend on consumer choice to provide leverage for influencing corporate behaviour. Contrasted with boycott mechanisms, certification schemes focus less on penalizing bad corporate conduct to induce change and more on rewarding good corporate operations by giving their products a market advantage over uncertified competitors. To be credible, groups using this mechanism must demonstrate that consumers are sufficiently aware and concerned about an issue to affect their purchasing decisions. In addition, consumers need enough knowledge and understanding about the certification process to recognize and favour certified products. These requirements place a premium on media coverage and the development of alliances and support networks among sympathetic civil society groups, particularly in major consumer market economies.

No clear consensus exists regarding either the breadth or the depth of probable consumer response to product certification schemes. Certainly participation will vary depending on the nature of the issue, the location of the consumer market and the effectiveness of a particular campaign. Other important variables include the cost, quality and convenience differential in choosing certified over uncertified products.

Some polling data suggests that a core of committed individuals will act on certification criteria while a larger portion of the general public is open to considering corporate actions and reputation in their purchasing decisions. For example, a Mori survey in Great Britain defined 15 percent of the population as corporate responsibility activists, reporting that ethical considerations led 17 percent of adults to boycott a product and 14 percent to purchase a company’s product during 2003. The survey also reported that 38 percent of the public stated corporate social responsibility was very important in making their purchases. The head of Mori’s CSR research speculated that more individuals from this broader group might follow through with concrete actions if provided with more effective information.

The proliferation of product certification schemes touches many of the issues. A broad government-backed mechanism emerged to certify that international trade would be free of “conflict diamonds” associated with human rights violations in Africa. Exports of soccer balls and rugs from South Asia feature certification processes to assure the goods were not produced using child labour.

“Green” labels tout the environment-friendly record of many products, from recycled paper or plastic products to energy-saving devices to “dolphin-safe” tuna. Remarkable variety exists in the types of issues addressed and certification measures employed. The constellation of certifying and supporting organizations can also mix public agencies, business organizations and civil society groups. Fair Trade initiatives represent a particular application of product certification schemes, usually but not exclusively applied to products based on agricultural commodities. The basic concept seeks to establish a dependable, long-term relationship with commodity growers in developing countries, offering them a higher price for their products by eliminating middlemen traders.

Many schemes also provide an additional premium to growers for using environmentally friendly methods and/or for community social development projects. The general approach reportedly stems from efforts begun in 1986 by the Max Havelaar Foundation in the Netherlands to respond to desires for development projects that emphasize trade rather than aid. Starting with coffee and expanding to honey, bananas, tea and orange juice, the Foundation supported Fair Trade products sold primarily in Europe.

During the 1990s fourteen other Fair Trade organizations were established, reaching over \$200 million in sales by the end of the decade, still largely concentrated in European markets. Some approaches expect consumers to pay a somewhat higher price for certified Fair Trade products while other efforts try to remain price-competitive, using cost savings in the distribution chain to redistribute profits towards developing country growers. An important extension of the Fair Trade mechanism to the US market occurred in 2000 when Starbucks announced the introduction of a blend of Fair Trade coffee certified by the non-profit TransFair organization that encourages farmer co-operatives in developing countries to sell direct to coffee roasters or retailers. The breakthrough with Starbucks came after some of its coffee houses were vandalized during anti-globalization protests at a World Trade Organization meeting hosted in the company’s hometown of Seattle, Washington. This initiative complemented Starbucks’ broader social responsibility programmes and helped expand Fair Trade coverage in the United States beyond craft shops and a few grocery stores. Subsequent discussions between Starbucks and Oxfam also led to cooperation on a project to aid coffee growers in poverty-stricken areas of Ethiopia. The Rainforest Alliance, which promotes another certification scheme covering several products, has forged agreements with major coffee MNEs that could broaden the Fair Trade mechanism beyond the market for specialty coffees that represents only about 2 percent of supply.

Consumer Buying Behaviour

Possibly the most challenging concept in marketing deals with understanding why buyers do what they do (or don’t do). But such knowledge is critical for marketers since having a strong understanding of buyer behaviour will help shed light on what is important to the customer and also suggest the important

influences on customer decision-making. Using this information, marketers can create marketing programmes that they believe will be of interest to customers.

As you might guess, factors affecting how customers make decisions are extremely complex. Buyer behaviour is deeply rooted in psychology with dashes of sociology thrown in just to make things more interesting. Since every person in the world is different, it is impossible to have simple rules that explain how buying decisions are made. But those who have spent many years analysing customer activity have presented us with useful “guidelines” in how someone decides whether or not to make a purchase.

In fact, pick up any textbook that examines customer behaviour and each seems to approach it from a different angle. The perspective we take is to touch on just the basic concepts that appear to be commonly accepted as influencing customer behaviour.

Types of Consumer Purchase Decisions

Consumers are faced with purchase decisions nearly every day. But not all decisions are treated the same. Some decisions are more complex than others and thus require more effort by the consumer. Other decisions are fairly routine and require little effort. In general, consumers face four types of purchase decisions:

- *Minor New Purchase:* These purchases represent something new to a consumer but in the customer’s mind is not a very important purchase in terms of need, money or other reason (*e.g.*, status within a group).
- *Minor Re-Purchase:* These are the most routine of all purchases and often the consumer returns to purchase the same product without giving much thought to other product options (*i.e.*, consumer is brand loyalty).
- *Major New Purchase:* These purchases are the most difficult of all purchases because the product being purchased is important to the consumer but the consumer has little or no previous experience making these decisions. The consumer’s lack of confidence in making this type of decision often (but not always) requires the consumer to engage in an extensive decision-making process..
- *Major Re-Purchase:* These purchase decisions are also important to the consumer but the consumer feels confident in making these decisions since they have previous experience purchasing the product.

