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Issues of Economic Growth and Macroeconomic Polices In Ethiopia

By

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Introduction

This study attempts to examine the pattern of growth and its determents in Ethiopia covering the period from 1960 to 1996. The first part provides an overall picture of the evolution of development frameworks and. the pattern of growth.

The second part takes in to account the pace and structure of accumulation and absorption of human and physical capital stock. In this regard, the determents of supply and demand for labor and capital and their implications to the grow process will be discussed to a greater detail.

The third section, will be devoted for setting the analytical framework to be used for the quantitative analysis of the determents of Growth in Ethiopia. Here, a review of the Neo-classical "Old" and "New" growth theories followed by a summary of selected empirical findings on the issue of growth will be considerd. The theoretical underpinnings and experience will help to shape the model to be used for analyzing the Ethiopian economy and augment forth coming policy discussion .

The fourth section provides a quantitative description of the growth of total factor productivity attributed to growth in physical capital and labor inputs. To understand the effect of a simultaneous change in factors of production on growth , a fairly simple econometric model is used. The model used here is of two variant : one based on the traditional neo-classical growth model and the other being an extension of it with an additional explanatory variable representing human capital. To maximize the efficiency of the model, alternative mathematical forms including error correction model will be employed. For the estimation of the parameters and to undertake various econometric tests a software known as PC-GIVE is used.

The fifth part attempts to explain the determents of growth in Ethiopia by adopting the "New" endogenous approach. This approach basically helps to understand the effect of policies on long term growth. Particularly, the paper will examine the effect of macroeconomic stability, fiscal policy, financial sector policies, and trade and industrialization policies on resource mobilization, allocation and utilization and hence growth.

Based on the findings from our own and select countries' experience, preliminary conclusion focusing at the implications for the future will be the last part of this research.

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This research will only be the beginning and is far from adequate in addressing all aspects of growth and macroeconomic policies in Ethiopia. Rather it raises a number of issues which require further in-depth examination and to come up with concrete recommendations on how this country's economy shall be best managed to achieve the objectives of sustainable growth and reduction of poverty in a shortest possible time.

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Chapter 1: The Evolution of Growth and Development in Ethiopia

1.1 Four Decades of Disappointment

Ethiopia's long recorded history confirms the progress made at the down of civilization. The historical relics and archeological remains and its bitter struggle to maintain national identity is the Ethiopian heritage passed over to this generation. The remarkable evidences of invention and technical progress thousand years ago could only be parallel with the experiences of few country's in the world.

However, this unique feature and evidences of high level civilization attained when most countries were not even conscious of nation formation stark contrast with the present feature being one of the least developed countries in the world.

Most importantly, since the beginning of building modern Ethiopia following the end of the second world war, development in the country seems alien and any progress made since then could at best be leveled marginal. Practically in all aspects of development, Ethiopia's present state hardly changed than what prevailed four decades a go. Consistently, the country's problem, development constraints and development priorities remained the same as four decades ago. It is important to note that any positive changes recorded in the past are associated with the effort made by the imperial government to modernize the economy.

The following table depicts some of the hard facts about the country's socioeconomic situation in 1965 and 1992. The level of income which was one of the lowest in the world hardly showing improvement confirming the lowest rank in the world. Consistently, the social indicators were no better in 1992 than was in 1965. This in turn reflect the presence of wide spread poverty, with an economy not only failing to ensure basic needs to the people but also progressively becoming vulnerable to externalities making economic management complex and difficult.

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Table 1.1: Selected So-Economic Indicators of Ethiopia

	1965[1]	1992[3]
Per capita GDP (in USD)	50	110
Enrollment	11	25
Infant mortality	162	122
Life expectancy[3]	43	49

Source: The World Bank.

Note: [1] Enrollment refers to gross enrollment ratio, primary, total, per cent age of school age population.
[2] Infant mortality rate per 000' live births.
[3] Life expectancy at birth total in years.

Historically, in the past forty years Ethiopia has passed through two distinctly different soio-political systems. The first era refers to the pre 1974 Imperial era and the second being the Derg era of 1974 to 1991. In the context of economic management, the development since 1991 may be considered as "Back to the future" approach depicting similarity with the Imperial era. In terms of initial condition, however, the three systems including the recent one exhibit differences depending on the soio-economic and political environment preceding them.

1.2 Pre 1974: The Unsustainable "Golden Age"

Immediately after the end of the war with Italy, the Imperial government was pre-occupied in setting the foundation for modern Ethiopia. Before 1960 the government re-established State organizations and a series of laws and regulations enacted and steps were taken to integrate the economy (by opening up) to the external world. Among the notable series of economic measures include, the establishment of monetary institution and the introduction of national currency with a strong cover, expansion of trade and communication with the rest of the world, putting in order the state finances, and improve the back ward infrastructure to facilitate industrialization.

In Ethiopia modern economic management with a vision to the future had become visible with the introduction of the first five year plan in 1960. Given the mixed nature of the economy where public, private, and cooperative initiatives do exist, the plan served as an indicative framework for the nation in general and guide public investment in pre-set areas. Until the down fall of the regime in 1973/74, three five year plans were adopted. Despite tactical change in the third five year plan, generally speaking, the strategy adopted

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to promote growth and development in those years was import substitution industrialization.[1]

The stated role of the government in those years was: issuing policies to foster private initiatives and gear private decision in line with the five year plans; actively participate in the creation of basic facilities required for sustainable development; and invest in production sectors in which private enterprises do not show sufficient initiative.[2] In practice, the government's effort was devoted to the promotion of import substitution industrialization with the government at the center.

