

**THE IMPACT OF INVESTMENT CLIMATE ON ECONOMIC
GROWTH IN KENYA**

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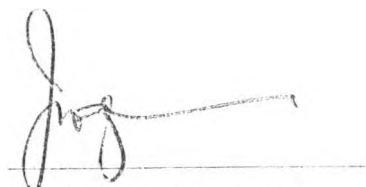
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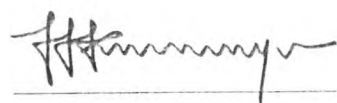
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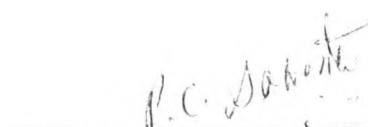


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This research paper has been submitted for examination with our approval as university supervisors.



PROF. P. KIMUYU



DR. PURNA SAMANTA

DEDICATION

I dedicate this research paper to my beloved late father Mr. Harrison Madedda Mdawida.

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I would like to thank the Almighty God for enabling me to go through this programme. I also wish to acknowledge those that assisted me in one way or another in ensuring that I went through this hectic programme successfully. My gratitude goes out to all as space would not allow me to thank everyone.

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The errors and omissions, views and interpretations in this paper remain mine and should not be attributed to any of the above mentioned persons, School of Economics or the University of Nairobi.

John R. Mwangeka
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ABSTRACT

This paper investigates the investment climate by using the Solow model and the Endogenous growth model and assesses its impact on economic growth over the period **1965-1995**. The empirical findings suggest that the Solow and the Endogenous growth models are applicable to Kenya's economy. The primary and secondary school enrolment rates which were used to proxy human capital efficiency were found to impact positively on economic growth. This is consistent with the Endogenous growth model. On the other hand, the volume of trade and capital formation had a positive but relatively weak effect on growth. Further analysis showed that Kenya's trade performance has been low, erratic and inconsistent like in most African economies.

The trade performance is consistent with the Solow model which emphasizes openness of economies as an important investment climate yardstick that determines factor productivity and economic growth. The policy implication is the need to strengthen our trade and investment institutions and also periodically review our trade and investment laws, incentives, procedures, etc to be in line with the requirements in the global marketplace. Capital formation findings are also consistent with past studies in this field. Policies should be put in place to mobilize savings both in the public and private sectors. Since the school enrolment rate was found to positively impact on growth, the policy implication is that there is need to invest more in education and the Kenyan government current provision of free primary education is commended. However, secondary school education needs more attention in terms of expanding facilities to cater for demand taking into account the strong positive impact it has on economic growth.

LIST OF ACRONYMS

CSAE	Centre for the Study of African Economies
EPC	Export Promotion Council
EPZ	Export Processing Zone
ERSWEC	Economic Recovery Strategy for Wealth and Employment Creation
GDP	Gross Domestic Product
ICA	Investment Climate Assessment
IPC	Investment Promotion Centre
KIPPRA	Kenya Institute for Public Policy Research and Analysis
KNHCR	Kenya National Human Rights Commission
NARC	National Alliance Rainbow Coalition
TFP	Total Factor Productivity
WB	World Bank
OECD	Organization For Economic Cooperation and Development
MUB	Manufacturing Under Bond
OLS	Ordinary Least Squares (regression)

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CHAPTER ONE

INTRODUCTION

1.1.0 Background

The concept “Investment Climate” is not new in development economics. We have had it since time immemorial. It gained currency and significance in the 1980s and 1990s during the structural adjustment reforms¹ engineered by the World Bank to reverse worrying trends in developing countries manifested by balance of payments and budgeting deficits, low domestic saving, debt servicing difficulties and a general slowdown of economic growth following the oil shocks of 1973-74 and 1979. Suddenly policies at the time such as import substitution, trade protectionism, government controls were no longer viable as developing countries needed higher levels of saving and investment to realize higher economic growth rates.

The International Finance Corporation (IFC), the private arm of the World Bank whose main task is to find viable commercial projects to be co financed with Transnational companies (TNCs) describes the investment climate in Africa in its 1992 Annual report in the following manner: “Most countries are still struggling with problems that are hampering economic development, including unsustainable internal and external imbalances, heavy debt burdens, and weak financial and physical infrastructures.....In the light of these problems the climate for private investment remains difficult. Moreover, increased private sector investment will come only after the economic adjustment begins to bear fruit” (IFC Report, 1992). Succintly, the Economist in September 1993 noted,” the nature of the difficulties is such that the initiation to start development moving in Africa rests with governments, domestic and foreign.... The rich countries and the multinational institutions they control need to be bolder in rewarding eager reformers with debt forgiveness, grants and technical expertise”. (Economist, 1993)

¹ SAPS as they were called were central to economic policy in most African countries in the 1980s, and 1990s. These reforms included: removal of import quotas, reduction of tariffs, introduction of positive interest rates, freeing of agricultural and energy prices (i.e removal of price controls-elements of a market economy), devaluations, privatization of publicly held assets, establishment of more favourable regime for foreign direct investment(FDI) and liberalization of capital markets.

What was going to be the solution? The basic Harrod – Domar (Todaro, 1985:62) growth model postulates a direct relationship between a country's rate of saving, S , and its rate of output growth, via the equation $g=s/k$, where, k is the capital-output ratio. Suppose g is targeted at 8 per cent annually and the capital-output ratio is 4, then the needed rate of saving is 32percent (since $s=gk$). If the saving that can be domestically mobilized amounts to only say, 15 per cent of GDP, then the saving gap equal to 17 per cent (i.e $32-15=17$) exists. If a developing country can fill this gap with foreign national resources (either private or public) it will then be able to achieve its target rate of growth.

The two gap model developed by Chenery and Strout (1966:676) also provides a theoretical framework within which the role of foreign capital inflows can be seen. First developing countries have inadequate savings to finance their desired levels of investment.

They also lack enough foreign exchange to purchase the imports required for the growth of their economies. These are well known savings and foreign exchange gaps. An inflow of private capital can not only alleviate part or the entire deficit over time, but also generate a net positive flow of export earnings thus minimizing resource transfers out of the country.

Whereas the underlying need to introduce the structural adjustment reforms in the developing world in the 1980s and 1990s was to improve the investment climate so as to attract foreign private capital into these countries, it was also evident that reforms alone would not work. The relationship between capital inflows and reforms (macroeconomic or institutional) is hardly a straightforward matter. For instance, while it is true that reforms should stimulate interest among investors(both local and foreign),it's equally true that investments must be realized in whatever sector for the reforms to have a lasting character.

The word investment in the phrase investment climate will evoke memories, for some, of the development models of 1950s and 1960s, when emphasis was on growth through capital accumulation (Stern, 2002)². The private sector then was mistrusted

² Nicholas Stern is Senior Vice President and Chief Economist at the World Bank

and there was little mention of entrepreneurship or social inclusion. Development assistance was seen primarily as the transfer of capital to the countries that had emerged from colonialism and aspired to join the ranks of industrial countries.

To day, the World Bank's strategy of development is one that recognizes the private sector as the engine of growth and empowers the poor people to participate strongly in the process of growth. The growth of the private sector is therefore vital to the reduction of poverty. However, but growth will not take place as a simple translation of investment into increased output. (Stern, 2002)

J.A. Schumpeter (1934) on his theory of economic development which is the driving force behind the notion of "investment climate" as we know it today and as adopted and driven by the World Bank-emphasizes the fact that what matters is not just how investment takes place but what drives it, what its effects are (in particular its dynamic effects on productivity and further opportunities), and what happens to the other factors of production and their productivity. In other words, it tries to capture the entire process of investment and growth, not just a simple snapshot at the point of investment.

1.1.1 INVESTMENT CLIMATE

What is investment climate? There are varying definitions of investment. For this research project I shall refer to the one advanced by Stern (2002). At the heart of this concept is the policy, institutional and behavioral environment, both present and expected, that influences the risks and returns associated with investment. Investment climate focuses on questions of institutions, governance, policies, stability and infrastructure that affect not just the level of capital investment but also the productivity of existing investments-indeed, of all factors of production-and the willingness to make productive investments for the longer term. Seen in this broad way, investment climate clearly depends on many different aspects of public and private action. We can therefore, define investment climate. First are Macroeconomic stability and openness. These embody the usual sound and sensible, if standard, prescriptions for macroeconomic and trade policy. Second are issues that can be

grouped under Good governance and strong institutions. These embody such issues as:-

- Government institutions and behavior (including limits on bureaucratic harassment, especially in administering taxes and regulations, the strength of financial institutions, the rule of law including law enforcement, and the control of corruption and crime.
- The effectiveness of government in providing sound regulatory structures for promoting a competitive private sector.
- The effective provision of public services or the framework for such services, and the quality of the labour force, and

Third is the Quality of infrastructure: this includes power supply, water, transport and telecommunications.

1.1.2 INVESTMENT CLIMATE AS A PROCESS

Investment climate is also seen as a process and in that it differs in important respects from an emphasis on the ordinary notion of investment. In conventional theory investment is expected to lead to diminishing returns. As more investments are made in one place, marginal returns decline and new investment seeks other outlets. The concept of diminishing returns thus implies that investment is self-limiting in each use, as long as other key inputs, including technology, remain unchanged.

By contrast, investment climate can be positively or negatively self-reinforcing and this can generate either prosperity or stagnation. Unlike the older growth model of capital accumulation, investment climate tries to capture some of external spill over effects, the complementarities, and nonrivalrous public nature of improvements in governance and institutions. As investment climate improves, the frontier of opportunity expands: existing investment becomes more productive, the rewards to productive behaviour rise, the “animal spirits” of entrepreneurs are encouraged, and the economy tends to attract more investment rather than less. (Keynes, 1933)

Consider for example the recent report by the World Bank (World Bank 2002:28) on the Middle East and North Africa, a region that in the 1980s and 1990s suffered the

paradox of high investment in human and physical capital juxtaposed with stagnation. Gross domestic product (GDP) per capital declined by 0.8 % a year in the 1980s and increased by only by only 1.1% a year in the 1990s. And yet rates of investment in both human and physical capital in the region have been impressively high. One of the reasons cited by the report for the poor investment performance is that the institutional structure of the labour market systematically misallocated labour. High government wages attracted the most qualified personnel to the public sector, and measures designed to protect existing employment made it difficult for entrepreneurs to start and sustain dynamic businesses.

The successful examples of entrepreneurship and investment show investors what's possible. But they also foster a greater understanding of commitment to a sound investment climate, thus strengthening political and economic forces that work toward improving the investment climate. Because there will always be vested interests that benefit from the status quo, strengthening the forces of change is a key part of the process.(Schumpeter, 1954)

A sound investment climate ideally leads to the kind of sustained productivity improvements and vibrant entrepreneurship that induce a virtuous spiral of investment, growth and poverty reduction. Note that in cases where the climate for productive investment deteriorates, these processes in the economy work in reverse, and both replacements and new investments may not take place.

Stern (2001) suggests that in many countries that have exhibited slow growth, those who might make entrepreneurial investments of energy and resources are left to be the prey of "bandits" both real and metaphorical. A never-ending stream of arbitrarily imposed rents, taxes, fees and outright bribes and confiscations will drown even the most dedicated entrepreneurs, washing away all the energy and dynamism that power economic growth and lifts people out of poverty. Creating a climate in which entrepreneurs and firms can do good business is crucial to encouraging the types of investment and economic activity that leads to long- term, sustainable economic growth.