For marketers it is important to understand how consumers treat the purchase decisions they face. If a company is targeting customers who feel a purchase decision is difficult (*i.e.*, Major New Purchase), their marketing strategy may vary greatly from a company targeting customers who view the purchase decision as routine.

In fact, the same company may face both situations at the same time; for some the product is new, while other customers see the purchase as routine. The implication of buying behaviour for marketers is that different buying situations require different marketing efforts.

Why Consumers Buy

Customers make purchases in order to satisfy needs. Some of these needs are basic and must be filled by everyone on the planet (*e.g.*, food, shelter) while others are not required for basic survival and vary depending on the person. It probably makes more sense to classify needs that are not a necessity as wants or desires. In fact, in many countries where the standard of living is very high, a large portion of the population's income is spent on wants and desires rather than on basic needs. In this tutorial when we mention the consumer we are referring to the actual buyer, the person spending the money. But it should also be pointed out that the one who does the buying is not necessarily the user of what is bought and that others may be involved in the buying decision in addition to the actual buyer. While the purchasing process in the consumer market is not as complex as the business market, having multiple people involved in a purchase decision is not unusual. For example, in planning for a family vacation the mother may make the hotel reservations but others in the family may have input on the hotel choice. Similarly, a father may purchase snacks at the grocery store but his young child may be the one who selected it from the store shelf. So understanding consumer purchase behaviour involves not only understanding how decisions are made but also understanding the dynamics that influence purchases.

What Influences Purchasing

As we discussed the decision-making process for consumers is anything but straight forward. There are many factors that can affect this process as a person works through the purchase decision. The number of potential influences on consumer behaviour is limitless. However, marketers are well served to understand the KEY influences. By doing so they may be in a position to tailor their marketing efforts to take advantage of these influences in a way that will satisfy the consumer and the marketer (remember this is a key part of the definition of marketing). For the purposes of this tutorial we will break these influences down into three main categories: Internal, External and Marketing. However, those interested in learning more about customer buying activity may want to consult one or more consumer behaviour books where they will find additional methods for explaining consumer buying behaviour. For the most part the influences are not mutually exclusive. Instead, they are all interconnected and, as we will see, work together to form who we are and how we behave. For each of the influences that are discussed we will provide a basic description and also suggest its implication to marketers. Bear in mind we only provide a few marketing implications for each influence; clearly there are many more.

Internal Influences

We start our examination of the influences on consumer purchase decisions by first looking inside ourselves to see which are the most important internal factors that affect how we make choices.

Perceptual Filter

Perception is how we see ourselves and the world we live in. However, what ends up being stored inside us doesn't always get there in a direct manner. Often our mental makeup results from information that has been consciously or subconsciously filtered as we experience it, a process we refer to as a perceptual filter. To us this is our reality, though it does not mean it is an accurate reflection on what is real. Thus, perception is the way we filter stimuli (*e.g.*, someone talking to us, reading a newspaper story) and then make sense out of it.

Perception has several steps:

- *Exposure*: Sensing a stimuli (*e.g.*, seeing an ad)
- *Attention*: An effort to recognize the nature of a stimuli (*e.g.*, recognizing it is an ad)
- *Awareness*: Assigning meaning to a stimuli (*e.g.*, humorous ad for particular product)
- *Retention*: Adding the meaning to one's internal makeup (*i.e.*, product has fun ads)

How these steps are eventually carried out depends on a person's approach to learning. By learning we mean how someone changes what they know, which in turn may affect how they act. There are many theories of learning, a discussion of which is beyond the scope of this tutorial, however, suffice to say that people are likely to learn in different ways.

For instance, one person may be able to focus very strongly on a certain advertisement and be able to retain the information after being exposed only one time while another person may need to be exposed to the same advertisement many times before he/she even recognizes what it is.

Consumers are also more likely to retain information if a person has a strong interest in the stimuli. If a person is in need of new car they are more likely to pay attention to a new advertisement for a car while someone who does not need a car may need to see the advertisement many times before they recognize the brand of automobile.

BUSINESS VS CONSUMER MARKETS

For marketers, the selling environment of business markets present uniquely different circumstances when compared to selling to consumers.

At the beginning of this tutorial we saw two ways in which consumer and business markets differ:

- Business markets are more likely to be price driven than brand driven, and
- Demand in business markets tends to be more volatile than consumer markets.

However, the two markets are dissimilar in other ways requiring marketers to take a different approach when selling to business customers than to consumers.

These differences include:

- How Decisions Are Made
- Existence of Experienced Purchasers
- Time Needed to Make Buying Decision
- Size of Purchases
- Number of Buyers
- Type of Promotional Effort Needed to Reach Buyer

BUYING DIFFERENCES

Buying Centre Decisions

In the consumer market a very large percentage of purchase decisions are made by a single person. As we discussed in the Consumer Buying Behaviour tutorial, there are situations in which multiple people may be involved in a consumer purchase decision, such as a child influencing a parent to choose a certain brand of cereal or a husband and wife deciding together to buy a house, but most of the time purchases are individual decisions. The business market is significantly different. While single person purchasing is not unusual, especially within a small company, a significant percentage of business buying, especially within larger organizations, requires the input of many.

In the marketing literature those associated with the purchase decision are known to be part of a Buying Centre, which consists of individuals within an organization that perform one or more of the following roles:

- *Buyer:* Responsible for dealing with suppliers and placing orders
- *Decider:* Has the power to make the final purchase decision
- *Influencer:* Has the ability to affect what is ordered such as setting order specifications
- *User:* Those who will actually use the product when it is received
- *Initiator:* Any Buying Centre member who is the first to determine that a need exists
- *Gatekeeper:* Anyone who controls access to other Buying Centre members

For marketers confronting a Buying Centre it is important to first identify who plays what role. Once identified the marketer must address the needs of each member, which may differ significantly. For instance, the Decider, who may be the company president wants to make sure the purchase will not negatively affect the company's bottom line while the Buyer wants to be assured the product will be delivered on time. Thus, the way each Buying Centre member is approached and marketed to requires careful planning in order to address the unique needs of each member.