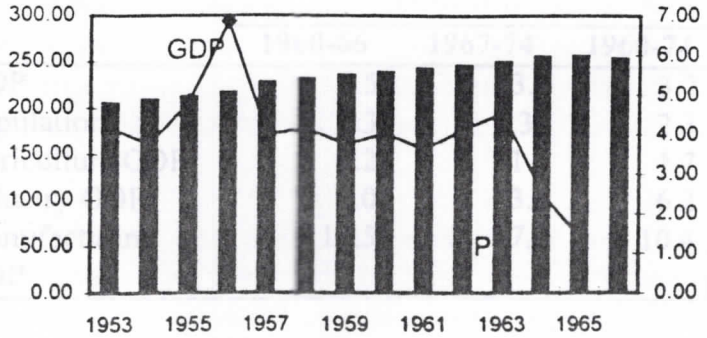
In a modestly liberalized environment, the role of the private sector, most importantly foreign investment, had remind significant. However, the gradual fall in the flow of foreign capital was filled by the expanding public sector. According to the third five year plan, the share of private investment from total fixed capital formation fell from its 1962/63 level of about 68 per cent to about 56 per cent in the late 60's. Thus, on the third five year development plan the share of public investment out weight that of the private sector in all economic activities except in mining and housing.[3]

In those years, the bulk of investment was geared towards the modern sector. Between 1960 and 1974 the share of non agricultural sector capital formation from total capital formation ranges between 80 to 89 per cent. Even the small proportion of public monetary investment in agriculture went for the establishment of large scale modern farms and the creation of enabling environment for the promotion of commercial farms.[4]

Comparatively the economic performance recorded in those years was said to be the "golden age" in the country's recent history. The intensified effort to industrialize was matched by the resulting growth in real GDP over and above the growth rate of population. Between 1960 and 1974, real GDP grew by about 3.7 per cent. In net terms, per-capita income between 1960 and 1974 increased on the average by 1.4 per cent per annum, from Birr 205.74 per person per annum to 247.5 per person per annum.

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Figure 1.1
Growth of Real GDP and Real Per Capita Income
(Ann. Aver. Perc. Change and in Birr)



Not surprisingly the unbalanced approach to bring development resulted in fast expansion of the industrial sector at the expense of the traditional sector. Thus, the manufacturing sector that earned the highest attention grew on the average by 10.4 per cent per annum. In contrast, the development of the agricultural sector that earned less attention in the process of industrialization responded with sluggish growth averaging 1.7 per cent per annum. This entails that per capita agricultural value added had been falling on the average by about 0.3 per cent per annum.

As a result, there has been a temporal shift in the structure of production, in which between 1960 and 1974 the share of agriculture from GDP fell from 69.2 per cent to 52.5 per cent while that of manufacturing rose from 2.4 per cent to 4.7 per cent.

In terms of the structure of labor absorption, the share of agriculture dropped from 94 per cent to 89 per cent. Such changes can be seen as an indication of economic progress towards industrialization. However a critical look may reveal the unsustainability of the unbalanced growth strategy.

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Table 1.2 **Period Average Growth of GDP by Economic Activity (1960 - 1974)**

	Growth in Percentage			Percentage Dist. of GDP	
	1960-66	1967-74	1960-74	1960	1974
GDP	4.5	3.0	3.7		
Population	2.3	2.34	2.3		
Agriculture GDP	2.2	1.7	1.7	69.2	52.5
Industry GDP	9.0	3.6	6.2	10.8	14.9
Manufacturing GDP	14.5	7.1	10.4	2.0	4.7

Source: Based on MEDaC GDP Estimate.

First, the structural change recorded was not only the result of accelerated growth in the modern sector but also a reflection of the poor performance of the traditional sector. Second, there had been miss much in the pace at which the modern sector had been growing and the rate at which this sector had been absorbing the labor force. This in turn depicts the degree of capital intensity of the modernization process.[5]

Neglecting the agricultural sector and, the resulting poor performance warranted a decline in the sector's capacity to full-fill the demand for food and foreign exchange critical for modernization. At the same time, the decline in per capita income of the rural population (using per capita real value added per capita rural income fell by about 0.5 per cent) imply an absorption problem to the fast growing manufacturing output. In fact, by late 60s the import substitution industrialization process reached at saturation point with the establishment of almost 70 per cent of the manufacturing plants operating today. The fall in the growth of the manufacturing sector value added by half in the latter period confirm the declaration pattern of the import substitution industrialization towards stagnation (see table 1.2).

Moreover, the inward orientation of the strategy imply untie-export bias, declining competitiveness and hence lack of dynamism in the economy. In those years, export performance was less sound than the economy as a whole. In nominal terms, between 1960 and 70, export increased by 3.1 per cent. The structure of export as well remained unchanged with primary commodity export accounting for almost all (98 per cent in 1976) foreign exchange earning from merchandise trade. The implication of poor performance of export in the face of accelerating growth of import (on the average growing by 6.2 per cent per annum, twice the rate of growth of export) further assert the unsustainablity of the growth process with its likely debt related problems.

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The high technological content of the industrialization processes brought through Direct Foreign Investment (DFI) in collaboration with the public sector was believed to be a source for unsustainblty. The high capital content of industrialization generate low employment with high productivity further deepening the dual-nature of the economy. In addition, the governments policy to encourage large and foreign capital further hindered the emergence of domestic entrepreneurs. Moreover, the subsequent protection granted to these industries was believed to have marginalized local investors in small scale industries and agriculture.

Though, the observed growth trend was believed unsustainable, one has to acknowledge the effort made in those years particularly for the betterment of the urban economy. Apart from the growth in per capita income, the progress made to industrialize processes showed positive back-ward linkage which was profound on the power sector. Between 1960 and 1977 power generation and consumption increased by about 14 per cent on the average per annum. On per capital terms, energy consumption measured in coal equivalent rose from 8 kg to 27 kg during the period under review.[6]

Like wise, the government of the time was conscious of the critical role human capital play in the process modernization. To this effect, an attempt to expand education was made mainly through increased public expenditure on education at all level. As a result, enrollment ratio at primary and secondary level (number of people enrolled as percentage of age group) rose from 5 to 23 and 1 to 6 per cent respectively. Though moderate, growing public spending in health sector contributed for improvement of the service. For example, between 1960 and 1976, the ratio of population to physician dropped from 91,000 to 84,854. As a result, both life expectancy at birth increased from 36 to 39 while child death rate (age 1-4) fell from 43 to 39 per cent.[7]

1.3 1974-1992: From Stagnation to Impairment

An economic down turn and instability caused by the oil shock of 1973 and wind - fall gain from oilseeds and pulses export coupled with the out-break of drought in the northern part of the country fasten the downfall of the Haileselasie regime. On the structural side, the attempt to modernize the economy with vertical imbalance in resource generation and use favoring the urban economy caused the dual structure of the economy to deepen. Moreover, in the rural area where land was owned by land-lords, the attempt to expand modern large-scale agriculture in the early 70's started displacing peasants. In the face of limited absorption capacity of the urban economy, the growing rural-urban migration exacerbated the social crises and becoming one of the causes for public appraisals that resulted in the down fall of the long standing monarchy.

