



## CHAPTER 6

### LOCATIONAL FACTORS

#### 6.1 INTRODUCTION

The aim of this chapter is to analyse the factors contributing to the attraction and location of new firms in an urban area. The ability of an urban area to grow could be linked to the creation of an environment conducive to the location of firms. It is therefore necessary to determine the factors that will encourage firms to choose a specific area. The expansion and retention of existing firms is also linked to the location factors of firms.

In this chapter, general location decisions of firms will be considered. Firms will be influenced by various factors and generally a trade-off will be required among desired locational features. The trade-offs will differ, depending on the establishment characteristics. Profit-making firms will be influenced by profit considerations and political institutions by public opinion.

In this study it will be assumed that firms have a profit-maximising motive. A cardinal principle of location theory is that in order for any factor to influence location decisions, it must vary across locations. If every location is identical in its supply, then that input or factor will not influence the location decision, no matter how important some input or other factor. The most important factors that a firm will evaluate in determining location will now be analysed.

#### 6.2 BUSINESS LOCATION

In the analysis of the location decisions of businesses, three general factors of importance in the urban economy should be kept in mind. These three factors are the market mechanism and the constraints under which they operate,

external and other agglomeration economies, and transport costs (Richardson, 1971: 15). The location decision of various types of firms will be explored in this chapter. Trading firms (commercial firms) trade goods rather than produce them. Industrial firms (e.g., sawmills, breweries, manufacturers and bakeries) process raw and intermediate inputs into outputs (O'Sullivan, 1996: 39). The location of trading firms causes the development of trading cities. Trading firms act as intermediaries between the collection of goods from suppliers and subsequent distribution to consumers. Trading firms tend to locate at shipment points (ports, railroad junctions, warehouses, etc.) because of the convenience of these points for collecting and distributing goods.

Depending on the production process, industrial firms will tend to locate closer to either the source of input or the market. Both trading and industrial firms could be sensitive to transportation costs. A transfer-oriented firm is one in which the transportation cost is the dominant factor in choosing a location. This type of firm will choose the location which minimises total transport costs, defined as the procurement cost and distribution cost. Procurement cost is the cost of transporting raw materials from the input source to the plant. Distribution cost is the cost of transporting the output of the firm from the plant to the market. A resource- or input-oriented firm will therefore locate near its raw input source and a market-oriented firm will locate close to its market. Firms providing business services such as banking, insurance, accounting, repairs etc., locate near trading and industrial firms that use their services.

Before analysing urban location factors for particular types of establishments, a few general locational principles will be listed (Richardson, 1971: 35).

- i) Activities serving the city market as a whole are more likely to locate centrally as compared to activities serving non-local markets, that will tend to locate in peripheral sites.
- ii) The more specialised a function, the greater the tendency to locate in the central city.



- iii) The larger the site area required, the more likely it will be that the location will be in the suburban area.
- iv) If the existence of spatial externalities is accepted, land-use controls and zoning may have a marked stabilising effect on location patterns in a city.
- v) The presence of external diseconomies induces a degree of decentralisation.
- vi) Large cities usually contain secondary centres outside the Central Business District (CBD) and sometimes these centres may offer an acceptable compromise.
- vii) In old cities established firms reluctant to move may occupy a high proportion of core sites. In new cities there is greater flexibility of locational choice.
- viii) The tendency towards central concentration is changing to a marked decentralisation trend towards suburban sites.

In the remainder of the chapter, the various locational factors for different types of firms will be explored.

### 6.2.1 Inertia

A location factor that is very important, yet often unrecognised, is inertia. Inertia implies that once a firm is established at a specific location, many forces come into action to keep it there, even if new facilities are needed. The initial reason for locating at that spot may still be the same. If success has been attained and capacity needs to be increased, the firm will remain in its location due to the experience of economic success. The initial choice may be reinforced by the economic and social structures of an area. A relationship may have arisen between the firm and surrounding community, which may hinder relocation. Ties are developed with local producers, buyers and employees and if these ties function efficiently, it may provide a strong impetus to stay at the current location. Even if the firm could be located elsewhere with success (adequate demand), the





reliability of new suppliers may be uncertain. A co-operative working relationship with the local government may also be a factor in dismissing relocation. A firm that relocates will also lose some of its workers. In the case of unskilled or semi-skilled workers, the effect may not be critical, although the loss of skilled workers may harm the firm extensively. The increase in dual-income families may also cause a reluctance to move (Blair, 1995: 42).

## 6.2.2 Minimising transportation costs

This is the most thoroughly analysed location factor, due to the sensitivity of firms to transport costs. These costs are also easy to quantify (Blair, 1995: 43).

### 6.2.2.1 Market and input orientation

Orientation implies a locational tendency that could be altered by other considerations. Producers that are market oriented tend to locate close to the market because the transportation costs from the production site to the market are extremely expensive (McDonald, 1997: 32). This is the case of a weight-gaining production process. This type of firm will locate in a city to be near its customers. A soft-drink producer may decide to locate near its market because the transport cost of the inputs used in the production process is less than the transport cost of the bottled output. Products that are bulky to transport, perishable or fragile also tend to be market oriented.