Experienced Purchasers

As noted in the discussion of the Buying Centre, organizations often employ purchasing agents or professional buyers whose job is to negotiate the best

deals for their company. Unlike consumers, who often lack information when making purchase decisions, professional buyers are generally as knowledgeable about the product and the industry as the marketer who is selling to them.

Decision Making Time

Depending on the product, business purchase decisions can drag on for an extensive period. Unlike consumer markets where impulse purchasing is rampant, the number of people involved in business purchase decisions results in decisions taking weeks, months or even years.

Size of Purchases

For products that are regularly used and frequently purchased, businesses will often buy a larger volume at one time compared to consumer purchases. Because of this business purchasers often demand price breaks for higher order levels.

Type of Promotions

Companies who primarily target consumers often use mass advertising methods to reach an often widely dispersed market. For business-to-business marketers the size of individual orders, along with a smaller number of buyers, makes person-to-person contact by sales representatives a more effective means of promotion.

BUSINESS VALUATION

Business valuation is a process and a set of procedures used to determine the economic value of an owner's interest in a business. Business valuation is often used to estimate the selling price of a business, resolve disputes related to estate and gift taxation, divorce litigation, allocate business purchase price among the business assets, and many other business and legal disputes.

FAIR MARKET VALUE

"Fair market value" is defined as the price, expressed in terms of cash equivalents, at which property would change hands between a hypothetical willing and able buyer and a hypothetical willing and able seller, acting at arms length in an open and unrestricted market, when neither is under compulsion to buy or sell and when both have reasonable knowledge of the relevant facts.

The fair market value standard incorporates certain assumptions, including the assumptions that the hypothetical purchaser is reasonably prudent and rational but is not motivated by any synergistic or strategic influences; that the business will continue as a going concern and not be liquidated; that the hypothetical transaction will be conducted in cash or equivalents; and that the parties are willing and able to consummate the transaction. These assumptions might not, and probably do not, reflect the actual conditions of the market in which the subject business might be sold. However, these conditions are assumed because

they yield a uniform standard of value, after applying generally-accepted valuation techniques, which allows meaningful comparison between businesses which are similarly situated.

ELEMENTS OF BUSINESS VALUATION

Economic Conditions

A business valuation report generally begins with a description of national, regional and local economic conditions existing as of the valuation date, as well as the conditions of the industry in which the subject business operates. A common source of economic information for the first section of the business valuation report is the Federal Reserve Board's Beige Book, published quarterly by the Federal Reserve Bank. State governments and industry associations often publish useful statistics describing regional and industry conditions.

The financial statement analysis generally follows a description of the subject company. One of the first techniques that a business valuation professional applies is called "normalization" of the subject company's financial statements. Normalizing the company's financial statements permits the valuation expert to compare the subject company to other businesses in the same geographic area and industry, and to discover trends affecting the company over time. By comparing a company's financial statements in different time periods, the valuation expert can view growth or decline in revenues or expenses, increases or decreases in assets or liabilities, or other financial trends within the subject company. Valuation professionals also review the subject company's financial ratios, such as the current ratio, quick ratio, and other liquidity ratios; collection ratios; and other measures of a company's financial performance.

NORMALIZATION OF FINANCIAL STATEMENTS

The most common normalization adjustments fall into the following four categories:

1. *Comparability Adjustments.* The valuator may adjust the subject company's financial statements to facilitate a comparison between the subject company and other businesses in the same industry or geographic location. These adjustments are intended to eliminate differences between the way that published industry data is presented and the way that the subject company's data is presented in its financial statements.
2. *Non-operating Adjustments.* It is reasonable to assume that if a business were sold in a hypothetical sales transaction (which is the underlying premise of the fair market value standard), the seller would retain any assets which were not related to the production of earnings or price those non-operating assets separately. For this reason, non-operating assets (such as excess cash) are usually eliminated from the balance sheet.

3. *Non-recurring Adjustments.* The subject company's financial statements may be affected by events that are not expected to recur, such as the purchase or sale of assets, a lawsuit, or an unusually large revenue or expense. These non-recurring items are adjusted so that the financial statements will better reflect the management's expectations of future performance.
4. *Discretionary Adjustments.* The owners of private companies may be paid at variance from the market level of compensation that similar executives in the industry might command. In order to determine fair market value, the owner's compensation, benefits, perquisites and distributions must be adjusted to industry standards. Similarly, the rent paid by the subject business for the use of property owned by the company's owners individually may be scrutinized.

INCOME, ASSET AND MARKET APPROACHES

Three different approaches are commonly used in business valuation: the income approach, the asset-based approach, and the market approach. Within each of these approaches, there are various techniques for determining the fair market value of a business. Generally, the income approaches determine value by calculating the net present value of the benefit stream generated by the business; the asset-based approaches determine value by adding the sum of the parts of the business; and the market approaches determine value by comparing the subject company to other companies in the same industry, of the same size, and/or within the same region. In determining which of these approaches to use, the valuation professional must exercise discretion. Each technique has advantages and drawbacks, which must be considered when applying those techniques to a particular subject company. Most treatises and court decisions encourage the valuator to consider more than one technique, which must be reconciled with each other to arrive at a value conclusion. A measure of common sense and a good grasp of mathematics is helpful.

INCOME APPROACHES

The income approaches determine fair market value by multiplying the benefit stream generated by the subject company times a discount or capitalization rate. The discount or capitalization rate converts the stream of benefits into present value.

