Chapter 3: Development of a Model

3.1   Introduction

This chapter aims to introduce the parameters that were used in the development of the proposed model and to support each by describing their principles and mechanisms from the original literature.

Small businesses must contribute to fundamental socio-economic issues, such as jobs and economic stability, to be successful economic tools. This is supported by Naude and Krugell (2003: 68), who refer to small businesses as tools used by policy makers to drive economic growth and to provide jobs and economic stability. *Development* is about improving the quality of people's lives and improving their abilities to shape their futures. This usually calls for higher *per capita* income (the International Bank for Reconstruction and Development/the World Bank 2000: xxiii). In South Africa, government is committed to a growth path of high and sustainable economic development via increased investment, enhanced productivity and the creation of countrywide employment opportunities. One of the important methods of achieving these goals is through the development of small, medium and micro-enterprises (Ministry of Trade and Industry, 1994: 5).

A slowdown in world growth over the past number of quarters influenced advanced countries. It was a real source of hardship to many developing countries and a real setback to the fight against world poverty (Schoeman, 2002: 2). These developments underscore the need for an integrated concept for answering critical questions about globalisation and the difficulties of African countries specifically to share in the concomitant generation of wealth. Success in the fight against poverty is the key to stability and peace in the 21st century and nowhere are the battle lines clearer than in Africa (Schoeman, 2002: 3).

A theoretical model, based on information available in the literature, can be developed to determine the impact of small and medium-sized businesses on the macro economy. Each of the parameters necessary to develop the model requires analysis before inclusion. Changes in one part of the economy cause structural changes to the whole of it. These modify the patterns of demand and distribution. A question that should be answered is whether small and medium-sized enterprises modify patterns of demand and distribution or merely shift these patterns. A shift in these patterns will affect the distribution of wealth, with its accompanying advantages and disadvantages.

To be able to build a model to determine the impact of small businesses on the macro economy it is essential to:

1. Understand the economic environment and the parameters that need to be analysed as measures of economic contribution. These will form essential parts of the model.
2. Understand and clarify the parameters that will impact directly on small business development.

3.2   The economic perspective

This study does not intend to redefine macro economic theory and principles, but rather to state these theories and arguments based on the work of Baumol and Blinder (1988), Fourie (1997: 225) as well as Thirlwall (1999). These theories and principles will be used to develop the macro-economic framework of the model. Development economics, specifically capital generation within development economics, and the theory of development economics, played an integral role in a South African doctoral thesis by Toomey (1998: 1) on small business growth through inter-firm linkages. He dedicated the first chapter of his thesis to explain the theory of development economics.

According to the International Bank for Reconstruction and Development/the World Bank (2000: 2), the maintenance of demand is no longer the only problem to be solved. The control of demand is just as important. Small business should contribute to improve standards of living in both rich and poor countries.

The control of demand and improvements in the standards of living led to the study of economic growth. Economic growth is defined as the *annual rate of increase in the real gross domestic product*[15] (preferred in South Africa) or the *rate of increase in the real gross national product*[16] (used in many other countries) Fourie, (1997: 11 and 212)

The link between the business level at which the study is conducted and the macro economic level is supported by economic theory. Macro economics concentrates on the behaviour of entire economies. It concentrates on economic aggregates rather than on single businesses (Baumol and Blinder, 1988: 75). The difference between macro- and micro-economics can be seen as a difference in focus (Doornbusch and Fischer, 1992: 5). Single businesses need to be investigated in order to understand the effect of small and medium-sized enterprises on these aggregates.

---

[15] *Gross Domestic Product* is the sum of all the money values of all final goods and services produced by the economy during a specific period of time, usually one year within the geographical boundaries of a country (Baumol and Blinder 1988: 121). The application factors of production in this case are the property of all residents.

[16] *Gross National Product* is the sum of all the money values of all final goods and services produced by the economy during a specific period of time, usually one year within the geographical boundaries of a country (Baumol and Blinder 1988: 78). The application factors of production in this case are only the property of permanent residents.

It is important to reflect economic growth in constant prices (real data). It will therefore be necessary to normalise the data with inflation for the period measured. Economic growth is only achieved when there is an increase in the real potential (full employment) income. Naturally, growth comes into its own only when potential is fully utilized. Okuns' rule, as explained by Doornbusch and Fischer (1992: 327), states that, for every 1% decrease in unemployment, the gross domestic product will increase by 2.5%. Lastly, there should be an increase in gross domestic product per head of the population.

3.3   Four factors of growth

There are four groups or factors which are generally held to be instrumental in the determination of the capacity level of the real gross domestic product, or gross national product, and which decide the opportunities for further growth (Mohr and Fourie, 2002: 682) and (Thirlwall, 1999: 105).

3.3.1 Size and quality of the labour force

The size of the labour force depends on the composition of the population, especially according to age groups. Important here are education and training, the presence of so-called work ethics and the state of health of the population. Education and experience are the two most important parameters influencing quality of labour (Thirlwall, 1999: 109).

The effect of the Auto Immune Deficiency Syndrome[17] and the level of education will be two important issues in understanding the South African labour force. The size of the labour force in a specific economy can only be manipulated by manipulating the growth rate of the workforce and importing labour, as is the case in Europe, or by using a large labour force such as is available in China. It is clear

---

[17] See sub-section 4.4

66

that manipulating the workforce creates a string of social impacts. To change the *quality* of the workforce one needs capital to *train* the workforce.

3.3.2 Quantity and quality of capital

Future growth will depend on whether fresh capital can be created out of savings or obtained from investors or institutions. The question here will be whether small and medium-sized enterprises can generate their own capital or contribute to an extent that government can generate capital. In undeveloped countries there is a low level of capital accumulation (Thirlwall, 1999: 109). It is not easy for poor societies to save since they do not generate enough capital.

3.3.3 Technology

Improved technology was responsible for economic growth over the past century. Technology is an undisputed driver of competitiveness (Badrinath and Wignaraja, 2004: 2). The tremendous leaps in production during the industrial revolution, and the changes that computer technology brought, support this statement. Changes in technology need an investment in research and increased spending on development. This is supported by massive capital injections. Economic dualism may influence the acceptance of technology to provide the necessary competitiveness. The capital/labour output ratio should be used to make the decision rather than should emotion (Thirlwall, 1999: 176 and 163).

3.3.4 The availability of natural resources

Rich natural resources assist countries to develop economically. The availability of gold in the central regions of South Africa was the main driving force behind the development of the region. These factors are separately addressed in the literature as influences on the success of small business.

Adequately skilled human capital plays an important role in the success of a business (Goedhuys and Sleuwaegen 2000: 141, and the International Bank for Reconstruction and Development/the World Bank 2000: xxv). There is growing evidence that the main reason for Africa's slow growth and lack of industrialisation has been the absence of private sector investments, particularly in the manufacturing sector (Jenkins and Thomas, 1999: 2 - 11). Surveys of more than 820 businesses across Africa showed that the average rate of investment was around 11% in the relatively larger businesses (Soderbom and Teal, 2001 (1): 7). The lack off technical expertise in a globally competitive economy significantly raises the entry level for small businesses (Audretsch, 1998: 21). Small businesses are continuously exposed to more global competition (Green, 2003: 1).

The availability of natural resources plays an important role in many African countries. The influence of gold on the South African industry and diamonds on Botswana is clear (Olivier 1994: 12). Kappel (2001: 10) refers to the sins of African countries exporting these resources without adding value. The locality to markets can also be seen as a natural resource. High logistic cost is one of the hampering factors in the South African economy (Automotive Supplier Park Annual Report 2003: 2).

It can be concluded that, to achieve economic stability, an economy needs jobs that are supported by an increase in gross domestic product output by job and an increase in income *per capita*. It is also important to create growth through the four factors supporting growth. It is clear that the four factors of growth are difficult, or impossible, to manipulate, specifically when referring to the size of the workforce and the availability of natural resources. Secondly, an economy needs capital to increase the quality of labour, the availability of capital or the level of technology.

It must be clarified that growth can occur without development. Development in this study specifically refers to capital generation. It must be stated that development or capital generation cannot occur without growth. It is therefore important to acknowledge that the four factors of growth will have a direct impact on development via capital generation. It is also important to acknowledge that capital generation can influence some of these growth factors to enhance growth and possibly development.

The model will be measuring the creation of capital as a basis to support economic growth and as an important factor influencing growth (Mohr and Fourie: 2002: 692) and (Thirlwall, 1999: 29).

3.4   Growth versus development

Economic *growth* is the process of increasing gross domestic product in developed countries. The term economic *development* is used in less developed countries. It is a process that leads to an increase in real potential output per head. Economic development implies a basic change in the whole society and economic set-up. The discussion on economic development and specifically capital generation is based on the work by Van Den Bogaerde and Fourie, (1992), Thirlwall, (1999) and Mohr and Fourie, (2002). Economic development will be the basis for the research on the impact of small business on the South African economy. Economic development will be measured by measuring capital generation on the micro or company level and the accrual of company level capital generation on the macro level.

The World Bank also supports the theory of economic *development* as a way to evaluate the success of a country's economic policy when compared to economic *growth*. In assessing development, the Bank clearly highlights the different effects associated with growth in gross domestic product and differentiates between high and poor quality growth. Some processes and policies generate growth in gross

domestic product along with the growth of human and natural assets. These directly affect the welfare of people beyond their productive roles (the International Bank for Reconstruction and Development/the World Bank 2000: 2).

The developing nations successfully managed to achieve a growth rate of 5% during the decade of development after the World War II. This was initiated by the United Nations and was based on the success of the developed nations. The second decade of development did not reach its 6% target. This, combined with the fact that economic growth did not alleviate poverty, inequality and growing joblessness, triggered the acknowledgement that economic *growth* does not necessarily stimulate economic *development* (Mohr and Fourie: 2002: 692) and (Thirlwall, 1999: 29).

Although South African society consists of developed and developing components, the main focus of the development of small businesses in South Africa is to assist the economically disadvantaged communities. It is agreed that this sector offers Blacks, Coloureds and Asians in particular the opportunity to become entrepreneurs. This statement is supported by the National Manpower Commission's report (1983: 24). More recently, the Department of Trade and Industry (1994 and 1995) stated that it is a tool to address the legacy of apartheid-based disempowerment of black business. It will only be successful if the process supports capital and human accumulation (Thirlwall, 1999: 45).

3.5   Population and the labour force

The region's population plays an important part when one analyses economic growth. In countries like India and Brazil, the gross domestic product is very high, but the income per head is very low and unequally distributed in comparison to European countries (Thirlwall, 1999: 55).