Firms that are input oriented generally locate near material inputs. Many input-oriented activities tend to be weight-losing, with the final product weighing much less than the primary input. A firm cutting down trees for firewood purposes, would rather locate near the forest, cut down the trees, chop them into firewood and then transport them to the market. The weight of the firewood will be less than the raw lumber (trees that have been cut down) and thus ensure a lower cost of transportation. Sawmills will normally locate near a forest and are



therefore seen as input oriented. Meat producers are also input oriented because it is cheaper to transport processed meat than live cattle. The transport cost of the input relative to the transport cost of the output may therefore be the deciding factor of location.

A firm will be indifferent about all sites between the input source and the market if two conditions are met. The monetary weight (the sales volume times the delivery cost per kilometre) of the input should be equal to the monetary weight of the output. Secondly, unit transport costs are independent of the transport distance (O'Sullivan, 1996: 45). In this case the total transport costs will be the same at all locations between the input source and the market.

#### 6.2.2.2 Median location

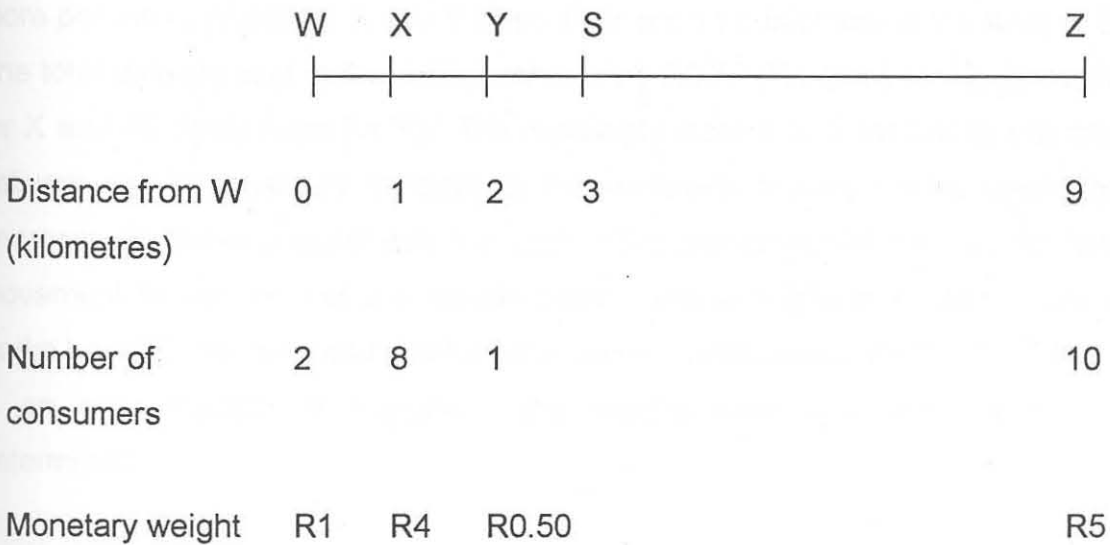
The tendency to locate in the centre of a market is known as the principle of median location (O'Sullivan, 1996: 47). This is the optimal location for a firm with several inputs and outputs. To explain this, assume Mary has to choose a location for her pizza parlour. She will have to consider the following:

- i) Universal inputs: All inputs are universal (available at all locations at the same price), so input transport costs are zero.
- ii) Pizza customers: Mary's customers are located along a highway. One pizza per customer is demanded and the price of pizzas is fixed.
- iii) Delivery costs: The pizzas are delivered free of charge but the delivery cost is 50 cents per pizza per kilometre. One trip per customer per day is made.

It is obvious that Mary will locate where total delivery cost will be minimised. Figure 6.1 shows the distribution of customers along the highway. The western side of the highway (W) serves as the benchmark from which to measure all distances. There are two customers at point W, eight customers at point X (one

kilometre from W), one customer at point Y (two kilometres from W) and ten customers at point Z (nine kilometres from W). The monetary weight of a particular location (the sales volume times the delivery cost per pizza per kilometre) is half the number of consumers at that location (O'Sullivan, 1996: 47).

**Figure 6.1 Pizza delivery and the median location**



Source: O'Sullivan. 1996.

Total transport costs will be minimised at the median location. Point Y is the median location because it divides the monetary weights in two equal halves. The monetary weight of locations to the west is R5 (R1 for W plus R4 for X) and the monetary weight of locations to the east is R5 (R5 for Z). The amount of customers is equal to either sides of the median location. In this example the amount of customers to each side of the median location is 10 people.

The median location is the minimum cost location because it splits the pizza consumers into two equal halves. The distance between the consumers is irrelevant to the firm's choice of location. If the consumers at point Z were located 50 kilometres from point W instead of 9 kilometres away, the median





location would still be point Y. The total delivery cost would still be minimised at point Y, although at a higher level.