Hirschman strongly emphasized the positive feedback dynamics of induced demand and learning in the investment process. For example, he wrote that his “formulation of the development problem.....calls particular attention to the fact that the use of different economic resources has very different repercussions or “feedback” effects on the available stocks of these resources” (Hirschman 1958,p7).As he put it, investment in the extraction of non renewable resources leads to the depletion rather than the augmentation of those resources and to little “feedback” elsewhere in the economy. By contrast, the investment of capital in satisfactory investment climate can have significant positive feedback effects. Profits generate the possibility of more investments, linkages to upstream and downstream industries will call forth complementary investments, and success will snowball by breeding confidence in investors and encouraging them to flock with other investors. Hirschman noted the crucial self augmenting learning effects: entrepreneurship and managerial ability.....the resources that increase directly with and through use (much as the ability to play the piano or speak in foreign language improves with exercise)”. (Hirschman, 1958).

The complementary effect of investment is therefore the essential mechanism by which new energies are channeled toward the development process and through which the vicious circle that seems to confine it can be broken. To give maximum play to this effect must therefore be a primary objective of development policy.

The effect has indeed played an important role in more recent models of growth with positive externalities from capital accumulation. Also central are the forces for change in building a stronger investment climate.

Other than a process, investment climate can also be viewed as a crucial public good for all investors that is distinct from, although compatible with, the kind of investment externalities and complementarities emphasized by Hirschman and modern growth theory.

According to the World Bank report (World Bank 2002:21), education is critical to improving productivity and allowing people to participate in economic growth. A healthy, literate labour force will both increase the amount of growth realized from establishing a sound investment climate and strongly reinforce the poverty reduction benefit from that growth. Education, therefore, can be viewed as the best example that

shows how building an investment climate facilitates investment and growth and empowers people to participate in that growth.

Reforming the process of investment climate is fraught with its own problems and relies entirely on strong leadership and powerful advocacy from governments. Leaders promoting reforms always face a fundamental problem, one given its classic expression by Machiavelli in the Prince (1940, p.19).

“It must be considered that there is nothing more difficult to carry out, not more doubtful of success, nor more dangerous to handle, than to initiate a new order of things. For the reformer has enemies in all those who profit by the old order, and only lukewarm defenders in all those who would profit by the new order.....Thus it arises that on every opportunity for attacking the reformer, his opponents do so with the zeal of partisans, and the others only defend him half-heartedly, so that between them he runs great danger”.

The reformer’s leadership lies in selecting and strengthening the best initiatives for reform and in taking positive action to overcome the obstacles erected by vested interests!

1.1.3 THE IMPACT OF INVESTMENT CLIMATE ON ECONOMIC GROWTH IN KENYA

Kenya’s status in East Africa has been undermined by two decades of poor economic policies, low domestic and foreign investment and slow growth (UNCTAD Policy Review, 2005). The rapid rise in agricultural output and the development of the industrial sector under high tariff protection generated strong growth in the 1960s and 1970s, bringing real GDP per capita in 1980, 65 per cent higher than in 1964. The second oil crisis of 1979 found Kenya unprepared to respond to the shock, however as the limitations to agricultural output growth and import substitution policies became obvious.

The 1980s and 1990s were characterized by a series of muted, incomplete and non-sustained attempts at macroeconomic and structural reforms. These never succeeded in putting Kenya on a sustained high growth-path, how ever and only provided

temporary relief based on the evolution of the world economic environment. The Government's attempt to control the fiscal deficit, although, relatively successful failed to address the issue of current expenditure and succeeded only through a drastic reduction in capital spending. This has been accompanied by the deterioration of the once reasonably efficient and well developed public infrastructure and increasing problems of governance and insecurity, which further discouraged private investment. Despite some resurgence in growth in 1986-89 and 1995-96, real GDP per capita ended 5 per cent lower in 2003 than in 1980.

The challenge of this study is to show what impact the investment climate has had on economic growth in Kenya. From the foregoing there is no doubt Kenya's development in the 1980's and 1990's was on the downward trend (WB/KIPPRA/CSAE – ICA report, 2004). The report goes further to indicate that Kenya will need to raise the investment rates to 23 per cent of GDP-these are rates which have not been seen in Kenya since the rapid growth days of 1960s. Currently the investment rate is roughly 15 per cent of GDP, and barely enough to replace existing capital, let alone generate new capital. Most firms surveyed in 2002/03 invested nothing in new plants or equipment, as a consequence Kenya's capital stock is much older and less efficiently used compared to neighbouring countries in East Africa and her other competitors such as India and China. Productivity is not only low relative to strategic competitors like China and India, but it is also falling behind. Kenya's formal manufacturing firms have not seen gains in productivity in more than a decade. Since 1990s, productivity has declined about as often as it has risen. Meanwhile, China and India, Kenya's competitors, have been making huge gains in firm productivity (see table 1, Appendix. A).

In terms of exports, although the rapid rise in world trade of manufactured goods (see table 2. Appendix A) has provided major opportunities for developing countries, Kenya has by and large not been able to avail of them. Manufactured companies have not succeeded in developing competitiveness in globally traded goods as result of weaknesses in the investment environment, poor infrastructure and high operation costs. In particular Kenya has had difficulties to seize opportunities generated by trade liberalization in developed markets. The bulk of its exports to the E.U remains resource based i.e. mostly tea, coffee, flowers, vegetables or fruits-(see table 3.

Appendix A). Manufactured goods exports to the US in contrast represent the majority of the total, but these are heavily concentrated in garments and total exports remain rather small at US\$170 million a year on average in 2000-03.

Stern (2001) points out those developing countries that are improving their investment climates as part of efforts to integrate with the global economy are clearly doing well. The top tier of developing countries (about a third, including China, India and Mexico) as measured by moves to liberalize and expand investment and foreign trade, did well in the 1990s, while the rest of the developing world as a whole did poorly. He argues that expansion in investment and trade stemmed in part from liberalization but also from investing in infrastructure and streamlining government regulations. He also asserts that a number of studies have shown that Africa's low involvement in international trade has much to do with an unattractive investment climate – notably, with conflict and with poor and deteriorating infrastructure and governance. Elsewhere, among large countries that have performed poorly- including, for example, Pakistan and the Russian Federation- severe problems with governance, property rights and the rule of law have been prominent.

According to the World Bank report (World Bank, 2002:19) among low-income countries, Vietnam provides a clear example of the impact of investment climate on growth. It made strong progress in its investment climate in 1992-1997, a period during which growth accelerated. Survey evidence shows that poverty dropped sharply; of the poorest 5% households in 1992, 98% were better off five years later.

I would like to turn to the three key variables of investment climate i.e macro economic stability and openness, good governance and strong institutions, and quality infrastructure, and briefly review the situation in Kenya during the last few decades:-

1.1.4 MACRO ECONOMIC STABILITY AND OPENNESS

A stable macroeconomic environment is one of the key foundations for any viable business environment. Low inflation, a competitive exchange rate, financial stability, a sustainable current account deficit and public debt, and sound public financing characterize a stable macroeconomic environment. Macroeconomic openness would

be determined by the percentage of foreign trade (imports and exports) to GDP and since Kenya's rate is 60 per cent, it's regarded as a fairly open economy (WB/KIPRRA/CSAE-ICA report, 2004).

The trend of growth was impressive during the first decade after independence when Kenya registered on average 7 % increase in real GDP, while per capital income increased at about 4% per annum. During the last forty years Kenya has moved from one of the most promising developing countries in Sub-Saharan Africa, both in terms of growth and social development, to a stagnated economy struggling to find a new path of sustained growth. Gross domestic investment has been falling for more than three decades, from 22% of GDP in the 1970s and 1980s, to 17% in the 1990s, to an estimated 15% in 2002. Much of the decline occurred in public sector investment- from about 10 per cent of GDP in the early part of the 1990s to about 4% in 2002, (WB/KIPRRA/CSAE-ICA report, 2004).

In international comparative terms, the Growth competitiveness Index (GCI) report 2004-05 by the World Economic Forum ranks Kenya number 83 behind countries in Africa such as Botswana, S. Africa, Mauritius, Namibia, Gambia, Egypt, Morocco, Tanzania and Uganda. This ranking is based on "three pillars" of sustainable economic growth, viz. macroeconomic environment, quality of public institutions and technology. In terms of macroeconomic environment, Kenya was ranked slightly better, at number 77. However, with respect to this criterion, Kenya was ranked behind other African countries such as Botswana, Tunisia, South Africa, Morocco, Gambia, Algeria, Namibia, Egypt, Mauritius, Senegal, Ghana and even the neighboring countries of Uganda and Tanzania. What this means is that despite the reforms in place e.g. the fiscal reforms, trade policy and others as envisaged in the Economic Recovery Strategy for Wealth Creation and Employment Creation (ERSWEC) 2003-2007 considerable challenges lie ahead in Kenya's efforts to improve her investment climate.

1.1.5 GOOD GOVERNANCE AND STRONG INSTITUTIONS

Governance refers to the political, economic and administrative management of public affairs. It encompasses mechanisms, processes and institutions through which

citizens and groups articulate their interests, mediate their differences and exercise their legal rights and obligations. Over the last decade, the significance of governance to sustainable development has become increasingly evident.

According to the World Bank report (World Bank 2002:27) the issue that is closely related to the problems of governance and corruption is institutional development. Recent experience in the developing economies has taught us lessons about the importance of institutions. Fair, competitive and stable markets will not arise spontaneously out of the confusion of development; they require supporting institutions to administer and enforce property rights, legal codes, economic regulations and taxation of individuals and companies. Those who are benefiting from existing regimes or have benefited from past regimes will not necessarily push to complete the transition to a full market economy. Laws can be changed overnight, but the bigger challenge is to establish reasonable and responsible behaviour that is consistent with a well-functioning market economy. Changing behavioural habits takes understanding, positive examples, leadership, and time.

Despite the numerous policies and measures in place e.g. the creation by the Kenya Government of the Department of Governance and Ethics in the Office of the President, the Ministry of Justice and Constitutional Affairs to coordinate reforms across various government institutions, and the Kenya National Human Rights Commission, (KNHRC) including the review and harmonization of Kenyan laws, Civil Service Reforms, the implementation of the Anti-Corruption and Economic Crimes Act(2003) and the Public Officers Act and recently the establishment of a National Economic and Social Council to oversee the Economic Recovery Strategy for Wealth and Employment Creation (ERSWEC) activities, it is emerging that for some of these policies and measures to be implemented, financial resources are needed and may not be forthcoming due to budgetary limitations occasioned by reluctance by donors to support government programmes.

There are fears in donor circles of new cases of grand corruption at the top levels of the NARC Government. It's noteworthy here to mention that one of the key platforms on which the NARC government was elected by Kenyans in 2002 was to fight and eradicate corruption in Kenya. Revelations recently on the Anglo leasing Finance

Company corrupt dealings involving government officials on procurement of new generation of passports have not escaped the attention of both the public and the donors. It doesn't augur well for the sound investment climate in this country.