Adam Smith (1723 - 1790), (in Thirlwall 1999: 209), optimistically regarded the population as the basis of production rather than consumption. He published his findings in his book *An inquiry into the Nature and Cause of the Wealth of Nations* in 1776, and it is usually considered to be the founder of economics. Smiths' *production function* shows the relation between gross domestic product (Y) and employment (N). Y rises as N increases and Q_1 (output) rises at an increased rate as N grows. If Y/N is an indication of productivity, then productivity at $A_2 > A_1$ increases because $A_2 B_2 / OA_2 > A_1 B_1 / OA_1$. Growth would be halted when natural resources are exhausted.
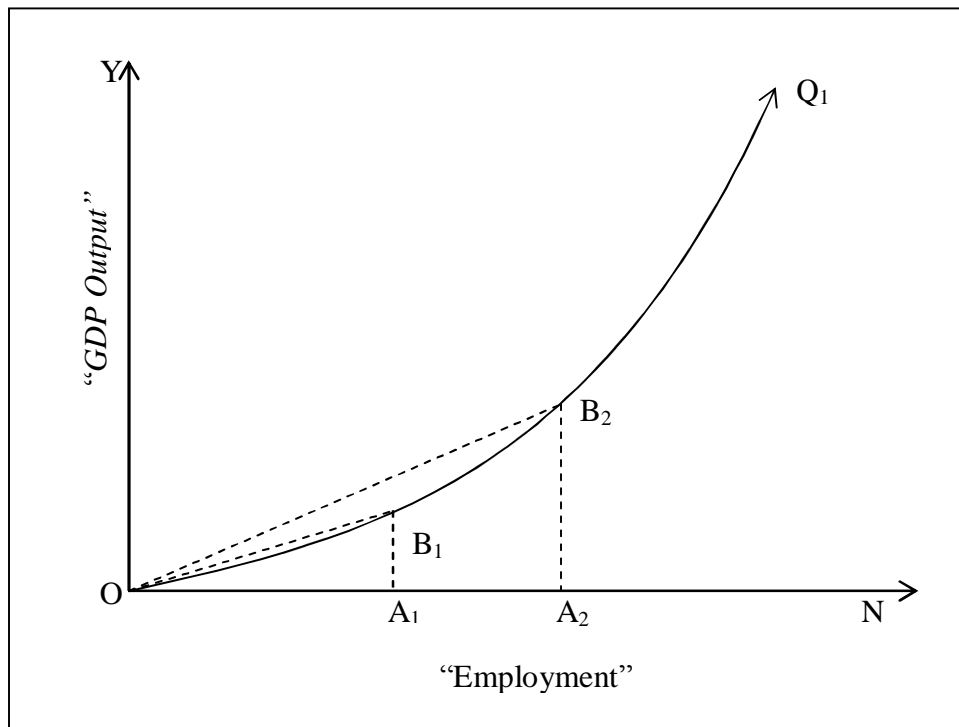

Figure 3.1 Adam Smith production function

An example of the Smith *production function*, where output increases at an increased rate.

N increased on the assumption that there would be a larger market if the population grew. This larger market would enable more production specialization. This in turn would increase productivity as more people are employed.

Ricardo (1772 - 1823) in Van Den Bogaerde and Fourie, (1992) was concerned with the *law of diminishing returns*. Output could be increased, but only at a decreasing rate, until a maximum is reached. The curve Q2 rises with increases in N, but at an increasingly slower rate. Average output decreases, as is shown by the fact that $A_2B_2/OA_2 < A_1B_1/OA_1$. Y reaches a maximum at B_3. A combination of the two production functions is shown in Figure 3.2.
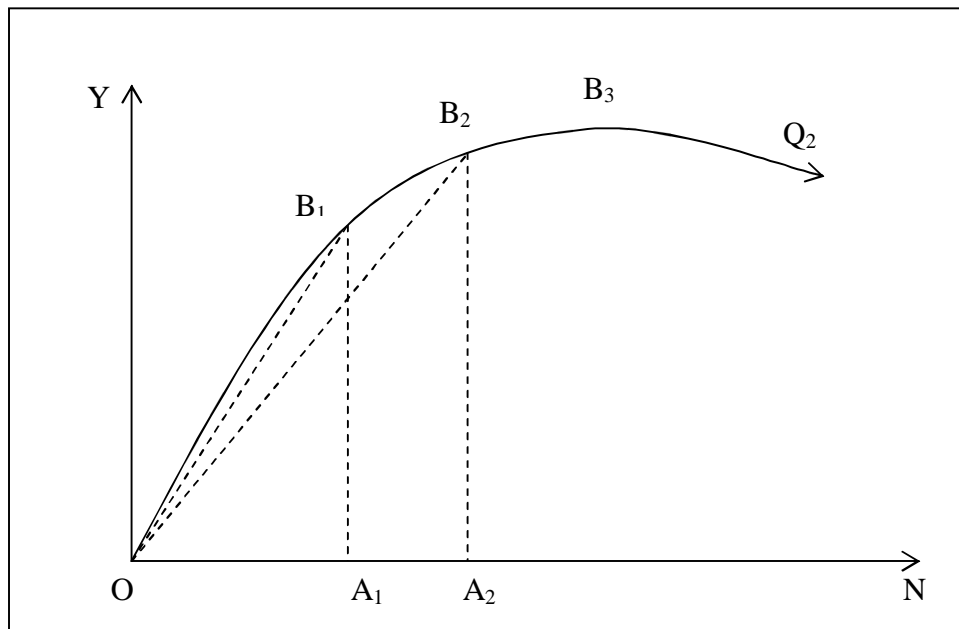

Figure 3.2 Typical production function

According to this production function, output increases at a falling rate and reaches a definite maximum (B_3).

Malthus (1766 - 1835) in Van Den Bogaerde and Fourie, (1992) added his own *law of population* to the *law of diminishing returns*. According to Malthus, the production of food would increase in arithmetic series whereas the increase in population would be a geometric series. The result is that population volume would always catch up and exceed food production potential.
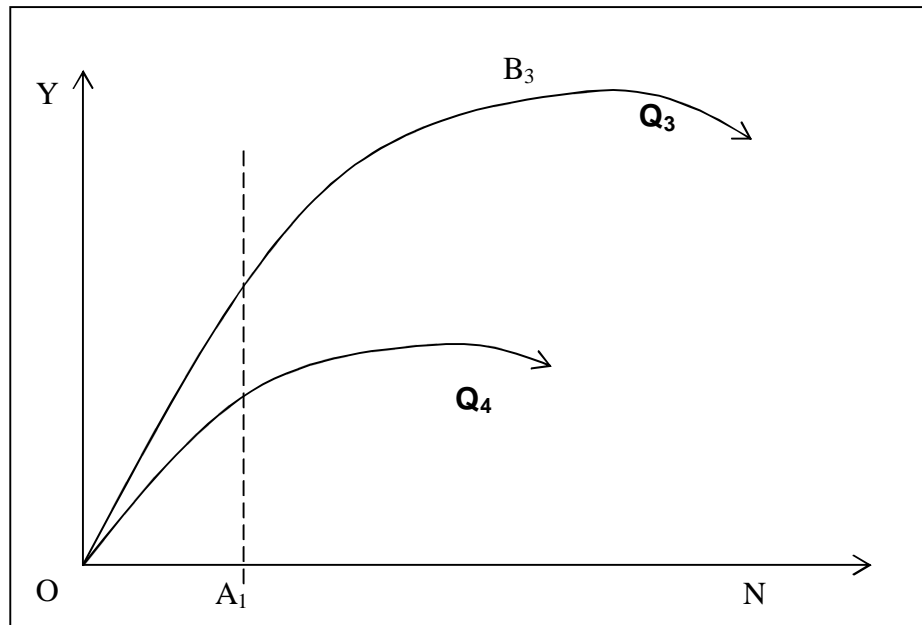

Figure 3.3 Production function

Production function Q_3 combines the characteristics of Q_1 and Q_2 in the previous diagrams. The production function Q_3 shows an increasing slope until B_3, where maximum output is reached. The result of this is that there are strict limits to economic output.

Since Napoleonic times economic development was only interrupted by the Depression and two world wars. Malthus' theories and his conclusions were ignored for many years. Since the seventies, they became much more prominent. The reason he was thought wrong for so many years can be found on both sides

of the Malthus theory. These are the *change in production* and the *change in population*.

The Industrial Revolution led to an enormous increase in the application of innovation to the economic process. The factors in economic growth that we mentioned were all favourably affected:

1.   ***Technology*** made vast strides and resulted in increased production.
2.   ***Increased output*** led to greater savings and thus to sufficient capital growth.
3.   ***Alternative raw materials*** were discovered and technology made natural resources more accessible and available.
4.   ***Greater output*** made more funds available for training labour.
5.   ***Increased population*** meant an increase in labour and a growing market.

The result is that not only the population can grow exponentially, as Maltus had claimed. Comparing Q_3 with Q_4 at A_1 in the above figures indicates that maximal production levels were occurring at much higher levels of employment.

3.6   The change in population

Nevertheless, even this enormous growth in gross domestic product would have had to yield to continued exponential growth on the part of population. Malthus, in effect, grossly underestimated the possibilities of raising gross domestic product.
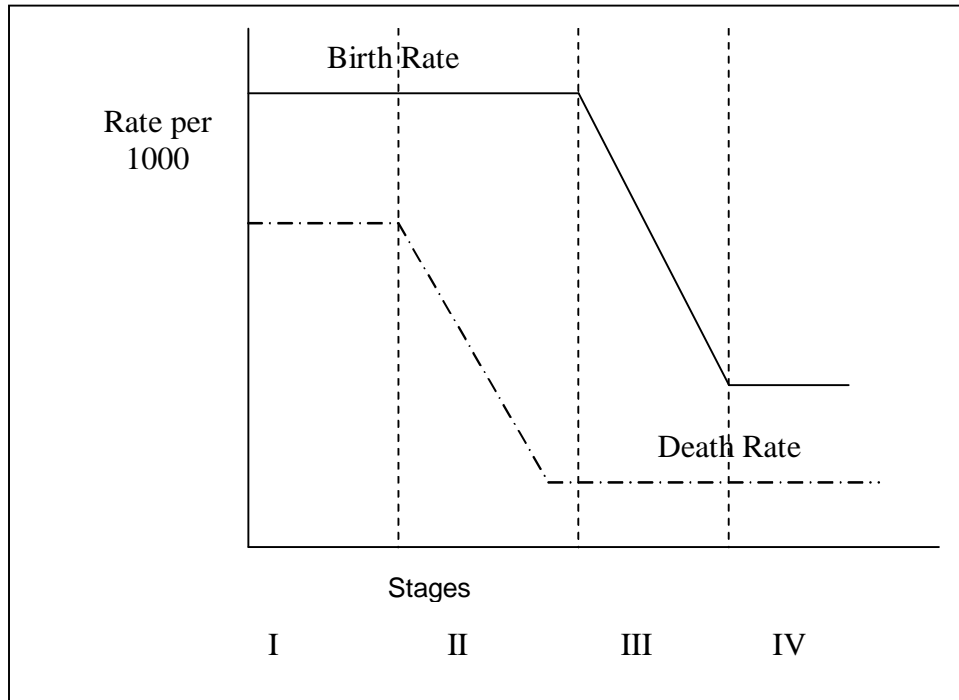
Figure 3.4 The four stages of population growth

For many hundreds and even thousands of years the population changed very slowly. In fact, starvation and misery were the lot of the majority of people and this can be called stage I in the *growth of population*. This stage I, as a long-term phenomenon, was the rule until well into the 17th and 18th centuries.

In the 18th and the beginning of the 19th centuries, when Malthus made his calculations, Europe and especially the American colonies (from 1776 the United States) moved into stage II.

Thereafter a new phenomenon made its appearance. Apparently, with higher average incomes and increasing urbanisation and education, there was a significant drop in the birth rate. In the figure it is shown to be stage III. The rate of increase in the population thus became smaller and smaller until, in stage IV, the population changes became comparable to what they used to be in stage I.