To illustrate that Mary is minimising her transport cost at the median location, suppose she starts at the median moving to point S, one kilometre east of Y. This movement decreases the transport cost to the east by 50 cents per trip to Z, saving a total of R5. The transport cost to the west increases now by 50 cents more per trip to points W, X and Y since there are 11 customers to the west of S. The total delivery cost to the west increases by R5.50 (R1 more for W, R4 more for X and 50 cents more for Y). The movement from Y to S increases the total delivery cost because the increase in the westward delivery cost exceeds the decrease in the eastward delivery cost. The same would be true for any movement to the west of the median point. The principle of median location works best if there is an odd number of customers (McDonald, 1997: 33). If there is an even number of customers, the precise location of the firm is not determined.

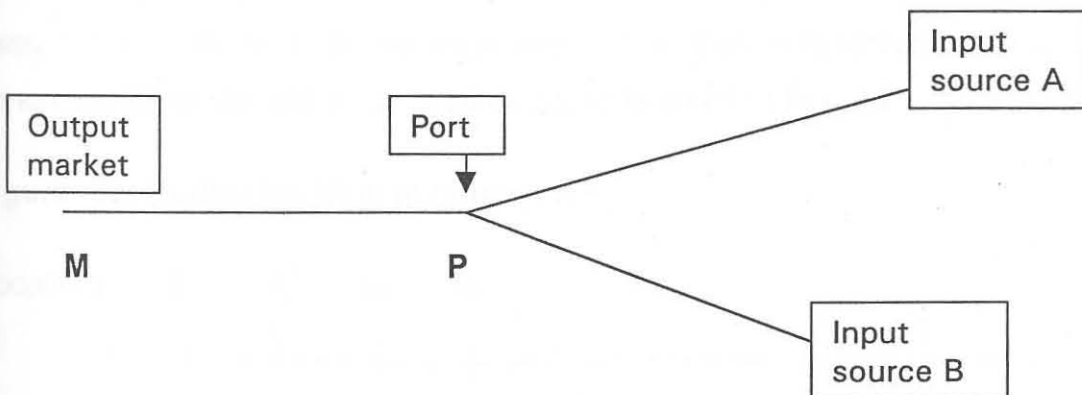
### 6.2.2.3 End and shipment points

It would be sheer coincidence if the transportation cost of the material to the market were equal to the transportation cost of the product to the market. Two additional factors influence the market and material sites. The first is the extra handling costs and non-linear rate structures (Blair, 1995: 44). Any location between the two sites would normally require extra terminal (loading and unloading) costs. A midpoint location requires an extra handling activity. The difference between the market or material site as opposed to the midpoint site, is that transportation companies frequently charge customers less per kilometre for long distances than for short distances. One long trip would therefore be cheaper than two short trips.

The principle of median location also explains why some industrial firms locate at a shipment point. This point is defined as a point where a good is transferred from one transport mode to another (O'Sullivan, 1996: 49). At a port, goods will be transferred from trucks or trains to ships and at a railroad station goods are transferred from trucks to trains. A shipment point represents points where loading and unloading cannot be avoided. Production locations at shipment points will therefore not increase transportation costs (Blair, 1995: 44).

In Figure 6.2, the options for the location of a sawmill are explained. The firm harvests logs at two points A and B, processes the logs into lumber and then sells this in an overseas market at point M. Assume that because of the economies of scale in production, a single sawmill is efficient and highways connect points A and B to the port and ships travel from the port to point M. A sawmill is a weight-losing activity and the monetary weights of inputs are R15 for point A and R15 for point B. The monetary weight of the output is R10. In this case there is no definite median location, although the port is the closest to a median location. The firm has a choice of moving closer to either of its inputs or to its market.

**Figure 6.2: Sawmill location**



Source: O'Sullivan. 1996.

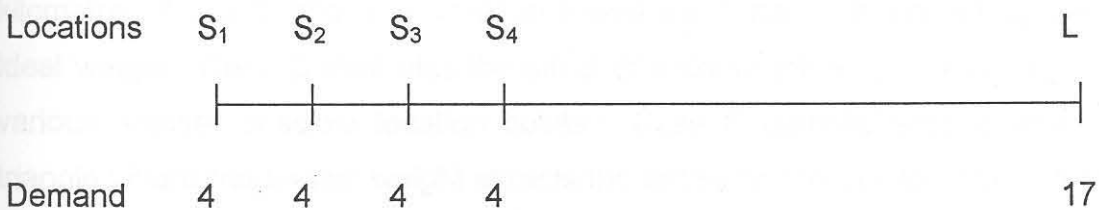


Suppose the firm starts at the port (P) and moves closer to either input A or B. A one kilometre move towards point A will cause offsetting changes in the costs of transporting logs from A and B. Output transport costs will increase by R10; therefore the port location is preferred to point A. The same argument applies to a movement towards point B. Should the firm decide to move from point P closer to the market (overseas) M, output transport costs would decrease by R10 per kilometre (the monetary weight of output). The input transport cost would, however, increase by R30 per kilometre (monetary weight of the inputs). Transport cost would increase by R20 and hence make the port location (P) preferable to the market location (M).