The military regime which assumed power in 1974 made a swift turn by introducing a socialist system of economy management in 1974/75.[8] The socialization of the economy was triggered by nationalizing rural land, privately owned industrial

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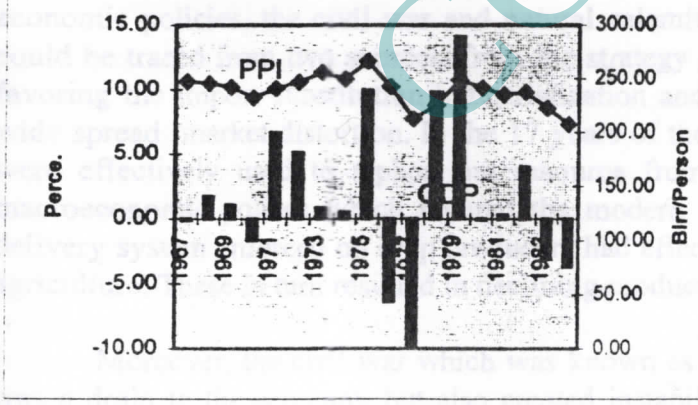
establishments, financial institutions, schools and urban land and houses. This was reinforced by establishing of a strong central planing institution, which served as a vehicle to determine the magnitude of production of PEs, to allocate factor of production at pre-determined rate favoring the socialized sectors, and to set prices for major agricultural and industrial inputs and outputs..

As noted by Taye (1992), national plans ensured promulgated access to credit facilities, foreign exchange, land, raw materials, and skilled manpower to the public enterprises while legislates ensured that they enjoyed near monopoly status in their respective line of activities by prohibiting private investment in most industrial sectors or beyond specified ceiling of values of fixed asset. In those years, private business were generally residual employers in the official labor market and were mostly informal in the sense of operating on the other side of employment code. Likewise, foreign exchange restriction imposed on private sector in the face of fixed exchange rate regime caused a parallel market to merge.

The resulting growth trend in the subsequent 17 year's of the derg era had proved that centrally managed economy was a failure at least in the Ethiopian context. Thus, between 1974 and 1991 real GDP grew by only 1.6 per cent per annum. Population, which kept on growing at accelerating pace from 2.4 per cent in early 70s to more than 3 per cent in recent years, worsened the already low standard of living. Thus, between 1974 and 1991 per capita income on the average fell by 1.3 per cent per annum. In other words, an average Ethiopian was worse off in 1991 than 1974 with a net welfare loss by at least 20 per cent terms.

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Figure 1.2
Growth of Real GDP and Per Capita Income (1967-84)



The sectoral performance, particularly that of agricultural, was the worst with annual average growth of 1.2 per cent depicting a falling per capita sectoral value added. Moreover, the performance of the manufacturing sector was no better than agriculture with an annual average growth of 1.4 per cent. In most of the 17 years, the non-commodity producing sectors, most importantly the other service sector was the one with sustained positive growth reflecting the expansionary nature of the government.

Structurally, no noticeable progress was recorded in transforming the subsistence economy. In fact, at times of poor economic conditions like those of the early 90s, the share of agriculture surpass the level recorded during mid 70s. Despite the fluctuation from time to time, the manufacturing sector on the average maintained its share in GDP.

Table 1.3 **Period Average Growth of GDP by Economic Activity (1974 - 1991)**

	Growth in Percentage			Percentage Dist. of GDP	
	1974-83	1984-91	1974-91	1974	1991
GDP	2.7	1.5	1.6		
Population	2.7	3.1	2.9		
Agriculture GDP	1.7	2.0	1.2	52.5	56.5
Industry GDP	3.9	-1.1	1.0	14.9	9.0
Manufacturing GDP	5.5	-2.2	1.4	4.7	2.9

Source: Based on MEDaC GDP Estimate.

There are at least three major causes for the poor economic performance. The economic policies, the civil war and natural calamities. The implication of the policies could be traced from two sources, from the strategy pursued in which the regime kept on favoring the import substitution industrialization and, from the instruments used causing wide spread market distortion. In the 17 years of the Derg regime, all policy instruments were effectively used to siphon out resource from the traditional sector. Apart from macroeconomic polices which favored the modern sector, the pricing policy and quota delivery system enforced on crop producers had effectively turn the terms of trade against agriculture. These in turn resulted in declining productivity.[9]

Moreover, the civil war which was known as "the longest war in Africa" not only was a drain to the economy but also created instability being a net loss to the countrys' development. The re-occurrence of drought on the already low income based economy and inadequacy of prior effort to mitigate its implication further exacerbated the economic situation and also damaged the country's image in the face of the world. Part from the

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inherent structural food deficit, the 1984/85 severe drought and the resulting emergency need, attracted a large number of international Non-Governmental Organizations (INGOs). The continued importance of these institutions as agents of developments in the country reflect the progressive dependence of the economy on external resource. However, the effectiveness of external resource in the development process is a subject worth investigating.

The gradually tightened economic management, worsening civil war and increasing vulnerability of the economy to externalities, made economic growth difficult in latter years. Thus, growth in real per capita income which showed no change on the average between 1974 and 1982, turned down-ward for the subsequent years of 1982 through 1991 averaging -1.6 per cent per annum. The deteriorating economic performance was triggered by weakening agriculture and its trickle down effect on the rest of the economy. Particularly in the last three years of the regime, the economy was forced to operate under capacity. For example, in those years, the manufacturing sector was forced to lower its capacity to no more than 25 percent as the country's' importing capacity severely constrained by shortage of foreign exchange (see table 1.3).

Apart from the distressing economic performance, some progress was made in human resource development. Thus, between 1975 and 1990, school enrollment ratio for primary and secondary education increased from 23 and 6 per cent to 38 and 15 per cent respectively. Particularly, in improving gender inequality in education, female enrollment ratio for primary and secondary level increased from 10 and 2 per cent to 30 and 12 per cent respectively. However, the progress made in the above regard was made at the cost of deteriorating quality of education as reflected on the persistent under funding of operation and maintenance.[10]

1.4 Post 1991: "Back to the Future"

As noted, at the end of the Derg regime, the Ethiopian economy was in deep crisis. The soio-economic reality of the last three years reflect the cumulative and unavoidable consequences the 17 years' of economic - mismanagement and adverse externalites. Apart from the civil war which had reached a turning point, the economic stability maintained at the cost of poverty level equilibrium for about 14 years started to break-up. The following brief assessment of the macro economy uncover some of these fact.