There is no doubt that this drop in the population increase saved the day for established countries.

South Africa has a mix between stage II, III and IV in its population because of its different cultures and developmental history.

3.7   Capital formation, technology and employment

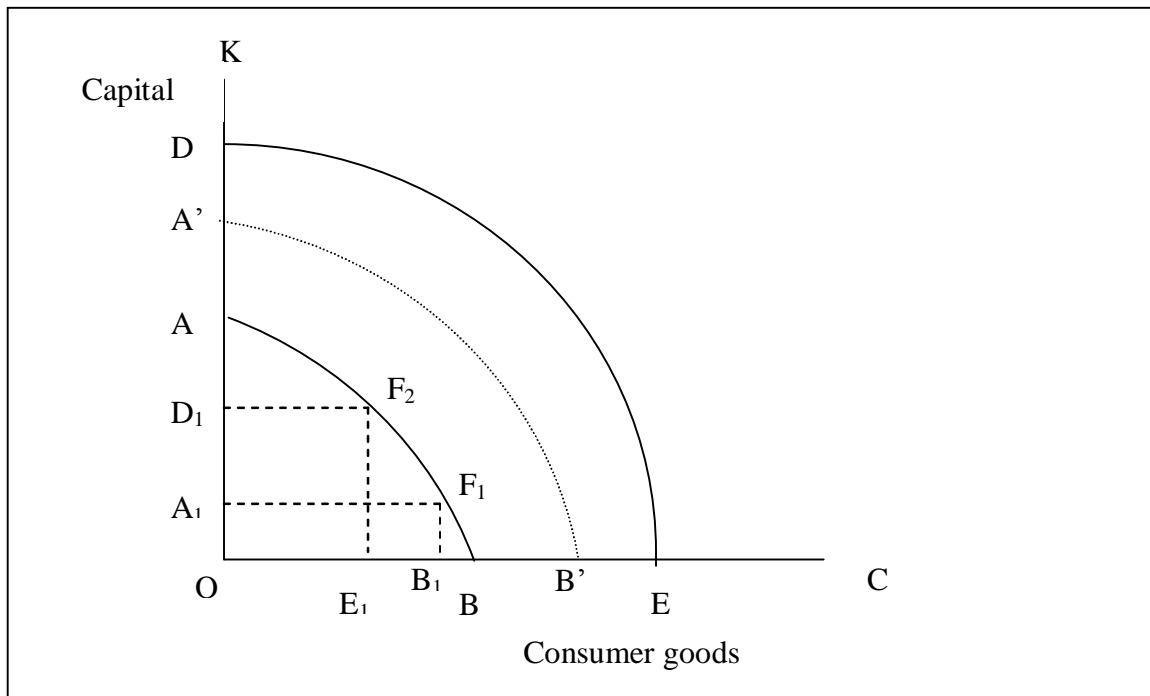**Figure 3.5** Production possibilities curve

The production possibilities curve shows how much of two goods can be produced with the full employment of resources. Economic growth is represented here by the shift of the curve from AB to A'B' or DE. There is a trade-off between growth and consumption, for the more that is invested, or the less that is consumed, the more growth can be achieved.

The *production possibilities* curves, AB and DE, are shown in Figure 3.5. Both curves show combinations of capital goods (K) and consumer goods (C), which can be produced in a certain economy when all factors of production, in other words, all labour and all capital are being used in production. Each curve shows that a number of choices are possible between quantities of C and K goods. The shape of the curves illustrates the working of the *law of diminishing returns*. This says that, the more of one type of goods that are already being produced, the more of the other goods must be sacrificed to produce an extra unit of the first. Economic growth would be illustrated by the shift from AB to DE, showing that greater quantities of C and K can be produced (on DE) than before (on AB). This type of diagram is also used to indicate that, in the process of economic growth, the concept of the trade-off between consumption and investment is again met.

The production possibilities curve is supported by the Cobb-Douglas function. This functional form of production functions is widely used to represent the relationship of an output to inputs. It was proposed by Knut Wicksell, and tested against statistical evidence by Paul Douglas and Charles Cobb (Paul Douglas and Charles Cobb, 1928: 139-165).

For production, the function is $Y = AL^{\alpha}K^{\beta}$

Where:

- Y = output
- L = labour input
- K = capital input
- A, α and β are constants determined by technology.

If $\alpha + \beta = 1$, the production function has constant returns to scale (if L and K are increased by 20%, Y increases by 20%). If $\alpha + \beta < 1$, returns to scale are decreasing, and if $\alpha + \beta > 1$ returns to scale are increasing. Assuming perfect competition, α and β can be shown to be labour and capital's share of output.

3.8   The trade-off between consumption and investment

Suppose that, in Figure 3.5, AB is the production possibilities curve of an economy at a certain time. F_1 and F_2 are two of the many possible combinations of consumption and investment. At F_1 consumption amounts to OB_1 and the production of capital goods is OA_1. This net investment means an increase in the stock of capital goods and this should lead to an increase in production possibilities (economic growth). This is represented by a movement from AB to A'B'.

The choice at F_2 involves the production of OE_1 consumer goods and (in comparison with F_1) the far greater amount of investment goods (OD_1). Since more is invested, the result would be that potential output in the economy concerned rises quicker than at the previous choice F_1. A low level of consumption, that is, a low standard of living, is traded off for a high level of growth. This sacrifice leads to the attainment of a high level of development at a faster rate than before (DE). Nevertheless, it is very difficult to make this type of sacrifice if the level of output (the production frontier) is very much to the left to begin with, that is, in poor countries.

In order to get an indication of how large the increase in investment must be to attain a certain capacity level, we use the concept of the *capital output ratio*. This ratio measures the amount of capital needed per unit of gross domestic product. The *smaller* this ratio is, the *greater* is the amount produced per unit of capital.

3.9   The capital production function

The meaning of all of this is explained in Figure 3.6. In this diagram OQ_1 and OQ_2 are production functions showing the change in gross domestic product, that is, in Y, related to changes in K. These functions are similar to those in Figures 3.2, 3.3 and 3.4 except that they refer to capital rather than labour as the variable factor.

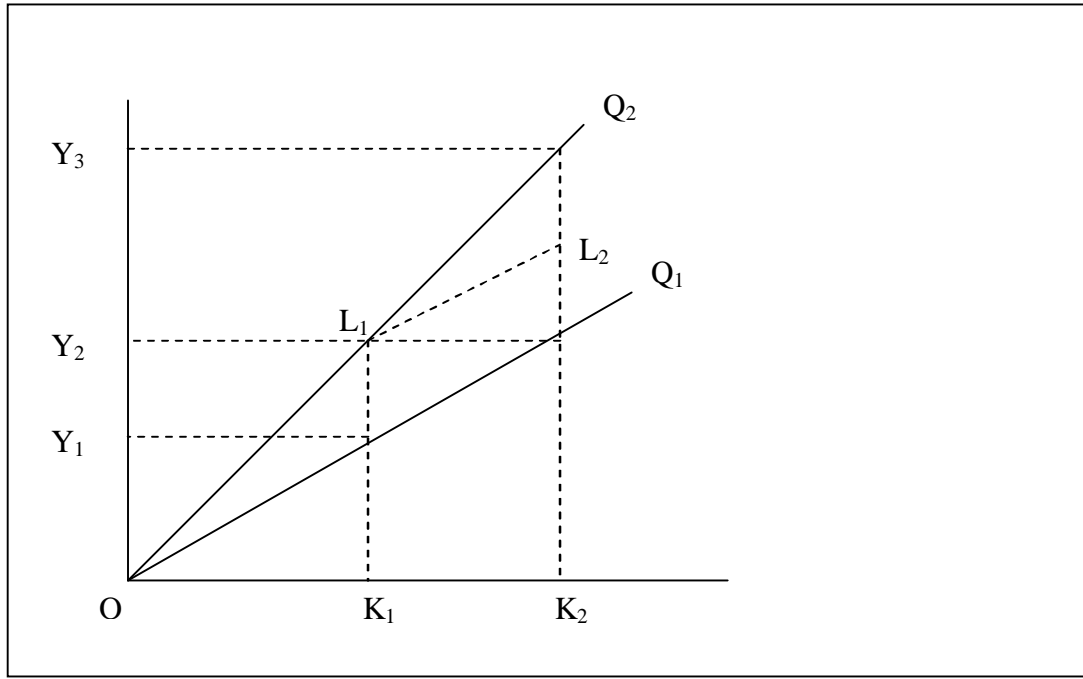Furthermore, the capital output ratio is supposed to be constant, that is, the functions are straight lines.

Figure 3.6 The capital production function

According to this function, economic growth can be achieved either by increasing capital ($\triangle K$) or by lowering the capital output ratio. The latter is called *disembodied growth* (cf. OQ_2).

This is quite acceptable in the short term. If the production function is OQ_1 then potential output is Y_1 when the amount of capital is OK_1. An increase in capital of $\triangle K$, that is, from OK_1 to OK_2, raises potential output by LY_1, which stretches from OY_1 to OY_2. The change in potential output (LY_1) conforms with the change to a higher production possibilities curve. If $\triangle K$ were greater, the change in potential output would naturally be greater as well, and in Figure 3.5 this would have meant that the production frontier would be situated more to the right. If the capital-output ratio were less, then more could be produced with each level of

capital. This is shown by OQ_2, which is steeper than OQ_1. New capital formation of $\triangle K$ now leads to a significantly higher increase in potential output, that is, $\triangle Y_2$ compared with $\triangle Y_1$.

The two aspects of economic growth, from the point of view of capital formation, are well illustrated in Figure 3.6. An increase in potential gross domestic product can be brought about in two ways:

1.   By increasing the amount of capital available, that is, the change from OY_1 to OY_2 via $\triangle K$**.**

2.   By a decrease in the capital-output ratio, that is, an increase in the slope of the production function as shown by OQ_1 and OQ_2 (with unchanged OK_1), a decrease in the capital-output ratio also raises potential gross domestic product from OY_1 to OY_2. This is the result of an improvement in technology or *disembodied growth* and, more specifically, of capital-saving technology. This means that less capital is needed for the same level of output. Note also the rise in Y from Y_1 to Y_3 when investment is combined with improved technology. This is the type of progress that kept the Malthusian ghost at bay on the output side.
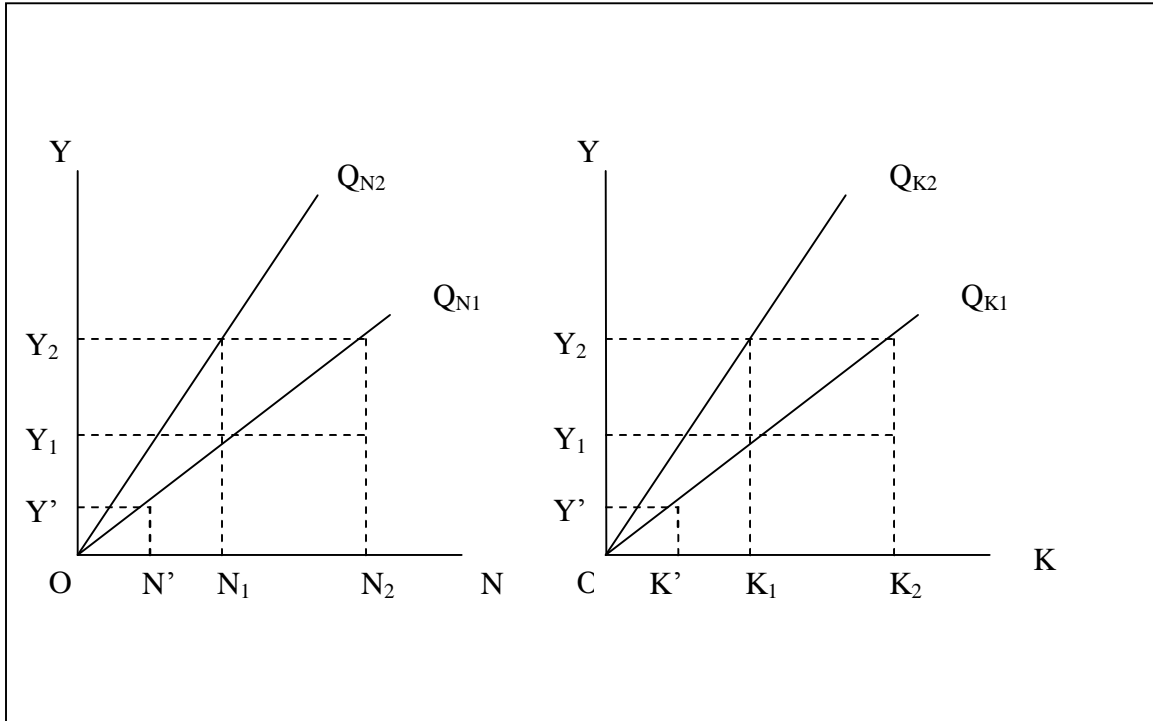
Figure 3.7 Combination of the capital function with the labour production function.

These two diagrams show how capital and labour are combined in the production of gross domestic product. They illustrate the problems of:

1.   *Shortage of labour* in industrialised countries.
2.   *Shortage of capital* in less developed countries.

3.10 The labour production function

Capital must be combined with *labour* for production to take place. The capital production function, as shown in Figure 3.6, shows how much capital is needed for each level of gross domestic product. In the same way, the *labour production function* would indicate how much labour is needed for these values of gross domestic product, or Y, at the same time. How this works is shown in Figure 3.7.

81

As far as the labour production function is concerned, the only differences between figures 3.1, 3.2, and 3.3 are that OQ_{N1} and OQ_{N2} are now straight lines.

Figure 3.7 shows that, in order to produce gross domestic product at the level Y', one needs N' units of labour and simultaneously K' of capital if OQ_{N1} is the *labour* and the OQ_{k1} the *capital* production function. In just the same way one needs N_1 of labour and K_1 of capital to produce Y_1, and again N_2 and K_2 to produce Y_2. If a country's available labour amounts to N_1 and available capital is K_1, then there is full employment of both labour and capital if (macro) demand amounts to Y_1[18].

Economic growth takes place in industrialised or fully developed (and prosperous) nations. This means, on the one hand, that it is relatively easy to save and invest and, on the other, that the population, and therefore the size of the labour force, are relatively stable. We assume that we start with N_1 labour and K_1 capital. In the course of time, N_1 will remain approximately at this level but capital will increase, say to K_2. However, on its own, this does no good. According to OQ_{K1}, the potential level of gross domestic product will rise from Y_1 to Y_2, but this would necessitate more labour, to be precise N_2, and this is not available. In developed countries the growth process therefore requires an increase in labour productivity or in the installation of labour-saving devices. This can be done because the amount of capital per head (K_2/N_1) has increased from K_1/N_1. The result would be illustrated by OQ_{N2}, showing that with N_1 labour and K_2 capital, Y_2 can now be produced. The production process is more capital-intensive.

The problem in *less developed countries* is almost the exact opposite. Here the labour force will tend to increase, such as from N_1 to N_3. Figure 3.7 shows that this cannot lead to an increase in output because of the limitation imposed by capital, which is still at K_1. There seem to be two solutions to this problem. The

---

[18] Okuns' rule, as explained by Doornbusch and Fischer, (1992:327) states that for every 1% decrease in unemployment the Gross Domestic Product will increase by 2.5%.

first, and most obvious, is to expand the amount of capital available from K_1 to K_2, which is associated with a level of output Y_2. This is supported by Mohr and Fourie (2002: 694). According to Naude and Krugell (2003: 64), Africa's crises is due to low investments, particularly in manufacturing. The difficulty may be that *per capita* Y is low so that saving is difficult and may be too slow to keep pace with increases in population. A reason for the low rate of investment is that the low demand for African-manufactured goods is due to a small domestic market and a lack of exports (Naude and Krugell 2003: 64). Soderbom and Teal (2001 (1): 20) say that Africa's poor performance is due to its inability to export its products. The model will test if companies can generate capital contrary to the above statements. Therefore, if a small business can generate enough capital to sustain its own growth, it will increase the amount of capital that is available, and needed, in Figure 3.7. Future studies need to address the issue of growth that is faster than population increase. The South African population growth, based on 2002 estimates, is 0.02%. This is illustrated in Table 3.1.

The World Bank's assessment of *development*, done as recently as 2000, struggled to measure *development* and used gross domestic product *growth* and *human and environmental progress* (the International Bank for Reconstruction and Development/the World Bank 2000: 3).

Table 3.1 Statistics relevant to the South African population based on *The World Fact Book, 2002*

Population:	43,647,658
	Note: South Africa took a census in October 1996 that showed a population of 40,583,611 (after an official adjustment for a 6.8% under-enumeration based on a post-enumeration survey); estimates for this country explicitly take into account the effects of excess mortality due to the Auto Immune Deficiency Syndrome; this can result in lower life expectancy, higher infant mortality and death rates, lower

	population and growth rates, and changes in the distribution of population by age and sex than would otherwise be expected (July 2002 est.).
Age structure:	*0-14 years:* 31.6% (male 6,943,761; female 6,849,745) *15-64 years:* 63.4% (male 13,377,011; female 14,300,850) *65 years and over:* 5% (male 816,222; female 1,360,069) (2002 est.)
Population growth rate:	0.02% (2002 est.)
Birth rate:	20.63 births/1,000 population (2002 est.)
Death rate:	18.86 deaths/1,000 population (2002 est.)
Net migration rate:	-1.56 migrant(s)/1,000 population (2002 est.)
Sex ratio:	*at birth:* 1.02 male(s)/female *under 15 years:* 1.01 male(s)/female *15-64 years:* 0.94 male(s)/female *65 years and over:* 0.6 male(s)/female *total population:* 0.94 male(s)/female (2002 est.)
Infant mortality rate:	61.78 deaths/1,000 live births (2002 est.)
Life expectancy at birth:	*total population:* 45.43 years *female:* 45.68 years (2002 est.) *male:* 45.19 years
Total fertility rate:	2.38 children born/woman (2002 est.)
HIV/AIDS - adult prevalence rate:	19.94% (2000 est.)
HIV/AIDS - people living with HIV/AIDS:	5.2 million (2000 est.)
HIV/AIDS - deaths:	300,000 (2000 est.)

The second solution is to change technology in the direction indicated by OQ_{K2}. This change would mean that relatively less capital is used per unit produced (K_1/Y_2 instead of K_1/Y_1). In other words, the process is less capital-intensive and therefore relatively more labour-intensive. The trouble here may be that the development is completely opposed to that taking place in countries where all the inventions and innovations come from the highly-industrialised countries.

Soderbom and Teal (2001 (2): 14) showed that large businesses are more labour-productive, capital-intensive and have more skilled workers, thereby making them more competitive.

3.11 Economic measurement model parameters

Based on previous literature analyses of economic development, the following parameters except gross domestic product must be measured in the proposed model to determine the impact of small and medium-sized businesses in Gauteng.

3.11.1 Job creation

The first aspect to be analysed is the increase in full potential of employment. It is difficult to determine whether all the jobs created in a small business are new ones and are not merely shifts in employment. Other aspects are the secondary effects of additional jobs created as spin-offs.

For this study the employment growth and initiation of jobs are analysed in isolation without considering the potential impact on other industries, both positive and negative. The rapid population growth and environmental deterioration that have characterised African countries can also be related to the failure to stimulate economic development (Mengisteab, 1996: 9, and Thirlwall, 1999: 203 - 205).

3.11.2   Gross domestic product

Growth in gross domestic product will not be analysed in this study, since it does not necessarily reflect economic development if it is not supported by high-quality growth strategies (the International Bank for Reconstruction and Development/the World Bank 2000: 2). The direct impact of a business's operations on gross domestic product can be measured by calculating the business's total turnover. This is not as important in the context of economic development as it is in the measure of economic growth.

3.11.3   Capital generation

Based on the work of Fourie, and Baumol and Blinder in sub-section 3.4 to 3.10 it is evident that for developing nations to stimulate their own economic growth they have to increase capital or change technology. The later also requires capital. These two solutions are illustrated in Figure 3.7. It is therefore important to measure parameters on a company level that generate capital. The most important parameters that will be measured are the parameters necessary to determine if a business can generate additional capital for growth[19] and create additional capital within the environment that it operates for growth. We do not analyse the impact of disembodied growth through technology or the increase in productivity in the study. The four parameters measured form part of net working capital (current assets (point 4 below), less current liabilities (point 1 to 3 below)) (Westerfield, 1988: 3). Assets (current assets and fixed assets) refer to items impacting directly on the company's development potential, where as tax, owners and employees income refer to capital generated influencing the external environment. Current liabilities such as insurance, rental, telephone cost etc. will not be considered for the study although it also plays a role in capital generation. From a financial point of view, it is important for, a firm to generate more cash or increase current assets and fixed assets. To enable a firm to increase assets

---

[19] See Figure 3.7

requires an increase in liabilities or productivity (Westerfield, 1988: 5). The parameters that will be used to determine if a business add to capital growth are:

1. ***Contribution to tax***. If a business generates taxes it contributes to government's ability to stimulate the economy and therefore growth.

2. ***Contribution to owner's or shareholder's incomes***. An increase in their incomes can either be reinvested in the business for growth or it can be used to increase the spending or buying power of the population.

3. ***Contribution to employee's income*** (*total cost to business including training*). An increase in the income of employees, especially that of low-income employees, will decrease their reliance on government for assistance on pensions and medical expenses and will increase their spending power.

4. ***Contribution to business growth in assets and "capital"***. An increase in retained earnings will lower the business's risk to market changes, increase their capability to obtain investment, increase their capacity to expand, improve their products, and invest in technology and so on.

The data were obtained from different manufacturing businesses' balance sheets and income statements as well as from questionnaires that required input from the businesses' financial records. This will be discussed in more detail in Chapter 5, under *Research Methodology*.

The model used for determining growth via capital generation is:

$$C_{y1} < C_n$$

$$C_{y1} = t_{y1} + o_{y1} + e_{y1} + a_{y1}$$

$$C_n < ((ti_{y2} + oi_{y2} + ei_{y2} + ai_{y2}) + (ti_{yn} + oi_{yn} + ei_{yn} + ai_{yn}))/n$$

- C = Capital contribution from tax, owners income ,employees income and assets
- t = tax contribution
- o = owners income contribution

- e = employees income contribution
- a = asset contribution
- i = deflated by inflation factor
- *y = year*
- *n= number of years*

Due to the nature of the data (ti_{yn}+ai_{yn}) *will be separated from* (oi_{yn}+ei_{yn}). This is necessary because owners' income and employees' income are normalised to employee level to ignore the effect of employment growth on capital generation per employee. The data will therefore not include contribution for the group, but an average per individual in the group. Such data cannot be added to asset growth, since it is not representative of the total company employees and owners' income growth.