1.1.6 QUALITY OF INFRASTRUCTURE

Development of an appropriate infrastructure³ is an imperative for economic and social development. It's related to a country's economic growth, quality of people's lives, and it supports an enabling environment for business and other economic activities.

All areas of infrastructure in Kenya are characterized by a serious deterioration in physical assets and the services generated. There are a number of causes .First, much of it is attributed to the decline in public investment in the 1990s; and the reduction in external financing which have occurred in the infrastructure sectors. Second, within the specific sectors, far too little investment was directed towards maintenance, refurbishment and replacement. Third, management of infrastructure has been of variable quality, and monitoring has been lacking. Finally, poor governance, exacerbated by management concerns has been observed.

In the Economic Recovery Strategy for Wealth and Employment Creation (ERSWEC) 2003-2007, infrastructure has been recognized as a key building block for economic recovery .Comprising of several sub-sectors, infrastructure was correctly recognized under ERSWEC as:-“a key input in the productive process that has significant implications on the ability of the economy to achieve sustainable growth, create decent jobs, protect the environment, ensure competitiveness of the goods and services produced, and facilitate exploitation of opportunities by firms and consumers”.

³ This refers to power supply, water and sanitation, building and construction, transport infrastructure and services, information and communication technology, education, health and financial infrastructure.

The ERSWEC further recognizes that for Kenya to succeed in the increasingly competitive global markets, its economy must be supported by low-cost high quality infrastructure services that most of her competitors already have or are aspiring to get!

Although there are policy and regulatory reforms touching on some of the infrastructure elements e.g. power supply, telecommunications, water and roads, there is need to look further and see how efficiency levels and practices in the utilization of the infrastructural services can be improved in the long-term.

The quality of infrastructure will only be realized if we can provide a transparent policy environment that will encourage higher levels of investment in this sector, including foreign direct investment to match international standards required if Kenya's productivity can compete favorably both regionally and globally.

1.1.7 STATEMENT OF THE PROBLEM

The research problem being tackled in this paper is the slow economic growth in Kenya in the past few decades. The study is motivated by a lack of a comprehensive analysis of the impact of the investment climate on Kenya's economic growth.

There was need, therefore, for this study to shed more light and demystify this novel concept of investment climate and what impact, if any, it has had on Kenya's economic growth.

1.1.8 OBJECTIVES OF THE STUDY

The principal objective of this study is to shed more light on investment climate and assess its impact on economic growth in Kenya. Specifically, the aims of the study are:-

- (1) Assess the impact of investment climate on economic growth in Kenya
- (2) To derive policy implications on future policy paths for Kenya's development.

1.1.9 JUSTIFICATION AND SIGNIFICANCE OF THE STUDY

Empirical analysis of the investment climate determining factors such as human capital and the integration of the Kenyan economy in the World economy and how these factors have impacted on economic growth would provide valuable information to policy makers apart from providing material for intellectual pursuits.

Very little work has been done on the impact of investment climate on economic growth in Kenya: leave alone the rest of the world. The World Bank /KIPRRA/CSAE (2004) firm survey on investment climate is the first of its kind and analyzed the role of investment climate in enhancing competitiveness in Kenya's manufacturing sector. It is, therefore, the aim of this study to analyze the impact of investment climate on economic growth in Kenya.

1.2.0 ORGANIZATION OF THE REST OF THE PAPER

The paper consists of five chapters. The rest of the chapters are organized as follows: Chapter two surveys the literature on the theories of investment climate and how they relate to economic growth. Chapter three presents the methodology applied in arriving at the theoretical and practical implication of investment climate and its impact on economic growth in Kenya. Chapter four in brief sheds more light on the analysis of the findings in chapter three and analyses the findings and gives interpretations. Finally, chapter five presents the conclusions and policy implications.

CHAPTER TWO

LITERATURE REVIEW

2.1.0 Introduction

This survey of the literature on investment climate as a strategy for economic growth and development looks at both the theoretical and empirical developments so far.

2.1.1 Theoretical development

The theory of economic growth and development has evolved since the days of the classical economists such as Adam Smith, David Ricardo and Thomas Malthus (Rostow, 1989) to John Maynard Keynes (1936) to simple growth models, to the Accelerator model, followed by neoclassical model but of particular interest in this study is Solow's T.F.P "residual" and the endogenous growth model which places a lot of emphasis on the role of human capital in facilitating the long term economic growth.

According to the Solow model, if a nation devotes a large fraction of its income to saving and investment, it will have a high steady-state capital stock and a high level of income. If a nation saves and invests only a small fraction of its income, its steady state capital and income will be low. The miracle growth rate of Japan and Germany after World War II are cited as examples of economies whose capital stocks were destroyed during the war. However, due to high levels of saving and investment in these economies, they were able to recover and record high growth rates between 1948 and 1972.

Mankiw (1999) postulated the positive relationship between the fraction of output devoted to investment and the level of income per person. Why are some countries so rich while others are mired in poverty? Mankiw (1999) citing work on international comparisons by Summers and Heston (1991) suggested that countries with high rates of investment such as United States and Japan, usually have high incomes, whereas countries with low rates of investments such as Uganda and Chad have low income.

The hypothesis emphasizing the strong correlation between savings and investment and differential growth rates raises as many questions as it resolves. One might

naturally ask why do rates of saving and investment vary so much from country to country. There are many potential answers, such as tax policy, the development of financial market, high population growth rates, and cultural differences. In addition, political stability may play a role: not surprisingly, rates of saving and investment tend to be low in countries with frequent wars, revolutions and coups. Saving and investment also tend to be low in countries with poor political institutions, as measured by estimates of official corruption. It has also been postulated that perhaps high levels of income somehow foster high rates of saving investment. Unfortunately, there is no consensus among economists about which of the many possible explanations is most important.

Solow's (1956) growth theory further postulates that saving leads to growth temporarily, but diminishing returns to capital eventually force the economy to approach a steady state in which growth depends only on exogenous technical progress.

Easterly and Levine (2001) assert that the central problem in understanding economic development and growth is not understanding the process by which economy raises its savings rate and increases the rate of physical accumulation. Although many development researchers and practitioners continue to target capital accumulation as the driving force in economic growth, "something else" besides capital accumulation is critical for understanding not only differences in economic growth and income across countries but also in individual countries. Academic researchers in the 1990's started a "neoclassical revival" (in words of Klenow and Rodriguez - Clare (1997). The classic works in the academic literature's stress on factor accumulation were Mankiw, Romer, and Weil (1992), Barro and others (1995), Mankiw (1995), and Young (1995).

Romer (1986) and Lucas (1988) in expounding endogenous growth theory challenged Solow's theory. They suggested that if knowledge (education) is viewed as a type of capital since it is an important input in production and does not exhibit the property of diminishing returns instead it exhibits constant returns, one would, therefore, be able to explain how saving and investment can lead to persistent growth. Indeed, the

increasing pace of scientific and technological innovation over the past few centuries has led some economists to argue that there are increasing returns to knowledge.

The summary of the Global Development network conference in Prague in June, 2000, representing many international organizations and development research institutes, says, "Physical capital accumulation was found to be dominant source of growth both within and across regions. Total factor productivity growth (TFPG) was not as important as was previously" (GRP. p 13).

Todaro in his book. "Economic Development" 2000 asserted that an increase in investment is. "a necessary condition" for economic takeoff.

Ray in his book. "Development Economics", 1998 refers to investment and saving as "the foundations of all models of economic growth". Many development practitioners also stress investment.

For example, the International Monetary Fund (IMF) (Hadjimichael and others 1996, P.1) argues, "the adjustment experience of sub-saharan Africa has demonstrated that to achieve gains in real per capita G.D.P an expansion in private saving and investment is key"

The Bank for International Settlements (1996) mentions in its report, "Recent experience has underlined the central importance of national saving and investment rates in promoting growth"

The International Labour Organization (1995) argued in its report that "policies to raise the rate of investmentare critical for raising the rate of growth and employment in an economy". In addition the report states that investment is the answer or part of the answer – to most policy problems in the economic and social arena".

Similarly, the World Bank (1993. P. 191) state that in East Asia, "accumulation of productive assets is the foundation of economic growth". World Bank (1995) report states that in Latin America "enhancing saving and investment by 3 percentage points of GDP would raise the annual growth figure by around 2 percentage points". The

World Bank (2000) says the saving rate of the typical African country “is far below what is needed to sustain a long-term boost in economic performance”.

Although common in the literature, the stress on capital accumulation is far from universal among development practitioners and researchers. For example the World Bank (2000a) report on East Asia’s recovery suggests that, “future growth hinges less on increasing physical accumulation and more on raising the productivity growth of all factors”.

Collier, Dollar, and Stern (2000) stress policies, incentives, institutions and exogenous factors as the main drivers of growth with little mention of investment, as does World Development Report 2000/2001 (World Bank 2000/2001, pp 49-52).

Many Sub-Saharan African countries have experienced declines in all measure of economic performance (World Bank, 1984). Accompanying this poor record of economic performance has been a high degree of political instability (McGorwan and Johnson 1984). Brempong and Traynor (1999) argue that besides the generally poor record of political stability and economic stagnation, there is a high degree of variation in economic performance and political stability across countries in the African continent. However, (Hirschman 1956, Powelson 1972, Scully, 1988, North, 1990), have put forward several theoretical analyses that point to the fact that institutional weaknesses have been the core of slow economic growth and development in many African countries.

A growing body of research suggests that, even after physical and human capital accumulation are accounted for, that “something else” accounts for the bulk of cross country differences in the level and growth rate of gross domestic product (G.D.P) per capita.

According to the literature, different theories have offered different conceptions on this “something else” i.e. Total Factor Productivity – these range from changes in technology (the instructions for producing goods and services) to the role of externalities, changes in sector composition of production, and the adoption of lower-cost production methods.

Romer (1993) also suggested that from growth accounting evidence, historical accounts, and everyday experience also suggest that something extra, something like innovation, invention, technological change, or the discovery of new ideas, is needed to understand and explain growth.

Mankiw and Romer (1992) cited the role of policy makers in realizing high national savings to boost economic growth. The need to keep government spending and revenues in check is emphasized. Budget deficits represent negative public saving. A budget deficit raises interest rates and crowds out investment, resulting in reduction of capital stock which slows down economic growth. Conversely, a government running a budget surplus is able to retire some of the national debt and stimulate investment and economic growth. On the other hand, government policy is instrumental in influencing private saving and investment. Through incentives such as low corporate taxation, a government can encourage saving and investment. Likewise, a government can discourage saving and investment if taxation rates are high.

Dornbusch (1990) suggests five sources of growth: - technical progress and increasing capital intensity; efficiency of resource allocation; the level of utilization of resources; the labour force; and capital. He maintains that capital formation is only one avenue of growth. He adds that in view of the scarcity of saving available for capital formation, increased attention must focus on improving productivity. He further suggests that since growth in per capita income is not explained by capital accumulation but by growth in total factor productivity, it is therefore, appropriate to ask whether a country can identify policies that would lead directly to more efficient use of resources such as trade and deregulation. The effect of an improved resource allocation, by trade or deregulation can be represented as a gain in productivity (Easterly, 1989).

Romer (1989) postulates that a larger and more open market increases the aggregate output not because of scale economies to labour but it allows the production of a larger variety of specialized inputs. He adds that gains also result from the more traditional economies of scale that stem from declining average variable cost attributable to wider markets. Raising the scale of operation of individual firms is in this case the source of gain in productivity.

