THE EFFECTS OF PRIVATISATION ON CONSUMERS' WELFARE: The Case of Tea and Coffee Farmers in Kirinyaga District, Kenya

by

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A research paper submitted to the School of Economics in partial fulfilment of Master of Arts Degree in Economics of the University of Nairobi.

JOMO KENYATTA MEMORIAL

OCTOBER 2007

UNIVERSITY OF NAIROBI
EAST AFRICANA COLLECTION

DECLARATION

This research paper is my original work and has not been presented for a degree award in any other university.

Signature ______________________ Date 09/11/07

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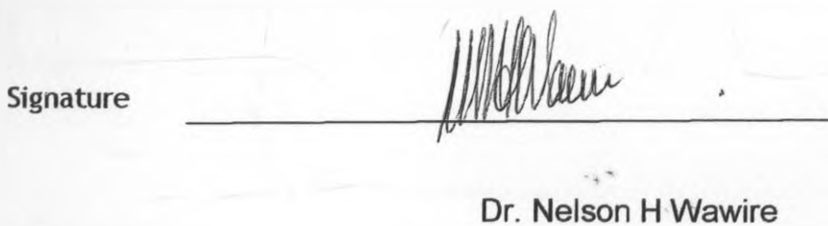
This Research paper has been submitted for examination with our approval as university supervisors.



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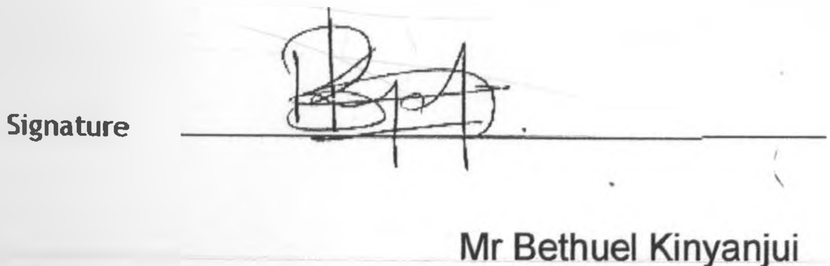

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Mr Bethuel Kinyanjui

DEDICATION

This paper is dedicated to my late mother, Jane Nguri for her dedication towards my education and the other family members.

ACKNOWLEDGEMENTS

I would like to thank most sincerely my two supervisors Dr N.H.Wawire and Mr B.Kinyanjui who despite their busy schedule, spared all the time I needed to provide me with perceptive comments and constructive criticisms, which were very useful in improving this final paper. I would also like to thank them for their patience and counselling which went a long way in making me finalize this paper despite the time taken since I finished my course work.

My sincere thanks also go to the directors of my firm, Pinnacle International Consulting Limited, for giving me time to undertake this course and their assistance in allowing some of the staff to assist in data collection, without which I would not have been able to finalize this paper.

Finally, I would like to give special thanks to my family. My wife Esther encouraged me to go on despite spending a lot of time in the evening writing this paper. My two sons, Isaac and Michael, and my daughter Jane for their encouragement and support.

OPERATIONAL DEFINITION OF TERMS

Concessioning – privatisation method where the operation of an enterprise is leased out to the private operator for a period of time at a fee and share of profit.

Denationalisation – process of returning formally nationalised enterprises to the former owners or to the private sector.

Divesture – transfer of title in or sale of some or all assets or shares in an enterprise regardless of any transfer of operations.

Equity dilution – a privatisation method where an enterprise's share capital is increased, with the new share capital subscribed by private shareholders.

Externalities – interdependencies not conveyed through prices. In other words externalities are third party (or spill-over) effects arising from the production and/or consumption of goods and services for which no appropriate compensation is paid.

Joint venture – privatisation method where a company is owned by the government and private investor(s).

Liberalisation – as used in this context, it means economic liberalisation which refers to less government regulations and restrictions in the economy in exchange for greater participation of private entities.

Management contract – privatisation method where a contractor is charged with the responsibility of running the enterprise or a section of it at a fee based on certain performance criteria.

Privatisation – any transactions that result in government selling or transferring control of an enterprise to the private sector.

Public goods – goods which are jointly consumed and non-excludable.

Restitution – privatisation method where shares or assets are returned to former owners from whom they had been acquired through nationalization or confiscation.

Structural Adjustment Programs (SAPs) – prescribed economic programmes by the World Bank and the International Monetary Fund (IMF).

ABBREVIATIONS

FRG	Federal Republic of Germany
GNP	Gross National Product
IMF	International Monetary Fund
KNBS	Kenya National Bureau of Statistics
CES	Constant Elasticity of Substitution
OLS	Ordinary Least Square
PERP	Privatisation and Public Enterprise Reform Programme
SAM	Social Accounting Matrix
SAP	Structural Adjustment Program
SOE	State Owned Enterprises
UK	United Kingdom

ABSTRACT

Kenya embraced privatisation as one of the liberalization measures in 1990s, for it to accelerate its economic growth. Despite embarking in it early 1990s, the economic growth during this period deteriorated from a GDP growth rate at constant prices of 4.8 percent in 1995 to -0.2 percent in 2000. At the same time wage employment fell from a growth rate of 3.4 percent to 0.4 percent. The poverty level of the average Kenyan increased from 48 percent of the population in 1990 to almost 56 percent ten years latter. There is therefore need to investigate the degree to which privatisation has achieved the intended purpose of increasing economic efficiency and economic flows, which would have had direct contribution towards poverty reduction and reduction in unemployment.

The objective of this study was to investigate the contribution of privatisation to the consumers' welfare and the appropriateness of the process so far undertaken. In addition the study has suggested how the process of privatisation could be modified to achieve optimal consumers' welfare; and finally drawn policy implications from the findings of the privatisation process implemented in Kenya.

The methodology used in this study was on two levels. From the national production of tea and coffee, the growth rates of real incomes based on 1982 prices was estimated using semilog model. On the second level the impact on the consumers' welfare was estimated using comparative statistics derived from the utility maximisation modelled as a Cobb-Douglas function. Data used to construct the model was the basic consumer's bundle of goods and services.

The empirical findings from this study show that coffee income in real terms had a negative growth rate, over the period between 1995 and 2006, of approximately 5.8% per annum. At the same time tea income had a positive growth rate of 2.9% per annum. Overall, the consumer welfare showed a decline for all bundles of goods included in the study, notwithstanding the substitution effects like on foodstuffs.

From the findings of the study it was evident that success or failure of privatization of a particular sector depended very much on the leaders of the process rather than any available laws or developed policies to achieve a unified goal. This can be deduced from the fact that the coffee sector had a negative growth, while that of the tea sector was positive. Empirically it is evident that these two sectors took different strategy in their privatization process.

The emergent conclusions from the findings are that privatization process would have been positive if the process was well designed, laws enacted and properly implemented.

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CHAPTER ONE
INTRODUCTION

1.1. Background

Privatization as an economic development policy has been in progress world over for over twenty years now. However, nowhere so far was privatization undertaken as in Britain under Mrs Thatcher. By the time she came to power in 1979, about 11.5 percent of Gross National Product (GNP) was accounted for by the State Owned Enterprises (SOEs) and by the time of her third election in 1987, the GNP from SOEs had reduced to 7.5 percent (Vickers and Yarrow, 1988)

Though modern privatization is associated with the Thatcher government in the United Kingdom, the first large-scale, ideologically motivated "denationalization" program of the post war era was launched by Konrad Adenauer elected to power in the Federal Republic of Germany (FRG) in 1957 (Megginson *et al*, 1994). The first major sale occurred in 1961, when the FRG sold a majority stake in Volkswagen in a public share issue heavily tilted towards small investors, and four years later FRG orchestrated a similar but larger secondary share issue in the company. The objectives expressed by the FRG government in launching the first privatization were the objectives expressed by the Thatcher government two decades later when the UK government launched its privatization, and followed by every government which has decided to follow the privatization route, regardless of their ideological basis. The main reasons for privatization have been based on the disappointment with the actual performance of the SOEs and the belief that the lure of financial incentives and the discipline provided by the capital market will spur greater efficiency.

Since early 1980s privatization has been high on the political agenda. However what are the economic consequences? The Wealth of Nations by Adam Smith (1776), argued that in every great monarchy in Europe the sale of the crown lands would produce a very large sum of money, which, if applied to the payment of public debts would deliver from mortgages a much greater revenue than any which those lands have ever afforded to the crown. Meaning that with the former crown lands becoming private property, they would, in the course of a few years become well improved and well cultivated (Vickers and Yarrow, 1988). Therefore, in the Kenyan situation, has privatisation brought in economic development? Has the welfare of Kenyans been improved since the country embarked on full scale privatization?

1.1.1. Reasons for Privatisation and Methods Applied

There are various reasons given by the advocates and authors on privatisation. Vickers and Yarrow (1988) gave the objectives for privatisation as reducing government involvement in the industry; improving efficiency; reducing the public sector borrowing; easing problems of the public sector pay determination by weakening the public sector unions; widening share ownership; encouraging employee share ownership; and gaining political advantage. Empirical evidence shows that the reasons given for privatisation by most governments included reducing fiscal burden; developing private sector; broadening ownership; increasing economic efficiency; reducing administrative burden; developing capital markets; accessing markets, capital and technology; and/or raising revenue for treasury.

Various privatisation and divesture methods have been used by various countries, major ones being: sale of shares, which could be partial or majority

privatisation; sale of assets through partial divesture or full divesture; management or employee buyouts; equity dilution; joint venture; restitution; liquidation; leasing; concessioning; and management contract.

1.1.2. Privatisation Program Design

White and Bhatia (1998) stated that privatisation is an intensive political process involving players from the executive, legislature, and judicial branches of government on one part, and the private sector representatives on the other hand. Success of privatisation is dependent on the political leadership's commitment to the process at the highest level; and the structured process for executing and coordinating its transactions in place.

Before a privatisation process is embarked on, it should be well thought out, objectives should have been set, each sector of the economy it is likely to affect be reviewed and impact analysed. The laws should be reviewed to ensure that they are accommodative to the privatisation process and the institutions like the regulatory authorities are put in place (White and Bhatia, 1998).

According to White and Bhatia, (1998) the first activity in undertaking the process is program design and preparation exercise whereby a privatisation agency is established; enterprises to be privatized are selected and the mode of executing the process for each sector or enterprise defined; organisation and performance review of each enterprise to be privatized undertaken; and preparation of detailed operating policies and procedures for the privatisation program defined.

The second activity is to enact privatisation law defining key principles on which the program will be based on and the institutional arrangement for its implementation

including the process to be followed before it can commence. The third activity is the implementation process whereby enterprises to be privatised are selected and privatisation method for each indicated; and terms of reference for transaction advisors developed and consultants recruited. The final activity is to manage the process by providing independence to the privatisation agency, and ensuring that it is focused and has adequate resources to facilitate implementation.

1.1.3. Privatisation in Africa

In the developing countries, privatisation was introduced as part of the Structural Adjustment Programs (SAPs) sponsored by the World Bank and the International Monetary Fund (IMF) (Mitine, 2000) to correct structural imbalances hindering economic growth. SAPs were designed as short term measures to solve severe balances of payments crises which hit the Third World in the 1970s and 1980s as a result of high oil prices, deterioration in terms of trade, heavy external borrowing at high interest rates leading to heavy debt burdens.

The genesis of the parastatal sector in East Africa goes back to the 1960's and 1970's when many countries lacked an industrial base and an entrepreneurial class with sufficient capital to undertake projects (Mitine, 2000). The state was, therefore, called upon to play a key role in the promotion of economic development. It was envisaged that the state would be in a position to mobilize both human and financial resources to launch projects for further economic growth. Consequently, these countries set up state-owned enterprises covering the length and breadth of economic activities.

Africa's limited reliance on the private sector in the early years of independence stems from its colonial experience and ideological stance after independence (Debebe,

1993). During the colonial times the production and consumption structure of African economies was structured to fit the interest of the colonial powers. The colonies produced raw materials for factories in Europe and manufactured goods which were exported back to the African countries for sale, a process which has remained, even many years after independence. During the colonial period Africans were deprived off entrepreneurial skills while their labour was widely used in colonial establishments. The colonial powers used their people for entrepreneurial management with little, if any, sharing with African natives.

The political and economic environment of the world at the time of independence played an important role in determining the development path many African countries chose (Debebe, 1993). The world was divided between the capitalist west and the communism east. The East-West competition cared little to get the African economies growing as their main concern was political power which influenced their aid assistance to these newly independent countries, channelled mainly in form of military hardware with little, if any, on economic welfare of these nations. This game continued until the collapse of the Soviet Union when the Western Economies started paying interest to the economic well-being of the African countries.

Both Mitine (2000) and Debebe (1993) concur that by the beginning of 1970's it was realized that the economic performance of these countries like all third world countries showed either marginal growth or stagnation. The expected stimuli to growth that was expected from SOEs proved disappointing as many of them continued to accumulate huge losses and became a drain on the national treasuries. Through recommendations by the World Bank and the IMF, privatisation measures were

introduced to remove ownership of SOEs from Government to the private sector. Privatisation went hand in hand with other macro-economic measures to achieve faster economic growth through better and efficient use of resources. Some of the other measures besides privatisation included trade liberalization, exchange rate alignment, and removal of price controls, budgetary controls, and more allocation of credit to the private sector.

1.1.4. Privatisation in Kenya

The thinking on privatization in Kenya started way back in late 1970s. In 1979 the government of Kenya (GOK) undertook a review of statutory boards (Republic of Kenya, 2005) to evaluate why the performance of parastatals was not up to the expectation, with a view to coming up with ways and means of arresting the situation. The main conclusions of this report was that there were general lack of efficiency in the sector; general financial mismanagement; lack of focus; and general exposure of the government to the benefit of a few inventors in the private sector.

This study was closely followed by the Report of the Working Party on Government Expenditures published in 1982 (Republic of Kenya, 2005). This report concluded that productivity of the state corporations was quite low while at the same time they continued to absorb an excessive portion of the budget, becoming a principal cause of long-term fiscal problem. The report observed that Kenyanization had remained merely presentational through government ownership; state corporations' operations had become inefficient and unprofitable, partly due to multiplicity of objectives; existence of parastatals in commercial activities had stifled private sector

initiatives; and many of the joint ventures had failed, requiring the Government to shoulder major financial burden.

The report therefore recommended that the government should act as a creator of favorable setting within which people can develop themselves and hence the economy; divest from its investments in commercial and industrial enterprises to transfer active participation to more Kenyans through shareholding; reduce exposure to risk in areas in which the private sector could assume risk without government intervention; dismantle some of the existing administrative hurdles which discourage private sector initiative and provide needless opportunities for corruption; and reorganize legal and institutional framework regarding monitoring and supervision of parastatals.