There are several different income approaches, including capitalization of earnings or cash flows, discounted future cash flows ("DCF"), and the excess earnings method (which is a hybrid of asset and income approaches). Most of the income approaches consider the subject company's historical financial data; only the DCF method requires the subject company to provide projected financial data. Most of the income approaches look to the company's adjusted historical financial data for a single period; only DCF requires data for multiple future periods.

The discount or capitalization rate must be matched to the type of benefit stream to which it is applied. The result of a value calculation under the income approach is generally the fair market value of a controlling, marketable interest in the subject company, since the entire benefit stream of the subject company is most often valued, and the capitalization and discount rates are derived from statistics concerning public companies.

DISCOUNT OR CAPITALIZATION RATES

A discount or capitalization rate is used to determine the present value of the expected returns of a business. The discount rate and capitalization rate are closely related to each other, but distinguishable. Generally speaking, the discount rate or capitalization rate may be defined as the yield necessary to attract investors to a particular investment, given the risks associated with that investment. The discount rate is applied only to discounted cash flow (DCF) valuations, which are based on projected business data over multiple periods of time.

In DCF valuations, a series of projected cash flows is divided by the discount rate to derive the present value of the discounted cash flows.

The sum of the discounted cash flows is added to a terminal value, which represents the present value of business cash flows into perpetuity. The sum of the discounted cash flows and the terminal value is the value of the business. On the other hand, a capitalization rate is applied in methods of business valuation that are based on historical business data for a single period of time.

The after-tax net cash flow capitalization rate is equal to the discount rate minus the long-term sustainable growth rate. The after-tax net cash flow of a business is divided by the capitalization rate to derive the present value. Capitalization rates may be modified so that they may be applied to after-tax net income or pre-tax cash flows or income. There are several different methods of determining the appropriate discount rates.

The discount rate is composed of two elements:

- (1) The risk-free rate, which is the return that an investor would expect from a secure, practically risk-free investment, such as a government bond; plus
- (2) A risk premium that compensates an investor for the relative level of risk associated with a particular investment in excess of the risk-free rate. Most importantly, the selected discount or capitalization rate must be consistent with stream of benefits to which it is to be applied.

INVESTMENT CHOICES IN THE CAPITAL MARKET

Among all investment options available, securities are considered the most challenging as well as rewarding. But investment in securities requires considerable skill and expertise and carries the risk of loss if the choice of securities is not right or they are not bought/sold at right time.

There are a large variety of instruments referred to as securities in common parlance. These include:

- Shares, scrips, stocks, bonds, debentures, debenture stock or other marketable securities of a like nature in or of any incorporated company or other body corporate;
- Derivative;
- Units or any other instrument issued by any collective investment scheme to the investors in such schemes;
- Security receipts;
- Units or any other such instrument issued to the investors under any mutual fund scheme;
- Any certificate or instrument issued to investor by any issuer being a special purpose distinct entity which possesses any debt or receivable including mortgaged debt assigned to such entity and acknowledging beneficial interest of such investor in such debt or receivable including mortgage debt as the case may be;
- Government securities;
- Such other instruments as may be declared by the central government to be securities;
- Rights or interest in securities.

Different securities carry different risk-return profiles. Generally, higher risks carry higher returns and vice-versa. The risk could be in the form of credit risk (counter party may default payment as it may not have integrity), return risk (the return from the investment may depend on several contingent factors) and liquidity risk (it may be difficult to convert security into cash). Investment decisions are based upon the investors' life cycle stages and other factors such as liquidity, safety, return on investments, tax savings, active involvement required to manage the investment, and minimum amount requirement for selecting the instruments.

It is not always possible to meet all financial goals with available savings. If savings are limited but the needs are substantial, then the savings should be invested in avenues that would offer high returns. But usually, high return also means high risk. All investors are not in a position to take high risks.

There are investment opportunities that are high on risk and there are investment opportunities that are low on risk. Each is called an asset class. An investor allocates his savings to one or more asset classes depending upon his circumstances.

This decision is called the asset allocation decision. Asset allocation decision is perhaps the most important decision in the investment process. The essence of asset allocation lies in the fact that, over time, it can determine up to 90 per cent of the portfolio's return.

How much risk an investor can take depends on his financial circumstances and the mental make-up. Every investor must know his own unique risk profile and then make the investment decisions.

As such, the questions he should ask himself are:

- What kind of investor am I?
- Am I prepared to take high risks?
- Am I averse to taking risks?

There are scientific methods by which an investor can understand his risk profile. For example, answering the following set of questions could give him an idea about his risk profile:

Your age is

- Between 25-35
- Between 35-50
- Between 50-65
- Above 65

Your position is best described by

- You are self-dependent and do not support anybody
- You have dependent(s)
- Nearing retirement
- Retired

How much of the following needs have been taken care of? (Fully, partially, not at all)

- Insurance
- Retirement
- Children's education
- Housing

What proportion of your current expenses is funded from investments?

- Nil
- Up to 15 per cent
- Between 15 per cent and 30 per cent
- Between 30 per cent and 50 per cent
- More than 50 per cent

Your earnings in the future will

- far exceed inflation
- be marginally ahead of inflation
- keep pace with inflation
- not keep pace with inflation

When the price of the share you have purchased drops steeply you would

- Sell your investment
- Sell part of your investment
- Do nothing
- Buy more of the same investment

Each of the above questions would impact the risk profile of an investor. For example, lower the age, greater is the expected willingness to take risks. This is because younger people have a lifetime of earnings ahead of them and thus can afford to take higher risks with their present savings. Similarly, in case a person does not have any dependents, he can take more risk.