Dornbusch (1990) suggests further that worldwide operation of firms with scale economies raises the productivity and frees resources as firms merge into more efficient firms. He also asserts that pecuniary externalities become available in export-led development that accelerates growth over what the classical growth model allows. Opening of markets that are closed by licences or by government monopolies or restrictions thus provides an important source of productivity growth.

2.2.0 EMPIRICAL LITERATURE

Easterly and Levine (2001) noted that major empirical regularities of economic growth emphasize the role of “*something else*” besides factor accumulation. They point out that that “something else”, i.e. the T.F.P “residual” accounts for most growth. Income across countries diverges over the long run, while the growth rates of the rich are not slowing and returns to capital are not falling. This observation is less consistent with simple models that feature diminishing returns, factor accumulation, some fixed factor of production, and constant returns to scale and more consistent with the observation that “something else” is important for explaining long-run economic success!

In their study in 2001, Easterly and Levine, emphasized that growth is highly unstable over time, whereas factor accumulation is more stable, which certainly underpins the role of “something else” i.e. T.F.P in explaining variations in economic growth. This conclusion is based on evidence on the sources of economic growth, the patterns of economic growth, the pattern of factor flows, and the impact of national policy on economic growth. The data they used was based on studies in OECD, Latin America and East Asian countries by Christenson, Cummings, and Jorgenson (1980) and Dougherty (1991); Elias (1990); and Young (1995) respectively.

Mankiw, Romer, and Weil (1990) demonstrated that much of the variation in per capita income levels can be explained by explicitly recognizing differences in saving rates, regulation of growth rates and the rate of technological change based on the studies and data collected in oil producing and non-oil producing countries and OECD and non-OECD countries.

The recent empirical literature on convergence finds that countries which were among the poorest in 1960 have had more rapid growth in per capita income than would have been expected on the basis of standard factors such as capital deepening (Howard Pack, 1993).

Pack (1963) asserts that a key aspect of the development process has been the sectoral transformation of economies in which agriculture's share of the labour force declined from perhaps 90 percent to 6 percent or less. A potential source of growth was the transfer of labour away from agriculture to the industrial and services sectors, which exhibit greater marginal productivity (Denison, 1985).

The large absolute size of agriculture implies that reallocation of labour away from it, as well as the growth of its total factor productivity (T.F.P), could be significant sources of growth of per capita income in developing countries like Kenya. Yet the most recent evidence suggests that in the period 1960 – 80 growth of agriculture T.F.P in the developing countries was not as rapid as in industrial countries (Lau and Yotopoulos, 1989). This casts doubt on the case for convergence. Pack (1993) maintains that once productivity gains from reallocation are exhausted; continuing rapid growth in per capita income requires fast productivity growth in the industrial sector. Only a few developing economies, mainly in Asia, have achieved this. Their rapid growth and convergence toward the per capita income of more advanced countries was catalyzed by their ability to assimilate technology and shift the production function to a higher level of operation and productivity. This change was facilitated by higher levels of human capital, but many other factors were involved.

Teal (2004) on his Centre for the Study of African Economies report (CSAE, p21): he touches on globalization, a term which has come to mean increasing integration into the world economy. One measure of the impact of globalization in an economy or region, and a measure that has appeared in much of the academic debate, is the extent of openness of an economy, measured by the share of exports and imports in GDP. This ratio will be growing if trade is growing faster than GDP. He argues further that the extent of openness of an economy needs to be interpreted with care. Large economies such as those of China and South Asia will have smaller share of trade to

GDP than smaller economies such as those in Africa. So in using openness to measure whether the economy or region has become more integrated into the world economy, one should concentrate on changes in the variable, not its level. He concludes his argument by looking at how dramatic the growth picture has been for China. From 1980 to 2000, China's share of trade in GDP increased fourfold from 12 percent to 48 percent while Africa's share increased by less than 25 percent. The explosive growth of Chinese economy shows that integrating into the world economy can transform an economy in the space of two decades.

Brempong and Traynor (1999) in their study based on data from a sample of African countries on political instability, investment and economic growth in Sub-Saharan Africa emphasize that empirical growth studies have generally neglected institutional factors such as political stability and have focused on the quantities and quality of inputs in determining the pace of economic growth. This neglect has occurred in spite of the arguments of endogenous growth theory that economic policy formulation and implementation is an important determinant of long-term growth.

If the institutional environment is important in determining the pace of economic growth and unstable political environment may prevent developing countries from successfully embarking on sustained economic growth (Kuznets, 1966, Scully, 1988, Wells 1992), then excluding it from empirical studies of economic growth may result in biased estimates and result, in policy implications which neglect an important determining element of economic growth in the developing world.

Brempong and Traynor (1999) define political instability as situations, activities, or patterns of political behaviour that threaten to change or actually change the political system in a non-constitutional way. These politically unstable events often bring about sudden changes in property rights laws and the rules governing business conduct. Edwards and Tabellin (1991) as cited in the study by Brempong and Traynor (1999), have argued that political instability, a feature of many African countries, weakens a government, making it difficult, if not impossible for the government to develop and implement the economic policy, reforms necessary for long-term economic growth.

Recent research on the relationship between property rights and economic growth argues that political instability induces governments to refrain from legal reforms that strengthen property rights, and the lack of strong property rights protection leads to lower economic growth in developing countries (Svensson, 1993, Knack and Keefer, 1995).

In Sub-Saharan Africa, the drastic increase in the "brain drain" in the last two decades has been attributed in part to political instability (Apraku, 1991). This implies investment is in part determined by political instability and also savings rates. The expected negative impact of political instability on investment and growth is consistent with the model developed by Ozler and Roderik (1992) and Devereaux and Wen (1996) which was based on data on African countries within a large sample of developing countries unlike the one by Brempong and Traynor (1999) that was specifically based on African countries. The survey of African countries covered in cross-sectional studies' samples on African growth has been limited. This has been cited as a weakness in economic growth studies in Africa (Brempong and Traynor, 1999).

The empirical importance of total factor productivity (TFP) has motivated economists to develop models of TFP. These focus variously on technological change (Aghion and Howitt 1988, Grossman and Helpman 1991, Romer 1990), impediments to adopting new technologies (Parente and Prescott 1996), externalities (Romer 1986, Lucas 1988), Sectoral development (Kongsamut, Rebelo, and Xie 1997) or cost reductions (Harberger 1998). Though individual countries at specific points in their development fit different models of growth suggests Easterly and Levine (2001), the big picture emerging, for example, from cross-country growth comparison is that creating the incentives for productive factor accumulation is more important for growth than factor accumulation itself.

Jasso, Rosenzweig, and Smith (2000) in their total factor productivity (TFP) studies compare earnings of US immigrants with their earnings in their country of origin. With adjustments for local purchasing power, the average immigrant earns 2.2 times as much in the United States as in their country of origin. That is 75 percent as big as the earning gap between the US and source countries, suggesting that 75 percent of

human capital. Easterly and Levine (2001) attribute about 25 percent of the gap to physical capital per worker. That leaves about 50 percent accounted for by TFP. In this case TFP differences could reflect disembodied technology, human capital externalities, access to specialized or high-quality capital or intermediate goods, the degree of competition, or measurement error. It's noteworthy to mention that research has barely begun to quantify the contributions of each of these.

Klenow (2001) suggests that as important as TFP is for country differences, it seems less important for the overall upward trend in GDP per capita. Averaging across 98 countries. Klenow and Rodrigues- Clare (1997) attributed 70 percent of growth to physical capital.

Easterly and Levine (2001) argued on the basis of the data referred to above that divergence is inconsistent with growth being driven by factor accumulation: because of diminishing returns, factors should tend to equalize rather than diverge. But differences in institutions can work against convergence. I wish to add here that certain policies such as high tax rates, protectionism, weak property rights can reduce accumulation of physical and human capital. Divergence in policies can therefore lead to divergence of factors. When one looks at growth in the West compared to the East, one of the arguments advanced is that the West's institutions may have improved in the 19th century, producing a century of divergence. On the other hand, the East may have adopted better policies since 1960, leading to factor convergence, adds Klenow (2001).

Factors can diverge or converge, and so can TFP. For the five Asian miracle economies, Young (1995, 2000) as mentioned above, points to factor accumulation. Nevertheless episodes of divergence and convergence need to be examined more closely to determine the roles of physical capital, human capital and TFP.

In their early detailed growth accounting exercises using disaggregated data on capital, labour, human capital, and capital shares of income Solow (1957) and Denison (1962, 1967) found that the rate of capital accumulation per person accounted for between one-eighth and one-fourth of GDP growth rates in the United States and other industrialized countries, whereas TFP growth account for more than half of GDP growth in many countries.

It is noteworthy here to mention that subsequent studies showed that it is important to account for changes in the quality of labour and capital (Jorgenson 1995). For example if growth accountants failed to consider improvements in the quality of labour inputs due to improved education and health, they would assign these improvements to TFP growth. Unmeasured improvements in physical capital would similarly be inappropriately assigned to TFP. Nonetheless, to the extent that TFP includes quality improvements in capital, a finding that TFP explains a substantial amount of economic growth will properly focus attention on productivity rather than on factor accumulation itself.

Christenson, Cummings and Jorgenson (1980) carried out further growth accounting exercises also using disaggregated data in a few organization for Economic Co-operation and Development (OECD) countries, albeit prior to the productivity slowdown brought about by the oil crisis of the early and late 1970s. Dougherty (1991) does the exercise also for some OECD countries including the slow productivity growth period. Elias (1990) conducts a rigorous growth accounting study for seven Latin American countries. Young (1995) focus on the fast growing East Asian countries. These studies also find that TFP growth tends to account for a large component of the growth output. Although there are large cross- country variations in the fraction of growth accounted for by TFP growth, some general patterns emerge. TFP growth accounts for about half of output growth in all OECD countries. Variation is greater among Latin American countries, with an average of 30 percent. Young (1995) argues that factor accumulation was a key component of the growth miracle in some East Asian Economies.

Klenow and Rodriguez- Clare (1997) suggested that the growth accounting studies may underestimate the influence of TFP growth on growth in output per worker. In further work by Young (1995), Klenow and Rodriguez- Clare (1997), they found that factor accumulation plays the crucial role only in Singapore (a small city-state) but in none of the other East Asian miracle economies. In addition, the share attributed to capital accumulation may be exaggerated because it does not take into account how much TFP growth induces capital accumulation (Barro and Sala-i-Martin 1995, p352).

Although there are cases in which factor accumulation is closely tied to economic success, taking in account the results of the above studies, detailed growth examinations tend to suggest that TFP growth frequently accounts for the bulk of growth in output per worker.

On the other hand, growth accounting studies which were carried out based on aggregated data for a broad selection of countries also emphasize TFP role in economic growth. Capital growth generally accounts for less than half of output growth, and the share of growth accounted for by TFP growth is frequently larger in most of the countries that were studied. There are large differences across countries in the relationship between capital accumulation and growth. One important finding in these studies is the weak and sometimes inverse relationship between improvements in educational attainments of the labour force and growth of output per worker.