Despite these two reports which were a clear manifesto to the government to develop an appropriate policy on the parastatal reform, more stringent controls were instead introduced through the enactment of the State Corporations Act in 1986. With the enactment of this law, political patronage became the norm to get parastatal appointments with no regard to qualification and experience in running such organizations. Performance of these executives was no longer a criterion as long as they remained loyal political players to the appointing authority.

This obviously led to deterioration in the performance of the parastatals in all spheres ranging from general to financial mismanagement. The government in its effort to sustain them injected more and more funds from its limited resources and through guaranteed borrowings. In the face of poor performance of the SOEs, the Kenya Government adopted a new development strategy, spelt out in Sessional paper No.1 of

1986, on Economic Management for Renewed Growth (Republic of Kenya, 1986). The strategy was to restructure the economy so as to remove distortions, and to create a market driven economy, through concentration of its energies on creating an enabling environment for doing business by providing such things as infrastructure and security.

The poor state of the public sector performance led to the publication of Sessional Paper No.4 of 1991 on Development and Employment in Kenya, which decried the continued deterioration of the performance of state corporations. The Paper observed that while the creation of state corporations through which government participation in economic activities was promoted was perhaps appropriate soon after independence, the objectives for and the circumstances under which most of the state enterprises were created had since changed. The paper underlined the need to implement privatization and divestiture of State corporations urgently in view of the managerial problems afflicting the parastatals leading to poor return on government investments, the existence of a larger pool of qualified manpower, availability of more indigenous entrepreneurship to permit private sector led economy, and the need for non-tax revenue for the Government.

Indeed, initial efforts towards parastatal reforms were ad hoc and included capitalization and restructuring of managements (Mitine, 2000). It was soon realized, however, that the malaise was so deep that only a comprehensive and far-reaching program stood any chance of success. Therefore in July 1992 the government launched the policy paper on Privatisation and Public Enterprise Reform Programme (PERP) (Republic of Kenya, 1992), with wide-ranging objectives. Based on this paper the Government was to discontinue its presence in commercial activities and dovetail its

services to those activities relating to governance; promote the growth and development of the stock market and accelerate investment and broaden share ownership. In addition the government was to avoid unfair competition and resultant crowding out of the private enterprise; lessen political interference in company operations; promote competition, efficiency and productivity; and improve the regulatory environment by selecting more economically rational means of regulation (thereby reducing conflicts of interest between the regulatory and commercial functions of state corporations.

There were 240 public enterprises, with 207 non strategic commercial public enterprises which were to be privatized and 33 Strategic Commercial public enterprises which were to be restructured and retained under public sector ownership and control in Kenya when the PERP paper was published in 1992. By May 2000 out of the original 240 directly and indirectly owned parastatals, a total of 168 parastatals had been privatised, 14 through liquidation; 22 through receiverships; 54 through pre-emptive rights; 10 through public floatation; 17 through competitive bidding; 1 through management/employee buyout; 11 through partial divesture; and 39 through total divesture (Mitine, 2000). The government total earnings out of these transactions were just slightly more than Kenya Shillings 11 billion or an average of Kenya shillings 65 million each, a price considered by many as far below the market value of these corporations.

Though Kenya embarked on privatisation aggressively, there were no laws which were enacted to control or regulate the process. Hence, as stated by White and Bhatia (1998) from a World Bank publication, that Kenya's privatisation program was designed to be coordinated centrally by a privatization implementation agency reporting to a

government appointed committee, which lacked legal status and authority. As such each sector handled its own privatization process with no formal program, regulation or control. Due to these disconnects in 1995 some 41 members of Parliament held a press conference in which they complained of the process. In their statement they indicated that the privatisation process had opened up perhaps the most lucrative means of looting and legitimizing the plunder of public investments.

In addition to the privatization process for the commercial parastatals which was taking place, the other sectors of the economy were also being liberalised. In agriculture the two main commodities, tea and coffee were also subjected to liberalization with the affected institutions either being candidates for restructuring or full privatization.

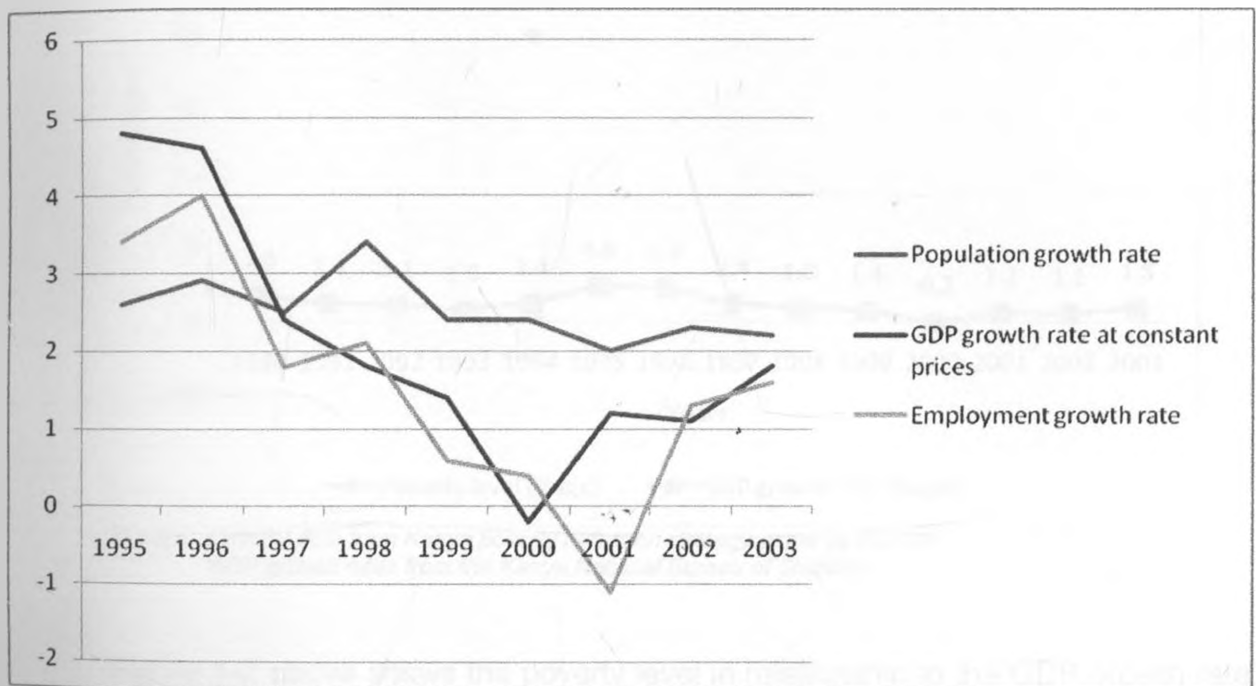
Evidently it was clear that for those sectors of the economy where liberalization/ privatisation was undertaken based on well articulated studies and all factors considered including regulatory issues, the sector's performance improved despite lack of a national policy on privatisation. It is also evident that after liberalisation the production of coffee plunged while that of tea thrived, a factor attributable to the differences in management of the process for the two sectors. Therefore, for those sectors where the liberalization/privatisation process was undertaken haphazardly, the results were very discouraging.

Generally the analysis above is in agreement with a study undertaken in Argentina (Chisari, Estache and Romero, 1997), where it was found that if privatisation process was well thought out and effective regulatory institutions put in place, the gains from privatisation were significant. In addition the economic development was readily

realised with minimal effect on unemployment even in the short run when this would be mostly felt.

To assess the overall economic performance of the Kenyan economy after privatisation it would be important to review the performance of some key economic indicators like Gross Domestic Product (GDP), employment and population. Figure 1-1 below and table 1 give the relative changes in these three indicators over the study period.

Figure 1.1: Key economic and social indicators

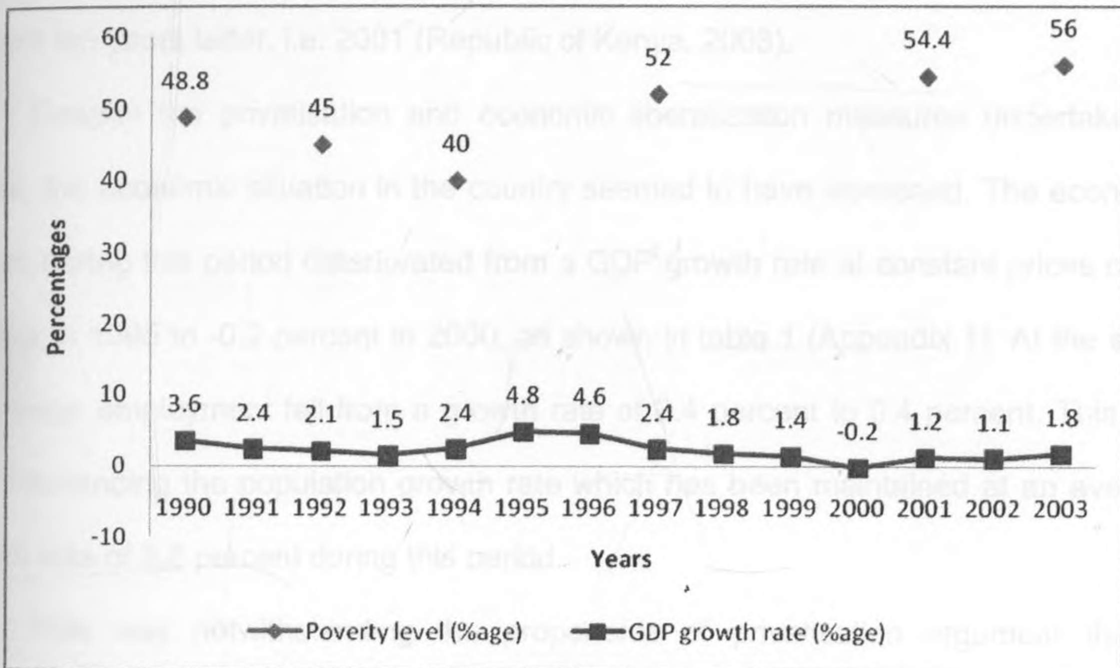


Source: Kenya National Bureau of Statistics economic and social indicators data

Figure 1-1 above show that the key Kenya economic indicators, declined over the study period despite the anticipated increase in productivity as a result of increased private sector participation. While population growth did not materially change over the study period, GDP and employment growth declined to negative growth rate between 2000 and 2001. Table 1 show that GDP declined from 4.8 percent in 1995 to 1.8

percent in 2003 with a negative growth rate in 2000 of -0.2 percent. At the same time wage employment rate declined from 4 percent in 1995 to 1.6 percent in 2003, with a negative growth rate of -1.1 percent in 2001. It is therefore noteworthy to say that this poor performance of the Kenyan economy occurred during the time when the country was at the peak of its privatisation program.

Figure 1.2: Poverty Indicators and GDP growth rate



Source: Poverty data from Kenya poverty reduction strategy paper by the IMF
GDP growth rates from the Kenya National Bureau of Statistics

Figure 1-2 above shows the poverty level in relationship to the GDP growth rate. As can be seen from the figure, since 1995 as the GDP declined to its lowest level in 2001, the poverty increased from about 40 percent persons living below poverty line to 56 percent by the year 2003.

1.2. The Statement of the Problem

In 1991, the Government announced privatisation measures in its budget speech (Republic of Kenya, 1991). This was followed by the launch of the Privatisation and Public Enterprise Reform Programme in July 1992 (Republic of Kenya 1992). So far since Kenya started privatisation and parastatal reforms, the poverty level of the average Kenyan has increased from 48 percent of the population in 1990 to almost 56 percent ten years latter, i.e. 2001 (Republic of Kenya, 2003).

Despite the privatisation and economic liberalization measures undertaken in 1990s, the economic situation in the country seemed to have worsened. The economic growth during this period deteriorated from a GDP growth rate at constant prices of 4.8 percent in 1995 to -0.2 percent in 2000, as shown in table 1 (Appendix 1). At the same time wage employment fell from a growth rate of 3.4 percent to 0.4 percent. This was not withstanding the population growth rate which has been maintained at an average growth rate of 2.6 percent during this period.

This was notwithstanding the proponents of privatisation argument that, it increases economic efficiency and flows to the government, which leads to enhanced economic development of the country. Evidently, between 1995 and the year 2000 out of the former 240 SOEs, 168 parastatals had been privatised, (Mitine, 2000). At the same time other sectors of the economy were liberalised including the coffee sector, the tea sector and most crucial, the price controls had been removed.

During this period, though privatisation should have enhanced economic development of the country, it seems the situation was worsened with poverty level increasing coupled with sluggish economic growth. It is therefore not clear whether the

problem originated from the privatisation itself, the design of the program, or the implementation process. There is therefore need to investigate the degree to which privatisation has achieved the intended purpose of increasing economic efficiency and economic flows, which would have had direct contribution towards poverty reduction and reduction in unemployment leading to increased consumers' welfare.

This research will therefore answer the following questions: (a) Has privatisation contributed positively or negatively to consumers' welfare? (b) Was the process of privatisation adopted appropriate? (c) How would the process of privatisation be modified to achieve optimal benefits to the consumers' welfare?

1.3. The objectives of the study

The general objective of this study was to investigate the degree to which privatisation has achieved the intended purpose. The specific objectives of the study were:

a) To investigate the contribution of privatisation to the consumers' welfare;
b) To investigate the appropriateness of the process of privatisation; and
c) To suggest how the process of privatisation could be modified to achieve optimal consumers' welfare;

1.4. Significance of the Study.

Since privatisation was started in the late 80s no known major assessment of its effect to the consumer welfare has ever been done. The only widely known study undertaken in the country was in 1997-1998 sponsored by the World Bank through the Ministry of Finance. However, as most of the privatisation had not taken place by then,

certain economic factors as a result of the privatisation may not have been conclusively evaluated. In any case, the assessment was undertaken through the instigation of the World Bank which had also prescribed the system to the country. Hence there was need to have independent evaluation of the policy. The other reason which made this study important was the need to re-evaluate the whole process and the policy implications.

The study also contributes to the existing literature by providing empirical evidence on how failure to coordinate policies on privatisation could impact negatively to the development policies of the country. Furthermore, this study has developed a base for a more detailed one on the overall impact on privatisation in Kenya, not only on the consumers' welfare but also on the overall economic development of the country. Its timing not only assists the policy makers as the country embarks on the implementation of the new Privatisation Act, but also provides both critics and proponents of privatisation a basis for taking the process further and review its long-term impact on the development strategies of Kenya and other developing countries.

1.5. Scope of the Study

The study took 1995 as the base year given that this is the time substantive privatisation of SOEs had been accomplished after the publication of the government PERP paper in 1992. Between 1992 and 1995 most of the work done included privatisation designs, valuation, selling processes and divesture processes. Also during this period liberalisation of the various economic sectors like the banking sector; marketing of various commodities like coffee and tea; and price control regimes like that of petroleum products were removed.