#### 6.2.2.4 Growth of cities

The principle of the median location provides another explanation why large cities tend to become larger. Suppose a firm delivers its product to consumers in five different cities. In Figure 6.3, L denotes a large city with four small cities denoted by  $S_1$ ,  $S_2$ ,  $S_3$  and  $S_4$ . The firm sells 17 units of its product in the large city and four units in each of the small cities. The median location would be in the large city, although it is at the end of the line. Every kilometre west of L would decrease the transport cost by R16 as the firm moved closer to the small cities. At the same time the transport cost would increase by R17 as the firm moved away from consumers in the large city. It is thus unquestionable that the concentration of demand in large cities cause large cities to grow.

**Figure 6.3: Median location in large cities**



Source: O'Sullivan, 1996.



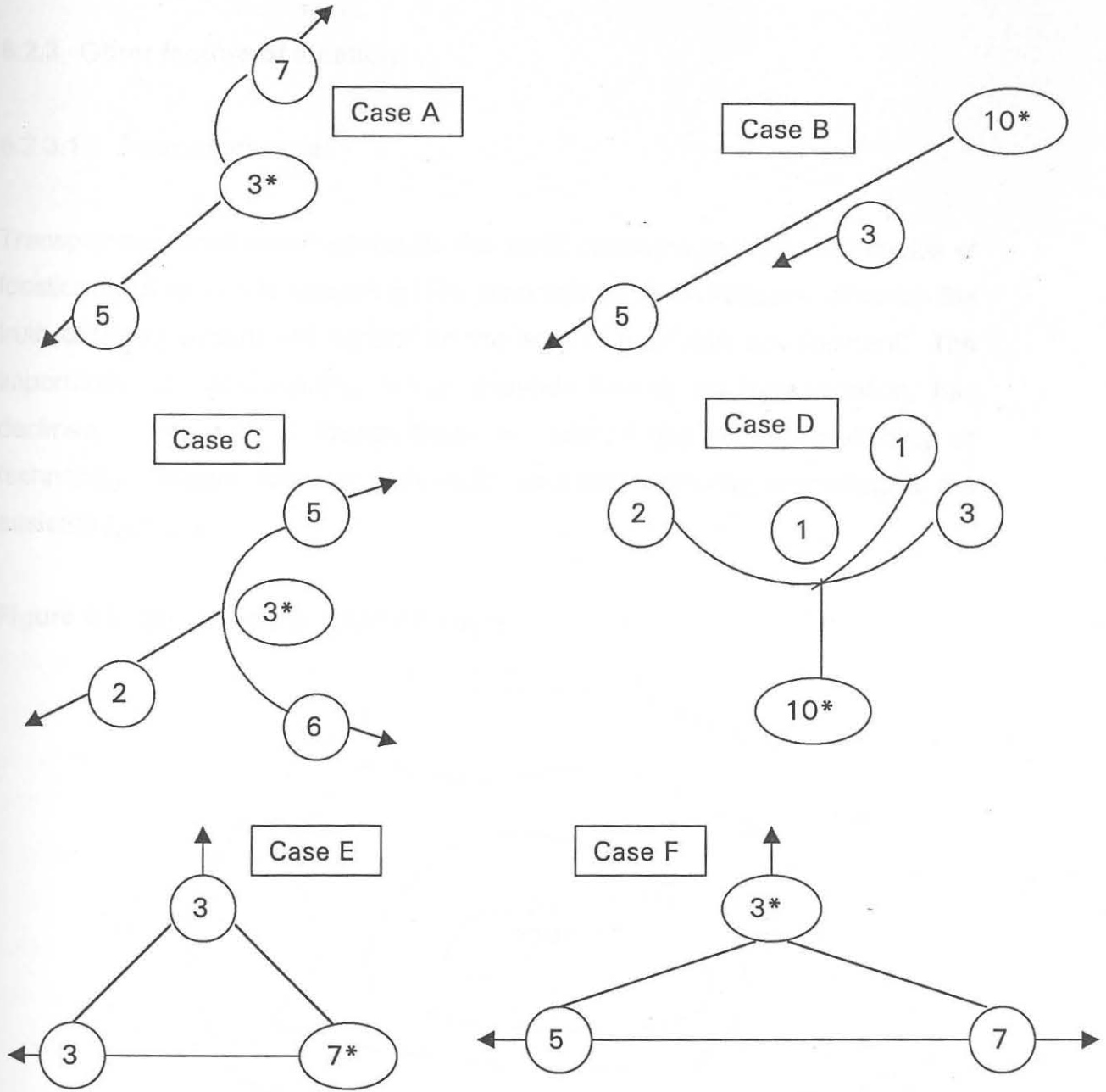
The development of several types of cities is also explained by the median-location principle. If the median location is an input source, a resource-based city will form around the input source. If it is in the centre of the region, a regional centre will develop. If the median location is the shipment point, a port city will develop. If it is in an existing city, the city will expand and grow (O'Sullivan, 1996: 50).