Specifically, economic growth which had long ceased to keep pace with population increase, by 1990/91 stood at 0.6 percent while inflation hit 20.9 percent despite the prevalence of wage freeze and price control. External imbalance had become intractable with monthly debt arrears and growing foreign exchange misalignment. Debt arrears hit all time high, Birr 959.7 million in 1991/92 against merchandise export of Birr 318.9 million. The deterioration in the budget balance caused by declining revenue against the relatively rigid expenditure forced the government to re-course to inflationary financing which stood

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at about 10 percent of GDP by 1990/91. Not surprisingly, growth in money supply hit probably the highest growth in 17 years, 18.6 percent in 1990/91.

It was under such background that the recent economic reform was initiated by the new government which assumed power in 1991. The stated objective of the "Economic Policy for Transitional Period" (EPTP) issued on November 1991 by the Transitional Government of Ethiopia (TGE) include, establishing peace and security; encourage growth and reduce poverty. To this effect the EPTP aim at replacing the previous centrally planned economy with a market - based economy through rationalizing the role of the state in the economy , by encouraging private investment, mobilize external resources and crafting macroeconomic and sectoral policies. The EPTP though named transitional, in practice it remained effective serving as a framework for designing the "Agricultural Development Led Industrialization" (ADLI) strategy and for the subsequently adopted Stabilization and Structural Adjustment Program (SAP).

Most importantly, the economic management of the present regime has become clear as the country inters in to a reform program in collaboration with the Briton Wood institutions. The first medium term SAP covering the period from 1992/93 to 1994/95 aimed at stabilizing the economy and lay the foundation for the market forces to operate.[11] To this effect, the economic reform measures undertaken in those years were geared towards correcting price distortions, institutionalizing market forces for factors of production, lifting restrictions on the private sector, and trade liberalization. Moreover, the reform to alter resource allocation and utilization was augmented by reforming the civil service and decentralization of economic management with the establishment of regional governments and autonomous public enterprises.

Given the relatively short period of time elapsed, it is too early to judge the impact of the reform on the stated goals, that is, sustainable growth and lowering poverty. Moreover, the data on important macroeconomic aggregates including, the GDP, the BOP and GFS are preliminary estimates for the two of four reform years further limiting an in-depth analysis.

Despite these limitations however, macroeconomic development since 1992/93 depicts two important positive out-turns: economic stability and recovery. During the four years of the reform period, that is from 1992/93 to 1995/96, growth in real GDP re-bound to an average record level of about 7 per cent. To this effect, improvement in capacity utilization of the manufacturing sector from pre-reform three year average rate of less than 30 per cent, the favorable externalities including good weather and improved TOT in most of the years are believed to be the major factors behind the observed economic recovery.

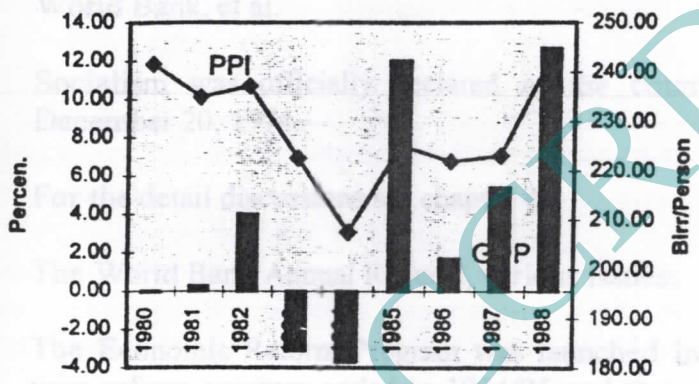
The source of progress in achieving economic stability can be traced party from the prudent demand management policies, which ended up inflationary financing of the budget deficit hence moderate growth in money supply. Coupled with improved supply, inflation

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was brought down on the average to less than 6 per cent. The step taken to devalue the currency by 142 per cent at the end of October 1991 and the subsequent introduction of partly managed foreign exchange auction was matched by narrowing parallel market premium. In the financial sector, the steps taken to end financial repression showed some progress in the financial resource mobilization and allocation. In the four years of the reform period, the private sector seems getting momentum with greater but cautious participation in the economy.[12]

In the process of achieving stability and economic recovery, the role of external resource was profound through filling a significant proportion of the internal and external resource gap.[13] On one hand, the structural adjustment support helped to finance a significant proportion of increasing import to rehabilitate the war-torn economy and increased demand for foreign exchange as the market progresses to wards liberalization. At the same time local currency generated from selling foreign exchange acquired through SAS was used to finance budget deficit, substituting inflationary financing.

Figure 1.3
Growth in Real GDP and Per Capita Real Income in Birr(1980-88)



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Notes and References

1. According to the second five year plan document, the government had decided to shift its emphasis to commodity producing sector with the objective increasing income.

2. See the second five year plan.

3. See the structure of investment in the third five year plan.

4. Investment in agriculture in those year was focused at producing industrial imputes, most importantly, cotton. In those years the or the government was active in building farm infrastructure. See for example 1961 quarterly report of the NBE.

5. Between 1960 and 1973 value added from the modern sector increased on the average by about 7.3 per cent per annum. At the same time, labor absorption by the sector increased by less than 0.5 per cent.

6. The World Bank Annual Report, and various issues.

7. World Bank, et al.

8. Socialism was officially declared as the countries development guideline on December 20, 1974.

9. For the detail discussions see chapter 4.

10. The World Bank Annual Request, various issues.

11. The Economic Reform Program was launched in October 1991. The final three year reform program ended in 1994/95 and the second three year was adapted in September 1996 and will cover the period from 1996/97 to 1998/99 FY.

12. For detail discussion see chapter 5.

13. For retail discussion refer to chapter 3.

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Chapter II: The Pattern of Accumulation of Human and Physical Capital in Ethiopia

2.1 Labor Force and Human Capital

2.1.1 Population and Labor force

Three decades ago, the rate of population growth in Ethiopian can be considered moderate as compared to other developing countries on the average or individually. For example, the rate at which Ethiopia's population was growing between 1965 and 1973 was 2.6 per cent, while Sub-Saharan Africa average was 2.7 per cent and that of Kenya was 3.8 per cent. In terms of economic growth, however, most of this countries performed much better than Ethiopia.

Table 2.1: **Growth in Population (annual average in Per Cent)**

	1965-73	1980-90
Ethiopia	2.6	3.1
Kenya	3.8	3.4
Sub-Sahara Africa (average)	2.7	3.0
Low Income Economies (average)	2.6	2.1

Source: World Bank, World Development Report Various Issues.