The study is from 1995 to 2001, a period considered long enough for a policy change to have had impact. The scope of the study covers the coffee and tea sectors of the Kenyan economy to demonstrate how the different policies on liberalisation/ privatisation of the two sectors bore different results to the economic well being of the communities. The aggregate production of the commodities during the period were analysed and their growth pattern assessed. Additionally specific consumer welfare assessment study was undertaken based on a sample of 10 farmers spread between coffee and tea growing zones of Kirinyaga District.

1.6. Organization of Study

The reminder of this paper is organized as follows: Chapter 2 reviews that theoretical and empirical literature on the area of privatization. Chapter 3 introduces the conceptual and analytical framework used in this study. Chapter 4 specifies the model and the methodology to be followed in the study and chapter 5 presents the results. Finally chapter 6 gives a summary and draws conclusions and policy recommendations.

CHAPTER TWO
LITERATURE REVIEW

2.1. Introduction

To address the problems and the objectives of this study discussed in chapter one, it is important to understand what the various writers and researchers have concluded on privatisation and its effect to the economic well being of nations and their people. Section 2.2 discusses the theoretical literature; and section 2.3 reviews the empirical one. Finally section 2.4 gives an overview of the literature review.

2.2. Theoretical Literature Review

One of the earliest proponents of privatisation was Smith A (1776), who argued that, in every great monarchy in Europe the sale of the crown land would produce a very large sum of money, which, if applied to the payment of public debts would deliver from mortgages a much greater revenue than any which those lands had ever afforded to the crown in its tenure of public ownership. The argument being based on the premise that when such lands were operated by the private sector, they would bring in efficiency and hence increase productivity resulting to the overall improved benefits to the country as a whole.

Megginson *et al*, (1994) wrote about the first large-scale, ideologically motivated denationalisation program of the post war era launched by Konrad Adenauer elected to power in the Federal Republic of Germany (FRG) in 1957. FRG's first major sale occurred in 1961, when they sold a majority stake in Volkswagen in a public share issue heavily tilted towards small investors, and four years later orchestrated a similar but larger secondary share issue in the company. The reasons expressed by the FRG

government in launching the first privatisation were based on the disappointment with the actual performance of the SOEs and the belief that the lure of financial incentives and the discipline provided by the capital market will spur greater efficiency.

Since the Volkswagen privatisation in FRG, as an economic development policy, it has been in progress the world over (Vickers and Yallow, 1988), in Europe, North America, Japan and numerous developing and newly industrialized countries. Again the reasons expressed for privatisation were similar to those by FRG in 1950s. However, nowhere was privatisation undertaken as in Britain under Mrs Thatcher. By the time she came to power in 1979, about 11.5 percent of gross national product (GNP) was accounted for by the state owned enterprises (SOEs) and by the time of her third election in 1987, the GNP from SOEs had reduced to 7.5 percent.

Clarke and Pitelis (1993) reviewed the case for private ownership under three theories. The first theory referred to as the neo-classical property rights school theory states that lack of private property rights (communal ownership) lead to dissipation referred to as the tragedy of commons. Critics of this theory however argue that historically communal ownership has often had efficiency enhancing effects brought about by the synergy created. The second theory referred to as the Hayek's dispersed knowledge theory, states that knowledge is widely dispersed in every society and efficient acquisition and utilization of such knowledge can only be achieved through price signals provided by markets. For this, the critics argue that knowledge tends to be more widely dispersed in market economies where there is no central planning and coordinated effort.

The third theory, referred to as the Alchian and Demsetz's (1972) residual claimant theory, suggested that private ownership of firms is predicated upon the need for residual claimant of income generating assets in the absence of which members tend to 'free ride', leading to inefficient allocation of resources. Again critics of this theory argue that this is much weaker in joint stock companies proposed by the proponents of privatisation.

Despite these theories and criticism levelled against them, Clarke and Pitelis (1993) noted that based on the mainstream economic theory, the first fundamental theorem of welfare economics shows that markets allocate resources efficiently without state intervention as long as market failures do not exist. In their view, market failures can be caused by existence of externalities, public goods, and monopolies. Accordingly, it is the reasons why every industrialized country in the 20th century felt the need for a large public sector, suggesting that public enterprises served a purpose private entrepreneurship could not fulfil as portrayed in the Wagner's Law. Even today despite the widespread global privatisation, most industrial countries have been modest in their transfer of public assets to the market system (Stevens, 1992).

Newthorn *et al* (1993) examined some existing theories equating efficiency with private ownership which they argued that they were quite misleading. Their argument was based on the premise that the performance of an enterprise is dependent on the political economy of the state intervention rather than ownership per se. They looked at the two dimensions of efficiency and investigated how political economy related to the question of efficiency. They argued that those who consider private ownership to be

superior to public ownership based their arguments on (a) residual claimant theory and (b) the dispersed knowledge theory.

The proponents of residual claimant theory as a justification of private ownership was based on the argument that modern production which is usually organized on team basis made it difficult to measure individual efforts. Therefore, to ensure that individual members are not shirking, there was need to have a specialized monitor who had to have a claim to the profits of the company. This made the private ownership have the best guarantee for the monitor as the residual claimant of the profit of the enterprise, a matter not guaranteed by the public sector. However, the variant on the claimant theory argued that motives such as nationalism, altruism, and even pride in serving the public can motivate public sector managers towards good performance. Examples of states with no prospect of privatisation, that have put enormous pressure on the public enterprises to be efficient include France, Austria, Taiwan and South Korea.

The proponents of dispersed knowledge theory justified the private ownership on the basis of the nature of human knowledge, that it can never be codified and transmitted to others. Therefore given such limited transferability of knowledge, the state is always more ignorant than individual private owners, as far as the latter's own business is concerned.

Jhingan (2000) explained the vital role played by the public sector in accelerating the economic development. The argument was that, public sector is responsible for the provision of infrastructure like roads, sea, air transport, and railways; and utilities like electricity, water supply, postal services, and telegraph and telephone services. These services benefit the development of agriculture and industrial sectors of the economy by

the private sector, leading to accelerated development of the country. Furthermore, conservation of natural resources provides domestic base and raw materials for industrialization and economic development.

Jhingan (2000) further noted that development of key industries that would lead the economy to the path of self sustained growth was ensured especially where heavy investments are required with long gestation period. State owned financial corporations, investment trusts, and state banks helped in providing direct financial assistance by way of loans and credit to the private sector. At the same time public investment in the field of internal and external trades facilitated smallholder producers to get fair prices and as a result increased their productivity. While development of public sector led to many indirect benefits to a developing country such as employment, balanced regional development, increased incomes of its peoples, improved living standards and increase in the peoples' productive efficiency. Furthermore, when public enterprises are ran on profit-price policy they lead to higher capital formation in the country which was crucial for accelerated economic development.

The Marxian theory of economic development (Jhingan, 2000) helps in understanding capitalism and where it could lead to if unchecked. Marx considered the surplus value to be the main characteristic of capitalism. Marx argued that capitalism is divided into two great protagonists, the worker who sells their labour power and the capitalist who own the means of production. The labourer sells labour for what it is worth in the market which is the value of the means of subsistence necessary for the maintenance of the labourer. The capitalists will always try to maximise the difference between the total produce of the labour and its value known as the surplus value.

Based on this theory, the capitalist will accumulate more capital through increase of the surplus labour. The capitalist will increase the surplus labour either by prolonging the working day; diminishing the hours required for labourers' sustenance; or increasing the productivity of labour through technological change. More often than not the capitalist will use technological change. The more capital accumulated the more profit the capitalist made and hence the profits made. Based on this, Marx defined capital as dead labour that like vampire only lives by sucking living labour and lives the more labour it sucks.

The consequence of capital accumulation according to Marx is the concentration of capital gigantic enterprises. Competition among the capitalists will force them to cheapen their products through introduction of labour saving machines, which increased labour productivity. Those capitalists not able to replace labour with machines are forced out. This then led to increase of technological capital, which replaced labour as means of production. Accordingly, this process of supplementing labour by machines created an industrial reserve army which increased as capitalism developed referred as the "Law of the increasing misery of the masses under capitalism" (Jhingan, 2000).

Koutsoyiannis (1979) has written extensively on welfare economics. Welfare economics is concerned with the evaluation of alternative economic situations from the point of view of the society's wellbeing. Koutsoyiannis (1979) has written on the various criteria suggested by various economists. According to one of those criterion by the famous Italian economist, Vilfredo Pareto referred to as the Pareto-Optimality, any changes in the economic efficiency that makes at least one individual better-off and no

one worse-off is an improvement in social welfare, and if it made one person better-off and at least one worse-off is a decrease in social welfare.

According to the Pareto-Optimality theory, to attain the Pareto efficiency situation in an economy three marginal conditions must be satisfied: (a) efficiency of distribution of commodities among consumers (efficiency in exchange or free movement and availability of goods and services with no trade barriers); (b) efficiency in allocation of factors among firms (efficiency of production); and (c) efficiency of allocation of factors among commodities (efficiency in product mix, or composition of outputs). Though as indicated in the text that Pareto-optimality is of limited applicability in the real world situation, part of the reasons why privatisation was adopted by most countries was to bring about the efficiencies suggested in this theory.

Indeed as Koutsoyiannis (1979) writes, an important ingredient to achieve the Pareto optimality is the improvement in the consumer welfare which is one of the basic purpose of privatisation. The consumer is considered to be rational and aims at maximisation of his/her utility subject to the constraints imposed by the available disposable income and the market prices of goods and services. Preferences are ranked in terms of indifference curves which are convex to the origin, indicating a diminishing marginal rate of substitution between the bundle of goods and services. The total utility of the consumer depends on the quantities of the goods and services consumed as shown in equation 2.1 below:

$$U = f(q_1, q_2, q_3, \dots\dots\dots q_n) \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots 2.1$$

Given the market prices and the income of the consumer, the aim is the maximisation of utility. Therefore with *n* commodities available to the consumer, the

market prices given as P_1, P_2......., P_n and the income given as Y, the above utility maximisation would be subject to the budget constraint indicated in equation 2.2 below.

$$\sum_{i=0}^{n} q_i P_i = q_1 P_1 + q_2 P_2 + \dots\dots\dots + q_n P_n = Y \dots\dots\dots\dots\dots\dots\dots\dots 2.2$$

To solve the above equations the Lagrangian multiplier method is used to get the constrained maximum. After converting the two equations using the Lagrangian multiplier into a composite function, the first order condition can be obtained. Equating the resulting equations to zero, the maximisation of the utility function can be obtained, which gives the equilibrium condition for each good and service. At the equilibrium condition, the marginal utilities of the various goods and services divided by their individual prices will be equal as shown in equation 2.3 below:

$$\frac{MU_1}{P_1} = \frac{MU_2}{P_2} = \dots = \frac{MU_x}{P_x} = \frac{MU_y}{P_y} = \dots = \frac{MU_n}{P_n} \dots\dots\dots\dots\dots\dots\dots\dots\dots 2.3$$

From the above equilibrium condition and the budget constraint indicated in equation 2.2 above, the demand function can be derived for each of the commodities in the consumer's bundle of goods and services.

2.3. Empirical Literature Review

Todaro (1992) explored some of the problems of public administration in the developing countries as caused by the widespread of state owned enterprises (SOEs). The research found that during the last three decades, there had been rapid growth in number and sizes of SOEs in the developing countries, not only in the traditional sectors of utilities (gas, water, electricity), and communications (telephone, telegraph and postal), but also in other sectors of manufacturing, construction, finance, services,

natural resources and agriculture. Empirical evidence showed that SOEs contribute 7-15 percent of their GDPs in most economies of the developing countries and for a substantial amount of investments yielding more than a quarter of the total capital formation in these countries. Besides, the study showed that these SOEs absorbed considerable amount of resources hence imposing a heavy burden to the economies.

Todaro (1992) gave the reasons for widespread of SOEs as persistence of monopoly power in many developing countries which led governments to instil controls to ensure prices are not set above the costs of producing the outputs; need for capital formation as a foundation for further development through development of infrastructures; lack of private incentives for promotion of economic activities; and the need to expand employment and training of labour force, equitable income distribution; and control of strategic sectors of the economy.

However, despite the good reasons for their establishment, SOEs have been wasteful of resources, and have remained unprofitable and inefficient (Todaro, 1992), as evidently was the case unveiled by a World Bank study (1977) covering 24 developing countries. However it was argued that there were two possible solutions to these problems (a) reorganisation with a greater bottom line focus for the SOEs as is the case in China, and (b) the transfer of ownership and control to the private sector (the case for privatisation).

Despite the strong arguments for privatization, Todaro observed that it raised many questions ranging from feasibility, appropriate financing, the structure of legal and property rights, the role of competing elites and interested groups and whether or not widespread privatisation promoted or ultimately weakened existing dualistic economic,

social and political structures. That it is not sufficient to claim, as many neo-classical free market advocates have, that privatisation can lead to higher profits, greater output, or even lower costs. That the key issue is whether such privatisation better served the long-run development interest of the country by promoting a more sustainable and equitable pattern of economic and social progress.

Jones (1993) undertook an empirical study of the privatisation and market structures of the UK Gas Industry and had interesting revelations. One key finding was that privatisation is not always complementary to the promotion of competition. The study found that the method and execution of privatisation in the UK positively hindered the development of competitive market structures in a number of cases. This was due to emphasis of policy for changing ownership based on other reasons other than for promoting competition, thus ignoring the allocative and productive efficiencies. As a result public monopolies became private owned monopolies thereby depriving the economy many of the claimed benefits of the private ownership which are dependent on competition in the product market.

Debebe (1993) discussed the sources and essence of privatisation in sub-Sahara Africa. The study identified the privatisation strategies, assessed their feasibility and explored their implication on future development. The study further noted that, the World Bank through its structural adjustment policies and the IMF through its conditionality program brought pressure to bear on the African governments to adopt privatisation. The study therefore concluded that privatisation in Africa originated from the explicit and implicit conditions imposed by the West and its institutions for receiving

aid rather than from the realization of basic weaknesses in the approaches of the past economic policies.

Debebe (1993) analysis further observed that the essence of privatisation in Africa is different from that in the West. The West recognized the primacy of markets and relied primarily on the private sector, with government intervention when markets do not work or they fail to produce optimal outcomes either due to externalities or the existence of public goods. In Africa, the study noted, that there is heavy reliance on the public sector with the government intervening extensively in making production and consumption decisions. The public sector produced and delivered even those goods and services typically provided by the private sector in the west.

Sarbib (1997) looked at the trends in privatisation in Africa in three time phases. The launch and learning phase up to 1994/95 which gave clear lessons to be followed for successful privatization activity in Africa. The maturity phase beginning in 1995 to the beginning of the 21st century. And the final phase when anticipated benefits of privatization were expected to be felt through accelerated economic growth and development.