At the very basic level, there are three asset classes from which to choose from based upon an investor's risk profile. They are equity, debt and cash. Equity is risky, debt has low risk and cash has even lower risk. Within each of the above asset classes, the investor has to select specific instruments for investment.

Financial circumstances and the investor profile dictate the investment avenues for an investor. Financial instruments vary in terms of the liquidity, safety, and returns they offer. The challenge in making the investment decision is to choose the right combination of instruments keeping in mind the financial situation and investor profile.

Each investment option has some advantages and some limitations. For example, while bank savings account would be highly liquid (you can withdraw whenever you like), investment in Public Provident Fund would be difficult to withdraw. Risks are generally positively correlated with probability of returns. For example, returns in equity shares can be high, but the associated risks are also relatively higher than other options.

Risks can be classified into unsystematic and systematic. Unsystematic risks are those that can be minimized by diversifying one's portfolio.

For example, instead of investing in the shares of steel companies alone, one could invest into other sectors like Pharmaceuticals and Software. In this situation, your portfolio may not be terribly affected even if the steel sector were to register a mediocre performance.

On the other hand, systematic risks are those that cannot be minimized through portfolio diversification. For example, a Korean investor could not possibly have minimized or eliminated his loss due to the currency crisis in South East Asia, through a strategy of diversification of his portfolio.

The character of the investor is also important. Some investors have the time and the knowledge to study their investment portfolios carefully- these could be called as 'active' investors. Others do not intend to watch their investments regularly, due to lack of time or knowledge or inclination, and are looking for essentially safer avenues for parking their funds.

INVESTMENT OPTIONS

Various options available are described in the following paragraphs and evaluated broadly on criteria such as:

- Liquidity
- Safety
- Returns
- Tax savings
- Active involvement required to manage the investment
- Minimum amount that can be invested

Equity Shares

An equity share, commonly referred to as ordinary share represents a fractional ownership of the company in which a shareholder, as a fractional owner, undertakes

the entrepreneurial risks and rewards associated with a business venture. The holders of such shares are members of the company and have voting rights. Equity Shares can be purchased in the Primary and Secondary Markets.

Primary Market: Primary market refers to issue of securities by companies/entities to the public. Apart from shares, other instruments commonly issued in the primary market are debentures, convertible debentures, shares with attached options like warrants, etc.

Secondary Market: Secondary market refers to the stock exchanges where an investor can buy (or sell) shares which are listed on them. As a result of significant changes in the recent past, particularly computerization, online trading, dematerialization and depository participation, investors are dealing with a much more transparent and efficient secondary market.

Equity Shares yield returns in two ways: One, dividends declared by companies usually at the end of a year (and sometimes during the course of the year) and, two, capital gains on selling. Liquidity of investments in equity shares depends upon the trading volumes of the share. If the share is actively traded, an investor can easily sell the shares and realize the sale proceeds. However, if the share is not traded (or is delisted), then liquidity is a constraint. Technically, it is possible to buy even one share in the dematerialized securities regime.

Equity is a volatile instrument. It is an appropriate investment avenue for an investor who is prepared to take risks in order to generate higher returns. Over the long term, returns from equity shares at aggregated levels have been historically higher than most other avenues. However, individual investors could gain or lose depending on the shares they invest in and when they buy and sell. An investor needs to be aware of the companies in which he invests and continuously monitor their performance. For this, he should have some basic knowledge of finance and of the market processes.

The trends in equity market are reflected in the movement of the equity indices and the volume of the trading activity.

Preference Shares

- *Preferred Stock/Preference Shares:* Owners of these kinds of shares are entitled to a fixed dividend or dividend calculated at a fixed rate to be paid regularly before a dividend can be paid in respect of equity share. These also enjoy priority over equity shareholders in payment of surplus. However, in the event of liquidation, their claims rank below the claims of the company's creditors, bondholders/debenture holders.
- *Cumulative Preference Shares:* A type of preference share on which dividend accumulates if it remains unpaid. All arrears of preference dividend have to be paid out before paying dividend on equity shares.
- *Cumulative Convertible Preference Shares:* A type of preference shares where the dividend payable on the same accumulates, if not paid. After a specified date, these shares will be converted into equity capital of the company.

- *Participating Preference Share*: The right of certain preference shareholders to participate in profits after a specified fixed dividend contracted for, is paid. Participation right is linked with the quantum of dividend paid on the equity shares over and above a particular specified level.

Security Receipts

Security receipt means a receipt or other security, issued by a securitization company or reconstruction company to any qualified institutional buyer pursuant to a scheme, evidencing the purchase or acquisition by the holder thereof, of an undivided right, title or interest in the financial asset involved in securitization.

Debt Instruments

Debt instruments represent contracts where one party is the lender (investor) and the other party is the borrower (issuer). The debt contract specifies the rate of interest, time of interest payment, repayment of principal, *etc.* In India, the term “bond” is used to represent the debt instrument issued by the central and state governments and PSUs. The term “debenture” is used for debt issues from the private corporate sector.

The principal features of a debt instrument are:

- Maturity
- Coupon
- Principal

Maturity refers to the date on which the principal would be repaid. Coupon is the rate at which interest is calculated with reference to the face value. For example, a 10 per cent 2010 bond refers to face value of ₹ 100, coupon rate of 10 per cent p.a., and repayment of the face value in the year 2010.

The coupon rate may be fixed for the entire period or may be related to a benchmark rate. In the latter case, the coupon rate changes as the benchmark rate changes. This instrument is called a floating rate debt instrument. There are debt instruments that come with options to redeem the principal earlier than the maturity date. If the option rests with the issuer, it is a bond that is callable. If the option to redeem rests with the investor, it is puttable.