As explained, the four parameters measured form part of net working capital (Westerfield, 1988: 3) and a growth in the networking capital will indicate a contribution to capital either directly within the company indicated by asset growth or impacting on the environment indicated in a growth in tax contribution, owners and employees income.

Owners income and employees income is also separated since it measure additional growth in capital available for employees and owners, whereas capital growth in assets and taxes measures company growth or capital that can be invested in national or regional assets to support growth.

3.12 Conclusion

Economic development is an important tool to measure the contribution of small business in developing countries. Most small business studies utilise the macro-economic parameters of *job creation* and *gross domestic product contribution* as

measurements. This is also supported by findings in Chapter 4. Very few even consider the effect of *capital generation* as a measurement tool.

It is concluded that a small business will *contribute* to the economy although it might not add to its *development*:

1.   It employs people and is able to increase the business's employment.
2.   It contributes to gross domestic product.
3.   It contributes to capital formation and not capital generation.

The first two parameters are used as measures by most first-world countries to determine economic growth. The real contribution of small businesses in developing counties to capital generation must be measured to understand its contribution to economic development.

The effectiveness of this tool must be questioned in South Africa if these businesses do not have the capacity to grow and contribute to economic development. As indicated in economic theory, these businesses must have the capability to develop in order to increase their contribution to gross domestic product and employment. The only way that businesses can do this is by generating capital to reinvest for growth or to invest in technology that will give them economic advantage, increase the skill of the labour force to increase quality and output, and increase the spending power of employees. It is the concept of *increasing returns* or, more precisely, *non-diminishing returns* to capital that lies at the heart of the new endogenous growth theory (Thirlwall, 1999: 83).

This analysis cannot be done in isolation. To analyse small businesses one must have an understanding of employment, products, markets, pricing, cost, sales, competition and finance. Small businesses constitute the bulk of businesses in all economies in the world. They also make a major contribution to private sector

output and employment, and that appears to be increasing over time. (Storey, 1996: 18).

It is important to conclude this chapter by restating that, though job creation takes a burden away from government to support jobless people and therefore provides more capital that can be spent to develop a country, it does not necessarily improve the potential of these people to improve themselves. It may merely help them to survive. It is also important to highlight that an increase in gross domestic product does not necessarily mean an increase in the capital available within a business to pay taxes or to increase assets for growth, though it will most probably improve a country's trade balance.

Chapter 4: Analysis of the Small Business Environment

4.1   Introduction

This chapter will focus on providing perspectives on the different parameters in the model to support the research findings and to provide necessary background information to support the conclusions and recommendations. It provides information from the literature which researches the parameters necessary to evaluate the model, developed in Chapter 3, and the conclusions, based on the data analysed according to the model, given in Chapter 6.

Although most of the literature refers to either small, medium and micro (informal) enterprises or small and medium enterprises, the research will focus only on small enterprises or small businesses as defined in Chapter 2.

The chapter starts by explaining the importance of economic *development* compared to economic *growth* and the impact of economic development through capital generation. This is followed by reporting trends in the small business manufacturing industry with specific focus on the development of small businesses, government support, the role of small business, and risk associated with small businesses. It will also report on industry applications and the logic applied to develop the model. An understanding of the small business environment is critical in interpreting the results of the proposed model which are discussed in the conclusion to Chapter 7.

This is followed by a section on the small business environment and a general economic overview to place the data in perspective.

This chapter also explains certain important economic indicators such as job creation, the gross domestic product and consumer price index to understand the

91

parameters that were used in developing the model and to enable the researcher to draw parallels with other measuring tools.

The chapter continues by reflecting on both positive and negative factors influencing the success of small business. Awareness of these factors enables the reader to understand environmental factors that influence the various parameters of capital generation used in the model.

4.2   The importance of economic development compared to economic growth

This section emphases the role of the proposed model in measuring economic *development* by referring to practical problems regarding the measurement of economic growth as a tool to analyse poverty reduction. Economic *growth* has been positively associated with poverty reduction. Examples from the literature are the early assessments of economic growth done by the World Bank to project poverty reduction due to economic growth. The projected growth rate for the developing world was estimated at 3.2% *per capita* for a specific year. This would have reduced the number of poor people by 300 million at a 4% annual rate of decline (the International Bank for Reconstruction and Development/the World Bank 2000: xxiv).

Economic *growth* can be defined as the process of increasing the gross domestic product in developed countries. In less developed countries the term economic *development* is used. It is a process that leads to an increase in real potential[20] output per head (Mohr and Fourie, 2002: 684).

The actual *per capita* growth, excluding Central Asia and Eastern Europe, was closer to 3.5%, with the number of poor people unchanged, and the incidence of

---

[20] Potential output is the maximum level of GNP that the economy would produce if its labour and other resources were fully employed (Baumol and Blinder, 1988: 99)

poverty down by 2% *per annum* (the International Bank for Reconstruction and Development/the World Bank 2000: xxiii). This shows that economic growth does not deliver the envisaged results and the reasons for this must be understood. The economic theory used to develop the model used in this research is supported by the World Bank as a potentially better method of evaluating the success of poverty reduction and development (the International Bank for Reconstruction and Development/the World Bank 2000: xxiv). The findings of the World Bank on economic growth are also supported by Rutashobya and Olomi, (1999: 53).

4.2.1 The impact of capital generation on economic development

The most important parameters that are measured in the model[21] are those that are necessary to determine if a business can generate additional capital for development. This study, and the model, do not analyse the impact of disembodied development through technology or the increase in productivity. The parameters that are used to determine if a business adds to capital growth are discussed in sub-sections 4.2.1.1 to 4.2.1.3.

4.2.1.1   Tax contribution

If a business generates taxes it contributes to a government's ability to stimulate the economy, to reduce poverty, to implement social programmes, and so on. This stimulates growth, directly or indirectly. It also helps government to provide educational and health support to a country. Access to education and health services contributes to economic development (the International Bank for Reconstruction and Development/the World Bank 2000: 81). Tax can be used as a financing mechanism from domestic resources. This can help, firstly, to maintain the economy at full employment so that the savings capacity of the

---

[21] See Figure 3.7

country is not impaired. Secondly, it raises the marginal propensity to save (involuntary savings) without discouraging work effort (Thirlwall, 1999: 347).

4.2.1.2   Owners and Employees income

An increase in the income of owners or shareholders can either be reinvested in the business for growth or it can increase the spending or buying power of the owners, or shareholders. An increase in the income of employees will decrease their reliance on government for assistance in pensions and medical assistance and will increase their spending power. It will also provide them with opportunities to increase their own and their families' human capital potential. Investing in people will help to protect the environment (the International Bank for Reconstruction and Development/the World Bank 2000: 50). Increased income will stimulate spending and will improve general living standards and conditions. An illustration of this is Brazil, where the infant mortality rate is 12 per 1000 in the poorest areas and two per 1000 in the richest (the International Bank for Reconstruction and Development/the World Bank 2000: 61). Higher income also leads to better trained people, who increase the income of the small business (Jones, 2004: 97).

There are other factors which are not always taken into account. These are also based on individual income and influence economic development. These factors are:

1.   Nutrition and health.
2.   Population growth.
3.   Improvement in social structure.

Based on World Bank data (Thrilwall, 1999: 60), a better distribution in the poverty-weighted growth rate showed an increase in individual income above

Gross National Product. This means that countries, where the people have more equal individual incomes, show better economic growth.

4.2.1.3 Asset growth

Different types of assets can be distinguished. Assets in this study is defined as current assets and fixed assets (Westerfield, 1988: 3).

The first is capital (current assets) that needs to be invested to develop the business or to be used as security for market fluctuations. Investment in technology and equipment assets will provide businesses with the necessary competitive edge and it is therefore important that businesses invest in technology and equipment (the International Bank for Reconstruction and Development/the World Bank 2000: 41, and Thirlwall, 1999: 97). The accumulation of technology assets is crucial for the ability of small and medium-sized manufacturing businesses to make significant contributions to local industrial development (Pietrobelli and Sverrisson, 2004: 50).

Human resource assets development, or human and natural capital development, is an additional asset that needs to be invested in. It has been found that physical capital accumulation alone cannot sustain growth, and that investment in human capital is also needed (the International Bank for Reconstruction and Development/the World Bank 2000: 42).

The importance of environmental management as a natural asset in Africa is highlighted by the effect of overpopulation on the environment, the negative effect of environmental damage on the rural population, and the impact on income derived from agricultural activity (Mengisteab, 1996: 9, and Thirlwall, 1999: 268).

4.3   Trends in the small business manufacturing industry

To interpret the findings in Chapter 7 it is important to understand trends in the small business industry and the factors that influence these trends. It is not only economic factors, such as macro-economic growth and a change in world markets, which stimulate small business development (Storey, 1996: 121, and Pietrobelli and Sverrisson, 2004: 162).

4.3.1 Number of small businesses

Historic and recent data are used to illustrate changes.

European, and specifically United Kingdom, data show that there was a decline in the proportion of small manufacturing businesses, to total manufacturing businesses, from 38.4% in the 1920s to 19% in the 1960s. The proportion of small manufacturing businesses to total manufacturing businesses increased again to 31.8% in 1990. A similar trend was seen in the number of self-employed individuals in the United Kingdom. Similar trends were identified in other European countries during later studies (Storey 1996: 24).

The increase in self-employment in the United Kingdom in the 1980s can be attributed to increasing unemployment, lowering of the unemployment benefit by the government, and government schemes such as the Enterprise Allowance (Storey 1996: 25).

The latest world trend is that, with each passing year, the economies of the world are more closely linked. Capital moves quickly and seeks the highest return, the cheapest operating cost and the fewest restrictions. Similarly, only those businesses that can offer higher value-added products and services to an expanding and international client base, and can deliver them quickly, will succeed.

This trend has diminished the importance of size and has provided an advantage to smaller entrepreneurial businesses (Jetro, 1999: 3). Their flexible structure allows them to develop more quickly, to adapt to new technologies, and to create and enter new market niches and business models. Larger and more established businesses are generally less likely to reward innovation or to experiment with risky, new ventures than are smaller, entrepreneurially-oriented businesses. They are also less likely to promote new ideas, technologies and business methods that may lead to economic growth in the 21st century (Jetro, 1999: 3). Hallberg (2000: 2), has stated that small businesses play an extremely important role in developing countries, such as Ecuador and Bangladesh. Both of these have 99% of businesses that employ fewer than 100 employees.

In South Africa, a number of factors have all contributed to the growing importance of the small business sector as a solution to unemployment. (The Republic of South Africa. Gauteng Budget Vote 3, 2004: 3). These are:

1.   Rationalisation in the corporate world.
2.   The arrival of new entrants to the labour market.
3.   Policies that favour capital-intensive methods of production.
4.   Competition from cheap imports.
5.   Low economic growth.
6.   The lack of a big business culture of training and staff development.