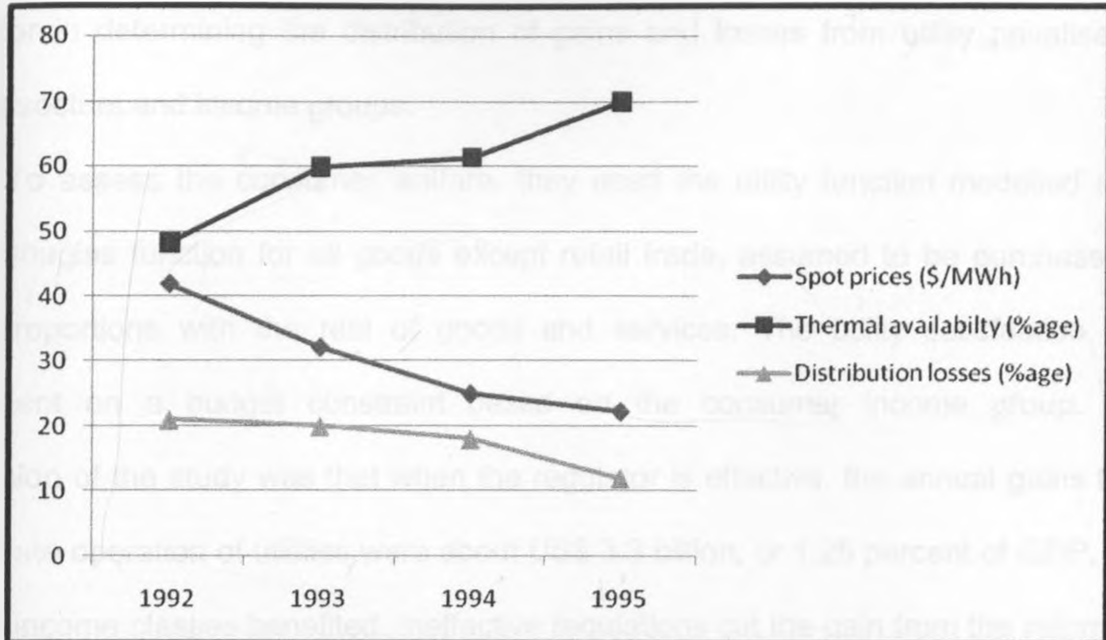
Sarbib (1997) argued that in the first phase, privatization began against a background of poor economic performance; public mistrust due to concerns about corruption, ownership, and unemployment; weak institutional capacity; and weak or virtually non-existent capital markets. It was therefore not surprising that governments were feeling their way and efforts were largely directed to privatizing small and medium size enterprises, most of who were loss-making. During that period many countries, including those which embraced modern market economics, underwent through

structural adjustment. A key policy measure of that reform was liberalization which was important both for privatization and private sector development.

Crampes and Estache (1996) reviewed the water concession in Argentina and noted that labour productivity had improved, service coverage had increased, reliability and responsiveness had improved considerably, and the prices of the services had fallen. However there were problems with the water regulator which obviously made the private operator exploit the situation whereby though the prices of water had initially fallen by 27 percent the consumer had to bear with an ad hoc increase in the prices of about 13 percent. As noted during this review a private monopoly will exploit any weak point in the system of regulation if it exists to make the most of the monopolistic power.

Estache and Rodriguez-Pardina (1996) reviewed the Argentinean power concession. The purpose the Argentinean government wanted to reform its electricity sector was to achieve efficient pricing and production levels in the short term and an investment level sufficient to meet demand in the long term. To ensure that it was properly done, the government started off by revamping the legal framework in 1989. The results were impressive as shown in figure 2-1 below. Spot prices of power decreased by almost 50 percent from $41.85 in 1992 to $22.30 by 1995 per MWh. Distribution losses decreased from 21 percent in 1992 to 12 percent in 1995; and thermal availability increased from 48.2 percent to 69.9 percent over the same period. Transmission forced outages reduced from 100 hours in 1992 to 300 hours in 1995.

Figure 2.1: Post-privatisation performance – Argentina Power Sector



Source: The World Bank Group Note No. 92

The impressive results of the power privatisation in Argentina were mainly due to the program and the strategy adopted by the government. The legal framework was well thought out and the privatisation program properly strategised. The power generation generally considered to be competitive was broken down into various business units which were sold out to the private sector; while transmission and distribution normally considered as natural monopolies were concessioned and regulated to ensure that the private operators maintain standards and do not have monopolistic practices.

Chisari, Estache and Romero (1997) assessed the macroeconomic and distributional effects of privatisation that Argentina began in 1989 in gas, electricity, telecommunication, and water and sanitation. Using a computable general equilibrium model, they tracked the changes observed between 1993, the first year when all the major privatisation had taken place, and 1995, the most recent year for which data were

available. In an innovative use of the model, they also assed the importance of the regulator in determining the distribution of gains and losses from utility privatisation among sectors and income groups.

To assess the consumer welfare, they used the utility function modelled as a Cobb-Douglas function for all goods except retail trade, assumed to be purchased in fixed proportions with the rest of goods and services. The utility satisfaction was dependent on a budget constraint based on the consumer income group. The conclusion of the study was that when the regulator is effective, the annual gains from the private operation of utilities were about US$ 3.3 billion, or 1.25 percent of GDP, and that all income classes benefited. Ineffective regulations cut the gain from the reform by US$ 1 billion or 0.35 percent of GDP, representing an implicit tax of 16 percent on the average consumer, paid direct to the owner of the utility rather than to the government. For the poorest income classes, the implicit tax was 20 percent, showing that good regulation is in the interest of the poor.

The study also showed that privatisation of the utilities could not be blamed for the significant increase in unemployment observed in Argentina since 1993. That effective regulation could lead to a decline in unemployment, and that ineffective regulation led to only a small increase in unemployment. That the gains from utility privatisation were not sufficient to offset the negative efficiency and distributional impact on the economy which increased unemployment dramatically by limiting access to credit for users and producers alike.

Argentina having been a leader in the matters of designing regulatory agencies presented a learning point. There Estache (1997), based on the experience in the

studies done on the Argentinean privatisation, came up with a design of regulatory institutions for infrastructure. The design came up with four essential principles for a good regulatory agency, which were independence, autonomy, expertise and accountability. The study concluded that the greatest challenge to designing a regulatory agency are in achieving political independence and establishing rules to ensure regulatory accountability. The study therefore concluded that, those regulatory agencies in Argentina founded on the above principles, were very successful while others were not.

2.4. Overview of the Literature

Both the theoretical and empirical literature review indicates strong arguments for and against privatisation. The proponents of private ownership argued that markets are more efficient and allocate resources better than the state. That private ownership removes joy riders and brings efficiency due to focused claimant of profits and efficient allocation of resources. This argument can be traced from Smith (1776) to latter Neo-classical Property Rights School theorists. Empirical researchers including studies undertaken through the auspices of the World Bank and IMF associated the poor performance of the state enterprises to public ownership. One such studies in Africa showed that, in West Africa 60 percent of SOEs posted losses while 36 percent had negative net worth (Debebe, 1993). Empirical evidence through Todaro (1992) works showed that SOEs absorbed considerable amount of resources resulting to heavy burdens to the African economies.

The protagonists of privatisation have argued that transfer of a public monopoly to the private sector has a worse effect to the general public in terms of economic

efficiency. That the resource allocation efficiency envisaged through market systems can only succeed if there are no externalities; no public goods; and no monopolies. That efficiency is not purely associated with private sector as evidenced in countries like France, Austria, Taiwan and South Korea where the governments put enormous pressure on the public enterprises to be efficient.

The work by Todaro (1992) gave two solutions for resolving burden created by SOEs to the African economies: reorganization with a greater bottom line focus (case for China); and/or transfer of ownership to the private sector (case for privatization). However, this study noted that privatization raised many questions ranging from feasibility, financing, legal and role of competing elites and interested groups.

The literature reviewed shows that adoption of privatization in most of the developing countries was not subjected to critical analysis. Many of these countries adopted privatization as a tool for promoting economic development purely based on prescription given by the World Bank and the IMF without any analysis of the social and economic effects; and without laying any mechanism to undertake the process. Institutions and legal structures which should have been created to ensure coordinated process were in most countries ignored. Empirical evidence based on the study on the impact of privatization of the major utility companies in Argentina, (Chisari, Estachie and Romero, 1997) demonstrated this fact as it showed that where adequate regulations were not put in place the expected gains were reduced considerably.

In this study, the effect of privatization to the consumers welfare, investigated the degree to which the process achieved its intended purpose. The study focus was on the consumers' welfare contributed by the two major export commodities, coffee and tea,

since the country embarked on liberalisation and privatization of the various sectors of the economy. Further, the study investigated the process of privatisation as implemented in Kenya. Additionally, the study suggested how the process of privatisation could be modified to achieve optimal consumers' welfare. Finally, the study drew policy implications from the findings and learning from the privatisation process implemented.

CHAPTER THREE
CONCEPTUAL FRAMEWORK AND METHODOLOGY

3.1. Introduction

This study, as noted in the previous chapters was to assess the impact of privatisation to the Kenyan economy in general and welfare of Kenyans in particular based on the coffee and tea farming communities in Kirinyaga District. Section 3.2 discusses the conceptual framework adopted in this study; and section 3.3 analyses the methodology used in undertaking this study.

3.2. Conceptual Framework

To assess the full impact of privatisation in the economy, there was need to use macroeconomic social accounting matrix model for interactions among sectors (see Chisari, Estachie and Romero, 1997). The idea was to assess the performance of these sectors under private sector operations against how they performed under the state control.

The concept of this study was to assess the improvement or otherwise of the consumers' welfare during the period of the study based on the farming community in Kirinyaga District of the two major export commodities of coffee and tea. This is the period soon after most of the measures on privatisation of the coffee and the tea sectors had taken place. Hence it was important to assess the growth pattern of these two commodities, as a measure of improvement of the welfare of the farmers.

3.2.1. Conceptual Growth Model

Based on the arguments advanced by the proponents of privatization as analysed in chapter two, the liberalization of coffee and tea in Kenya would have been expected to bring to the fore positive effects to the economic growth of the country. Thus there is a relationship between the rates of growth (r) for each of these commodities to the GNP growth factor. Assuming the growth rate factor for each of the commodities is represented by (1+r), interpreted to mean that the income generated by coffee or tea will grow from year 0 by 1+r to year t_1, the growth equation can be written as follows (Gujarati, 1992):

$$CI_t = CI_0(1+r)^t \quad \ldots\ldots (3.1)$$

where

CI_t is the gross revenue from tea or coffee for the country in period (t);

CI_0 is the gross revenue from tea or coffee for the base year assumed for this

study; and

$(1+r)^t$ is the growth rate factor for the period t.

3.2.2. Conceptual Consumer Utility Maximization Model

To assess the impact of privatization to the welfare of the people, a utility maximization model was constructed. The utilities of the consumers are modelled as a Cobb-Douglas function between various selected goods with the utility maximization problem for the consumer (Chisari, Estache and Romero, 1997) function as:

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$$U_i = U[C, Y, I,] \quad \text{......3.3}$$

Subject to the following budget constraint

$$A^C + A^T + W + R + N^I = X_i p_j + I_i p_i = Y \quad \text{......3.4}$$

Where

U_t = the utility maximization level of a given household in a given time.

C = the aggregate of goods and services consumed by a household.

Y = disposable income available to the household.

I = disposable income invested by the household.

A^C = household net income earned from coffee farming activities

A^T = household net income earned from tea farming activities.

W = household income earned from employment in both government and private sector.

R = household rent income earned from rented capital to the government and the private sector.

N^I = Profits earned by the consumer from investment activities.

X_i = the ith good or services bought by the consumer

ρ_i = Price of ith investments by the consumer.

ρ_j = Price of jth good or services bought by the consumer.

The price of goods and services are assumed to be market determined and therefore are exogenous. Therefore, with the purchasing power of the household for period t limited to the available disposable income represented by Y_t, the problem is to maximize the utility of the household for each year given the budgetary constraint. The

change in utility satisfaction by the household over the period assisted in assessing the increase or decrease in its welfare.

3.2.3. Definition and measurement of variables

- Total aggregate income earned from coffee (CI) measured in Kenya Shillings.
- Total aggregate income earned from tea (TI) measured in Kenya Shillings.
- The aggregate growth rate (r) measured in percentage terms.
- Consumer's utility (U_i) measured in proportionate quantity of goods or services the consumer would consume in a given period.
- The quantity of goods and services consumed measured (C) in units (for example goods measured in absolute units and services measured in hours).
- The disposable income available to the household (Y) measured in Kenya Shillings.
- The disposable income invested by the household (I) measured in Kenya Shillings.
- The income earned by the consumer within a household (*W*) measured in Kenya Shillings.
- The rent income from the capital rented to the productive sectors by the consumer (R) measured in Kenya Shillings.
- The prices of investments (p_i) measured in Kenya Shillings.
- The prices of all other domestic goods and services (p_j) measured in Kenya Shillings.

- The profits earned by the household on investments (N^I) measured in Kenya Shillings.

3.3. Study Design

To assess the changes in consumer welfare, it meant that incomes and consumption habits of the people, over the study period were to be analysed. The study focus was on measuring the effect on the consumers welfare resulting from the privatisation of the two major agricultural sectors of the Kenyan economy (tea and coffee), centred on the farmers in Kirinyaga District. Therefore, the study involved analysing the farmers incomes arising from the two commodities over the study period, and also taking into consideration other incomes from businesses, employment, investments in properties and newly privatised firms, and any other income. Additionally, the study was to analyse the expenditure pattern of the farmers given their budgetary constraints occasioned by their sources of incomes.

To collect the data from the field, a questionnaire, attached as appendix two, was designed for use by the research assistants. The main focus of the questionnaire was to collect the data from the tea and coffee farmers, firstly on production and income data from the two commodities, and then from other income generating activities. The next level of the questionnaire was to collect data on farmers consumption habits, covering both normal and luxury goods. The farmers were also interviewed on the reasons contributing to the changes in their incomes from the two commodities.

To complement the field data, additional national data was collected from the Kenya National Bureau of Statistics (KNBS). This included the national production and income data of tea and coffee over the study period. The data gathered was used for

developing the growth model associated with these commodities over the study period. Additional data required to complement the field data, which were collected from KNBS, included prices of consumer goods and inflation data.

3.3.1. Sampling Techniques and Sample Size

The study as explained above was centred in Kirinyaga District within the tea and coffee zones. The sampling technique was based on getting a number of farmers growing tea only, some coffee only and a mixture of both. The research assistants visited the tea and coffee factories whereby, based on the records of the farmers, they randomly picked those to be interviewed and questionnaire completed. Before undertaking the interviews with the farmers the research assistants firstly collected the farmers' production and payment records at the factory level where available. Thereafter they visited the farmers and confirmed the details including gathering data on other income earning activities.

The sample size initially selected was for twenty farmers. However some of those selected did not have adequate data and others were not available to give any information to the research assistants. Finally the sample was reduced to cover eight farmers, but well spread in the two zones, for tea and coffee.