As could be observed from the table above, the recent trend in the growth of population put Ethiopia as one of the country with fast growing population in the world. Based on the 1984 census, the total population stood at 53 million in 1993. Unlike most countries, Ethiopia has not experienced the scissors effect of demographic factors on population. According to the World Bank annual reports, death rate has not changed between 1965 and 1991 standing 20 per thousand population. This implies that the increase in total fertility rate(number of children per women of child bearing age)from 5.8 in 1965 to 7.5 in 1991 account for accelerating population growth. Moreover, the age structure of the population is continuously changing, becoming increasingly young.

As a result of highly skewed population, the dependency ratio (the number of non-workers to workers) become very high. According to recent estimate, for every 100 workers there are 124 who do not produce. This result follows from a comparison of those in the 15 - 59 age group with those excluded from that range. However, this ratio does not tell the whole story. Some in the age 15 - 59 group do not work. According to the 1984 census, those within the age group limits that define the labor force who do not work account for 26.5 per cent. This in turn imply a dependency ratio of about 153.

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The implication of such trend on growth and development could be traced through the structure of saving. Thus, the high growth of population compounded with increasing dependency ratio is believed to have a negative bearing on saving and hence accumulation of human and physical capital. The resulting low productivity and growth further perpetuate the vicious circle of poverty.

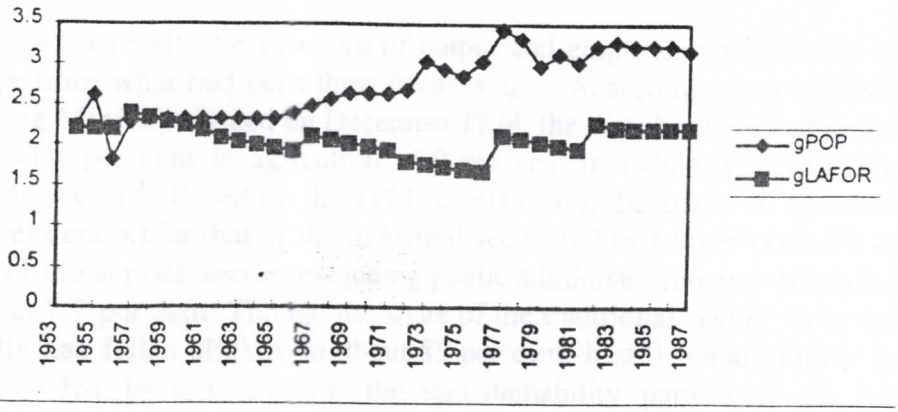
On the other hand, the population distribution depicts that out of the total of 53 million, 85 per cent reside in the rural area. However, there has been a tendency of urbanization with a relatively higher growth of urban population than the rural averaging 5 to 6 per cent accounting for the natural growth and rural - urban migration. Consequently, the proportion of population residing in urban areas increased from about 8 per cent in 1965 to about 15 per cent in 1993. Recently however, the rate at which the urban population has been growing fell to no more than 4 per cent in the 80's and 90's. This trend by and large could be attributed to slow down in rural - urban migration reflecting the diminishing absorption capacity of the urban economy.

According to the 1984 census, from the total of 42.6 million population, 21.9 million were working age population and out of this, the total labor force was reported to be 14.7 million with an activity rate of about 67.2 per cent. Activity rate significantly vary in rural and urban area with 71.5 and 43.5 per cent respectively. The activity rate is higher for men than women both in rural and urban area with a gap of 29 to 27 per cent respectively. The difference in participation rate between rural and urban is believed to be caused by and large by school attendance rate.[2]

Based on the standard definition of working age population, persons of age 15-64, the size of the labor force kept on increasing. However, the growing tendency of becoming young imply that the rate at which the labor force growing remained less than that of the population..

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Figure 2.1
Growth of Population and Labour Force (Annual Average in Percentage)



2.1.2 Employment

Throughout the period under review, Ethiopia has been experiencing employment problem reflecting the miss-match in the growth of labor force and the creation of job opportunities. As in most developing countries, the forms of employment problem in Ethiopia are multi dimensional: rural under employment, urban unemployment and disguised unemployment.

As could be recalled, in the traditional growth models, the structural aggregate production function where technology and factor prices are assumed to be held constant, labor demand increases with economic growth and vice versa. In Ethiopia neither of the two has occurred to a significant extent. Thus, the structure of the economy in which the traditional sector remains to be the main stay of the economy, the capital intensive import substation industrialization neither created sufficient job opportunities nor insured a sustainable growth.

Thus, the growth of labor supply in excess of demand result in a fall in investment per labor force. Taking the ratio of GDCF to urban labor force as a rough indicator of the economiys' capacity in creating new jobs, it becomes evident that job opportunities have been declining. In this regard Taye(1992) showed that per capita job creation fell from 950 Birr in 1984 to 613 Birr in 1989. The same study further indicated that between 1984 and 1989, the available job had only absorbed about 13 percent of the available 518 thousand labor force..

The declining pattern in job creation in turn was caused largely by the choice of technology in the attempt to industrialize. According to a study made by MOPED(1987/88) on 14 manufacturing establishments, the average amount of capital

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required to generate 6452 job opportunities was 98569 Birr. As compared to the required capital to generate a single employment in the small scale Birr 6874, the above factories were labor saving. In this regard, the capital intensity and implied job creation of the agricultural mechanization started in 1970s' is no different from the manufacturing sector.

As a result, the structure of output and employment by sector today hardly show change from what had been three decades ago. According to an unpublished report of the Planning Ministry, issued on December 1974, the distribution of labor force in the late 60's was 84.4 per cent in agriculture, 6.9 per cent in industrial sector, and 7.4 per cent in services sector.[3] Based on the 1984 census result, the share of agricultural rose to about 88.7 per cent while that of the industrial sector fell to 1.9 per cent. On the other hand, the share of the service sector (excluding public administration and defense) increased slightly to about 7.7 per cent. Though the share of the traditional sector from the total labor force recently has fallen slightly to about 85 per cent, it still remain higher than the late 1960 share. This in turn confirm the unsustainability pattern of the import substituting industrialization whose effect on the structure of the economy was temporal.

The following table clearly show the dualistic nature of the Ethiopian economy. The traditional agricultural sector which absorbed 88.7 of the labor force contribute for about 45 per cent of the national output in 1984. Industry with only 1.9 per cent share from the total laborer force contributed for about 17.8 per cent of the GDP. This implies the presence of significant gap in gross value added per worker reflecting mainly the technological gap among sectors. The agricultural sector exhibit the lowest value added per worker, one fifth of the rest of the economy. The relatively fast growing service sector employ about 9.3 per cent of the labor force contributing for about 35 per cent of the GDP.