Benhabib and Spiegel (1994) and Pritchett (2001), using cross- country data on economic growth rates, show that increases in human capital resulting from improvements in educational attainments have not positively affected the growth in output per worker, perhaps because of a mismatch between education and the skills needed for activities that generate social returns.

Krueger and Lindahl (1999) argue that the measurement error accounts for the failure to find a relationship between growth in per capita output and human capital accumulation. Hanushek and Kimko (2000) find that the quality of education is strongly linked with economic growth.

Rosenzweig (1996) in his study of India, shows the correlation of education and economic growth. He shows using data across districts of India that once varying exogenous technical progress is introduced; the technical progress explains both the higher economic growth and higher returns to education. The higher returns lead to greater expansion in the amount of education. Rosenzweig (1996) further finds that schooling paid off handsomely where the Green Revolution brought technological advances, education was not an important determinant of local growth in technologically stable areas, and the apparent impact of education from cross- district regressions disappears in such cases.

Pritchett (2001) observes using cross-national data of some selected developing countries in Africa, Latin America and the Caribbean and South Asia that if countries' policies are more to the creation or assimilation of technical progress or to development patterns that are skill intensive, then one could expect that the output of a given expansion of schooling could be higher or lower.

The World Bank argues using data on selected African and Asian countries that more open trade regimes in developing countries would facilitate catch-up and lead to more rapid technical progress, and that the returns to education would depend, at least in part, on complementary policies such as reasonable outward orientation (World Bank, 1994).

Klenow (1998) demonstrates that models that highlight the role of ideas (proxy for educational attainment) and productivity growth do a much better job of matching the data than models that focus on accumulation of human capital. This is a view shared by Romer (1996) and Lucas (1988) in their growth studies. They challenged Solow's theory that most long term per capita growth arises from exogenous technical progress by advancing three related hypothesis:-

1. Capital broadly defined is a much larger share of input than conventionally measured.
2. Technical progress is largely an endogenous result of market-driven research and development, and
3. Social returns to investment are higher than private returns because of external economies.

2.3.0 OVERVIEW OF THE LITERATURE

Studies on investment climate have been limited by paucity of data. It's a field that is new and generating great interest in Africa because of the ongoing economic, social and political reforms.

The recent literature lays a lot of emphasis on areas such as governance, delivery of public services, institutions, macro economic stability and openness, rule of law, quality of infrastructure, etc, and the linkage of policy reforms to productivity.

In Kenya, there's now data available based on surveys that have been carried out in the last few years on private firms i.e. on small and medium- scale enterprises through

the initiatives of the World Bank. The study (World Bank/ KIPPRA/CSAE-ICA, 2004) that is available based on this data tries to analyse the performance of Kenya's manufacturing sector like others elsewhere in Africa and is therefore not specifically on economic growth.

In this study, an attempt, has been made to use the Solow Model and the Endogenous growth model in providing both the theoretical and empirical framework to assess the impact of selected investment climate variables on economic growth in Kenya.

CHAPTER THREE

METHODOLOGY

3.1.0 Introduction

Economists have always argued that it is difficult to evaluate empirically variables connected with economic growth. Landau (1986:36) suggested that“there are no generally accepted models of growth process and therefore no standard analytical frameworks that are appropriate in this case”

The cue is taken up in this study. Similar approach has been taken by Renelt (1991), and Chenery (1975). Chenery (1975) postulated that a unified theoretical framework for standardized analysis is yet to be established. Odedokun (1993) states that there is no general set or limit of variables to include in a study.

This study is derived from the growth model developed by Solow (1956) and the Endogenous growth model as expounded Romer (1986) and Lucas (1998). In the Solow Model saving leads to growth temporarily, but diminishing returns to capital eventually force the economy to approach a steady state in which growth depends only on exogenous technological progress. By contrast, in Endogenous Growth model saving and investment can lead to persistent growth. Proponents of Endogenous growth model agree that the assumption of constant (rather than diminishing) returns to capital is more palatable if capital is interpreted more broadly as cited above in the theoretical literature. To capture the main objective of this study, output will be related to variables making up investment climate and other growth related variables using the Solow and Endogenous growth models.

Odedokun (1993) suggested that variables to be included should be those that constitute a change to accumulation of capital and labour and those that enhance their productivity. And the essence of the impact of investment climate on economic growth is enhancement of factor productivity which leads to growth.

3.1.1 Model Specification

This study measures growth on a rate to rate or on growth rate variables as Mokaya (1996) did. Some studies have measured growth in level form, others in ratio form and yet others in flow form. But since economic growth is a flow variable which has a time dimension, it is intuitively appropriate to measure it using flow of growth rate

rate variables. Recent development in the analysis of time series adopted in this study has made an improvement on the past methods of estimating the growth models of long term economic growth.

For example, the Odedokun (1993) model used growth form variables which is an improvement of some existing literature which uses estimation on the level forms of the variables.

This study attempts to shed more light on the impact of investment climate on economic growth in Kenya. In particular this study tests the hypothesis that economic growth is not only related to investment but also other long-run explanatory variables as well. The study establishes the relationship between economic growth and investment climate. To empirically test the hypothesis postulated above, the study specifies the aggregate production function as:-

$$Y=AF(K,N).....(1)$$

Where:

- Y = Output
- N= Available labour force
- K – Capital Stock
- A= The state of knowledge (education) and institutions

In terms of growth rate, equation 1 can be specified thus:

$$Y = a + (1-\alpha) k + \alpha n.....(2)$$

Where:

- Lower case letters a, k and n represent growth rates
- α is the share of the labour income

equation 2 can be extended in a direction that highlights three aspects of factor inputs.

- (i) The available supply in the economy
- (ii) The efficiency with which a given supply is allocated
- (iii) The level of utilization of the given supply

Let, e.g. X refer to an index 0-1 indicating degree of utilization
 E – refer to an index 0-1 that measures the extent to which distortions in the allocation of the resources impair the efficiency of factor utilization and hence their productivity unity (1) representing undistorted economy.

The growth equation 2 becomes:

$$Y = \Theta + \alpha n + (1 - \alpha) k \dots\dots\dots(3)$$

$$[\Theta = a + e + x]$$

Where Θ represents the following

- (i) Technical progress and increasing capital intensity
- (ii) Efficiency of resource allocation
- (iii) Level of utilization

Equation three can be extended to capture capital formation.

$$Y = \Theta + \alpha n + r (s + \lambda) \dots\dots\dots(4)$$

Where

- S= National saving rate
- λ = Non interest current account deficit expression as a fraction of G.D.P
- r= Marginal return on capital formation

Higher saving rates finance capital accumulation and growth but looking at equations 3 and 4 above, it is clear the impact of saving is minor and in view of the scarcity of savings available particularly in developing countries such as Kenya, increasing attention must focus on improving productivity.

If we assume the production function for output is linearly homogenous in capital , labour and intermediate output, H:

$$Q = F(K, N, H) \dots\dots\dots(5)$$

The value added function, Y, can be written as

$$Y = \Psi (P) G (K,N) \dots\dots\dots(6)$$

Where:

P = measures the real price of intermediate goods. A decline in the real price of the intermediate goods because competition operates in the way of technical progress by shifting out the production function. In other words open competitive market or improved trade opportunities translate into productivity gains.

Equation 6 can be extended to capture the effects of a large market.

$$Y = N^{1-\alpha} \sum X^{\alpha} \tag{7}$$

Where:

X denotes the quantity of each intermediate good.

Given M intermediate goods, and assume that it takes one unit of labour to produce a unit of an intermediate good. The labour requirement for intermediates, N_1 , the $N_1 = M_N$, and that leaves $N_f = N - N_1$ of labour for final goods production.

We can rewrite the aggregate production function for final goods.

$$Y = (N-N_1)^{1-\alpha} N_1^{\alpha} M^{\alpha} \tag{8}$$

This means that in addition labour, input variety (proxied by M, the number of different inputs) is a determinant of the level of output. A larger and more open market increases aggregate output and raises from scale economies through worldwide growth resulting in higher productivity and growth.

The study estimates a long –run Solow and Endogenous growth models’ equation that is similar to the works of Dornbusch (1990). This growth model has real growth rate of GDP as the endogenous variable which is related to the following explanatory variables: primary and secondary school enrollment rates as a proxy for human capital, volume of trade as a proxy for integration into the world economy and gross fixed capital formation as a proxy for investment. The model captures the impact of investment climate on economic growth. The model is specified as follows.

Where

$$RGDP = \beta_0 + \beta_1 PSG_t + \beta_2 SSG_t + \beta_3 TRD_t + \beta_4 CAPF + U_t \tag{9}$$

Where

RGDP = Real G.D.P growth rate

PSG = Primary School Enrolment Rate (-)

SSG = Secondary School Enrolment Rate (+)

TRD = Volume of trade i.e. exports plus imports (+)

CAPF = Gross Fixed Capital Formation (+)

U = Error term

(The expected sign between the dependent and explanatory variables is shown in parenthesis)

3.1.2 Explanation of variables

3.1.2 (0) Real G.D.P Growth Rate

The variable is used as a measure of the average rate of growth from 1965 to 1995. This is appropriate because real G.D.P growth rate represents increasing capacity and productivity in the economy whose relationship with the impact of investment is expected to be positive.

3.1.2 (1) Primary School Enrolment

The study uses primary school enrolment as a proxy for human capital. Data used range from 1965 to 1995. It is a measure of the efficiency of human capital and therefore, is expected to influence and impact positively on economic growth. Nonetheless past studies have shown a negative influence on growth due to long lags encountered before primary school investment is converted into productive labour (Mokaya, 1996). This is not expected to change in this study.

3.1.2 (2) Secondary School Enrolment

The study uses secondary school enrolment as a proxy (similar to primary school enrolment above) for human capital. Data used range from 1965 to 1995. It is expected unlike primary school enrolment mentioned above, to be important an measure of the efficiency of human capital and therefore, influence and impact positively on economic growth.

3.1.2 (3) Volume Trade

The volume of trade is used in this study as a proxy for the integration of the Kenya economy in the global economy. Data collected range from 1965 to 1995. This variable measures the trading capacity of the Kenyan economy vis-à-vis the rest of the world and examines its impact on economic growth. Romer (1990) emphasizes the knowledge and techniques gains obtained from entering into international trade which impact positively on productivity and growth. A positive relationship is therefore expected between this variable and economic growth.

3.1.2 (4) Capital Formation

The study uses gross fixed capital formation as a proxy for investment. Data used range from 1965-1995. Its an important variable, that measures the productive capacity in the economy and in this study refers to both public and private investment.

It is used in this study as a non-investment climate variable. A positive relationship is expected between this variable and the economic growth.

3.1.3 Estimation technique

Equation (9) above is estimated by Ordinary Least Squares (O.L.S). a specification associated with error correction modeling (ECM) is applied. By using cointegration and error correction model, the study establishes both short-run and long-run equilibrium. The appropriate tests for stationarity of all the variables were performed to avoid spurious regression results. When the variables were not stationary at levels, they were differenced to achieve their stationarity. A cointegration test for the series with higher order of integration was performed.

3.1.4 Types and Sources of Data

Enrolment rates were used as proxy data to represent the impact of human capital, volume of trade as a proxy for integration of the Kenyan economy into the world economy and gross fixed capital formation as a proxy for investment. The data used i.e. the volume of trade, investment and GDP, are in real terms (See Appendix B).