3.3.2. Data Sources and Types

The data collected through the field questionnaires was the sample income (coffee, tea, employment, rent, business, and other incomes), and expenditure pattern, of eight respondents distributed between tea and coffee, tea only and coffee only growing zones in Kirinyaga District (table 8 Appendix 1). Additional information collected

included comments by the farmers on major issues related to the liberalisation and management of the tea or coffee sectors, which may have contributed to increase or decline in production of these commodities. Further, they also commented on their consumption habits and why they may have changed in a particular direction.

Average prices of selected consumer bundle of goods were analysed from the statistical abstract published by the KNBS (table 9 Appendix 1). In addition annual weighted average index of goods and services published by KNBS (table 10, Appendix 1), for use in deriving the consumers' prices for the various bundle of goods at constant prices shown in table 11 were analysed. Finally gross marketed production of coffee and tea at constant (1982) prices (table 2), covering the study period were collected from the statistical abstract published by the KNBS.

Due to the time period covered by the model and with most of the household unlikely to know the exact incomes earned from the various sources, available data like crop production, were used to estimate average incomes from the farming activities, while type of work and organization worked for, were used to estimate the income from employment. Available published statistics were used to estimate the household income earned from the particular economic activity. The distribution of the disposable income amongst the various goods and services were based on the estimated proportions given by the households during the interviews.

3.4. Estimation Techniques

The regression analysis has been used to determine the growth curve estimation for each of the two commodities, tea and coffee, based on the total country production data. Comparative statistics (Chians, 1984) based on the Lagrangian model was used

to determine the consumer utility satisfaction based on the sample data of farmers earnings from coffee, tea and other incomes during the study period. These techniques are analysed in the following subsections.

3.4.1. Growth rate for Coffee and Tea

Equation 3.1 and 3.2 were used for the estimation of the economy growth rate contributed by coffee and tea earnings respectively. Regression analysis was used to estimate the growth rate of these two commodities. To estimate the two equations using regression analysis, they were converted to semilog model as follows:

$$CI_t = \mathrm{CI}_0(1+r)^t \quad \text{(3.5)}$$

Take the natural log on both sides to obtain the following equation in logarithmic form:

$$\ln CI_t = \ln \mathrm{CI}_0 + t\ln(1+r) \quad \text{(3.6)}$$

Let $b_1 = \ln \mathrm{CI}_0$ and $b_2 = \ln(1+r)$, then the above equation can be expressed as a linear regression model as follows:

$$\ln CI_t = b_1 + b_2 t + u_t \quad \text{(3.7)}$$

Where μ_t is the error term.

Similarly the linear model for tea was estimated as above with the following resultant model:

$$\ln TI_t = c_1 + c_2 t + u_t \quad \text{(3.8)}$$

3.4.2. Consumer Welfare

Equation 3.3 and 3.4 were used for the estimation of the consumer welfare. The goods and services included in the model were based on the respondents' indication of how they spent their incomes. Included in the model were foodstuffs, clothing, school fee and others which could vary between luxury goods like beer, cigarettes and communication. The model estimated the demand function for the consumers based on the disposable income for a household earned from coffee and tea or any one of them plus other incomes from employment, rental, business, and investment.

From equation 3.3, the utility function is estimated by the following equation:

$$U_t = U(F_t, S_t, C_t, \mu_t) \quad \text{.......(3.9)}$$

Subject to the following budgetary constrain:

$$F_t Pf_t + S_t Ps_t + C_t Pc_t + \mu_t P\mu_t = Y_t \quad \text{.......(3.10)}$$

With Y_t made up of $CI_t + TI_t + EI_t + RI_t + BI_t + OI$ and where:

F_t= Quantity of foodstuffs demanded by the household in period t

S_t= Quantity of school fee demanded by the household in period t

C_t= Quantity of clothing demanded by the household in period t

μ_t= Quantity of all other goods and services demanded by the household in period t

CI_t= Net Coffee income earned by the household in period t

TI_t= Net tea income earned by the household in period t

EI_t = net income earned from employment in period t

RI_t = net income earned from rental of property in period t

BI_t = net income earned from business operations in period t

OI_t = Other net incomes earned from farming, dividends or other activities by the household in period t

Pf_t = average prices ruling for the foodstuffs in period t

Ps_t = average school fee paid by the household per child in period t

Pc_t = average price of clothing spent by a household in period t

$P\mu_t$ = average other prices for all other goods and services in period t

Y_t = total income of the household in period t

To develop the comparative statistics (Chians, 1984), the following Lagrangian expression was set up based on the above utility function:

$$Z = U(F,S,C,\mu) + \lambda(Y - FP_f - SP_s - CP_c - \mu P_\mu \text{ ....(4.7)}$$

As the first-order condition, the following sets of simultaneous equations are developed:

$$\frac{dZ}{d\lambda} = Y - FP_f - SP_s - CP_c - \mu P_\mu = 0 \}$$

$$\frac{dZ}{dF} = U_F - \lambda P_f = 0 \text{ ....} \}$$

$$\frac{dZ}{dF} = U_S - \lambda P_S = 0 \text{ ....} \} \text{ ....(3.11)}$$

$$\frac{dZ}{dF} = U_C - \lambda P_c = 0 \ldots\ldots\ldots\ldots\ldots\}$$

$$\frac{dZ}{dF} = U_\mu - \lambda P_\mu = 0 \ldots\ldots\ldots\ldots\ldots\}$$

The above model is mathematically complete because it contains five equations with five variables which can be solved simultaneously. The prices of the goods and services were exogenous and the goods and services demanded by the household were endogenous. Assuming the satisfaction of the second-order sufficient condition, the comparative statistics properties of the model were analysed on the basis of the above first-order condition shown in equations 3.11, viewed as a set of equations $F^j = 0$ ($j = 1,2,3,4,5$), where each F^j function has continuous partial derivatives. The endogenous variable Jacobian determinant of this set of equations has the same value as the bordered Hessian, or $|J| = |\bar{H}|$. As such when the second-order condition is met, $|J|$ must be positive and it does not vanish at the initial optimum. Therefore the implicit-function theorem is applicable and as such the optimal values of the endogenous variables were expressed as implicit functions of the exogenous variables:

$$\bar{\lambda} = \bar{\lambda}(P_f, P_s, P_c, P_\mu, Y)\ldots\ldots\}$$

$$\bar{F} = \bar{F}(P_f, P_s, P_c, P_\mu, Y)\ldots\ldots\}$$

$$\bar{S} = \bar{S}(P_f, P_s, P_c, P_\mu, Y)\ldots\ldots\}\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(3.12)$$

$$\bar{C} = \bar{C}(P_f, P_s, P_c, P_\mu, Y)\ldots\ldots\}$$

$$\bar{\mu} = \bar{\mu}(P_f, P_s, P_c, P_\mu, Y)\ldots\ldots\}$$

Functions 3.12 possess continuous derivatives from which comparative statistics information was analysed. The derivatives of the second to fifth functions of equations 3.12 which showed the equilibrium level of foodstuffs, school fee, clothing and other goods and services demanded by the household, gave over the period, the reaction of the consumer to the changes in prices and available budget. To find these derivatives equations 3.12 was converted into a set of equilibrium identities as follows:

$$Y - \bar{F}P_f - \bar{S}P_s - \bar{C}P_c - \bar{\mu}P_\mu \equiv 0\ldots\ldots\}$$

$$U_f(\bar{F}, \bar{S}, \bar{C}, \bar{\mu}) - \bar{\lambda}P_f \equiv 0\ldots\ldots\}$$

$$U_S(\bar{F}, \bar{S}, \bar{C}, \bar{\mu}) - \bar{\lambda}P_s \equiv 0\ldots\ldots\}\ldots\ldots(3.13)$$

$$U_c(\bar{F}, \bar{S}, \bar{C}, \bar{\mu}) - \bar{\lambda}P_c \equiv 0\ldots\ldots\}$$

$$U_\mu(\bar{F}, \bar{S}, \bar{C}, \bar{\mu}) - \bar{\lambda}P_\mu \equiv 0\ldots\ldots\}$$

Taking the total differential of each identity in turn, and allowing every variable to change, the linear system arrived at was as follows:

$$-P_f d\bar{F} - P_s d\bar{S} - P_c d\bar{C} - P_\mu d\bar{\mu} = \bar{F}dP_f + \bar{S}dP_s + \bar{C}dP_c + \bar{\mu}dP_\mu - dY$$

$$-P_f d\bar{\lambda} + U_{ff}d\bar{F} + U_{fs}d\bar{S} + U_{fc}d\bar{C} + U_{f\mu}d\bar{\mu} = \bar{\lambda}dP_f$$

$$-P_s d\bar{\lambda} + U_{sf}d\bar{F} + U_{ss}d\bar{S} + U_{sc}d\bar{C} + U_{su}d\bar{\mu} = \bar{\lambda}dP_s \quad (3.14)$$

$$-P_c d\bar{\lambda} + U_{cf}d\bar{F} + U_{cs}d\bar{S} + U_{cc}d\bar{C} + U_{c\mu}d\overline{x4} = \bar{\lambda}dP_c$$

$$-P_\mu d\bar{\lambda} + U_{\mu f} d\bar{F} + U_{\mu s} d\bar{S} + U_{\mu c} d\bar{C} + U_{\mu\mu} d\bar{\mu} = \overline{\lambda d P_\mu}$$

A key component of this study was to assess the effect of the household's budget size caused by the changes in earnings over the period of the study. To do this the changes in prices were held constant, or rather it was assumed that $P_f = dP_s = dP_c = dP_\mu = 0$, but keep $dY \neq 0$. After dividing the above equations with dY, and interpreting each ratio of the differentials as a partial derivative, matrix equations were solved as follows:

$$\begin{bmatrix} 0 & -P_f & -P_s & -P_c & -P_\mu \\ -P_f & U_{ff} & U_{fs} & U_{fc} & U_{f\mu} \\ -P_s & U_{sf} & U_{ss} & U_{sc} & U_{s\mu} \\ -P_c & U_{cf} & U_{cs} & U_{cc} & U_{c\mu} \\ -P_\mu & U_{\mu f} & U_{\mu s} & U_{\mu c} & U_{\mu\mu} \end{bmatrix} \begin{bmatrix} \partial\bar{\lambda}/\partial\gamma \\ \partial\bar{F}/\partial\gamma \\ \partial\bar{S}/\partial\gamma \\ \partial\bar{C}/\partial\gamma \\ \partial\bar{\mu}/\partial\gamma \end{bmatrix} = \begin{bmatrix} 1 \\ 0 \\ 0 \\ 0 \\ 0 \end{bmatrix} \quad (3.15)$$

Using the Cramer's rule, the changes in the equilibrium quantities of the goods and services ($\partial\bar{F}/\partial\gamma$, $\partial\bar{S}/\partial\gamma$, $\partial\bar{C}/\partial\gamma$, $\partial\bar{\mu}/\partial\gamma$) demanded by the household, were solved over the study period as the income levels changed:

$$\frac{\partial\bar{F}}{\partial\gamma} = \frac{1}{|J|} \begin{vmatrix} 0 & 1 & -P_s & -P_c & -P_\mu \\ -P_f & 0 & U_{fs} & U_{fc} & U_{f\mu} \\ -P_s & 0 & U_{ss} & U_{sc} & U_{s\mu} \\ -P_c & 0 & U_{cs} & U_{cc} & U_{c\mu} \\ -P_\mu & 0 & U_{\mu s} & U_{\mu c} & U_{\mu\mu} \end{vmatrix} = \frac{1}{|J|} \begin{vmatrix} -P_f & U_{fs} & U_{fc} & U_{f\mu} \\ -P_s & U_{ss} & U_{sc} & U_{s\mu} \\ -P_c & U_{cs} & U_{cc} & U_{c\mu} \\ -P_\mu & U_{\mu s} & U_{\mu c} & U_{\mu\mu} \end{vmatrix} \quad (3.16)$$

$$\frac{\partial\bar{S}}{\partial\gamma} = \frac{1}{|J|} \begin{vmatrix} 0 & -P_f & 1 & -P_c & -P_\mu \\ -P_f & U_{ff} & 0 & U_{fc} & U_{f\mu} \\ -P_s & U_{sf} & 0 & U_{sc} & U_{s\mu} \\ -P_c & U_{cf} & 0 & U_{cc} & U_{c\mu} \\ -P_\mu & U_{\mu f} & 0 & U_{\mu c} & U_{\mu\mu} \end{vmatrix} = \frac{1}{|J|} \begin{vmatrix} -P_f & U_{ff} & U_{fc} & U_{f\mu} \\ -P_s & U_{sf} & U_{sc} & U_{s\mu} \\ -P_c & U_{cf} & U_{cc} & U_{c\mu} \\ -P_\mu & U_{\mu f} & U_{\mu c} & U_{\mu\mu} \end{vmatrix} \quad (3.17)$$

$$\frac{\partial \bar{C}}{\partial y} = \frac{1}{|J|}\begin{vmatrix} 0 & -P_f & -P_s & 1 & -P_\mu \\ -P_f & U_{ff} & U_{fs} & 0 & U_{f\mu} \\ -P_s & U_{sf} & U_{ss} & 0 & U_{s\mu} \\ -P_c & U_{cf} & U_{cs} & 0 & U_{c\mu} \\ -P_\mu & U_{\mu f} & U_{\mu s} & 0 & U_{\mu\mu} \end{vmatrix} = \frac{1}{|J|}\begin{vmatrix} -P_f & U_{ff} & U_{fs} & U_{f\mu} \\ -P_s & U_{sf} & U_{ss} & U_{s\mu} \\ -P_c & U_{cf} & U_{cs} & U_{c\mu} \\ -P_\mu & U_{\mu f} & U_{\mu s} & U_{\mu\mu} \end{vmatrix} \quad (3.18)$$

$$\frac{\partial \bar{\mu}}{\partial y} = \frac{1}{|J|}\begin{vmatrix} 0 & -P_f & -P_s & -P_c & 1 \\ -P_f & U_{ff} & U_{fs} & U_{fc} & 0 \\ -P_s & U_{sf} & U_{ss} & U_{sc} & 0 \\ -P_c & U_{cf} & U_{cs} & U_{cc} & 0 \\ -P_\mu & U_{\mu f} & U_{\mu s} & U_{\mu c} & 0 \end{vmatrix} = \frac{1}{|J|}\begin{vmatrix} -P_f & U_{ff} & U_{fs} & U_{fc} \\ -P_s & U_{sf} & U_{ss} & U_{sc} \\ -P_c & U_{cf} & U_{cs} & U_{cc} \\ -P_\mu & U_{\mu f} & U_{\mu s} & U_{\mu c} \end{vmatrix} \quad (3.19)$$

Under normal circumstances, the results of the above models would mean that as the budget of the household increases the optimal purchases $\bar{F}$, $\bar{S}$, $\bar{C}$, and $\bar{\mu}$ increase. An increase in demand as the income increases would mean a normal good and a decrease being an inferior good. However in this study, this was not true as the households included in this study were on average below middle income group. This means that satisfaction of the consumption levels of the goods selected were far from being adequately covered based on their income levels. Hence, an increase or decrease on demand as income increased or decreased represented increase or decrease in the total welfare of the household.