Similar trends can be seen when comparing the United Kingdom, Europe and South Africa, showing that small business is important in eradicating unemployment during specific stages in the development cycle of the economy. The incorporation of South Africa in the international market will certainly support small business development as has been shown by Jetro's observations.

The historical data seems to show that the numbers of small businesses in the industry shift over time, depending on the stability of the economy. It seems that more stable economic phases benefit larger businesses while small businesses are supported by unstable economic conditions when conventional ways of doing things are challenged. Although they might not be able to grow at the same rate as large businesses, small businesses have the capability to finance and secure the necessary expertise to compete in the export market (Rankin, 2002: 11). Small businesses do have the capability to identify new niche areas for growth, but often lack the skill base to do so and do not have efficient investment power to realise these opportunities. The question that needs to be answered is whether small businesses would like to grow. According to Rothwell (1980: 21), some businesses do not want to grow. Intervention by government will also try to prevent large businesses from failure due to the massive impact these failures have on regions. The uneconomic venture of Mosgas in Mosselbaai is an example of government intervention.

The weaknesses in both big and small businesses can be neutralized by ensuring that small business works in close relationships with big business. These businesses must be independent enough to take risk without jeopardizing the main business. In Japan, the percentage contribution of small, medium-sized and micro enterprises has stayed constant, mainly because of the economic system whereby large corporations support small businesses in a symbiotic relationship.

It can be concluded that changes in the environment will trigger the development of small businesses as alternative sources of income. These can be opportunity (entrepreneurial) or necessity (self–employment) driven. The conditions stimulating the growth of small business in South Africa are positive and reflect on historical and current conditions. There are many other factors that impact on the growth of small businesses. These are motivation, government interventions, the business environment, and so on.

4.3.2 Government's commitment and policy

According to the government White Paper on Small Business Development, the Department of Trade and Industry has committed itself to helping small businesses together with non-governmental organisations. It will co-ordinate support to small business through training, the mobilization of funds for small business incubators and hives and through strengthening small businesses as contenders in public sector contracts (Republic of South Africa Department of Trade and Industry, 1994: 2).

This was supported in the Gauteng 2004/05 The Republic of South Africa. Gauteng Budget Vote 3 (2004: 3) focusing on Black Economic Empowerment, small, medium-sized and micro enterprise development and skills training. National agencies, the Gauteng Manufacturing Advisory Centre and Blue Catalyst will support this commitment to small and medium-sized enterprises. The Republic of South Africa. Gauteng Budget Vote 3 (2004/5: 4) also identifies small and medium-sized enterprises as key to economic growth.

The National Federal Chamber of Commerce and Industries called on the Government to exempt small businesses from the implementation of the Basic Conditions of Employment Bill (The Star, 1997). It was in the interest of the economy and its growth that these businesses are strongly supported and exempted from the Bill that would have placed additional stresses on survivalist businesses (The Star, 1997). Support of small, medium and micro enterprises is a central feature of the government's strategy to promote economic development in South Africa, particularly in view of the decline in employment in the formal sector of the economy in 1994 (Streek, 2001: 1). The statement made by Streek must be read in conjunction with the reasons for small business development and growth (sub-section 4.3.1).

Aldonas, in his paper on *Small Business Manufacturing in a Global Market*, highlighted the awareness of the United States of America of the vital role that small and medium-sized enterprises play in the world economy and that they are committed to working for themselves. They are engines of growth and innovation, foster competition and promote the spirit of entrepreneurship. The 23 million small businesses in the United States create the majority of new private-sector jobs and generate over half of the nation's gross domestic product. Small businesses hold an increasingly large stake in overseas markets, thanks to trade (Aldonas, 2003: 1).

The Administration of the United States of America has been actively and aggressively pursuing trade issues on behalf of small business in the World Trade Organisation, and assists these small businesses to sell their products through the negotiation of free trade agreements. On the import side, the Department of Commerce is also actively and aggressively pursuing strong enforcement of trade laws, and will do everything it can to ensure that domestic industries obtain effective relief from unfair trade practices. No matter the size of the business, the Department offers a wide variety of technical assistance to United States of America producers that wish to pursue actions under the country's unfair trade laws. These statements support the research done in defining small business: size is used to protect markets and avoid competition in local markets[22]. It is important to note that the United States of America has the largest and most competitive manufacturing industry in the world and that such an active small business environment supports it (Aldonas, 2003: 2). Trade depends on its ability to grow exports and to substitute imports in order to increase the trade balance and local capital generation (Thirlwall, 1999: 462).

According to Rothwell and Zegveld, (1983: 19) and Aldonas (2003: 1), small businesses are neither supported nor not supported traditionally because of their efficiency and effectiveness to direct economic growth and development, but

---

[22] Chapter 2, 2.6

because of other cultural reasons. In the United States of America small business supports the concept of a free market economy, in the United Kingdom small business ensures that a large portion of the economy stays active and in Japan it enables large corporations to outsource non-core activities at cheaper rates. It is believed in Europe that small business contributes to innovation and job creation, while in South Africa it distributes wealth and creates jobs.

It is clear that governments support small businesses as sources of job creation and as ways of protecting local markets and stimulating innovation. They add value to small business development that is not directly measured by the model. The South African government makes use of many direct interventions compared to the United States of America, which prefers indirect trade measures. The direct methods will incur large amounts of direct cost to finance the interventions. According to an internet based article from the Financial Mail (Paton, 2004: 1) government is keen to look into *regulatory impact analysis*, a constant assessment of the impact of laws and regulations on small business. This is a change of focus that is more in line with international practice. Compliance costs affect small business disproportionately. The article says that, in businesses with sales of less than R1m, compliance costs 8.3% of turnover (Paton, 2004: 1).

4.3.3 Role of small business

The most important influences that small business has on the economy are related to technological changes, demography, unemployment and the role of government policies (Storey 1996: 113). The Bolton Committee research of the 1960s called the small business sector the seedbed for the industry of the future. This is supported by Servon (1999: 53), who described economic development as a means to improve the economic health of a region.

The main problem in economic reporting is illustrated in the data released by the Government which follows. In a discussion paper on the application of the

101

Government's Growth, Employment and Redistribution strategy in the Western Cape, the province's Economic Affairs Ministry says that small business has been identified as an engine of employment and income equalization. It also states that it has been estimated that there are 800,000 small, medium-sized and micro-enterprises in addition to the two to three million people carrying out different self-employment *survival activities*, such as hawking or subsistence farming. Small and micro businesses contributed between 20% and 25% of the Western Cape's gross regional product, big business between 40% and 50% and micro and informal businesses between 5% and 10% (Cape Argus, 1997 (2): 1). Based on the data, small and medium-sized enterprises clearly play an important role in contributing to gross domestic product and in providing jobs.

These data are common in government reports. The problem is that the data do not take into account the failure rate of the businesses or the ability of the businesses to create wealth. In short, the impact of small business operations cannot be measured although the gross domestic product and job creation data seem impressive.

The question to be answered by the proposed model is whether business contributes to economic *development* and not only to *growth*. In the example given it does not necessarily mean that the businesses are profitable, that they contribute to improving the living standards of their owners or employees, or that they contribute more to the economy than do larger businesses. This is only one of numerous examples and, as is indicated in sub-section 4.2, *growth* objectives do not necessarily support *development* objectives.

4.3.4 Small business impact on employment

Growth in employment is not linked to the profitability of a business (Storey, 1996: 113). Only understanding *current trends* in small business will help to understand *drivers* that support change in small business employment creation:

Historically the share of small firms in the total economic activity has declined drastically in the twentieth century in developed countries. Whilst it remains true that of all independent enterprises the vast majority are small (94 per cent of enterprises in UK manufacturing employ 200 persons or less) their share in employment and output has fallen. In 1935 these small manufacturing firms accounted for 38 per cent of employment, by 1968 their share had fallen to 19 per cent and the number of such firms had fallen even faster, from 136,000 to 58,000 over the period 1935 to 1968. The share of small firms in employment has also declined in most other sectors of the economy and particularly rapidly in retailing. The decline in the economic weight of small firms has been reflected by a major shift in the proportion of the working population that earns its income from profits as distinct from wages or salaries. In 1911, according to the censuses of population, 25.5 per cent of the labour force consisted of employers and the self-employed. By the early 1970s this proportion had fallen to around 7.5 per cent (Bannock 1981: 2). Although the source used is very old the data would not have changed.

The decline in the number of small business in developed countries can also be linked to the growing number of giant companies and the role that the state started to play as a contributor to the GDP.

The current thinking about small business development is that there is positive growth due to competitive markets and needs for flexibility and innovation (Jetro, 1999: 3). The United States of America is a leader in this booming small and medium-sized enterprise market. The instability of small businesses in developed and developing countries reduces the effect of job creation. Hallberg (2000: 4)

103

states that the *net* job creation (gross job *creation* minus gross job *destruction*) of small manufacturing businesses did not create more jobs.

These historically dramatic changes are not confined to Britain but seem to be common to all advanced countries. In the 1960s it was government policy to stimulate mergers. The main aim of this was to be more competitive.

In a recent study in Australia, McMahon (2001b: 289) measured the employment growth of small businesses over 15 years in 871 businesses. The results of his study are given in table 4.1.

Table 4.1 The results of a study on small business employment growth in the manufacturing industry in Australia
Source: McMahon (2001b: 289)

	Average number of people employed		
	16.9	**64.7**	**123.6**
Employment growth rate	-0.2%	2.4%	6.6%
Percentage of population	70%	25%	5%

McMahon (2001b) also established that the businesses with low employee growth were privately owned and managed with the main driver owners' incomes. They showed a 2.4% growth in employees and a 10% growth in sales. The businesses with a high employee growth were entrepreneurial in nature and showed a 6.6% growth in employees and a 10% growth in sales.

These trends in employment may help to analyse the state of small business development in the current economic cycle. A growing number of people employed in big business, with a reduction in the number of people employed in

104

smaller businesses, reflect an upswing in the economic cycle. Growth in small businesses is rare and most small businesses level off after employing fewer than half a dozen people (Rutashobya and Olomi, 1999: 173).

The model must be analysed taking into account the different trends supporting development in small business. An understanding of factors influencing employment and growth will enable better model interpretation.

4.4   Environmental data

4.4.1 Impact of the Auto Immune Deficiency Syndrome

The statistics on the Auto Immune Deficiency Syndrome in this chapter were retrieved from an internet publication by the Automotive Industry Development Centre and the *AIDS Facts in Brief* internet site of the Department of Health 2002). According to these two publications the National Human Immune Deficiency Virus infection rate at antenatal clinics was 24.5% in 2002 and approximately 4.2 million South Africans were already infected. By 2010 the Auto Immune Deficiency Syndrome will have killed 5.6 million South Africans and by 2010 six million people, and 18% of the workforce, will be infected. This will reduce life expectancy by approximately 14 years. The Auto Immune Deficiency Syndrome will double the child mortality rate by 2010. By 2010, there will be 700000 Auto Immune Deficiency Syndrome orphans in South Africa. Anecdotal evidence suggests that patients with related illnesses occupy around half of the acute paediatric and adult medical beds in South Africa. There are about 1500 new infections every day. Given our fertility rate, the Auto Immune Deficiency Syndrome will not overcome the momentum of population growth. However, population growth rates are projected to drop by 71%, as a result of the Auto Immune Deficiency Syndrome, by 2010.