Secondary data was collected from the Ministry of Education, Central Bureau of Statistics, Ministry of Planning and National Development, Economic Surveys, Statistical Abstracts and other sources. The sample runs from 1965 to 1995 for all the data.

3.1.5 Analysis of Stationarity

Time series data may be integrated or trended in the sense that the variable's means may change with time and have non-constant variance. This poses a problem of spurious regression particularly if the data analysis was not done on the level to level form on the variables. Economists have argued that level – to- level analysis is the most appropriate including Milton Friedman (e.g. his permanent income hypothesis is a good example), in order to maintain a stable relationship between variables over a long period of time.

Nonstationarity tests are done in this study with a view of detrending the data. Only data with indeterministic trend (i.e. stationary) enable us to make valid inferences on time series data.

The rationale of using stationary series data is due to its mean being independent of time so that no matter what period of time the series was examined, the results obtained from such a study should remain the same. The results will have a finite variance, transitory innovations from the mean, and a tendency of the series to return to its mean value. On the other hand, nonstationary series have a variance that is asymptotic infinite, with their series rarely crossing the mean and innovations to the series being permanent.

The solution to the problem of nonstationarity is therefore to make the variables stationary or test the order of the integration through their unit root tests. If a time series Y_t is integrated of order d or $I(d)$, then the series becomes stationary after differencing d times. Anytime we have an integrated time series of order 1 denoted by $I(1)$, or greater, we have nonstationary time series.

Given the following first order regression or AR (1) below where we regress the value of Y at time t on its value at time $(t - 1)$:

$$Y_t = Y_{t-1} + U_t \dots\dots\dots(10)$$

Now if the coefficient Y_{t-1} is in fact equal to 1, we face a unit root problem i.e a nonstationary situation as pointed out above. If we run the regression

$$Y_t = \delta Y_{t-1} + U_t \dots\dots\dots(11)$$

And actually find $\delta = 1$ then the stochastic variable Y_t has a unit root. A time series of order $d = 0$, or $I(0)$ is a stationary time series but most nonstationary series have a random walk of order $I(1)$ although there are also series of higher order.

3.1.6 Tests of Stationarity

The test of stationarity tests the hypothesis that the variance of Y_t is integrated (see 10 and 11 above) of order 1 or more against the hypothesis that it is integrated of order zero. This test is based on random walk variable that assumes the same value as the last period modified by the current shocks only.

The equations above are:-

$$Y_t = Y_{t-1} + U_t \dots\dots\dots(12)$$

Can be represented as

$$Y_t = \delta Y_{t-1} + U_t \dots\dots\dots(13)$$

Can also be represented in difference form

$$\Delta Y_t = Y_t - Y_{t-1} \dots \dots \dots (14)$$

If $\delta=0$ (13) we can write (14) as

$$\Delta Y_t = (Y_t - Y_{t-1}) = U_t \dots \dots \dots (15)$$

What (15) shows us is that the first differences of a random walk time series ($=U_t$) are a stationary time series because by assumption U_t is purely a random walk. If $\delta = 1$ (see 13) then the equation represents a random walk and Y_t is nonstationary.

If $d < 1$, then the process generating Y_t is integrated of order zero and hence stationary. Once the data is stationary, we are now able to estimate equation (13) by Ordinary Least Squares (O.L.S) and test whether $\delta = 1$ by t-test. Unfortunately, we cannot determine the t-statistic distribution once the variable Y_t is nonstationary. This necessitates the unit root test normally termed as the Dickey- Fuller (D.F) test. It has been argued that Dickey Fuller (DF) test fails to take into account possible autocorrelation in the error process. The ordinary least squares (O.L.S) estimates of the variants of the DF test will be inefficient if the error term is autocorrelated. As solutions to this problem, this study employed the Augmented Dickey –Fuller (ADF) test of the following form:

$$\Delta Y_t = \beta_1 + \beta_2 t + \delta Y_{t-1} + \sum_{i=1}^m \Delta Y_{t-i} + U_t.$$

The ADF tests the null of non –stationarity against the alternative of stationarity. The tests stop as soon as one is able to reject the null of the unit root.

3.17 Cointegration analysis and error correction mechanism

If a variable contains a unit root then it is nonstationary and unless it combines with other nonstationary series to form the cointegration relationship, then the regression involving the series can falsely imply the existence of a meaningful economic relationship. Variables are said to cointegrated if a linear combination of these variables assume a lower order of integration. These variables must always be of the same order. If cointegration is established, the relationship between the independent and the dependent variables will be most efficiently represented by an error correction model (see Engle and Granger, 1987). The error correction specification facilitates the

analysis of the short run effects on the dependent variable and also suggests the speed of adjustment to long-run equilibrium.

This study applied the Augmented Dickey Fuller (ADF) test to the residuals of the statistic cointegration (long-run) regression rather than the levels of the series. Following the work of Engle and Granger (1987) the cointegration is specified as:

$$X_t = \alpha_0 + \alpha_1 Z_t + e_t \tag{16}$$

The residual of the equation $e_t = (X_t - \alpha_0 - \alpha_1 Z_t)$ is simply the $I(1)$ series. The residuals from the linear combination of nonstationary series were themselves stationary, hence the study accepts that the $I(1)$ series as cointegrated and the residuals from the cointegrating regression is a valid error correction term which is then built into an error correction model (ECM).

3.1.8 Diagnostic tests

Diagnostic tests are typically used as a means of indicating model inadequacy or failure. For example, in the case of a liner regression model which is estimated by OLS, a series of diagnostic tests could be used to indicate whether any of the assumptions required for OLS to be the best linear unbiased estimation (BLUE) appear to be violated. These assumptions include a serially uncorrelated and homoscedastic error term, absence of correlation between the error term and the regressors and correct specification of the model. Applied econometric work can be viewed as consisting of a number of steps, including specification of the model (s), estimation and model evaluation. Diagnostic testing plays an important role in the model evaluation stage of econometric studies (Otto, 1994). This study carried out various diagnostic tests including AR for autocorrelation residuals, the ARCH for heteroscedastic errors, normality test for the distribution of the residuals and the RESET test for the regression specification. In addition the CUSUM test for stability was carried out.

CHAPTER FOUR

DATA ANALYSIS AND EMPIRICAL RESULTS

4.1.0 Introduction

This chapter presents analysis of the empirical results of the study. The chapter commences with descriptive statistics which gives the normality tests of the series among other statistics. The regression results, then follow and the diagnostic tests are presented at the end of the chapter.

4.1.1 Descriptive statistics

Before embarking on the details of empirical issues, it's important to examine whether the data exhibits normality. Many economic data are skewed (non-normal), possibly due to the fact that economic data has a clear floor but no definite ceiling. Also it could be the presence of outliers. The Jarque-bera statistics test is used to test normality of the series. It utilizes the mean based coefficients of skewness and kurtosis to check normality of variables used. Skewness is the tilt in the distribution and should be within the -2 and +2 range for normally distributed series. Kurtosis put simply is the peakedness of a distribution and should be within -3 and +3 range when data is normally distributed. Normality test uses the null hypothesis of normality against the alternative hypothesis of non-normality. If the probability value is less than Jarque-Bera chi-square at the 5% level of significance, the null hypothesis is not rejected. The table 4.1 gives the summary of the descriptive statistics of the data in this study. The normality test shows that real rate of growth of GDP and secondary school enrollment are normally distributed while volume of trade and primary school enrollment are not normally distributed. This is likely to impair the normality of the residuals forming the long run relationship. The descriptive statistics among others do give guide on which of the equations is more able to yield better results and highlight on possible problems to encounter. However there is need to supplement the statistics by more incisive quantitative analysis such as the correlation matrix.

Table 4.1: Summary of descriptive statistics

	RGGDP	GTRD	SSG	PSG	GCAPF
Mean	4.51613	0.32839	0.09284	0.06019	16.7348
Median	4.8	0.29	0.101	0.033	5.7
Maximum	8.8	28	0.405	0.531	144.57
Minimum	0.3	-38	-0.155	-0.024	-34.15
Std. Dev.	2.15485	14.2431	0.11256	0.10008	35.0207
Skewness	-0.314	-0.6347	0.31164	3.6347	1.96965
Kurtosis	2.36703	4.72794	4.297	17.2428	7.63227
Jarque-Bera	1.02697	5.93768	2.67461	330.283	47.7606
Probability	0.59841	0.0503**	0.26255	0.0000**	0.000
Observations	31	31	31	31	31

Note: **Reject hypothesis of normality at 5% level

*Reject hypothesis of normality at 1% level

The correlation matrix is an important indicator, testing the linear relationship, among the explanatory variables. The matrix also helps to determine the strength of the variables in the model, that is, which variable best explains the relationship in the real growth of GDP equation. This is important and helps in deciding which variable(s) to drop from the equation. The table 4.2 presents the correlation matrix of the variables in levels.

Table 4.2: Correlation matrix at levels

	RGGDP	GCAPF	GTRD	PSG	SSG
RGGDP	1				
GCAPF	0.455077	1			
GTRD	0.072503	0.302517	1		
PSG	0.152774	0.441586	0.783621	1	
SSG	0.156284	0.442179	0.782151	0.999969	1

The table above shows that there is positive correlation between real rate of growth GDP and volume of trade and secondary school enrollment. Only primary school enrollment has negative correlation with real rate of growth GDP. All the variables are not highly correlated indicating no problem of Multicollinearity.

4.1.2 Time series properties

Non-stationarity of time series data has often been regarded as a problem in empirical analysis. Working with non-stationary variables lead to spurious regression results from which further inference is meaningless. The first step was therefore to test for stationarity of the variables. The conventional Augmented Dickey-Fuller (ADF) test was used to test for stationarity of the series. The results of the test for the variables in levels are presented in the table 4.3.

Table 4.3 Unit root tests

VARIABLE	ADF (2)	CRITICAL VALUE		ORDER OF INTREGRATION
	STATISTIC	1%	5%	
RGGDP	-4.4163	-3.6959	-2.975	1(1)
GTRD	-4.9462	-2.6486	-1.9535	1(0)
PSG	-4.8831	-2.6522	-1.954	1(1)
SSG	-3.9911	-3.6959	-2.975	1(1)
GCAPF	-3.8047	-3.6852	-2.9705	1(0)

The figure in the parentheses next to ADF indicates the number of lags.

The tests show that the variables: volume of trade and capital formation are integrated of order zero, meaning they are stationary time series. The variables: growth rate of GDP, primary school enrollment and secondary school enrollment are stationary after first differencing.