CHAPTER FOUR
EMPIRICAL FINDINGS

4.1. Introduction

This study focused on two major export commodities (coffee and tea) which accounted for the largest share of Kenya's export earnings. As stated in sub-section 1.1.5, when Kenya embarked on privatization in early 1990s no legal mechanisms were put in place to govern the process. Each sector or organisation adopted its own programme with no formal regulations or control. For the two commodities included in this study, though they were both under the Ministry of Agriculture, the privatisation programmes adopted for each were diverse with far reaching differing results. The model therefore traces the liberalisation and privatisation process of these two commodities, and their performance in terms of growth and changes in welfare of the farmers six years after the liberalisation/ privatisation of the sectors.

In this chapter therefore, the empirical findings resulting from this study were analysed in relation to the three objectives stated in section 1.5. Section 4.2 analyses the results arrived at from the growth model for the two commodities. Section 4.3 analyses the results arising from the consumer utility model. Each of the four objectives of the study are addressed based on the empirical findings from these analysis.

4.2. Growth Model Analysis

The regression analysis described in section 3.4.1 was used to estimate the growth model for the two commodities, tea and coffee, based on their gross national production for the period 1995 to 2006. Table A.2 shows the gross incomes of the two commodities for the period used to estimate the natural log, forming dependent variable.

Assuming that the usual assumptions of OLS are satisfied the semilog models shown in equations 3.7 and 3.8 were estimated for each of the commodities as explained in the ensuing subsection.

4.2.1. Coffee Sector Growth Model

The growth rate associated with coffee revenue was estimated from the data given in table 2, and by equation 4.1 as follows:

$$\ln CI_t = b_1 + b_2 t + u_t \quad \text{..........} 4.1$$

$$\widehat{\ln CI_t} = 7.845 - 0.058t$$

$$t = \ (58.145)\ (-3.177) \qquad r^2 = 0.502$$

The negative slope coefficient of -0.058 means that the gross national revenue earned from coffee income had a negative growth rate of 0.058 (or 5.8 percent) per year over the study period. The graphical representation of the model is as shown in Figure 4.1 below:

Figure 4.1: Coffee Growth Model

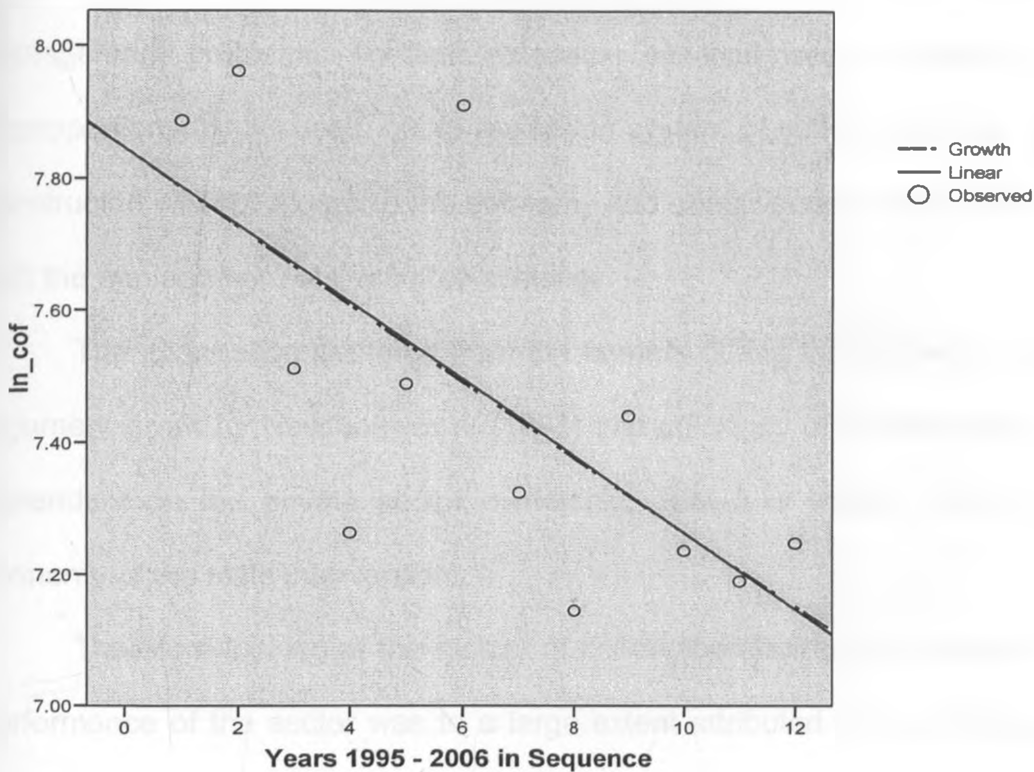


Figure 4.1 above shows graphically the trend in coffee growth which was negatively sloped over the study period indicating that the coffee production impacted negatively to the GNP over the study period. This means that the incomes of the coffee farmers declined in real terms over the study period, impacting negatively on the consumer welfare.

These results are confirmed by the sample farmers incomes from coffee shown in Table A.3. Despite the income figures in table A.3 being stated at that year's value of money, the coffee incomes decline was quite significant, meaning that the farmers purchasing power declined, with a negative effect to the consumers welfare.

Empirical evidence gathered from the study indicated that, the causes for the decline in the coffee performance since the liberalisation were, irregular payments; low prices; inputs were no longer availed at reasonable prices; general red tape and management problems; no field extension services were available; coffee millers disproportionately licensed; quota marketing system of coffee removed; more factories constructed without regard to the economy and effectiveness; and political interference with the management of the coffee societies.

The information gathered from the farmers during the research underpinned the argument given by Newthorn *et al* (1993) that efficiency of an enterprise is not purely dependent on the private sector ownership. That it is related more to the political economy of the state intervention.

Therefore looking at the history of coffee liberalisation, the results and the poor performance of the sector was to a large extent attributed to the process, rather than problems which would have been brought about by privatisation. Liberalisation and reforms on coffee started well before 1992 with the producers being allowed to retain part of their proceeds in foreign currency retention accounts. These reforms were followed by the liberalization of the producer cooperative societies which saw segmentation of former large societies divided into small units. At the same time coffee milling was deregulated and farmers were at liberty to choose their millers. The marketing of coffee however, continued to be controlled by the Coffee Board of Kenya with all coffee sales through the Nairobi Coffee Exchange auction but with no effective protection to the weakened producer units.

When all this was happening, hardly were the laws amended or changed to take care of the new situation. Hence the management of the dismembered units had no controls which made the situation already aggravated by the declining world coffee prices worse. The coffee farmers' incomes deteriorated much more as empirical evidence through this research shows.

4.2.2. Tea Sector Growth Model

Similarly the growth rate associated with tea revenue was estimated from the data given in table 2 and analysed using the model equation 4.2 as follows:

$$\ln TI_t = c_1 + c_2 t + u_t \quad \text{.......................................} 4.2$$

$$\widehat{\ln TI_t} = 8.401 + 0.029t$$

$$t = \quad (161.982) \quad (4.078) \qquad r^2 = 0.622$$

The positive slope coefficient of 0.029 means that the gross revenues earned from tea had a positive growth rate of 0.029 (or 2.9 percent) per year over the study period. This indicates that tea farmers incomes had real income growth over the period, though marginally. The graphical representation of the tea growth model is shown in Figure 4-2 below:

Figure 4.2: Tea Growth Model

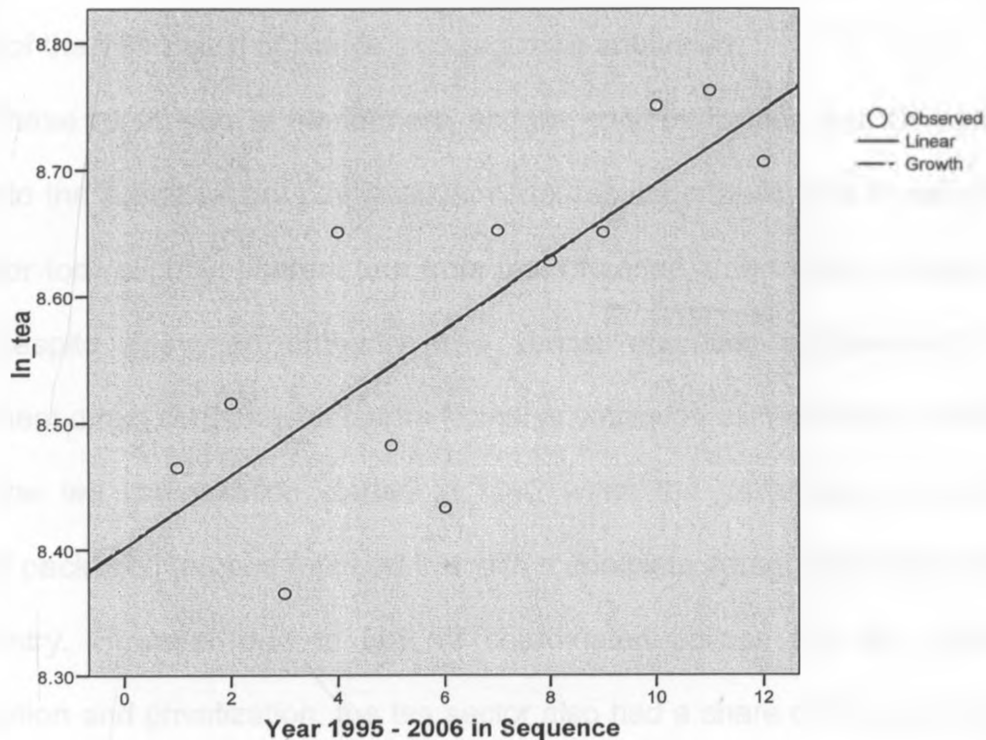


Figure 4-2 showed graphically the trend in tea growth which was positively sloped over the study period indicating that the tea production had a positive impact to the GNP over the study period. This was in tandem with the information gathered from the field interviews with the tea farmers, whereby they were positive about the liberalisation of the tea sector. The farmers indicated that the good performance was attributable to the independence of the factories, whereby control was removed from the Kenya Tea Development Authority (KTDA), to a board of directors directly elected by the farmers; tea SACCOs introduced which assisted the farmers in affordable financing of their activities; tea cess management returned to the individual factories and hence its efficiency usage in improving the tea roads infrastructure thus reducing production

costs; good management accountable to the farmers through their elected directors; and lack of political interference as the laws governing the growing and management of tea had been amended with government direct control of the tea growing removed and the role of the Tea Board of Kenya as a regulator enhanced.

These sentiments of the farmers, and the good performance of the sector, had its bearing to the liberalisation/ privatisation measures undertaken. The liberalization of the tea sector took slightly different turn from that of coffee, due to the presence of KTDA, which despite being an authority was almost operating independently from the government direct control even before formal privatisation exercise was undertaken.

The tea liberalization started in 1992 when the government decontrolled the prices of packaged tea and followed this with a complete deregulation of the tea trade in the country. However due to lack of coordinated polices and law governing the liberalization and privatization, the tea sector also had a share of this confusion. Before the formal deregulation of the tea trade and before the PERP policy paper was published in 1992, the government appointed a probe committee to look into the operations of the KTDA, which gave recommendations as to how the organization could be improved. The probe committee published its report in January 1992 whereby it recommended among others the strengthening of the government control in both KTDA and the factory companies. Before the report could be implemented, the government succumbed to the demands of the World Bank and IMF and published the PERP policy paper, whereby KTDA was classified as one of the 33 strategic public enterprises to be restructured and be retained under government control.

The government therefore, contracted Coopers and Lybrand Management Consultants to propose the reforms/restructuring KTDA could be subjected to for conformity with the policy guidelines. The consultants published their report in August 1992 with far reaching recommendations for the restructuring of the KTDA. Among other recommendations, the report proposed that KTDA be completely dismantled and in its place be established regional tea companies (RETCOs) to be the key operational units for the smallholder tea farmers. Then KTDA and other tea players in the industry would provide management services to these RETCOs. These recommendations were contested by the KTDA management who foresaw this as a way of weakening the strong production grip KTDA had in the global tea trade and as such leaving the farmers at the mercy of a strong marketing cartel then controlled 70 percent by Unilever (Republic of Kenya, 1995).

Based on these developments the government of Kenya through the World Bank financing commissioned a comprehensive study for the tea sector in 1995 which recommended the various restructuring proposals for the players in the sector including the KTDA and the Tea Board of Kenya. Among the major recommendations KTDA was to be strengthened as private institution owned by the farmers and the Tea Board be strengthened as a regulator of the whole industry. The implementation of the report to restructure the tea sector, had a direct effect to the increased production of tea as shown in table 2. It also proved that if privatisation is well implemented and proper regulations set, its results would be positive (Chisari, Estache and Romero, 1997).

4.3. The Consumer Utility Model

Comparative statistics were used to evaluate the consumer utility model, using the Lagrangian approach. The proportion of the household expenditure on the bundle of goods and services were given by the respondents as shown in table 4.1 below:

Table 4.1: Proportion of the household expenditures

	F	S	C	μ	Total
Proportions	45%	35%	15%	5%	100%

Source: Sample data collected in Kirinyaga District - 2006

Using the proportions of expenditure shown in table 4.1, the household Cobb-Douglas utility model, equations 3.9 was written to get equation 4.3 below:

$$U = F^{.45}S^{.35}C^{.15}\mu^{.05} \quad \text{.......} (4.3)$$

Subject to the following budgetary constraint from equation 3.10 to arrive at equation 4.4 below:

$$F_tPf_t + S_tPs_t + C_tPc_t + \mu_tP\mu_t = Y_t \quad \text{.......} (4.4)$$

Using the methodology outlined in chapter 3, comparative statistics data for the selected bundle of goods demanded by the households were calculated, with the results shown in table A.8. The average income of the sample farmers and prices data used in the model are shown in table A.7. Table A.7 data was derived from table A.4 and table A.5, as adjusted with the price index shown in table A.6. These results were analysed as shown in Figures 4.3 to 4.7 below.