#### 6.2.2.5 Road systems and multiple inputs

So far, it was assumed that only one input was utilised and the location choice was limited to a single road. If road systems, multiple input sources and markets are introduced, the location choice becomes more complicated because the opportunity cost increases. The concept of locational weights can be helpful in analysing these conditions. The locational weight of the product is the cost of transporting one unit of the product one kilometre. The locational weight of the input is the cost of transporting an adequate quantity of the input one kilometre to produce one unit of the product (Blair, 1995: 46).

In Figure 6.4, different types of road systems and the ideal weight are illustrated to simulate various situations. In case A, the location would be in the middle of the pull forces. Moving upwards from the minimum transport cost point would increase the transport cost by R8 ( $R5 + R3$ ) per kilometre while saving only R7 per unit per kilometre. Case B shows a situation where the ideal weight lies at the end, which offsets the counterpull forces. Moving away from the end point saves R8 ( $R5 + R3$ ) per kilometre but increases the cost by R10 per unit per kilometre. Case C shows a situation where the midpoint location may be the ideal weight. Case D illustrates the effect of a dominant weight in the region of various smaller possible location points. Case E demonstrates a locational triangle where the largest weight attracts the production to that location. In case F the flatter triangle tends to become like case A, where the midpoint location is seen as the ideal location.

Figure 6.4: Business location with different road systems



\* = Transportation-cost-minimising location

Source: Blair. 1995.



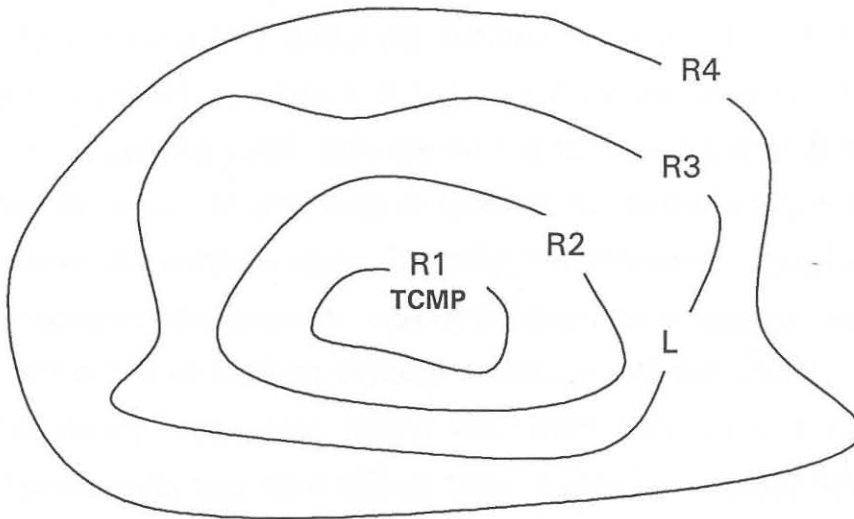
This analysis accepts that reality is even more complicated, although it provides a foundation for explaining more complicated situations.

### 6.2.3 Other factors of location

#### 6.2.3.1 Production costs

Transportation cost was traditionally the most important factor in the choice of location for a firm. It is becoming less important for three reasons, although the truth of these reasons will depend on the level of economic development. The importance of manufacturing, which depends heavily on transportation, has declined. The cost of transportation is lowered due to the availability of technology. Inputs used by both direct and manufacturing technologies are easier to transport.

**Figure 6.5: Minimising production costs**



Source: Blair. 1995.

As the value of the product increases relative to the cost of transport, the importance of transport costs decline relative to other costs. Finally, the



importance of the other costs of production have become more widely recognised (Blair, 1995: 48). The fact that production costs may vary from location to location should be weighed up against higher transportation costs.

In Figure 6.5, the transport-cost-minimising point is shown as TCMP. The lines around the TCMP show how transport costs increase as one moves further away from the minimum transport cost point. These lines are known as isocost lines, referring to the lines that show equal production cost to the firm. Suppose point L indicates a lower production cost point due to cheaper labour costs. If the savings per unit exceed R3, the firm should rather locate at point L than at TCMP. If less than R3 is saved, TCMP is the more profitable location point.