This will impact on the amount of capital generated by a business because of the large number of absentees, the costs of supporting sick staff and the costs of training new staff to fill the gaps caused by deaths. The Auto Immune Deficiency Syndrome will have a massive impact on the work force. This impact will be escalated in small businesses where the skills of each employee, and the efficiency of the labour force to ensure competitiveness, are critical. Small businesses do not have the capability or capacity to finance such an impact to the same extent as do large businesses.

Table 4.2 Human Immune Deficiency Virus (HIV) infection rates for the North West and Gauteng provinces from 1998 to 2000

Province	HIV rates 2000 (%)	HIV rates 1999 (%)	HIV rates 1998 (%)
Gauteng	29,3	23,8	22,5
North West	22,9	23,0	21,3
National	**24,5**	**22,4**	**22,98**

In Gauteng and North West, the two provinces where this study was conducted, the data showed an alarming increase in Gauteng and a stabilisation of the infection rate in North West.

Table 4.3 Age breakdown of Human Immune Deficiency Virus (HIV) infection rates

Age group	HIV rates 2000 (%)	HIV rates 1999 (%)	HIV rates 1998 (%)
Under 20	16,1	16,5	21,0
20-24	29,1	25,6	26,1
25-29	30,6	26,4	26,9
30-34	23,3	21,7	19,1
35-39	15,8	16,2	13,4
40-44	10,2	12	10,5
45-49	13,1	7,5	10,2

The highest percentage of infection occurs in the currently economically active portion of the community and in the workforce of the future. Based on the life expectancy of Auto Immune Deficiency Syndrome victims, and the section of the community that it will affect, it can be said that they will have negative effects on the costs associated with productivity and absenteeism and on the costs of replacing skilled workers and supporting sick staff.

Some of the businesses analysed will be directly influenced by the Auto Immune Deficiency Syndrome pandemic and growth figures obtained from these businesses must be analysed, in future studies, in conjunction with Auto Immune Deficiency Syndrome-related deaths. Concerns regarding the impact of the Auto Immune Deficiency Syndrome were mentioned during the interviews, although questions on its impact were not included in the questionnaire. The furniture sector which focuses on coffin making has been dramatically influenced by higher mortality figures. This sector will be separately acknowledged in the study because of the impact of the Auto Immune Deficiency Syndrome on it.

In developing economies the Auto Immune Deficiency Syndrome will have a dual impact:

1. The first is that it will increase the strain on the country's resources. Medical care will have to be provided. Families affected by the inability of bread winners to earn, or by their deaths, will have to be looked after. Less capital can be invested in economic growth.
2. Secondly, a loss of skills gained through experience and training will influence the abilities of businesses, and especially small businesses, to compete. Capital is wasted by maintaining skills bases only.

4.4.2 Political and economic environment

An article by Loxton (1997: 1), published on the web page of the Department of Trade and Industry, states that it could take between ten and 15 years for the government's strategy, to promote small and medium-sized enterprises, to start paying off in tangible terms. The government's focus on gross domestic product and job creation, as measures of small business development, is already failing. Paton (2004: 1) stated that later data reflect the failure of the policy of the Department of Trade and Industry and indicates changes by government intended to rectify the policy.

Loxton (1997: 1) said experience in Europe and Asia had shown that developing small, medium-sized and micro enterprises was no quick or easy task and the fact that South Africa had to overcome numerous structural problems had not made the task easier.

In South Africa there are four government institutions that address all the issues necessary to support small businesses. These include the Centre for Small Business Promotion, Khula Enterprise Finance Limited, Ntsika Enterprise Promotion Agency and the National Small Business Council. These agencies and

the policy supporting these agencies are not effective and they will be replaced by a new agency called Seda (Paton, 2004: 1).

In South Africa small businesses are strongly supported by government. Between 1995 and 1997, 40% of public works contracts were awarded to small and Black Economic Empowerment businesses. This amounts to 359 of a total of 744 contracts worth R182 million (Volschenke, 1997: 1). The availability of capital and the presence of entrepreneurs, along with favourable social and political conditions, are necessary before commercialisation, rapid business development and diffusion can occur on a sufficiently large scale (Rothwell and Zegveld, 1983: 79, and Rutashobya and Olomi, 1999: 19).

4.4.3 Export environment

In the manufacturing sector 71% of all South African businesses export an average of 18% of their output. (Rankin, 2002: 1). The study by Rankin (2002: 1) also showed that more than a quarter export only to the South African Development Community (55% of total volume). Other major markets include the rest of Africa, Western Europe, Asia and North America (45% of total volume). It was also interesting to note that exporters have higher productivity and labour costs. The increased salaries associated with exports contribute positively to increases in the incomes of employees, whereas increased productivity will contribute to better margins and profitability for the businesses.

Businesses with foreign ownership had higher output, probably because of technology transfer. Large businesses, compared to small and medium-sized enterprises, are more likely to export, suggesting that fixed cost may be important, with the large businesses more likely to export outside the South

African Development Community.[23] The importance of technology, as a method to develop a country, is mentioned in various instances by Thirlwall, (1999: 176).

Liberalised trade is essential to the future of small businesses and to all they employ. Statistics from the United States tell the story. Between 1992 and 2001 small and medium-sized enterprises that export soared from 108,026 to 230,736. Small and medium-sized enterprises accounted for nearly 98% of the 1992 to 2001 growth in exporters. By 2001 manufacturing businesses made up approximately one third of small and medium-sized enterprise exports (33% in 2001), and generated 40% of total small and medium-sized enterprise exports. Aldonas also established that exports play an important role in small and medium-sized enterprise growth. (Aldonas, 2003: 3, and Koven, 2003: 15).

The best example of contribution to the economy in South Africa is in exports. This is not hampered by local resources and does not impact negatively on the existing business infrastructure as long as the businesses do not compete against each other in a limited market.

It is becoming increasingly imperative to be internationally competitive in order to function effectively, even in domestic markets. In a dynamic environment marked by fast technological changes, achieving and retaining a competitive edge are both necessities and challenges. Building up the competitive edge of exporting businesses, particularly in small and medium-sized enterprises, and improving their operational efficiency, can pay rich dividends in the long run, at the national level (Belisle, 1997: 8). South Africa shows a considerable shortfall in trade policy interventions and focuses more on direct support interventions. This is contrary to international trends.

---

[23] See sub-section 4.3: Small businesses are not more efficient or effective than are larger businesses.

It can be concluded that exports play an important role in creating additional income, increase stability for businesses, created additional sources of income for a country and increase the income of individuals. It therefore contributes to a country's small business capability to generate capital.

4.5   The effect of globalisations small businesses

Of the many impacts of globalisation, two are of particular interest to small businesses. The first is that globalisation has led to an increase in the pace of growth in world trade. Today it exceeds $6 trillion. According to the World Trade Organization, world trade is likely to rise in the future. The second is that world trade has firmly established competitiveness as the reigning factor in the global market place, at the level of both nations and businesses (Belisle 1997: 9). Japan is drawing on the example of the United States to promote a thriving small business sector that can become a major source of new employment, technological innovation and development (Jetro, 1999: 1̃)

The questions which now face small businesses, particularly those in developing and transitional economies, are whether they will be able to face up to the challenges of this competition and how best they can take full advantage of the increased trading opportunities. Traits such as flexibility, adaptability, inventiveness and innovativeness, which are inherent to small and medium-sized businesses, go a long way towards helping them to play their roles in any economy[24]. However, despite their having these desired qualities, small businesses need to be nurtured and backed by a conducive export environment and strong support mechanisms if they are to realize their full potential (Belisle 1997: 11).

---

[24] See sub-section 4.8

4.6   Risk associated with small businesses

Support for small businesses is a central feature of the government's strategy to promote economic development, but it is expensive. Streek (2001: 8), reported that the South African economic sector has lost more than R68 million in the past four years as a result of the failure of 117 of the 246 small businesses receiving government assistance. These loses can be reduced by focusing on secondary regulatory interventions instead of direct interventions.

A total of 40 251 small businesses, involving capital of R39.5 million, failed in 2000. The disappointing results in the businesses could be attributed to factors that generally affect them (Streek, 2001: 8).

In an article on the National Productivity Institute's website, it is said that improvements in small and medium-sized business operations, and in methods of operating, would improve the profits of small, medium-sized and micro businesses, with a resultant increase in organisational competitiveness (Dladla, 2005: 1).

According to Streek (2001: 7), the reasons for the failure of small businesses are:

1.   A lack of market focus.
2.   An inability to maintain a profitable position in the market.
3.   Expansion into the domestic market by big business.
4.   An unfamiliarity with established business practices.
5.   Failure to conduct business in a professional manner.
6.   Lack of financial and managerial expertise in business management.
7.   A concentration of entrepreneurs in service and retail businesses.
8.   High crime rates that forced entrepreneurs to reduce the number of trading hours.

"In South Africa, this is compounded by lack of entrepreneurial culture as well as lack of technical and management skills" (Streek, 2001: 6).

Because of the risk involved in financing small business, Khula was established. They provided 234 090 loans to small, medium-sized and micro enterprises and non-governmental organisations between 1997 and 2000. In 2001, these included 85 269 and 152 237 credit guarantees had been supplied by banks and retail financial institutions. For every R1 Khula grants, the banks provide R4 in loans to entrepreneurs. The total capital employed to assist small, medium-sized and micro enterprises is R1 142.3 million. It must be asked if this form of high risk financing is not increasing the number of failures.

Most entrepreneurs get involved in business purely for survivalist purposes and there is a lack of research, by retail finance institutions, into appropriate products for the small, medium-sized and micro enterprise market (Servon, 1999: 52). This study will add to the tools that can be used by businesses to justify their policies. It is clear that, if the risks are not managed properly, they can be very costly for government to support small business development.

4.7   Areas of weakness

It is important to acknowledge that there are various obstacles impacting on the development of small businesses, without even considering developing these businesses to contribute to capital generation. Only considering a few of these obstacles will provide an understanding of the challenges that face small businesses to contribute to macro-economic development.

Even the impact of a single person plays an important role in the success of a small business. This is emphasised in the study done by the Stratos Group (1990: 24). The different factors that serve as constraints to small businesses are:

1. ***Finance restrictions***. These cover the restricted availability of capital from normal commercial sources, slow payment under public procurement contracts and barriers to entry into the procurement market because the performance bond and guarantee requirements are onerous for small and medium-sized enterprises. During the period of high interest (1998 to 1999), there was an increase in the number of liquidations of small businesses (to nearly 15%) and a 55% increase in voluntary liquidations (Streek, 2001: 11). This is an indication of the inability of small businesses to withstand changes in the environment. If a business can generate enough capital it can finance larger percentages of projects allowing them to increase project sizes or to lower the exposure of their financiers.

2. ***Bond requirements***, such as under-performance guarantees, are difficult to obtain.

3. ***Access to information and procurement opportunities***. Information is costly. Small and medium-sized enterprises generally face a number of hurdles, such as the high costs of preparing tenders, in obtaining access to markets. The problem of information (and knowledge) is so critical that it is the subject of a World Bank report.

4. ***Barriers to human capital development***. Small and medium-sized enterprises face considerable impediments to accessing skills and skilled labour markets (World Bank, World Bank Development Report: *Knowledge or Development*, 1998: 8).