There are many different types of debt instruments in India. These are:

- Bonds (from PSUs and Financial Institutions)
- Government (Central or State) Securities
- Treasury Bills
- Company Debentures
- Commercial Paper
- Certificates of Deposit

The secondary market activity for debt instruments takes place in the debt segment of the exchange. The trends in the debt market are reflected in the debt indices and the turnover data. In India, the debt market activity is dominated by banks and institutions.

Bonds

A Bond is a loan given by the buyer to the issuer of the instrument. Bonds may be issued by companies, financial institutions or the government. Over and above the scheduled interest payments, the holder of a bond is entitled to receive the redemption value of the instrument at the specified maturity date. In simple terms, a bond investor lends money to the issuer and in exchange, the issuer promises to repay the loan amount on a specified maturity date and usually pay the periodic interest payments over the life of the loan. Few more popular types of Bonds are as follows:

- *Zero Coupon Bonds:* Bonds issued at a discount and repaid at a face value. No periodic interest is paid. The difference between the issue price and redemption price represents the return to the holder. The buyer of these bonds receives only one payment at the maturity of the bond. These are also sometimes referred to as deep-discount bonds.
- *Convertible Bonds:* Bonds giving the investor the option to convert the bond into equity at a fixed conversion price.
- *Tax-Saving Bonds:* Tax-Saving Bonds offer tax exemption up to a specified amount of investment.
- *Regular Income Bonds:* Regular-Income Bonds, as the name suggests, are meant to provide a stable source of income at regular, pre-determined intervals.

Similar instruments issued by companies are called debentures. Bonds are usually not suitable to achieve capital appreciation. Sometimes, an investor buys bonds at a lower price just before a decline in interest rates, and the subsequent drop in the interest rates leads to an increase in the price of the bond, thereby facilitating capital appreciation. Bonds are suitable for regular income purposes. Depending on the type of bond, an investor may receive interest semi-annually or even monthly, as is the case with monthly-income bonds.

Bond prices are dependent on the face value of these instruments. The most common face value is ₹ 100. Minimum amount of investment is generally around ₹ 5,000. An investor need not be actively involved in investment management.

Public Sector Undertakings and Financial Institutions Bonds:

Various bonds are floated from time to time by Public Sector Undertakings as well as Development Financial Institutions. Most such bonds offer attractive schemes like monthly interest, quarterly interest, various redemption options, deep discount bond options, etc.

Government Securities (G-Secs)

These are sovereign (credit risk-free) coupon bearing instruments which are issued by the Reserve Bank of India on behalf of the Government of India, in lieu of the Central Government's market borrowing programme.

These securities have a fixed coupon that is paid on specific dates on half-yearly basis. These securities are available in a wide range of maturity dates, from short dated (less than one year) to long dated (up to twenty years).

RBI Tax Free Bonds

RBI Tax Free Bonds are special bonds issued by the RBI offering tax-free facility. The rate of interest in such bonds is generally lower than regular bonds and hence these attract only high taxpayers. These bonds tend to be long-term instruments.

RBI Tax free bonds are very safe as they come from the country's central bank. Returns from the bonds are steady and can be ascertained clearly in advance based on the YTM.

Treasury Bills

Short-term (up to 91 day) bearer discount securities issued by the Government as a means of financing its cash requirements.

Company Debentures

Instruments issued by a company bearing a fixed rate of interest usually payable half yearly on specific dates with the principal amount repayable on a particular date on redemption. Debentures are normally secured/charged against the assets of the company in favour of the debenture holder. Companies borrow from debenture-holders and generally offer a fixed rate of interest to such investors. Most debentures are redeemed after a specified period. The period could be short (less than 18 months) or long depending on the terms of issue. In some cases, companies also pay a premium on maturity.

Investors can subscribe to public issue of debentures by companies or buy debentures from the secondary market. In view of the fixed returns from these securities, prices of debentures are generally much less volatile relative to shares. Investors earn interest and capital gains (difference between the purchase price and the sale price or if held till redemption, the difference between purchase price and the redemption price).

Yields on debentures could be higher or lower than the specified rate of interest depending on the correlation between face value and market value.

For example, assume that a ₹ 100 debenture carrying 15 per cent interest is bought for ₹ 90. The price paid is ₹ 90 whereas the interest earned is ₹ 15. This would translate to a yield of 16.67 per cent.

In the above example, the investor would get back ₹ 100 from the company (face value) if he holds the debentures up to maturity. Hence, apart from the interest yield of 16.67 per cent, he would also gain ₹ 10 by way of capital gain. When this capital gain is also considered for computing the yield, it is termed as Yield to Maturity (YTM).

Most debt issues are required to be rated by credit rating agencies. Rating indicates the quality of the instrument. An indication of credit rating is given below:

Different rating agencies might have different symbols than the ones given above.

Returns from high quality debentures are steady and can be ascertained in advance based on the YTM. These returns would vary only if the company were to renege on its payment obligations.

An investor need not be actively involved in investment management, except to the extent of keeping basic track of companies, which might be performing badly and could fail to fulfill their interest or repayment obligations.

Commercial Paper

A short term promise to repay a fixed amount that is placed on the market either directly or through a specialized intermediary. It is usually issued by companies with a high credit standing in the form of a promissory note redeemable at par to the holder on maturity and therefore, doesn't require any guarantee. Commercial paper is a money market instrument issued normally for a tenure of 90 days.

Certificate of Deposit

A time deposit with a bank. CDs are generally issued by commercial banks but they can be bought through brokerages. They bear a specific maturity date, a specified interest rate, and can be issued in any denomination, much like bonds. Like all time deposits, the funds may not be withdrawn on demand.