The next step after finding out the order of integration was to establish whether the non-stationary variables at levels are cointegrated. Differencing of variables to achieve stationarity leads to loss of long-run properties. The concept of cointegration implies that if there is a long-run relationship between two or more non-stationary variables, deviations from this long run path are stationary. To establish this, the Engel-Granger two step procedure was used. This was done by generating residuals from the long-run equation of the non-stationary variables, which were then tested using the ADF tests. The result of cointegrating regression are given below in Table in 4.4

Table 4.4: Cointegrating regression, reporting the long run relationship

Dependent Variable: RGGDP

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.844027	0.370443	10.37685	0.000*
GCAPF	0.027497	0.010594	2.595474	0.0153**
GTRD	0.012888	0.024428	0.527585	0.6023
PSG	-6.708556	2.470011	-2.716003	0.0116**
SSG	6.692772	2.464199	2.716004	0.0116**
R-squared	0.385984	Mean dependent var		4.516129
Adj R-squared	0.29152	S.D. dependent var		2.154854
S.E. of regresion	1.813768	Akaike info criterion		4.175379
Sum sqd resid	85.53357	Schwarz criterion		4.406668
Log likelihood	-59.71838	F-statistic		4.08605
Durb-Wat stat	1.128647	Prob(F-statistic)		0.010611**

Note: * significance at 1%

** Significance at 5%

The E-Views software was used in the analysis of time series using the Ordinary Least Squares (O.L.S)

The error term is ECT and is derived from the above cointegrating regression and expressed as;

$$ECT=RGGDP -3.8440 - 0.0274*GCAPF - 0.0128*GTRD +6.708*PSG - 6.692*SSG$$

The long-run relationship for economic growth is thus:

$$RGGDP = 3.8440 + 0.0274*GCAPF + 0.0128*GTRD - 6.708*PSG + 6.692*SSG$$

Table 4.5 unit root test of the error correction term

ADF Test Statistic	-3.0798	1% Critical Value*	-2.6486
		5% Critical Value	-1.9535
		10% Critical Value	-1.6221

The residuals were found to be stationary at 1%, 5% and 10% levels of significance for the test. The residuals become the error correction term and consequently, an error correction formulation is adopted.

4.1.2 Error Correction Modelling

After accepting cointegration, the next step was to re-specify the equation (see P. 41) to include the error correction term (ECM). This term captures the longrun relationship. It reflects attempts to correct deviations from the long run equilibrium and its coefficient can be interpreted as the speed of adjustment or the amount of disequilibrium transmitted each period to economic growth. The results of the error correction model are presented in table 4.6 below.

Table 4.6: Error correction model reporting the short run relationship

Dependent Variable:
DRGGDP

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.634997	0.466978	3.501228	0.0018**
DPSG	-6.200486	1.574801	-3.937315	0.0006**
DSSG	6.209758	1.579186	3.932252	0.0006**
DGCA _{PF}	0.031007	0.006097	5.085322	0.0000**
GTRD	0.032487	0.018572	1.749244	0.093**
ECT(-1)	-0.535014	0.124388	-4.301164	0.0002**
R-squared	0.6251	Mean dependent var		-0.05**
Adjusted R-sqd	0.546995	S.D. dependent var		2.127448
S.E. of regression	1.431892	Akaike info criterion		3.732727
Sum sqd resid	49.20755	Schwarz criterion		4.012966
Log likelihood	-49.9909	F-statistic		8.0034
Durbin-Wat stat	2.271297	Prob(F-statistic)		0.000148*

Note: * significance at 1% ** significance at 5%

Model tests

ARCH F= 3.2633[0.0820] AR-2 F=08174 [0.4545]
 RESET F= 0.3046 [0.5862] WHITE TEST F=0.7010[0.7578]
 Normality $\chi^2=0.4140[0.8130]$ CUSUM 5% LEVEL

Before embarking on the discussion of the regression results, the error correction model was subjected to number of diagnostic tests in order to evaluate its validity. The diagnostic test outcomes were satisfactory. These are LM-autocorrelation, which supplement the DW-statistics, the ARCH (Autoregressive conditional heteroscedasticity) which detects problem of heteroscedasticity, the Jaque-bera test for normal distribution of the residuals and the RESET test for the regression

specification. In addition to the above tests, CUSUM test was done. The test obtained revealed that the parameters were stable and model can be used for forecasting at the 5% level. Apart from Jaque-Berra normality test, which is distributed as chi-square statistics, the rest of the diagnostic tests have utilized the F-statistics distribution. A summary of these tests is included below the table 4.6.

The variables, volume of trade and secondary school enrollment considered in the determination of the economic growth in Kenya are as hypothesized while primary school enrollment is not as hypothesized. The results show that the volume of trade is weakly exogenous to the real rate of growth of GDP whereas primary and secondary school enrollments and error correction term are not. The endogenous growth model which this research is using places emphasis on the role of efficiency of human capital in facilitating long-term economic growth. The human capital was measured by secondary and primary school enrolment rates. The coefficients of primary and secondary school enrollments and error correction term are statistically significant and have the expected sign except primary school enrollment. The change in real GDP growth rate due to a unit change in primary school enrolment (PS) was -6.2 and significant at 5 per cent significance level. Mokaya (1996) also found that primary school enrolment, though a measure of human capital which has a prominent role in facilitating economic growth, also gave a wrong sign. This could be due to the long lags encountered before primary school investment is finally converted into productive labour. It could also be a mismatch between education at primary school level and the skills needed for activities that generate social returns as cited by Benhabib and Spiegel (1994) and Pritchett (2001).

The secondary school (SS) enrolment rate was found to promote economic growth since the change in the real GDP growth rate due to unit change in the secondary school enrolment was found to be 6.21 and significant at 5 per cent significance level. This means that a 10 per cent change in secondary school enrolment will increase the long-term economic growth by 0.62 per cent. Although the coefficients of volume of trade and capital formation are statistically significant, they have relatively weak signs. For example, a 10 per cent change in the volume of trade and capital formation will increase the long-term economic growth by 0.0032 and 0.0031 respectively.

The lagged error correction term (ECT) included in the growth model to capture the long-run dynamics between the cointegrating series is correctly signed (negative) and statistically significant. It indicates a rapid response of output to deviations from long run relationship with each of the variables. In particular, negative deviations from the stationary relationship are “corrected” by increases in output. The coefficient 0.535 is stable and statistically significance. This indicates a speed of adjustment of 54% from actual growth in the previous year to equilibrium rate of economic growth. This is high and implies that the deviations from the long run equilibrium path are almost corrected in one period.

CHAPTER FIVE

SUMMARY AND POLICY IMPLICATIONS

The main objective of this study is to shed more light on investment climate by using the Solow Model as well as the Endogenous growth model in providing both the theoretical and empirical framework to assess its impact on economic growth in Kenya in a period of 31 years i.e. between 1965 and 1995. The research paper dwelt on a few explanatory variables (i.e. primary and secondary school enrolment rates, investment and volume of trade) that the literature on investment climate and economic theories identified as having an impact on long-term economic growth. The primary and secondary enrolment rates were used as a proxy for human capital, volume of trade as a proxy for integration of the Kenya economy into the world economy; the three variables are important investment climate determining factors and were therefore used to assess their impact on Kenya's economic growth. The gross fixed capital formation as a proxy for investment was included to assess the impact of investment on growth.

E-Views time series computer package was utilized to analyze the data using the OLS technique of estimation. To avoid spurious regression results unit root tests were done on the variables to check whether they were stationary or not, and further cointegration tests were carried out and the Error Correction Mechanism (ECM) applied to remedy the problem of differencing which leads to loss of long-run properties. To minimize this problem of differencing and detrending the times series data and make the research work more robust and the results more credible for policy analysis, the Error Correction Mechanism (ECM) or feedback mechanism was used in the cointegration analysis.

The study utilized secondary data in real terms (i.e. volume of trade, capital formation and GDP) obtained from various sources such the Ministry of Education, Central Bureau of Statistics, Ministry of Planning and National Development, Economic Surveys, Statistical Abstracts etc. Diagnostic tests were done to ensure the results obtained were from a model with sound econometric modeling whose inferences and policy implications can be relied upon. The model passed all the tests that were carried out and therefore the results are reliable.

5.1.0 SUMMARY OF THE RESULTS

There were mixed results from the four variables used in the model i.e. primary and secondary school enrolment rates, capital formation and volume of trade. The secondary school enrolment had the right sign but primary school enrolment had a negative sign although both variables were significant at 5 per cent significance level. The results are consistent with other studies that have been done before, for example, Mokaya (1996) found primary school enrolment rate to indicate the same result. Although we would expect primary school as a measure of human capital to take a positive sign since primary school education was really the pioneer facilitator of early education and skills in Kenya after independence in 1963; this is not the case according to these research findings. This could be a mismatch between education at primary school level and skills needed for activities that generate social returns as cited by Benhabib and Spiegel (1994) and Pritchett (2001). It could also be due to long lags encountered before primary school investment is finally converted into productive labour, (Mokaya, 1996). The secondary school enrolment was found, like in all studies taken before this one to have an impact on long-term economic growth.

The volume of trade and capital formation were found to be statistically significant although both had relatively weak signs. For volume of trade, the result is partly due to the fact that the figures were presented reflecting changes in the absolute figures throughout the entire 31 years (1965-1995) and not changes of the shares of exports and imports in the GDP as argued by Teal (2004). Even though this is the case, the volume of trade figures were low, erratic and inconsistent according to my own calculations which are not included in this paper but are consistent with Teal's argument that most African countries' volume of trade as a share of GDP (including Kenya) increased by less than 25 per cent compared, for example, to China that quadrupled its share in GDP between 1980 and 2000. The results indicate clearly that Kenya despite efforts that have been made to encourage exports, there is still a long way to go to integrate its economy in the world economy like the high export-led economies in South East Asia and China. Regarding investment, the results show clearly the weak link of national Savings (both public and private) i.e. capital formation as a key driving variable for economic growth in Kenya.

5.1.1 POLICY IMPLICATIONS

The study provides results which can be very useful to policy makers especially at this stage of Kenya's development when education and trade are topical issues in the public domain in connection with reforms needed in the two sectors i.e. domestically and internationally respectively. Capital formation, as a key variable of growth needs attention at both public and private sector levels. The results indicate the potential impact the variables have on economic growth in Kenya.

Since the primary and secondary school enrolment were found to be statistically significant as impacting positively on economic growth in Kenya, the factors promoting human investment should be encouraged as a policy matter. No doubt the current regime in Kenya has stepped up investment in primary school education by making it universally free for all Kenyans.

Secondary school education needs further investment considering the limited public and private facilities that are available at the moment. The government due to limited budgetary resources would need to provide incentives to the private sector to expand secondary school facilities to meet local demand and make it affordable to many Kenyans who are forced to send their children to neighbouring countries such as Uganda and farther a field. It's worth noting that secondary school education was found in this study not only with a relatively strong positive sign, but also significantly sound; impacting positively on economic growth in Kenya.

Regarding the volume of trade, the government has since the late 1980s and 1990s embarked on, amongst others, policies and programmes to promote exports and investment and has deepened the market –oriented economy in Kenya, by the introduction of e.g. the foreign exchange liberalization, trade liberalization, the introduction of the Manufacturing Under Bond (M.U.B) programme, the creation of such institutions such as the Investment Promotion Centre (IPC) in 1986, the Export Processing Zones (EPZ) programme in 1990, and, afterwards, the Export Promotion Council; and all this was done to improve production and make Kenya competitive in the world economy. It's worth noting that although all these efforts have been undertaken, it appears according to this study, they have not borne fruit. A case in point is the IPC which has been lethargic in its operations and has not been able to

attract the levels of foreign direct investment (FDI) as originally expected. IPC was seen initially as a springboard to spur the interest for both domestic and international investment in all sectors of the economy, to improve productivity and accelerate growth but due to budgetary, personnel and other constraints, the performance of IPC has been lacklustre. There is need, among other things, to strengthen these institutions that are promoting exports and investment by investing more resources in them and reviewing the investment laws, incentives, procedures, etc to make them more in line with the requirements in the global marketplace.