#### 6.2.3.2 Labour costs

A firm may be categorised as labour oriented if the cost of labour is high relative to the total value of the product. Depending on the category of labour, the wage rate may differ within a specific region. The prevailing wage for a particular type of labour would be the same throughout the metropolitan area. Therefore, the prevailing wage rate affects the choice of region but not necessarily the site within an area. The prevailing wage rates are not the sole determinant of labour costs for several reasons. In choosing a location the entire compensation package will be taken into consideration. Secondly, the difference in productivity can cause labour costs to differ between regions although the hourly rate may be the same. The firm bases its location decision on labour cost per unit of output, and not just the hourly wage rate (O'Sullivan, 1996: 52). However, the determination of productivity may be a difficult task. Finally, unemployed people may be willing to work for less than the prevailing wage rate, especially if the trade unions are not strong in that region. The fact that these workers may not remain satisfied with wages lower than the prevailing wage rate cannot totally be ignored in measuring future labour costs.



The presence and influence of labour unions may be a contributing factor to labour costs. This may also contribute to a slowdown or decline in the rate of employment. The absence of labour unions is often the most effective public policy for attracting new firms. A 10 per cent increase in the activities of labour unions in the labour force is estimated to cause a 30-45 per cent decrease in the number of new branch plants (Blair, 1995: 50).

There are four general reasons for labour costs differing across regions. If there is any undesirable feature in the local environment, such as air pollution or bad weather conditions, a firm should compensate its workers. The presence of strong labour unions generally leads to higher wages. Because households are not perfectly mobile, some areas will have a high supply of labour and correspondingly lower wages. Lastly, there is the concept of joint labour supply where the household's primary worker moves to an area, increasing the supply of secondary workers, with the resulting lower wages.

#### 6.2.3.3 Amenities

A general viewpoint is that if amenities could be improved, economic development would be stimulated. Amenities may include good weather, roads, schools, other training facilities, hospitals, and various other factors. Amenities have become increasingly important to many industries, especially those not so bound to the traditional cost-oriented locational pulls. In the case where other direct cost-related factors are relatively equal, attractive amenities may swing the scale to that specific region. Highly-skilled professionals – because they can almost always obtain jobs wherever they choose - will rather choose regions with attractive amenities, except in the case where the compensation is substantially higher in areas with poor amenities. The demand for amenities is income-elastic and high-income workers are attracted to these areas and firms employing these people usually follow. Research and development firms, employing highly-skilled workers like scientists and engineers, are typical of firms locating in areas with



good amenities (O'Sullivan, 1996: 52). Amenity-rich areas may also attract and retain less skilled workers.

In a region with well-developed amenities, an increase in the demand for property may cause real-estate values and rents to rise. This in turn may increase the production costs of a firm due to higher rents and taxes to maintain public amenities. In spite of this, business behaviour indicates that amenities exert a strong pull factor. Negative factors such as crime and pollution may have the opposite effect (McDonald, 1997: 35).

#### 6.2.3.4 Taxes

Although taxes were traditionally not considered a major locational factor, it seems that local taxes have at least a moderate influence on location decisions and economic growth. A study conducted in the USA concluded that a 10 per cent increase in taxes would cause a 3,3 per cent decline in job growth in the long term (Blair, 1995: 52). Different types of taxes will influence business location although they do not all have the same impact. Personal income tax affects the highly-paid executives who are mainly responsible for the location decision. High personal income tax rates also have a detrimental effect on regional growth (Blair, 1995: 52). Company income taxes directly affect after-tax profits and may be a more important location factor. Real estate and property taxes may differ within a metropolitan area and therefore also influence location decisions. The level of taxation imposed on a firm and the quality of the public goods and services rendered to the firm should at least be consistent.

There are, however, four reasons why local taxes have little or no effect on the location decisions of a firm (Bogart, 1998: 157). Firstly, some taxes do not vary much between different locations. Secondly, it can be said that even if taxes vary, other factors such as labour costs, transportation costs, etc. vary more. Next, since taxes can be shifted from the firm to the consumers, a large



difference in nominal tax rates does not reflect a difference in the actual tax burden borne by the firm. Lastly, higher taxes can be a reflection of the availability of superior public services. This suggests certain conditions where the tax rates will be important to location. Taxes will be more important in intra-metropolitan areas where labour and transportation costs are more or less equal. Taxes will also be more important when deciding between locations with similar and equivalent public services, as well as when a firm has an elastic demand curve for its product that prevents it from shifting the tax to the consumer (Bogart, 1998: 157).

#### 6.2.3.5 Government incentives and infrastructure

Local government can encourage business location by introducing special incentives or subsidies. These incentives may range from interest rate subsidies to sale of land at below market prices, tax credits and superior infrastructure. Incentives may be weighed up against each other in different regions. Locating in the inner city may see government allowing more incentives due to the movement of firms to suburban areas. Incentives are both an intra- and inter-regional locational factor. It is difficult to determine the real effect of these incentives although it may be considered preferable to have them rather than not. A well-developed infrastructure is also essential for attracting firms to a specific location.

#### 6.2.3.6 Local business climate

Business climate is indeed an important factor in choosing a location. This includes not only tax and expenditure programmes, but also the community's attitude towards business. Hanson and Berkman (1991: 213) refer to the business climate as a "poorly conceptually and crudely measured" concept. It is important for local government to monitor business attitude through surveys, meetings or personal visits. If the local business entertains the belief that their



local government listens and addresses issues of concern, they will tend to remain in a specific region.