MUTUAL FUND SCHEMES

Mutual Funds are entities which collect funds from small investors, pool these funds together and invest into various equity and debt instruments (or even money market instruments and government securities). Mutual Funds employ competent finance professionals who research the markets effectively, which an individual investor might not successfully manage. Further, these entities are taken seriously by a company's management in view of their large fund base. Mutual fund schemes can be open-ended or close-ended. Open-ended schemes do not have a fixed maturity. Investors can buy/sell units of such schemes from/to the fund itself at prices determined by the Net Asset Value (NAV) plus or minus a load, applied either at the point of purchase or sales by the fund. Liquidity in open-ended mutual funds is very high.

In case of close-ended mutual funds, liquidity depends on the availability of buyers and sellers in the stock exchange where these units are listed. Thus, liquidity is similar to that of listed shares. Close-ended schemes may be listed on stock exchanges and traded at listed prices.

If it is not listed, regular repurchase facility will be provided by the mutual Funds. These prices could vary substantially from the NAV due to investor perceptions, demand and supply situations, *etc.* NAV is a common expression in the mutual fund industry and denotes Net Asset Value. NAV per Unit is equal to the Market value of the assets of the scheme less liabilities divided by number of units outstanding.

Mutual Fund Schemes are floated with objectives that determine their investment pattern. A growth-oriented scheme would predominantly invest in equities and would seek capital appreciation as its major objective. A debt-oriented scheme would predominantly invest in debt instruments and would

seek regular income as its major objective. A balanced scheme would invest partially in equity and rest in debt and would balance the objectives of growth and income. Tax Saving Schemes are designed to provide tax shelter to the investors.

Equity-oriented Mutual Funds

These funds invest in equities and generate capital appreciation. Redemptions are effected within 2-3 days in most such mutual fund schemes. Safety levels are low though slightly better than direct investment in shares by investors, as most funds invest in a basket of equities thus hedging their individual risks partly through the basket approach.

Returns in equity funds are volatile and would depend on the market movement in general and investment expertise of the mutual fund in particular. An investor need not be actively involved in investment management. However, the investor should watch the NAV and the load.

Debt-oriented Mutual Funds

These funds seek to provide a regular return to investors and would invest in debt instruments where risk levels are lower (relative to equity), and would generate regular returns for the fund and consequently for its investors.

In view of the nature of the fund's investments, safety levels are relatively high in debt-oriented funds. An investor need not be actively involved in investment management. However, the investor should be watchful about the NAV movements. While generally the returns from debt funds are expected to be steady, there could be NAV volatility if the interest rates change.

Mutual Funds also float innovative schemes like index funds, specific sector funds, money market funds, gilt funds, *etc.* Index funds seek to invest in index stocks (*e.g.*, only those stocks which are used to determine the Sensex, Nifty, *etc.*). Specific sector funds seek to invest into specified sectors like Pharmaceuticals or Software. Money market and gilt funds seek to invest into those markets alone.

ROLE OF CAPITAL MARKET

The primary role of the capital market is to raise long-term funds for governments, banks, and corporations while providing a platform for the trading of securities. This fundraising is regulated by the performance of the stock and bond markets within the capital market.

The member organizations of the capital market may issue stocks and bonds in order to raise funds. Investors can then invest in the capital market by purchasing those stocks and bonds. The capital market, however, is not without risk.

It is important for investors to understand market trends before fully investing in the capital market. To that end, there are various market indices available to investors that reflect the present performance of the market.

REGULATION OF THE CAPITAL MARKET

Every capital market in the world is monitored by financial regulators and their respective governance organization. The purpose of such regulation is to protect investors from fraud and deception. Financial regulatory bodies are also charged with minimizing financial losses, issuing licenses to financial service providers, and enforcing applicable laws.

The Capital Market's Influence on International Trade

Capital market investment is no longer confined to the boundaries of a single nation. Today's corporations and individuals are able, under some regulation, to invest in the capital market of any country in the world. Investment in foreign capital markets has caused substantial enhancement to the business of international trade.

The Primary and Secondary Markets

The capital market is also dependent on two sub-markets – the primary market and the secondary market. The primary market deals with newly issued securities and is responsible for generating new long-term capital. The secondary market handles the trading of previously-issued securities, and must remain highly liquid in nature because most of the securities are sold by investors. A capital market with high liquidity and high transparency is predicated upon a secondary market with the same qualities.

EFFICIENT CAPITAL MARKET

An efficient capital market is a market where the share prices reflect new information accurately and in real time. Capital market efficiency is judged by its success in incorporating and inducting information, generally about the basic value of securities, into the price of securities. This basic or fundamental value of securities is the present value of the cash flows expected in the future by the person owning the securities. The fluctuation in the value of stocks encourage traders to trade in a competitive manner with the objective of maximum profit.

This results in price movements towards the current value of the cash flows in the future. The information is very easily available at cheap rates because of the presence of organized markets and various technological innovations. An efficient capital market incorporates information quickly and accurately into the prices of securities. In the weak-form efficient capital market, information about the history of previous returns and prices are reflected fully in the security prices; the returns from stocks in this type of market are unpredictable.

In the semistrong-form efficient market, the public information is completely reflected in security prices; in this market, those traders who have non-public information access can earn excess profits.

In the strong-form efficient market, under no circumstances can investors earn excess profits because all of the information is incorporated into the security prices.

The funds that are flowing in capital markets, from savers to the firms with the aim of financing projects, must flow into the best and top valued projects and, therefore, informational efficiency is of supreme importance. Stocks must be efficiently priced, because if the securities are priced accurately, then those investors who do not have time for market analysis would feel confident about making investments in the capital market.

Eugene Fama was one of the earliest to theorize capital market efficiency, but empirical tests of capital market efficiency had begun even before that.

VENTURE CAPITAL MARKET

Venture Capital is an age old concept but the Venture Capital Market has developed in the recent decades. The term venture capital denotes the act of investment in the areas of high risk, in order to get some high returns. The developments in the venture capital market has taken place in the US markets mainly.