Table 2.2 **Percentage Distribution of Persons Engaged and GDP by Industrial Group, 1984**

Industrial Group	Per Cent of Persons Engaged	Per Cent of GDP	Gross Value Added Per Persons Engaged (Birr)
Agriculture	88.7	48.0	285
Other commodities	1.9	17.8	5077
• Manufacturing and crafts	1.6	12.1	4312
• Building and construction	0.3	4.6	10332
Trade	3.7	11.4	1741
Transport and communication	0.4	5.2	6937
Other services	5.2	20.0	2204
• Public administration and defense	1.6	8.1	2821
• Domestic services and	3.1	5.7	1031

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dwellings

Source: Taye, 1992.

* GDP refers to the 1983/84 level at 1980/81 factor cost. Number of persons engaged in 1984 equal to 14.6 million.

The presence of dual economic structure supports the argument that factor markets in developing countries are far from perfection depicting structural rigidity. In this regard, the assumption of a "well-behaved" production function in a Neo-classical theory fell to hold true in such economies, because marginal productivity theory of production in peasant dominated economies is characterized largely by family farming than wage-labor. This entails that labor is less responsive to market signals limiting its mobility. Moreover, the skill differential as reflected on the productivity gap between the traditional and modern sectors imply the presence of structural rigidity hindering free movement of labor from one sector to the other. On the other hand, in the relatively small modern sector, the labor market is a segmented market and partially suffer from distortion.

Broadly in Ethiopia, the non- traditional labor market particularly in the 70's and 80's could be grouped into two segments: a regulated segment and unregulated segment. According to the 1984 census, the regulated segment which was considered as wage employee accounts for about 6.5 per cent of urban employment. The remaining 93.5 per cent fell under the unregulated market and about 57.1 per cent are own account worker, 34.2 per cent unpaid family worker. Out of the 6.5 wage employment, 3.9 per cent are in the public sector.[3] The state sector was segregated from the rest of the labor market with virtually no labor mobility. Here, both employment and wage decisions are regulated and determined by social factors rather than economic rational resulting for the emergence of disguised unemployment. In the absence of wage flexibility the mounting disguised unemployment led to declining productivity. The unregulated urban private sector mostly in trade, small scale and hand crafts sectors fell under the informal sector. In the latter case the role of market forces in the allocation of labor was insignificant as the form of employment took either own account workers or unpaid family workers.

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2.1.3 Accumulation of Human Capital

Public expenditure on human capital is of special interest in the context of analyzing growth. In Ethiopia, the relatively low proportion of public expenditure on social services as compared to GDP depicts that adequate effort was not done to develop the human resource. Thus, between 1960 and 1991 public expenditure on education increased by about 1 per cent from the 1960 level of 1.58 per cent. Expenditure on health in fact was among the list focused sectors depicting no change in the past four decades.

As could be observed from the figure below, the proportion of current expenditure spent on health and education between 1974 and 1991 was the lowest as compared to pre

1974 and post 1991 periods. The low spending of the derg partly is explained by the increasing need to finance the civil war. In contrast, the low proportion of public expenditure in those years doesn't correspond into the level of enrollment attained(see figure 2.3). This may entail the attempt by the derg government to increase the size of enrollment at the cost of declining quality. Moreover, the urban biased development strategy left over a highly skewed social infrastructure concentrated in few cities.[4] This in turn caused productivity in the traditional sector to remain extremely low.

Figure 2.2
Recurrent Expenditure on Education and Health in Percent of Total Reccu. Expen.

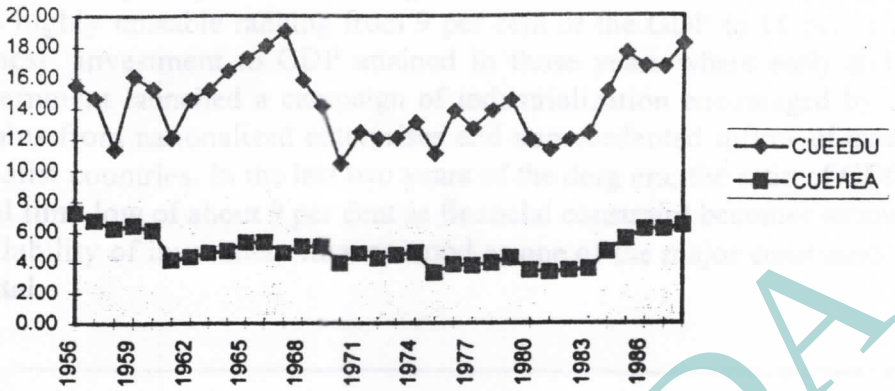
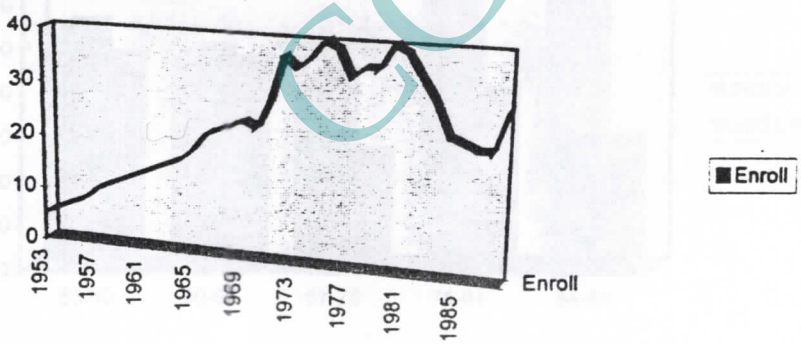


Figure 2.3
Gross Primary School Enrollment Ratio (in Percentage of School Age Pop.)