#### 6.2.3.7 Intermediate inputs

Availability and access to other intermediate inputs is also very important. Raw materials, parts and business services such as specialised legal, accounting, and computer services are also important in choosing a location. Another category of inputs is the knowledge concerning a specific industry. The location should be one where the firm can keep up with the latest trends and have rapid access to information on changes in products and production technologies (McDonald, 1997:36).

#### 6.2.3.8 Site costs

The cost of a particular site may be expressed in terms of the rental as well as the cost of buildings. Site costs include the cost of land and building. All regions offer a variety of sites at a wide range of prices and regions can therefore use this as a tool to attract interested firms. Warehouses and office facilities are particularly sensitive to site costs (Blair, 1995: 54).

#### 6.2.3.9 Political climate

The stability of the national political environment is a prerequisite and has the same effect as a locational factor as in the case of a region. Any investor, whether national or international, is concerned about government stability and whether satisfactory returns on investment are possible. This is one of the most important considerations for any investor. Linked to this is the stability of a country's exchange rate.





### 6.2.3.10 Energy costs

Energy prices directly affect the price of transportation and consequently, the choice of a location for transport-oriented activities. The cost of electricity is also a factor of location that new firms take into account. The reliability of the provision of energy, especially electricity, is a major concern in the choice of a location. The most energy-intensive manufacturing industries are paper mills, chemicals, petroleum refining, steel and aluminum industries and stone, glass and clay products (McDonald, 1997: 36). Increased reliance on computers render reliable energy supplies extremely important, as sporadic blackouts will definitely offset plans to locate.

### 6.2.3.11 Locational orientation

Table 6.1 lists characteristics that affect locational orientation of firms and provides examples of firms with their given orientation.

**Table 6.1: Locational orientation of firms**

Orientation	Relevant characteristic	Example
<i>Transport-cost-oriented</i>	Transport costs relatively more important	
Input-oriented	Inputs weigh more than output	Ore refining
	Inputs bulkier than outputs	Cotton bailing
	Inputs more perishable than outputs	Fruit canning
	Inputs more hazardous than outputs	Skunk deodorising
Market-oriented	Outputs weigh more than inputs	Bottling
	Outputs bulkier than inputs	Auto assembling
	Outputs more perishable than inputs	Baking
	Outputs more hazardous than inputs	Explosives





- business growth
- economic diversity
- number of flights in and out
- population growth trends
- commuting time
- highway accessibility
- housing affordability ratio

#### Education

- college and university presence
- library expenditures
- mathematics achievement level
- education attainment

#### Government

- financial planning strength
- administration spending
- debt ratio
- voting rate
- judicial efficiency
- ability to repay debt
- total debt

#### People

- poverty rate
- single-parent households
- contributions to charity
- police response time
- central city crime rate
- regional crime rate
- toxic emissions
- water quality
- air quality
- teen pregnancy rate
- infant mortality rate
- number of specialists
- hospital capacity
- hospital occupancy rate
- number of doctors
- hospital costs
- uninsured rate

The problem is, however, that some of the indicators may be either positive or negative. Affordable housing may benefit buyers, but is not beneficial to sellers. The indicators at least provide a method by which location decisions can be more structured.





### 6.3 DECISION-MAKING PROCESS

The choice of a location can be a complicated matter because the decision may influence a lot of people. This section seeks answers to the motives for choosing and identification of location sites.

#### 6.3.1 Motives

The main motive for a business securing a location is surely to maximise profits. It can therefore be assumed that profit maximisation would be a cornerstone in understanding business behaviour in choosing a location. However, in some cases profit maximisation will fail to provide, or provide only part of the explanation. Non-profit institutions such as a fire station would not be influenced by profits in its search for a location. This study, as mentioned before, is only interested in profit-maximising firms and will ignore firms not related to this. Secondly, managers may place personal interest above stockholder interest and therefore choose a location with good climate etc. rather than that which maximises profit. Finally, safe locations may be preferred to locations with high risk/high return possibilities.

#### 6.3.2 Practical limitations

Much time and energy may go into the identification of an ideal location site. If the profitability of the business is not sensitive to the location site, less time may be spent on searching for a site. However, activities that require large, long-term investments generally involve extensive analysis. The complexity of the various factors, the uncertainty of the future and the variety of motives of the participants make it a difficult task altogether. New businesses often locate in the same area as that in which the founder lives. The site may have the characteristics of a profit-maximising location, even if the initial selection was purely personal. A

sub-optimal location may also become a very suitable location if the local economic environment changes in such a way that it supports that location later.