Figure 4.3: Foods (F) Demand curve

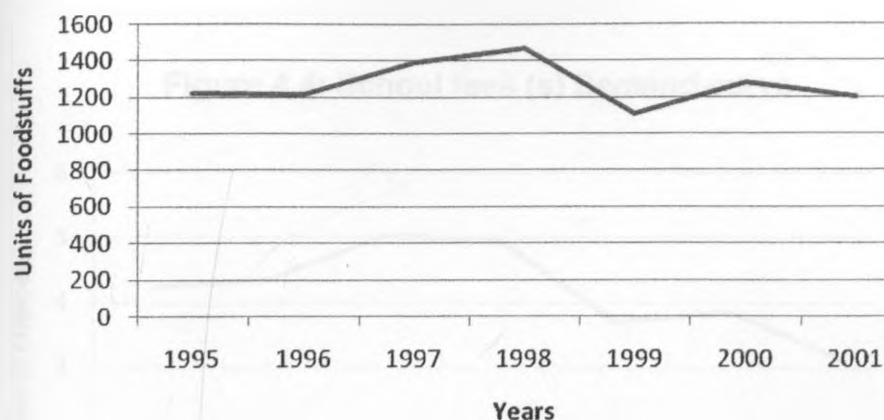


Figure 4.3 shows that the units of food staff demanded by the households remained generally about the same, despite a sharp decline between 1998 and 1999. In real terms as evidenced from table 8 the equilibrium units of foodstuffs demanded by the household declined steadily from 1,225 in 1995 to 1,206 in 2001. In accordance with the Pareto-optimality, the average household was worse off in 2001 than it was in 1995, an indication of decrease in the welfare. This however, is a case of a normal good, whereby the household had to maintain their consumption as constant as possible despite the apparent fall in real income.

The marginal changes in foodstuffs ($\partial \bar{F}/\partial y$), as indicated in table A.9 was positive but declining over the period, indicating that the items were positively responsive to the income changes of the household. In other words the demand for foodstuffs would rise as the household's income increased. Their declining marginal rate of substitution indicates that, the household was willing to trade off some of these goods for others or just to adjust to the decreased welfare caused by the lower income levels.

Figure 4.4: School fees (s) Demand curve

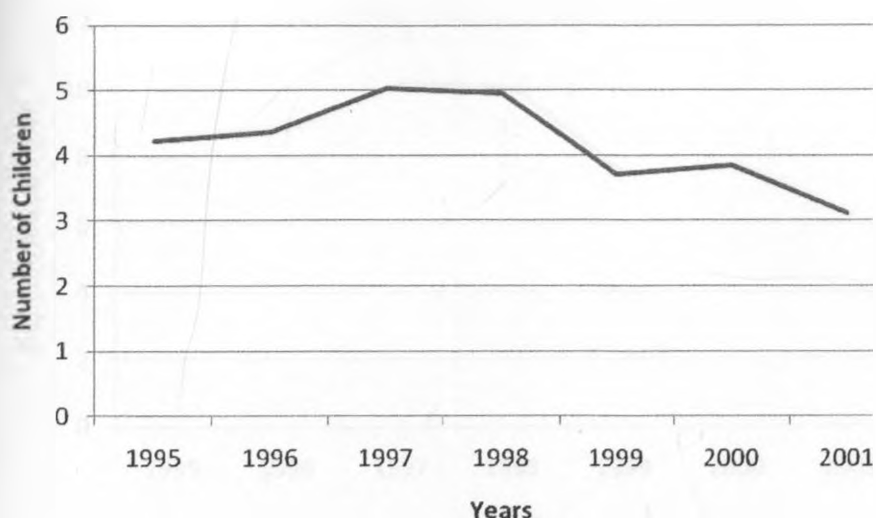
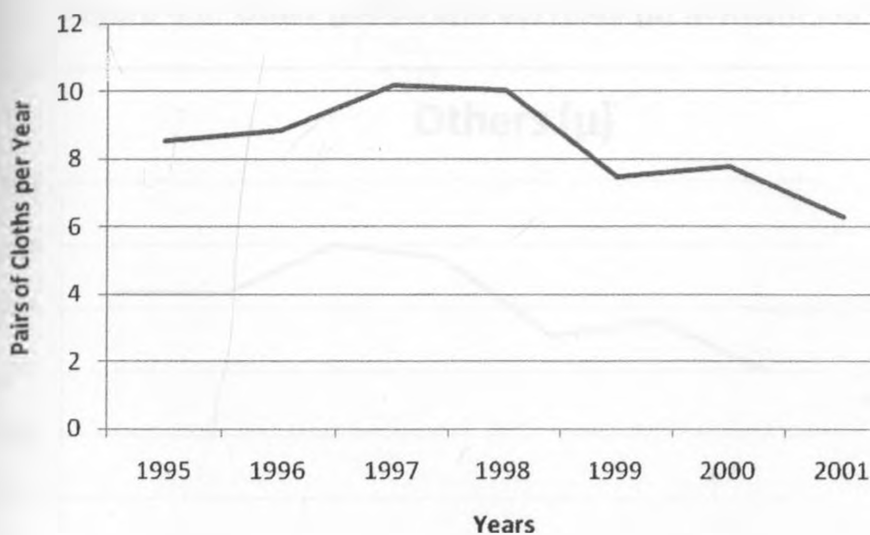


Figure 4.4 shows that the equilibrium number of children a household could afford to pay school fee for declined substantially from 1995 to 2001, unlike the case for the food staff. Table from 8 shows that the number of children the household could afford to take to school declined from 4 in 1995 to 3 in 2001. In accordance with the Pareto-optimality, the household was worse off in 2001 than it was in 1995, an indication of decrease in the welfare. The sharper decline of the school fee relative to food stuffs (figure 4.3), could be attributed to the households substitution effect necessitated by declining purchasing power.

The marginal rate of substitution for school fees ($\partial \bar{S}/\partial \gamma$) shown in table A.9, was negative and increasing over the period, indicating that it was negatively responsive to the income changes of the households. In other words the household would demand less of school fees as the income increases. The increasing marginal rate of substitution

of school fee indicated that the households are willing to trade off other goods for these as the income decreased.

Figure 4.5: Clothing (C) demand curve

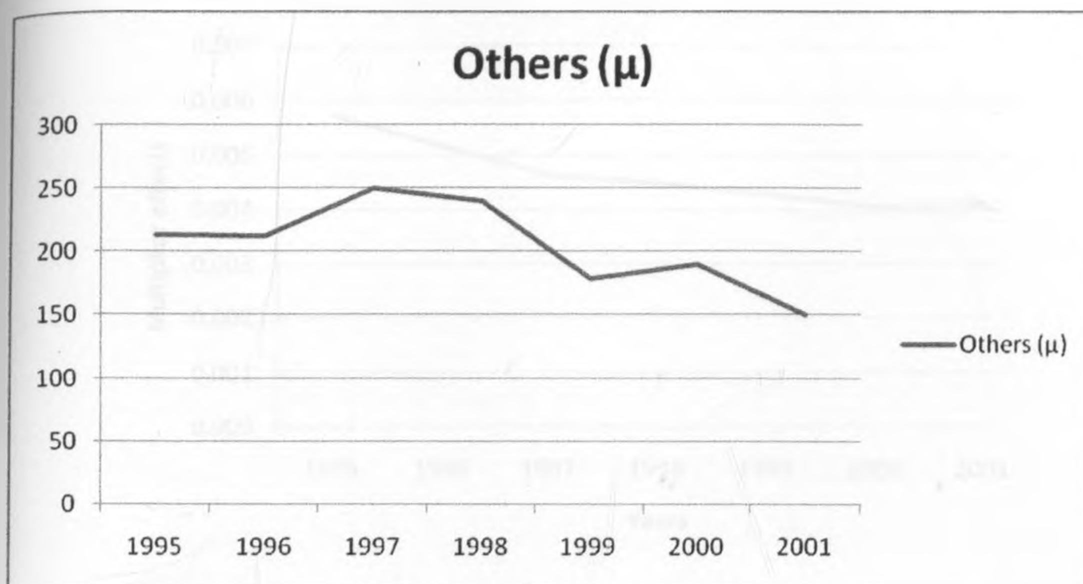


Like the case of the school fee, figure 4.5 shows that the demand for clothing also declined considerably between 1995 and 2001. As indicated in table 8, the equilibrium units of clothing a household could afford declined from 9 pairs per annum in 1995 to 6 in 2001. Again in accordance with the Pareto-optimality, the communities were worse off in 2001 than they were in 1995. Again, this is a case of luxury goods, whereby the consumer substituted clothing for foodstuffs to take care of the declining real incomes.

The marginal changes in clothing ($\partial\bar{s}/\partial y$), as indicated in table A.9 was positive but declining over the period, indicating that they were positively responsive to the income changes of the household. In other words the demand for clothing would rise as the household's income increased. Their declining marginal rate of substitution indicates

that, the household was willing to trade off some of clothing for others, or just to adjust to the decreased welfare caused by the lower income levels.

Figure 4.6: Other goods and services (μ) demand curve



Finally figure 4.6 shows the case for the other bundle of goods and services demanded by the households, whereby like all the other items, except foodstuffs, declined considerably from 1995 to 2001. The units decline shown in table 8, indicate that while the household could afford 214 units in 1995, it could only afford 150 by year 2001. The interpretation of these results are that, besides showing that the household was worse off in 2001 than it was in 1995, the bundle of goods in this set were luxury goods and hence being substituted for other goods like foodstuffs as the income levels declined.

The marginal rate of substitution for other goods and services ($\partial\bar{\mu}/\partial\gamma$), shown in table A.9, was negative and increasing over the period, indicating that these goods were negatively responsive to the income changes of the households. In other words the

household would demand less of these items as the income increased. The increasing marginal rate of substitution of other goods indicated that the households are willing to trade off other goods for these as the income decreased.

Figure 4.7: Multiplier Factor (λ) curve

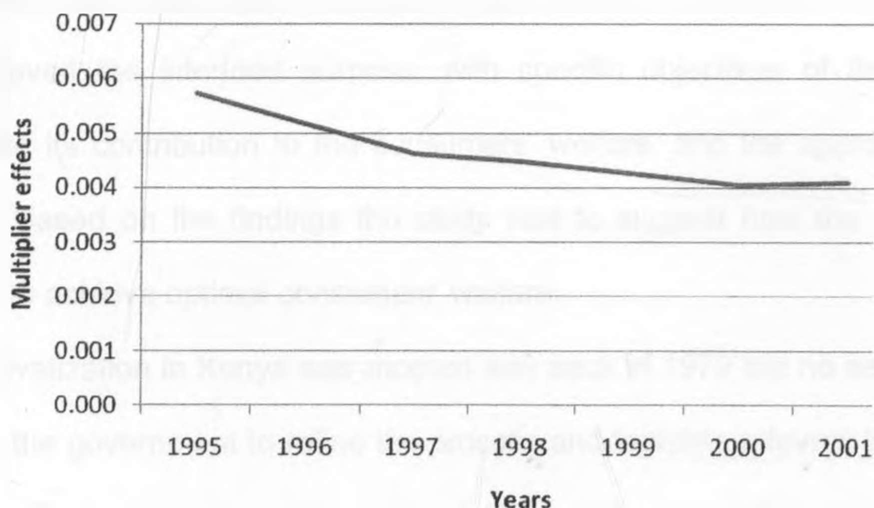


Figure 4.7 shows the Lagrangian multiplier curve dropping throughout the period between 1995 to 2001, an indication of decline in the household utility. This confirms results observed from the demand functions of the various bundles of goods. The results of this analysis is that the tea and coffee farmers' welfare declined from 1995 to 2001 despite the liberalisation/ privatisation of these sectors. The marginal increase in revenues earned by tea as previously discussed were more eroded by the loss of income resulting from the poor earnings from coffee and other sectors of the economy, resulting on the communities being on average worse-off.

CHAPTER FIVE

SUMMARY, CONCLUSION AND POLICY IMPLICATIONS

5.1. Summary

The overall objective of this study was to assess the degree to which privatisation has achieved the intended purpose, with specific objectives of the study being to investigate its contribution to the consumers' welfare, and the appropriateness of the process. Based on the findings the study was to suggest how the process could be modified to achieve optimal consumers' welfare.

Privatization in Kenya was mooted way back in 1979 but no serious efforts were made by the government to refine the process and legislate relevant laws to govern the process. The required programme design and preparation exercise were not undertaken which resulted into haphazard implementation process. Therefore the two sectors included in this study underwent different processes in the design and implementation of the privatization process, with differing results achieved.

Coffee liberalization process started well before 1992 with no particular programme design or coordination of the process. The first part of the liberalization process was to allow the producers to retain part of their proceeds in foreign currency. The second part was the segmentation of former large societies which were divided into small units. The third part of the process was to deregulate the milling in 1993 with the farmers allowed to choose their own millers independently, or through their coffee societies. Finally in 2001/02 on the operationalization of the Coffee Act 2001 the coffee marketing and regulation roles were separated, with the Coffee Board of Kenya (CBK)

retaining the regulatory role while the marketing function was given to the marketing agents.

Empirical findings indicated that, since privatisation process of the coffee sector started, its performance had been on the decline. The main causes given by the farmers for the decline in its performance since the liberalisation were, irregular payments; low prices; inputs were no longer availed at reasonable prices; general red tape and management problems; no field extension services were available; coffee millers disproportionately licensed; quota marketing system of coffee removed; more factories constructed without regard to the economy and effectiveness; and political interference with the management of the coffee societies.

The reasons given for the poor performance of the coffee sector underpinned on the privatisation design and implementation process, which were never thought out properly nor coordinated. Evidently, the regulatory function, though said to have been retained with the CBK, the essential elements of a good regulator, of independence, autonomy, expertise and accountability were lacking in the organisation. Therefore the resultant effect of all these reforms were to increase the number of middle men in the coffee chain without increasing the coffee earnings leading to the decline of the farmers' incomes.

The tea liberalization started in 1992 when the government decontrolled the prices of packaged tea and followed this with a complete deregulation of the tea trade in the country. However despite the initial lack of coordinated polices on the process, the tea sector substantially overcame the problems after the management of the Kenya Tea Development Authority rejected the original proposals for the privatisation of the sector

which would have seen it go in the direction of the coffee sector. As a result, through a World Bank financing, a comprehensive study for the sector was undertaken, which defined and articulated the privatisation process including its implementation.

Empirical evidence shows that the tea sector privatisation results, were improved performance of the sector with production growing and the real incomes to the farmers increasing. These favourable results, as confirmed by the farmers interviewed, were due to the independence of the factories; tea SACCOs introduced which assisted the farmers in affordable financing of their activities; tea cess management returned to the individual factories and hence its efficiency usage in improving the tea roads infrastructure thus reducing production costs; good management accountable to the farmers through their elected directors; and lack of political interference as the laws governing the growing and management of tea had been amended with government direct control in tea growing removed and the role of the Tea Board of Kenya as a regulator enhanced. This evidently confirmed the findings of Chisari, Estache and Romero (1997) that where the privatisation process was articulately followed and the regulatory authority strengthened the gains were positive.

Empirically the overall consumers' welfare declined as the results of the study show. On average the incomes of the households declined in monetary and real terms as shown in table A.7. The optimal quantity of the various goods and services demanded by the households declined. As such the welfare of the consumer was worse in 2001 than it was in 1995.

5.2. Conclusions

In conclusion, empirical findings indicate that the sectors where privatisation process including its implementation were well thought out, contribution to the consumer welfare was positive; while if the process was haphazardly designed and implemented, the results were negative. Therefore the tea sector performed well and the real incomes to the farmers increased over the study period, while the coffee sector performed decimally.