2.2 Physical Capital

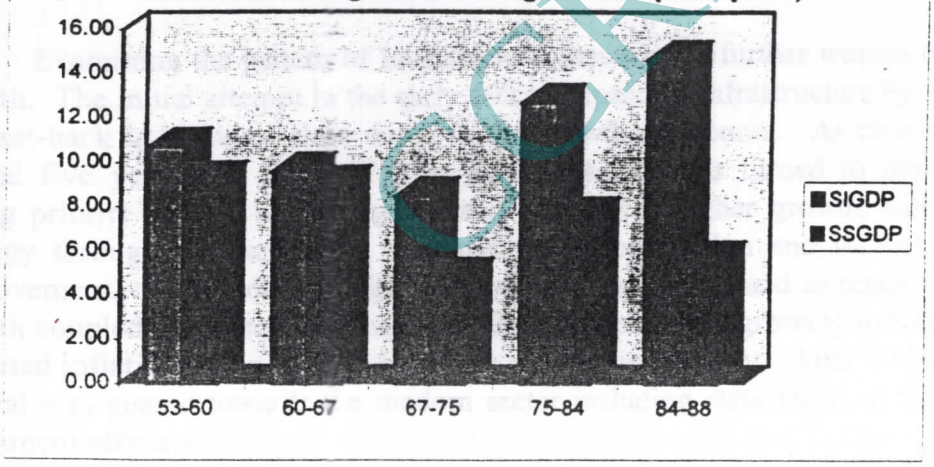
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2.2.1 The Flow and Efficiency of Investment

Historically, Ethiopia's economy is distinguished as one of the lowest investing economy in the world. Capital formation in Ethiopia between 1961 and 1991 has never exceeded 16 per cent of the GDP. In comparison Sub-Saharan Africa on the average invested about 18 per cent of their GDP.

Probably the most promising trend of investment was recorded during the Imperial area. Excluding the specific years of set-back, 1968, 1972 and 1973 as a result of externallities, (associated with the closure of the Switch cannel and the oil shock respectively) the proportion of income invested progressively increased from about 11 per cent in 1961 to about 15 per cent in the late 60's depict the regime's commitment to growth. In the subsequent years of the Derg era, investment was not only lower on the average but also highly unstable ranging from 9 per cent of the GDP to 16 per cent of the GDP. The highest investment to GDP attained in those years where early and late 80, when the government launched a campaign of industrialization encouraged by increased inflow of surplus from nationalized enterprises and unprecedented inflow of external resource from socialist countries. In the last two years of the derg era, the ratio of GDCF to GDP reached at all time low of about 9 per cent as financial constraint becomes serious. This entails that availability of investment finance stood as one of the major constraints to accumulation of capital.

Figure 2.5
Gross Domestic Fixed Capital Formation and Gross Domestic Saving as Percentage of GDP(curr. price)



The profile of investment in Ethiopia depicts, poor participation of domestic entrepreneurs, greater participation of foreign investment in the early years of

modernization and, a gradual increase in the share of the public sector. The ambition to modernize the economy through import substitution launched after the second world war helped the country to establish most of the industries of today. In those years, foreign capital along with the government played major role. As the import substitution industrialization reached at saturation point through new investment and added capacity following the joining of Eritria, the government turned its face to modernize agriculture with the introduction of large commercial farms. At this stage foreign capital and the government again where the main actors in the process of capital formation. As the flow of foreign capital slow down, the public sector emerged as the major investor.

After the 1974 revolution, the role of the state as a major actor was further consolidated by the steps taken following the deceleration of socialism. Thus, between 1974 and 1978, the public share in the GDCF rose to more than 70 per cent mainly as a result of the nationalization of almost all private manufacturing, distribution and agricultural enterprises, financial institution extra urban houses and privately owned schools. The nationalization and the subsequent steps taken to curtail private investment expenditure practically killed the already weak local entrepreneur participation and evicted all foreign capital. Thus, private capital formation in the modern sector was confined to small scale, handicrafts and petty-trade. Moreover, the prohibitive policies towards private investment becomes a cause for deepening informal sector. According to the national account estimate, the share of private fixed capital formation which averaged 3.5 per cent of the GDP between 1974 and 1978 continuously fall to about 2 per cent of the GDP on the average between 1984 to 1988. In contrast, the share of the public sector from GFCF rose from 4.8 per cent of the GDP to 12.3 per cent of the GDP..

Examining the pattern of investment across sectors further worsen the prospect for growth. The initial attempt in the early 60's to expand in infrastructure by the government face set-back in terms of slow down in the growth of income. As clearly noted on the second five year plan (1963-67), the governments' focus turned to productive sectors giving priority to the modern sector and achieved a higher growth. Consolidating this strategy through the early 70's, the structure of production and income showed some improvement. The gradual decline in manufacturing output and as result, deceleration of growth coupled with declining inflow of foreign capital and growing instability caused by imported inflation in the 1970s' primarily affected investment. After 1974, investment in general was geared towards the modern sector including state farms at the cost of lower investment efficiency.

Thus added to the level and pattern of investment, the efficiency of investment in realizing growth fell continuously. As could be seen on the table below, the return on investment measured by investment effectiveness index decline from 33.7 in the 60's to 26.5 in the early 70s.[5] The efficiencies of investment in the subsequent periods of the derg era further dropped significantly averaging 14.3 for the period 1974 to 91. Note that the declining trend in investment effectiveness between 1974 and 1991 inversely correlates

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with the growing share of public sector capital formation. This clearly imply that the declining investment effectiveness caused by miss allocation of resources in favor of the less productive public sector.

Table 2.3: **Period Average Investment Effectiveness Index and Investment**

	Index	GDCF as Percentage of GDP
1953 - 60	33.7	13.4
1960 - 67	24.5	11.8
1967 - 75	26.5	9.6
1975 - 84	10.8	12.7
1984 - 88	31.4	14.7
1953 - 67	28.9	12.4
1967 - 84	14.3	11.2
1984 - 88	31.4	14.7
1953 - 88	24.6	12.3

Source: Authors Calculation Based on MEDaC GDP Estimates.

2.2.2 Financing Investment

Prior to the 1966 revolution, Ethiopia is one of above average saving country among non oil exporting Sub-Saharan African countries. With domestic saving to GDP ratio of about 12 per cent on the average, between 1960 and 1973, Ethiopia had managed to finance more than 90 per cent of the capital formation. During 1974 to 1991, the share of Gross Domestic Saving (GDS) to GDP fell drastically, averaging 6.6 per cent. With capital formation to GDP of about 11.3 per cent on the average, domestic resource coverage fell to about 58 per cent. In fact in the early years of the revolution, the proportion of capital formation financed from domestic saving fell drastically, to the extent of 25 per cent only. Again, during the last years of the derg regime, domestic resource coverage fell to its lowest level, less than one third of the Gross Fixed Capital Formation (GDCF) (see figure 2.4).

Apart from low and declining per capita income induced saving constraint, growing public consumption has been the major source of declining domestic saving. Taking the difference between total government revenue (excluding grant) and recurrent expenditure as a rough indicators of public saving, on the average the government was a diss-saver . Particularly in the 17 years of the Derg period, the proportion of primary budget balance to GDP average 3 per cent. The major cause for public diss-saving was growing spending on

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military and security. The picture gets worse if we excluded and enterprises from the budget. In his report S. Gebre (1992) showed that between 1973 and 1982 the government (excluding PEs) was a diss-saver averaging 6.8 per cent of the GDP.