### **6.3.3 Steps in the site selection process**

Blair (1995) states that although a variety of motives are involved in the selection process, large businesses tend to follow similar steps in selecting a site. Schmenner (1982) has identified five basic steps that will be examined below:

#### **6.3.3.1 Recognition**

Location decisions are often part of the broader planning process of a firm. This often occurs at a critical point in the life cycle of the firm. A forecast of the future expected demand might prompt a firm to consider a locational process. If a capacity problem is anticipated, a task team should be appointed to address the issue. The expansion of one of the existing sites will normally be an option, as will an increase in the price of the product, or even subcontracting to other producers. If it is deemed necessary to find a new facility, a site selection team will be formed.

#### **6.3.3.2 Forming the selection team**

The organisational structure of the company will affect the site selection process. The selection team should however, include representatives from the key divisions such as transportation, distribution, personnel, engineering and real estate. In the case of small companies, the Chief Executive Officer will be more involved in the decision-making process. Companies usually do not reveal the fact that they are seeking an alternative location until they can start negotiating the terms of rent, land or incentives.



### 6.3.3.3 Developing criteria

A list containing all the “must have” characteristics of the new site must be drawn up. The role of this proposed facility in the overall corporate strategy will be focal in developing and revising this list. Desires to penetrate new markets, to segregate or integrate different functions of the company, or to strengthen the company’s visibility or identity may be important elements in the location choice. Both quantitative and qualitative locational factors should be included in the list.

Trade-offs arise in developing criteria for information that is ideally desired and information available. Much of the data necessary to make an informed decision that could possibly influence profits, is unpublished and expensive to gather. Secondary data may be inexpensive but may also be several years old by the time it is disseminated.

### 6.3.3.4 Focussing

After the completion of the list with the different criteria, the search for the site starts. The first stage is the choice of a metropole or urban region. The focus will be on labour, taxes, climate, proximity to customers and suppliers and other related factors. Factors such as climate and energy costs are termed macro-locational factors. From this point a more micro-geographic focus will follow, with a list of possible communities. On a micro level, land costs, access to major road links, good schools etc. will form part of the search. These factors become important after the selection of a specific community within the urban region. The search for an exact site will now begin.

A relatively simple way of choosing the site is by assigning weights to each of the characteristics on the “must have” list. The more important the characteristic, the higher the weight. A score for each locational factor is also assigned to each region, with a higher score indicating a better regional attribute. By multiplying





the weight times the region's location score and summing the results, an overall desirability index can be obtained. Once this has been done a specific site can be found. The cost of gathering information concerning each site will limit the number of sites that can be examined in detail, although the financial capability of each firm will determine this.

#### 6.3.3.5 Final decision

The final decision to locate in a chosen spot will normally be reflected in a firm's annual capital budget. A feasibility study, showing that the proposed facility will earn a sufficient rate of return to justify the purchase, construction or rent, will be the determining factor.

A survey conducted to identify the factors that influenced site selection decisions identified the following random factors (Bogart, 1998: 63):

- i) Low lease rates,
- ii) educated labour force,
- iii) access to major highways,
- iv) low construction costs,
- v) access to primary consumer markets,
- vi) good energy/telecommunications,
- vii) favourable local government attitude,
- viii) low property tax rates,
- ix) low crime rate and
- x) low corporate and business taxes.

The search for a specific location may be time-consuming and no-one really knows what the future holds. The optimal site can thus only be identified in terms of current information. This at least provides a method for decision-making location which is more structured than pure reliance on feelings or emotion.



## 6.4 SUMMARY

The attractiveness of a region in terms of investment is affected by the various locational factors. Each type of business will be affected, albeit differently, by a variety of locational factors. The characteristics of each firm will determine the way in which it will be influenced by these factors.

Inertia is very important although it is often not recognised as a locational factor. The initial reasons for establishing in a specific area may still hold true and may be reinforced by the changing economic and social structures. The loss of workers and business contacts may be a great economic risk from which the firm may struggle to recover.

Transportation as a locational factor is very important and different models are used to explain the concept of minimising transport costs. Market-oriented firms which produce final goods that are expensive to transport, normally locate near the market. Input-oriented firms locate near the source of the inputs because the inputs used in production are expensive to transport. The median location principle explains location tendencies of market-oriented firms serving several markets.

Some of the most important locational factors for businesses are transportation costs, access to inputs and access to markets. Other very important factors are production costs, labour costs, amenities, taxes, government incentives and infrastructure, political stability, local business climate, site and energy costs. These factors may vary in terms of importance depending on the type of business. The nature and importance of locational factors will inevitably change as technology and production requirements change.

The location decisions of firms may be influenced by local authorities in the sense that these authorities are responsible for the creation of an urban



environment conducive to economic growth and development. Businesses are in search of opportunities for exploitation, and the more attractive an urban environment in the provision of economic opportunities, the better the chance of businesses locating there. Local authorities are generally in need of increased tax revenues and by attracting businesses to locate, may just address this need. Both local authorities and businesses may thus contribute to improving the growth potential of an urban area. A very important factor in the location decision is the availability of a high quality transportation network. Transportation also strongly influences land-use patterns in urban areas.

In the next chapter, urban transportation, on which households and business alike are largely dependent, will be analysed.