Overall the privatisation process in Kenya was poorly designed with most of the programmes poorly implemented. This is evident from the combined performance of the households, whereby the utility of the consumers went down with a total decrease in welfare. As pointed out by White and Bhatia (1998), Kenyan privatisation was evidently designed to be coordinated centrally by a privatisation agency reporting to a government appointed committee, which lacked legal status and authority. Therefore the privatisation lacked coordination, both from the design and implementation, resulting in the poor performance of the economy as portrayed by the results of this study based on the two commodities.

5.3. Policy Implications

Policy directions will require to be drawn to address some of the mistakes which were made in the past. Based on the empirical findings of this study, the general consumer welfare of the communities declined since privatisation was embraced in Kenya. To reverse the situation, policies must be put in place to correct the past mistakes so as to enhance the returns from the privatised sectors and those to undergo the process in future. As the new privatisation law is implemented appropriate policies

will need to be put in place to ensure that the past mistakes are not repeated. In addition there will be need to internalise the process and develop clear policies which addresses the Kenyan problems.

To improve the farmers' earnings from the privatised sectors of coffee and tea, policies on production and marketing must be well thought out. Empirical evidence shows that one of the reasons why the tea sector performed better than the coffee sector was due to the privatisation process adopted. The tea sector adopted a process which facilitated institutionalisation of economical production units and also strengthened the regulatory function of the Tea Board of Kenya with adequate policies to deal with the marketing of made tea. Therefore to collect the problems in the coffee sector there is need for institutionalisation and strengthening of the dismembered farmers' cooperatives in the coffee sector to viable production units. In addition strengthen the regulatory authorities to achieve independence, autonomy, expertise, and accountability to deal with issues of oligopolistic and other monopolistic operations.

Overall regulatory agencies should be institutionalised where none exist covering well defined sectors. Where the regulatory authorities already exist, they should be strengthened and their operational policies and procedures developed. The role and breadth of each regulatory authority should be decided based on the key qualities of a good regulator. In other words the appropriate decision on whether the regulatory agencies should be industry-specific, sector-specific, or multi-sectoral should be analysed before institutionalisation of the each of the agency.

Key among issues which need to be reviewed as the new law is operationalised is to have a study undertaken to assess the full impact so far on all sectors of the

economy which have been privatised so far. Stock of all remaining institutions to be privatised should be taken and clear objectives set including collective measures to correct adjustable mistakes caused by the unplanned privatisation. Regulatory measures covering all areas which would be prone to private monopolies should be analysed and the government ensure that strong agencies are put in place.

The next issue which need to be tackled is to develop a programme on privatisation both for use in privatising the remaining institutions and to correct past mistakes. The programme should include detailed methods of privatisation for each of the sectors which should ensure maximum impact to the welfare of the Kenyans. The operational policies and procedures should well be defined and gazetted for harmonisation of the process.

5.4. Limitation of the Study and Areas of Further Research

The key limitation of this study was the research budget plus inadequate statistical data related to the newly privatised sectors in Kenya. The other key limitation of the study was lack of readily available statistical data, which made it impossible to undertake direct analysis of all the sectors of the economy and how they affect each other taking into consideration the privatised sectors. As such key issues like effects on employment and capital formation were not analysed.

There is therefore need to undertake a comprehensive study based on the input output matrix to fully analyse the impact of privatisation to the total economy.

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APPENDIX ONE
DATA

Table B.1: Key economic and social indicators in percentage terms

Details	1995	1996	1997	1998	1999	2000	2001	2002	2003
Population growth rate	2.6	2.9	2.5	3.4	2.4	2.4	2.0	2.3	2.2
GDP growth rate at constant prices	4.8	4.6	2.4	1.8	1.4	-0.2	1.2	1.1	1.8
Employment growth rate	3.4	4.0	1.8	2.1	0.6	0.4	-1.1	1.3	1.6

Source: 1995 - 2004 Economic Survey Reports by the Kenya National Bureau of Statistics

Table B.2: Country annual tea and coffee production (millions Kshs)

Year	Coffee	Tea	Coffee ln	Tea Ln
1995	2,662	4,746	7.886833	8.465057
1996	2,869	4,991	7.9617188	8.515392
1997	1,829	4,295	7.5115246	8.365207
1998	1,427	5,711	7.2633296	8.650149
1999	1,787	4,827	7.4882935	8.48198
2000	2,725	4,596	7.9102237	8.432942
2001	1,516	5,718	7.3238306	8.651374
2002	1,267	5,583	7.1444072	8.627482
2003	1,702	5,710	7.4395593	8.649974
2004	1,388	6,312	7.2356191	8.750208
2005	1,325	6,388	7.1891677	8.762177
2006	1,404	6,039	7.2470806	8.705994

Source: KNBS Statistical Abstracts with Own Calculation of Natural Log

Table B.3: Sample farmers' income from coffee and tea

Year	Aggregate coffee farmers net income	Aggregate tea farmers net income
1995	49,131.50	369,760.00
1996	30,233.30	505,630.00
1997	129,473.80	692,098.60
1998	312,538.75	488,188.70
1999	28,514.05	439,479.60
2000	11,550.30	587,592.65
2001	7,011.95	413,193.80

Source: Own research data sample

Table B.4: **Sample farmers' income**

Respondents	Type of income	1995 Kshs	1996 Kshs	1997 Kshs	1998 Kshs	1999 Kshs	2000 Kshs	2001 Kshs
1	Coffee	14,647.70	12,436.75	69,436.00	79,326.25	4,061.90	3,370.50	1,968.75
	Tea	65,280.00	104,100.00	150,921.85	111,984.10	87,596.25	140,200.30	97,959.60
	Other	33,600.00	31,100.00	32,600.00	32,950.00	36,000.00	36,000.00	36,000.00
2	Coffee	704.40	770.50	294.75	782.00	787.80	308.85	0.00
	Tea	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Other	36,000.00	36,000.00	36,000.00	36,000.00	36,000.00	36,000.00	36,000.00
3	Coffee	7,644.60	2,102.75	7,667.20	26,101.50	3,886.95	1,113.10	650.00
	Tea	85,460.00	104,870.00	122,344.75	73,917.05	72,483.25	112,151.90	77,520.20
	Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Coffee	6,248.40	4,214.25	14,532.80	13,222.75	1,414.35	1,806.00	1,263.75
	Tea	31,640.00	51,050.00	91,203.25	78,386.30	37,503.45	17,000.75	30,973.00
	Other	162,600.00	162,000.00	162,000.00	192,000.00	192,000.00	192,000.00	192,000.00
5	Coffee	6,692.35	1,771.70	4,960.60	16,533.25	536.40	269.90	850.00
	Tea	8,230.00	27,640.00	57,690.05	29,414.75	12,582.00	26,726.45	19,137.80
	Other	36,000.00	36,000.00	36,000.00	36,000.00	36,000.00	36,000.00	36,000.00
6	Coffee	11,710.40	7,839.00	26,088.20	49,138.75	1,517.30	1,841.50	837.50
	Tea	117,690.00	137,100.00	163,130.30	147,612.75	187,468.75	212,871.45	122,790.40
	Other	96,000.00	96,000.00	96,000.00	120,000.00	126,000.00	150,000.00	150,000.00
7	Coffee	597.00	205.00	1,215.85	1,195.00	3,313.60	254.25	16.95
	Tea	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Other	54,000.00	54,000.00	54,000.00	87,000.00	87,000.00	87,000.00	87,000.00
8	Coffee	886.65	893.35	5,278.40	126,239.25	12,995.75	2,586.20	1,425.00
	Tea	80,870.00	80,870.00	106,808.40	46,873.75	41,845.90	78,641.80	64,812.80
	Other	72,000.00	72,000.00	72,000.00	72,000.00	108,000.00	108,000.00	108,000.00

Table B.5: Average prices of selected household goods

Year	Food Staffs							Other	
	Beef	Cooking fat	Beans	Flour	Maize grains	Rice	Sugar	Beer	Kerosene
1995	106.67	51.31	31.88	15.96	12.58	33.21	40.5	36.17	17.04
1996	126.25	54.25	33.67	16.92	13.67	39.38	47.25	41	19.28
1997	134.17	52.28	61.36	21.5	19.34	37.47	44.77	43.67	21.76
1998	127.53	59.33	55.68	20.11	16.7	40.52	48.9	49.5	22.03
1999	142.43	62.04	51.21	22.06	19.79	43.4	44.77	51.25	24.82
2000	137.36	55.58	46.46	23.17	20.54	42.19	57.75	50.14	31.82
2001	142.82	45.13	41.9	18.12	15.59	32.36	51.76	53.96	34.74

Source: Kenya National Bureau of Statistics

Table B.6: Price index and average inflation rate

Period	Average Price Index	Average inflation rate
1995	82.41	1.6
1996	89.84	9
1997	99.9	11.2
1998	106.53	6.6
1999	112.65	5.8
2000	123.86	10.0
2001	130.99	5.8
2002	133.56	2
2003	146.64	9.8
2004	163.6	11.6
2005	180.6	10.3
2006	206.7	14.5

Source: Kenya National Bureau of Statistics

Table B.7: Average prices

Year	Average income*	Average income in 1995 prices	Average price – Foods**	Average Price – Fees***	Average Price – Clothing***	Average Price – Others**
1995	113,636.44	113,636.44	41.73	9,409.17	1,993.47	35.88
1996	127,870.41	117,295.20	47.34	10,257.49	2,173.20	39.12
1997	163,771.55	135,099.23	52.98	11,406.10	2,416.55	43.50
1998	172,084.68	133,122.11	52.68	12,163.08	2,576.92	46.38
1999	136,124.21	99,582.74	55.10	12,861.83	2,724.96	49.05
2000	155,517.87	103,473.50	54.72	14,141.73	2,996.13	53.93
2001	133,150.72	83,769.38	49.67	14,955.80	3,168.60	57.03

* *Mean incomes per annum from all respondents calculated from table 1*

** *Average prices calculated from table 9 above*

*** *Current ruling average prices discounted using the price index in table 10. Current school fee estimated at an average of Kshs 23,600 taking the three different classes of schools. The estimated current price for the set of cloths worn by a person within the low to medium income groups is Kshs 5,000.*

Table B.8: Optimal units of variables demanded by the households

Year	Foods (F)	School Fee (S)	Clothing (C)	Others (μ)	Multiplier factor (λ)
1995	1,225	4	9	214	0.006
1996	1,215	4	9	212	0.005
1997	1,391	5	10	250	0.005
1998	1,470	5	10	241	0.004
1999	1,112	4	7	179	0.004
2000	1,279	4	8	190	0.004
2001	1,206	3	6	150	0.004

Source: Own calculation from the sample data - 2007

Table B.9: Marginal change in equilibrium quantities

Year	$\partial\bar{F}/\partial\gamma$	$\partial\bar{S}/\partial\gamma$	$\partial\bar{C}/\partial\gamma$	$\partial\bar{\mu}/\partial\gamma$
1995	0.01090	-0.00004	0.00008	-0.00141
1996	0.00988	-0.00003	0.00007	-0.00132
1997	0.00864	-0.00003	0.00006	-0.00117
1998	0.00854	-0.00003	0.00006	-0.00140
1999	0.00817	-0.00003	0.00006	-0.00131
2000	0.00822	-0.00002	0.00005	-0.00122
2001	0.00962	-0.00002	0.00005	-0.00120

Source: Own calculation from the sample data - 2007

APPENDIX TWO
QUESTIONNAIRE

IMPACT OF PRIVATISATION AND PRASTATAL REFORM

QUESTIONNAIRE

A CASE STUDY FOR THE PROGRAMME IN KENYA

This questionnaire aims to collect data to facilitate completion of a Master's degree in Economics Project on the impact of Privatization and Parastatals Reform in Kenya. The information obtained will remain confidential and will not be used for any other purpose. Your cooperation in completing the questionnaire as accurately as possible will be appreciated.

---

1. Personal details

i) Name ____________________

ii) Gender Male ☐ Female ☐

Age 20-30 ☐ 30-40 ☐ Over 40 ☐

iii) Highest Education level

No schooling ☐ Primary School ☐

Secondary School ☐ University ☐

iv) Number in family ☐

v) Head of Family Yes ☐ No ☐

2. **Income details (Self and family if living in the same household)**

Year	Net earnings from coffee	Net earnings from tea	Employ ment	Rent on property	Incom e from busine ss	Divide nds/ other income	Total
1995							
1996							
1997							
1998							
1999							
2000							
2001							

3. **Coffee farming activities**

   a) Name of society ______________________________

   b) No. of stems [ ] Acreage under coffee [ ]

   c) Indicate any changes in coffee farming activities since 1995:

   ____

   ____

   ____

   ____

   ____

d) Production details

Year	Production in Kgs	Net payment received	Wages paid	Cost of inputs	Net proceeds
1995					
1996					
1997					
1998					
1999					
2000					
2001					

e) Major factors considered by the household as main contributors to the success or otherwise in their coffee farming activities:

- ____
- ____
- ____
- ____
- ____
- ____
- ____
- ____

4. Tea farming activities

a) Name of factory ____________________________

b) No. of stems ☐ Acreage under tea ☐

c) Indicate any changes in tea farming activities since 1995:

____

____

____

____

____

d) Production details

Year	Production in Kgs	Net payment received	Wages paid	Cost of inputs	Net proceeds
1995					
1996					
1997					
1998					
1999					
2000					
2001					

e) Major factors considered by the household as main contributors to the success or otherwise in their coffee farming activities:

- ____________________________________
- ____________________________________
- ____________________________________
- ____________________________________
- ____________________________________
- ____________________________________
- ____________________________________

5. **Employment income details**

a) **Salary and employers details**

Year	Employer	Salaries/wages	Remarks
1995			
1996			
1997			
1998			
1999			
2000			
2001			

b) **Comment on major employment changes over the period**

- ______________________________
- ______________________________
- ______________________________
- ______________________________
- ______________________________
- ______________________________

- ______________________________
- ______________________________

6. **Income spending details (Self and family if living in the same household)**

a) **Spending details**

Year	Total income	Total on normal goods/ services	Total on luxury goods/ services	Savings/ Invested	Other uses
1995					
1996					
1997					
1998					
1999					
2000					
2001					

b) **Details of normal goods and percentage of income spent**

Year	1------------	2----------	3---------	4---------	5--------
1995					
1996					
1997					
1998					
1999					
2000					
2001					

c) **Details of luxury goods and percentage of income spent**

Year	1------------	2----------	3---------	4---------	5--------
1995					
1996					
1997					
1998					
1999					
2000					
2001					

7. **Investment details**

Year	Total savings/ investment	Type of investment	Rate
1995			
1996			
1997			
1998			
1999			
2000			
2001			

Thank you for your cooperation and contribution to this study.

John W Nguri

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