Regarding capital formation, deficit financing has been a common budgetary feature of the Kenya government for the sometime now. Deficit financing has its own pit falls: increases of interests rates, crowding out of the private sector of investible funds are consequences that taken together hurt investment and growth. Policy makers must exercise restraint and ensure there is a balance between collected revenues and spending. The fight against corruption must be strengthened to reduce misappropriation of public funds. Innovative ideas and mechanisms must be put in place to mobilize savings particularly at the household level. Since a high population of Kenya's population lives below the poverty line, there is need to attack poverty by increasing opportunities for employment. Appropriate incentives both for local and foreign investors would encourage further investment which is required to spur growth. Realized additional investment would have its own spin-offs i.e. increased employment, incomes, and government receipts.

LIMITATIONS OF THE STUDY

The research study could not look at the specific components of investment climate such as governance, regulations, economic policy, delivery of public services, etc, due to lack of adequate data. So far there is data available at firm level even in Kenya on investment climate through surveys that have been undertaken through the initiative of the World Bank, the Kenya Institute for Public Policy Research and Analysis (KIPPRA) and the Centre for the Study of African Economies (CSAE) in 2004. This data has been used, however, for analysis of investment climate and private sector performance and not economic growth. It could have been better to look at the contribution of the investment climate components directly rather than indirectly (methodology used in this study) in relation to their impact on economic growth.

5.1.2 AREAS FOR FURTHER RESEARCH

As cited above, in the limitations of this study, the areas for further study would be to focus on particular components of investment climate and find out their impacts on economic growth in Kenya.

APPENDIX

(A) TRADE PERFORMANCE INDICATORS

Table 1

(A.1) MARKET SHARES IN SEVEN KEY NEIGHBOURS' IMPORTS (PERCENT)

TOTAL IMPORTS	1994-96	1997-99	2000-02
KENYA	8.5	7.9	7.7
CHINA	2.2	4.0	5.5
EGYPT	1.8	0.9	1.2
INDIA	4.2	4.6	4.7
S. AFRICA	6.2	11.7	14.5
Basic consumer goods and industrial inputs			
KENYA	8.6	6.1	4.2
CHINA	2.3	4.5	5.9
EGYPT	1.7	1.0	1.3
INDIA	4.7	4.8	4.9
S. AFRICA	7.1	13.0	15.2
Food related processed goods			
KENYA	9.0	6.2	2.1
CHINA	0.1	0.8	1.3
EGYPT	2.9	1.7	2.2
INDIA	1.5	1.0	3.0
S. AFRICA	5.8	12.4	10.5
Oils, fats, soaps, toiletries and pharmaceuticals			
KENYA	9.5	9.6	8.0
CHINA	1.1	1.6	3.3
EGYPT	2.2	0.8	1.7
INDIA	4.8	7.0	7.0
S. AFRICA	7.2	13.4	16.3
Basic industrial inputs (metal, paper, etc)			
KENYA	16.5	11.3	8.4
CHINA	3.9	8.6	8.1
EGYPT	2.7	1.7	2.1
INDIA	3.0	6.4	6.4
S. AFRICA	9.5	16.1	19.0
Other misc. manufactured goods			
KENYA	3.9	2.5	1.7
CHINA	2.7	4.7	7.0
EGYPT	0.7	0.5	0.7
INDIA	6.4	4.4	4.0
S. AFRICA	6.3	11.6	14.4
All other (incl. petroleum, horticulture, tea and coffee)			
KENYA	8.2	14.5	20.2
CHINA	1.7	1.9	4.0
EGYPT	2.1	0.6	0.7
INDIA	2.4	3.8	4.1
S. AFRICA	2.8	7.2	11.8

SOURCE: - UN COMTRADE, data from importing countries

APPENDIX

(A.2)Table 2

REGIONS: MANUFACTURED GOODS EXPORTS, PERCENT OF TOTAL, PERIODS	1980	1985	1990	1995	2000
Industrialized Countries	81.9	80.4	80.3	73.9	69.2
Sub- Saharan Africa	0.7	0.5	0.4	0.6	0.6
S. East Asia	6.8	8.0	11.5	15.9	13.4
(China)	(1.0)	(1.2)	(2.5)	(4.6)	(6.5)
Transition economies	5.0	4.7	3.1	3.5	4.0
Latin America	3.2	3.6	2.4	3.7	5.1
TOTAL EXPORTS (BILLION OF US DOLLARS)	1233.5	1325.6	2635.4	4004.8	4924.7

SOURCE: UNIDO, Industrial development Report, 2004

(A.3) Table 3

COMPOSITION OF EXPORTS TO US and E.U.(Percent of total, period, average)	U.S.A		E.U	
	1996-99	2000-03	1997-99	2000-03
Tea and Coffee	25.6	15.2	43.3	27.9
Flowers and Plants	0.2	0.6	15.1	24.8
Vegetables and fruits(incl. prepared)	3.4	1.5	20.4	24.0
Manufactured goods	41.6	66.4	5.2	6.0
TOTAL EXPORTS (MILLION US DOLLARS)	106.4	169.1	399.0	825.6

SOURCE: Based on imports from U.S and EUUSITC and Euro stat.

APPENDIX

(B) PROJECT MAIN DATA

PS = PRIMARY SCHOOL ENROLMENT (1965 –1995)

SS = SECONDARY SCHOOL ENROLMENT (1965 –1995)

(B.1) PS 1965 – 1995

<i>Year</i>	Total	Percentage (%) change
1965	1,042,146	100
1966	1,043,416	0.001
1967	11,133,179	0.086
1968	1,209,680	0.068
1969	1,282,297	0.060
1970	1,427,589	0.113
1971	1,525,498	0.069
1972	1,675,919	0.099
1973	1,816,017	0.084
1974	2,705,878	0.531
1975	2,881,155	0.065
1976	2,894,617	0.005
1977	2,974,849	0.028
1978	2,994,894	0.007
1979	3,698,246	0.235
1980	3,926,629	0.062
1981	3,981,162	0.014
1982	4,184,602	0.051
1983	4,323,822	0.033
1984	4,380,232	0.013
1985	4,702,414	0.074
1986	4,843,432	0.030
1987	5,031,340	0.039
1988	5,123,581	0.018
1989	5,389,148	0.052
1990	5,392,319	0.001
1991	5,455,996	0.012
1992	5,563,987	0.020
1993	5,428,386	-0.024
1994	5,557,008	0.024
1995	5,536,396	-0.004

SOURCE: Ministry of Education Science and Technology 1965 -1995

APPENDIX

(B.2) SS 1965 – 1995

Year	Total	Percentage (%) change
1965	47,976	100
1966	63,193	0.317
1967	88,779	0.405
1968	101,361	0.142
1969	115,246	0.137
1970	126,855	0.101
1971	140,722	0.109
1972	161,910	0.151
1973	174,767	0.079
1974	195,832	0.121
1975	226,835	0.158
1976	280,388	0.236
1977	320,310	0.142
1978	361,622	0.129
1979	384,389	0.063
1980	399,907	0.040
1981	409,850	0.025
1982	438,424	0.070
1983	493,710	0.126
1984	510,943	0.035
1985	437,207	-0.144
1986	458,712	0.049
1987	522,261	0.139
1988	540,192	0.034
1989	640,735	0.186
1990	618,461	-0.035
1991	614,161	0.007
1992	629,062	0.024
1993	531,342	-0.155
1994	619,839	0.167
1995	632,388	0.020

SOURCE: Ministry of Education, Science and Technology 1965-1995

APPENDIX

(B.3) VOLUME OF TRADE (I.E. EXPORTS + IMPORTS) 1965 – 1995

Year	Volume of Trade in K £ million	Percentage (%) change
1965	182,210	0
1966	214,728	+1
1967	205,816	-4
1968	216,375	-1
1969	226,078	-1
1970	266,913	+5
1971	312,298	+5
1972	330,561	0
1973	409,264	-1
1974	619,766	+27
1975	600,829	-6
1976	752,059	-21
1977	1,033,265	+15
1978	1,056,896	-3
1979	1,032,937	-4
1980	1,474,734	+25
1981	1,469,634	-4
1982	1,468,949	-38
1983	1,557,800	+1
1984	1,874,113	+10
1985	2,003,470	0
1986	2,324,741	+5
1987	2,220,783	-5
1988	2,717,024	+9
1989	3,258,714	+10
1990	3,789,640	-36
1991	4,275,379	+1
1992	4,697,131	-8
1993	8,734,666	+28
1994	10,036,119	0
1995	12,625,371	-1

SOURCES: Central Bureau of Statistics, Economic Surveys and Statistical Abstracts - 1965, 1969, 1974, 1979, 1984, 1989, 1994, 1999

APPENDIX

(B.4) REAL GROSS DOMESTIC PRODUCT 1965 – 1995

Year	Real GDP In K £ Million	Real GDP Growth Rate (%)
1965	333.05	6.3
1966	381.36	6.7
1967	396.47	6.6
1968	427.12	6.3
1969	454.33	6.5
1970	485.06	6.5
1971	517.73	7.0
1972	550.72	6.8
1973	690.53	4.3
1974	719.10	1.1
1975	753.59	4.1
1976	1,278.00	2.4
1977	1,390.26	8.8
1978	1,482.94	6.9
1979	1,539.54	3.6
1980	1,590.66	3.3
1981	1,678.54	5.5
1982	2,944.62	3.3
1983	3,034.95	3.1
1984	3,063.37	0.9
1985	3,302.74	4.1
1986	3,498.19	5.6
1987	3,668.44	4.9
1988	6,480.60	5.2
1989	7,387.80	5.0
1990	8,377.80	4.5
1991	9,540.30	2.1
1992	12,807.00	0.5
1993	13,509.10	0.3
1994	15,551.10	3.0
1995	19,688.33	4.8

SOURCES: Central Bureau of Statistics, Economic Surveys and Statistical Abstract - 1965, 1969, 1974, 1979, 1984, 1989, 1994, 1999

APPENDIX

(B.5) GROSS FIXED CAPITAL FORMATION

Year	Total in K£ Million	Percentage (%) Change
1965	45.46	100
1966	56.78	24.90
1967	76.30	34.38
1968	77.86	2.04
1969	79.71	2.38
1970	95.51	19.82
1971	113.78	19.13
1972	165.11	45.11
1973	108.72	-34.15
1974	146.34	34.60
1975	142.54	-2.60
1976	143.91	0.96
1977	351.96	144.57
1978	411.19	16.83
1979	384.74	-6.43
1980	395.16	2.71
1981	410.92	3.99
1982	668.33	62.64
1983	578.38	-13.46
1984	564.96	-2.32
1985	597.16	5.70
1986	624.83	4.63
1987	707.96	13.30
1988	766.71	8.30
1989	559.11	-27.08
1990	785.12	40.42
1991	762.33	-2.90
1992	718.07	-5.81
1993	703.32	-2.05
1994	800.09	13.76
1995	923.38	15.41

SOURCES: Central Bureau of Statistics, Economic Surveys and Statistical Abstracts - 1965, 1969, 1974, 1979, 1984, 1989, 1994, 1999

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