5. ***Productivity***. An increase in productivity will increase growth. The question that should be addressed is whether small businesses are more productive than their larger counterparts. Various factors will influence the productivity of small businesses. Its capacity to invest in technology has a very big influence. The decline in the growth of productivity in the United States can be linked directly to a shortfall in investment businesses (Baumol and Blinder 1988: 853). A weakness of small businesses is that output, or added value by employee, decreases as the size of the

business, measured by number of its employees, decreases (Burns and Dewhurst 1986: 195).

4.7.1 Government regulations

Any government regulations that increase the cost of production will decrease the competitiveness of the country and will decrease the amount of capital available for investment in reconstruction, development and new technology. Small businesses are particularly disadvantaged by government regulations. These regulations are burdensome and costly. It is expensive for small businesses to comply with them and the businesses might not have the technical or legal expertise necessary.

Growth problems are economic and sociological. The proportion of capital necessary to respond to opportunities increases in smaller businesses. Its ability to respond is lower because of the increased difficulty of smaller businesses to obtain funds. One of the problems identified in the South African tendering process is that of small businesses obtaining capital. Only five out of 300 tenderers, that were assisted by the Job Creation Centre created by the Department of Trade and Industry, were successful in getting government tenders in 1998 (Streek, 2001: 4).

4.8   Competitive advantages of small and medium-sized businesses

Understanding the competitiveness of small business will provide an understanding of the advantages of developing small businesses to support economic development.

Measuring the importance of small and medium-sized enterprises, through their output and employment, cannot capture their true national significance (Rothwell and Zegveld, 1983: 9). This is supported by Rutashobya and Olomi (1999: 60), who listed many other factors such as stability, skills development and empowerment. In some countries they play important roles in political stability and in regional employment stability. They meet consumer needs in relatively small market niches and they are a source of specialist suppliers to major manufacturing corporations. They form crucial parts of the overall and national industrial infrastructures. They operate in areas where economies of scale are not especially important. Their capital intensity is low, their skill intensity high and demand for them is highly specific and variable. They play important roles in national economic development.

Small and medium-sized enterprises have an advantage in that they service small niche markets. They are dynamic, entrepreneurially managed and have much faster turn-around times.

It is important to acknowledge that any new market, which is created in a closed economy with limited resources, will impact on the business of existing markets. Small businesses can provide highly-specialised products and small businesses which partner with large corporations can grow and prosper.

There is an opportunity for South African small businesses to become symbiotic partners with large international businesses in providing cost-efficient and low-

volume production. South Africa is a world leader in this area of production because of our small market. Other areas of competitiveness important in today's economy are:

1.   Flexibility, as it is important to adjust to competition and changing markets.
2.   Innovation, as it is a catalyst for growth.
3.   Lower labour and overhead costs.

4.9   The effects of globalisation

Since the 1990s we have witnessed an irreversible trend towards globalisation. This is especially true in the integration of productive processes, the lowering, or removal, of institutional barriers to international trade, the flow of capital and the rapid technological advances in information dissemination and communication.

Globalisation has also blurred the lines between domestic and international trade. The protective tariff and non-tariff walls, which segregated domestic markets from international markets, are slowly coming down. These walls gave businesses in developing countries the option either to seek the protection of national policies to safeguard their domestic markets or to accept the challenge of facing competition in the international arena. The gradual lowering of these walls, accompanied by other liberalisation measures, has taken the decision on whether to go global, or not, out of the hands of businesses.

4.10 Economic and general overview of South Africa

According to the 2002 *World Facts Book*, published by the Central Intelligence Agency, South Africa is a middle-income, developing country with an abundant supply of resources, well-developed financial, legal, communications, energy, and transport sectors, a stock exchange that ranks among the ten largest in the world, and a modern infrastructure supporting an efficient distribution of goods to

major urban centres throughout the region. However, growth has not been strong enough to cut into high unemployment[25]. There are also daunting economic problems, especially the problems of poverty and the lack of economic empowerment among previous disadvantaged groups. Other problems are crime, corruption, and the Auto Immune Deficiency Syndrome.

At the start of 2000 President Mbeki vowed to promote economic growth and foreign investment, to reduce poverty by relaxing restrictive labour laws, to step up the pace of privatisation and to cut unneeded governmental spending. The economy slowed in 2001, largely because of the slowing of the international economy. South Africa's 40 million inhabitants are divided between more than 2000 local authorities. Approximately 60% of the population lives in urban areas and 40% live in rural villages or on farms.

It can be concluded that South Africa does have a strong economic base and an infrastructure to support growth, but that certain factors, such as crime, are slowing the process. It is also clear that government sees small and medium-sized enterprise development as a definite tool to assist in reducing unemployment.

4.11 Economic indicators

This section provides an overview of the basic economic terms encountered during the research. It is important to have an understanding of these parameters to:

1. Draw parallels between growth and development.
2. Compare small business performance to the general performance of the economy.

---

[25] This is not applicable to Gauteng. According to Stats SA, unemployment decreased from 30.8% to 28.2% in the 12 months ending in September 2003.

3.   Understand the differences between terms to interpreter data and conclusions from earlier studies

4.11.1   Gross domestic product

Economic growth is measured in terms of the increase in the size of a nation's economy. A broad measure of the size of an economy is its output. The most widely used measure of economic output is the *Gross Domestic Product* (Quick MBA, 2004).

Gross Domestic Product is generally defined as the market value of the goods and services produced by a country.

There are three different ways of calculating gross domestic product:

1.   The *expenditure approach* calculates the final spending on goods and services.
2.   The *product approach* calculates the market value of goods and services produced.
3.   The *income approach* sums the income received by all producers in the country.

These three approaches are equivalent, with each yielding the same result. It is not too important to know which calculation method was used. It is also not stated in most of the data which method was used.

4.11.2 Turnover generated by small and medium-sized enterprises and their impact on job creation

Based on an internet report, Mail and Guardian (2003: 1), the economy has grown on average by 2.7% over the past decade. At this rate unemployment will remain pegged at 29%.

However, unemployment will be halved if 5% growth can be achieved. If the economy grows at 6%, South Africa will increase its *per capita* gross domestic product (in purchasing power terms) from R48 600 in 2003 to R103 200 by 2020. To achieve this, however, perceptions of risk have to be altered to increase investment from 15% of gross domestic product to more than 25%. This will also have to include improving the ratio of foreign direct investment to the gross domestic product from its current level of only 1% (Mail and Guardian, 2003: 1).

Similar statements have been made internationally and studies by the World Bank have shown that there is no direct relationship between poverty reduction, job creation and *growth* in the gross domestic product, but that there is one with *development*, poverty reduction and job creation.

4.11.3 Inflation data

Table 4.4 Inflation data based on the consumer price index, as published by Statistics South Africa, 2005

1999/0	2000/1	2001/2	2002/3	2003/4	Average
6.9%	7.8%	6.6%	9.3%	6.8%	7.4%
1.069	1.078	1.066	1.093	1.068	1.0748

The difference between the growth in the consumer price index, excluding interest rates on mortgage bonds, as shown in Table 4.4, and that reflected by the *World Facts Book*, must be highlighted The *World Facts Book* states the 2001/2 inflation as 5.8% (The World Facts Book, 2002). The reason for highlighting the difference is that such differences occur both between sources and between departments, thereby making it difficult to interpret data from different countries and data from different institutions in a country. Very little data are provided to establish the reason for the differences that may be due to sampling techniques, sampling periods and the statistical techniques used. The data will only be stated in this chapter and used to contribute to the analysis and conclusions in Chapter 7.

Jacobs (1999: 1) stated that macro-economic stability is important for growth. He refers especially to inflation and the negative effect it has on competitiveness. Changes in the exchange rate between 2000 and 2004 also made it difficult for businesses to plan and compete internationally.

4.11.4   Employment data

The employment data will be used to compare the contribution of small businesses analysed in the study, to the overall contribution of the manufacturing industry. The data will only be stated in this chapter and used to contribute to the analysis and conclusions in Chapter 7.

The latest data to confirm the unemployment rate in South Africa are the October 2001 census and the Labour Force Survey of September 2001. According to the deputy director-general of Statistics South Africa, Dr Ross Hirschowitz, the latter is more accurate and will be used as a reference in the research (News24.com, 2004: 1).

It is important to note that a large proportion of the population is economically inactive, placing a burden on development. Some 33.7% of South Africans were employed in October 2001, according to census results (News24.com, 2004: 1). The higher the number of people employed the lower the strain on government spending on welfare. Lower spending on welfare enables higher spending on development.

The number of jobs is increasing, but not quickly enough to keep pace with population growth. Unemployment was rising among young people without experience, but dropping in older people. With regard to the distribution of jobs among industries, 12.6% of workers were employed in the manufacturing industry (Census, 2001: 61).

The unemployment rates in the provinces, according to Census 2001, were:

1.   North West 43.8%.
2.   Gauteng 36.4%.

In North West, 8.3% of people were employed in the manufacturing industry in 1996. In 2001, 9.7% were employed in the industry. This resulted in a 1.4% growth compared to other industries and a growth in the number of people employed from 55 119 people (1996) to 69 328 in 2001. This resulted in a growth of 25% over the five-year period (Statistics South Africa, Census 2001 (2): 62).

In Gauteng, 14.9% of people were employed in the manufacturing industry in 1996. In 2001, 15.3% were employed in the industry. This resulted in a 0.4% growth compared to other industries and a growth in the number of people employed from 327 588 people (1996) to 399 270 in 2001. This resulted in a growth of 21.6% over the five-year period (Statistics South Africa, Census 2001 (1): 66).

4.11.5   Quantifiability of the employment potential

The small business sector is generally considered important from the viewpoint of its potential for the creation of employment opportunities. It is maintained that this sector is traditionally labour-intensive. In the United States 70% of all new jobs are created by small business (Perry, Steagall, Woods, 1995: 86). The competitiveness of labour-intensive businesses must be questioned and a balance must be established (Thirlwall, 1999: 163).

Creating jobs contributes to the macro-economic development of a country. The question that should be asked is whether labour-intensive operations, as one of the drivers of economic development, are competitive in a technologically advanced and industrial society (Thirlwall, 1999: 163). It could be argued that starting a non-competitive but labour-intensive business will only cost the country. It will be a cost to the country since it will require capital to stimulate non-competitive industries. The only way that labour-intensive industries could compete with technologically-advanced industries is by exploiting labour. Exploiting labour can be seen as a social cost, contributing negatively to the capital generation of employees.

Rutashobya and Olomi (1999: 121) state that, according to available indications, the cost of creating employment in small businesses would appear to be less than in the case of large businesses and it is maintained that small businesses are relatively easier to establish in smaller towns and rural areas. This also promotes the decentralisation of economical activities, thereby stimulating economic development in these areas.

It is important to realise that the largest contribution of small, medium-sized and micro enterprise is to new job creation. The informal sector, or second economy, has become the high growth area for many African countries (Rutashobya and Olomi, 1999: 2). In America up to 50% of new jobs generated is directly attributed

123

to entrepreneurs. Grudgin, Brunskill and Fothergill (1997: 7) raised the important question of whether new businesses generate new jobs, or whether they simply take jobs away from existing businesses.