The market of venture capital, in the past, was disconnected and may be identified as individualized to some extent. In the recent times only, the market has been shaped and the market became matured. Venture Capital Markets are a boon for those who want to set up new business.

At the same time, if an existing business wants to develop, the venture capitalists are there to provide financial assistance. These capitalists have their own business interest behind the assistance. These people want to have a share of the huge profits by the business in the future.

Because of this, only those businesses are selected which are supposed to develop rapidly in the future. For this purpose, the venture capitalists have their own team of people to identify the appropriate opportunities.

The modern concept of venture capital should be grateful to General Doriot because he was the person who founded the American Research and Development Fund. This was done to provide financial assistance to the activities of developing new technologies in the US universities. At the same time, the commercial use and financial benefits from such technologies were also considered seriously.

With the commercial success of the concept of venture capital, big players entered the venture capital market of United States of America. The giant companies like Xerox and General Electric played a major role in expanding the venture capital market. The entry of these companies in this market with separate divisions to deal in the market, encouraged many others. Because of these situations, the venture capital market was expanded beyond the territories of the US and within a short period, it gained ground globally.

CAPITAL MARKET THEORY

Capital Market Theory tries to explain and predict the progression of capital (and sometimes financial) markets over time on the basis of the one or the other mathematical model. Capital market theory is a generic term for the analysis of securities.

In terms of trade off between the returns sought by investors and the inherent risks involved, the capital market theory is a model that seeks to price assets, most commonly, shares.

In general, whenever someone tries to formulate a financial, investment, or retirement plan, he or she (consciously or unconsciously) employs a theory such as arbitrage pricing theory, capital asset pricing model, coherent market hypothesis, efficient market hypothesis, fractal market hypothesis, or modern portfolio theory. The most talked about model in Capital Market Theory is the Capital Asset Pricing Model.

In studying the capital market theory we deal with issues like the role of the capital markets, the major capital markets in the US, the initial public offerings and the role of the venture capital in capital markets, financial innovation and markets in derivative instruments, the role of securities and the exchange commission, the role of the federal reserve system, role of the US Treasury and the regulatory requirements on the capital market.

The Capital Market Theory deals with the following issues:

- Importance of venture capital in the capital market
- Initial public offerings
- Role of capital market
- Major capital markets worldwide
- Markets and financial innovations in derivative instruments
- Role of Federal Reserve System
- Role of securities
- Capital market regulatory requirements
- Role of the government treasury.

Assumptions of Capital Market Theory

The capital market theory builds upon the Markowitz portfolio model. The main assumptions of the capital market theory are as follows:

- *All Investors are Efficient Investors:* Investors follow Markowitz idea of the efficient frontier and choose to invest in portfolios along the frontier.
- *Investors Borrow/Lend Money at the Risk-Free Rate:* This rate remains static for any amount of money.
- *The Time Horizon is equal for All Investors:* When choosing investments, investors have equal time horizons for the chosen investments.
- *All Assets are Infinitely Divisible:* This indicates that fractional shares can be purchased and the stocks can be infinitely divisible.
- *No Taxes and Transaction Costs:* It is assumed that investors results are not affected by taxes and transaction costs.
- *All Investors Have the Same Probability for Outcomes:* When determining the expected return, assume that all investors have the same probability for outcomes.

- *No Inflation Exists*: Returns are not affected by the inflation rate in a capital market as none exists in capital market theory.
- *There is No Mispricing within the Capital Markets*: It is assumed that the markets are efficient and that no mispricings within the markets exist.

Mortgages, equities, bonds, and other investments are traded in the capital market. The financial instruments in this market have long maturity periods. Capital market theory states that federal funds, federal agency securities, treasury bills, commercial papers, negotiable certificates of deposits, repurchase agreements, Eurocurrency loans and deposits, options and futures are merchandised in the capital market.

When one has to put a price on a security, one has to determine the risk and return of the security both for single assets, as well as a portfolio of assets. The uncertainty and variability of returns on assets and the possibilities of losses can be defined as risks. The theory of capital market defines returns in the following manner:

$$K = \frac{P_t + C_t - P_{t-1}}{P_{t-1}}$$

Where the time of purchase of the asset of price P_{t-1} is $t-1$. If this be the case, then the return (K) from the time period $t-1$ to t is the above mentioned formula. C_t is the cash gotten from assets between $t-1$ and t . P_t is the price of the asset at time t .

For practitioners of the capital market theory, it has not lost its significance. It is still as important for retirement, financial, and investment plans.

BUSINESS ECONOMICS IN CORPORATE SECTOR

"Business Economics in Corporate Sector" is a comprehensive guide that explores the intersection of economic principles and corporate strategies in the modern business environment. This essential book offers a detailed examination of how economic theories and concepts influence decision-making within corporate entities, providing valuable insights for managers, executives, students, and researchers alike. Through a blend of theoretical frameworks and practical examples, the book covers a wide range of topics relevant to business economics, including demand and supply analysis, cost functions, pricing strategies, investment decisions, and market structures. It delves into the complexities of profit maximization, risk management, and strategic planning, offering readers a holistic understanding of the economic forces at play in corporate settings. With its focus on real-world applications, "Business Economics in Corporate Sector" equips readers with the tools and knowledge needed to navigate the dynamic business landscape. It examines case studies from various industries and sectors, illustrating how economic principles can be effectively applied to address challenges and capitalize on opportunities in today's competitive markets. Whether used as a textbook in business schools or as a practical guide for professionals, this book serves as an invaluable resource for understanding the role of economics in corporate decision-making. It empowers readers to make informed choices, optimize resources, and drive sustainable growth and profitability within their organizations.



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