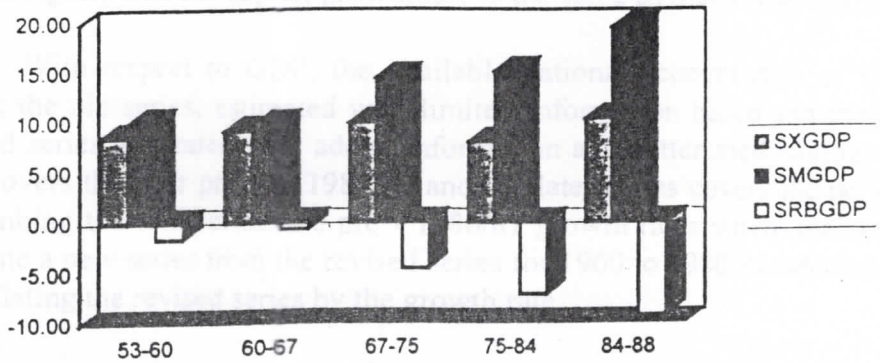
This clearly shows that domestic saving basically has been generated by the private sector and lately augmented by the surplus from public enterprises. Given the relatively bigger share of the government from total GDCF, the above resource ultimately channeled to finance public capital formation plus a certain proportion of recurrent expenditure. Between 1973 and 1982 public enterprise save e average 2.3 per cent of the GDP.[7]

The implication of growing budget deficit mean negative resource balance requiring financing. According to S. Gebre's study, the government resource gap between 1973 and 1981 widen by at lest three fold, from -5.8 of the GDP to -15 per cent of the GDP. Like wise the disproportionate growth of investment of public enterprises to their saving which averaged about 7 per cent of the GDP, face net negative resource balance which also show deterioration from about -3 per cent of the GDP between 1973 to 1976 to about -6 per cent during the late 80s. On the other hand, the deliberate action to suppress private expenditure was effective in lowering private investment expenditure. The result such policy generate "forced private saving" which show a continuos increase from 0.7 per cent of the GDP in 1973/74 to about 6.3 per cent of the GDP in the late 80's. In re-directing this savings to finance budget deficit, restrictive financial policies were effectively used (see chapter 6).

Moreover, the Ethiopian economy depicts an increasing dependence of capital formation on external transfer and credit. This is evident from widening resource gap which showed deterioration from -0.8 percent of the GDP on the average between 1964 and 1974 to -9.9 percent of the GDP on the average between 1991 to 1996 . Moreover, the symmetry of external resource in flow to domestic saving in most of the periods under study support the hypothesis that foreign savings substituted for domestic saving.

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Figure 2.7
Export and Import of Goods and Factor Services and Resource Balance as Percentage of GDP(curr. pr.)



2.2.3 Physical Capital Stock

A formal analysis of growth particularly using the neo-classical growth model assuming diminishing returns to factors of production, require capital to be measured as stock. Until recently unavailability of data on capital stock had limited quantitative analyses of traditional growth models. The following represent the recently developed approach in estimating physical capital stock by Nehru and Dhareshwar (1993). Using the perpetual inventory method, Nehru and Dhareshwar generated a new series of estimates of both human and physical capital stocks.[8]

The perpetual inventory method defines the capital stock in each period as:

$$K_t = (1 - \delta) K_{t-1} + I_{t-1}$$

Where:

K_t: Capital Stock in Period t
I_t: Volume of investment during t
δ: Deprecation Rate of Capital

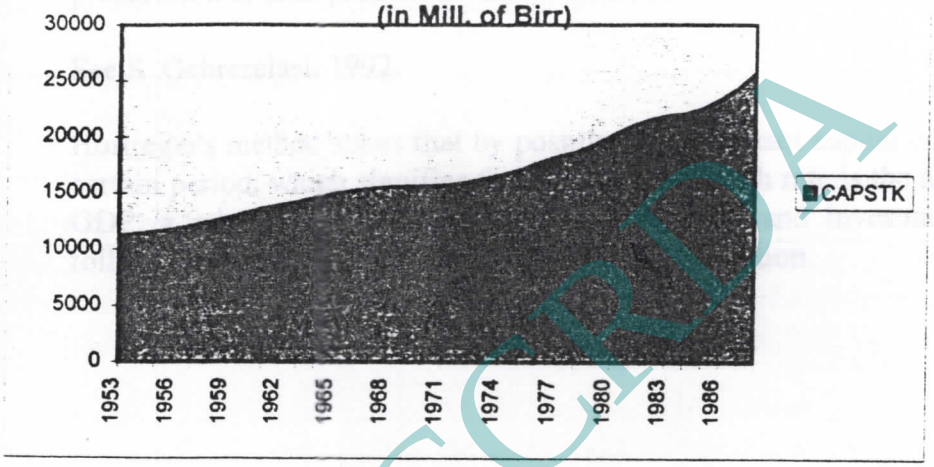
In order to use this approach for Ethiopia, at least three critical problems have to be resolved. The first problem was absence of investment defoliators or estimate of real investment in Ethiopia. To resolve this problem, alternative ways where explored including import unit value index for capital goods and GDP defoliator. And GDP defoliator was found to be a better proxy and has been used to deflate Gross Domestic Fixed Capital Formation (GDCF) of the national Account. The other two problems, the

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choice of depreciation rate and the problem in setting initial capital stock has been tackled by adopting the Nehru and Dhareshwar recommendation, that is, a depreciation rate of 4 per cent and the 1960 - 66 GDP as reference. Specifically, the estimation of initial capital stock is based on Harberger's method which postulates a capital coefficient during a certain period, signify that the capital growth rate is the same as that of the GDP.[8]

With respect to GDP, the available national account data of Ethiopia is of two series; the old series, estimated with limited information based and the new series or the revised series generated with added information and better methodology. The first set of data covers the year prior to 1980/81 and the later series covers the period after 1980/81. In combing the two series, the pre - 1980/81 growth rates where maintained and used to generate a new series from the revised series for 1960 to 1980/81 which can be constructed by deflating the revised series by the growth rate.

Figure 2.8
Development of Capital Stock
(in Mill. of Birr)



Source: Author's Calculation on the basis of data from National Account.

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Notes and References

1. Policy analysis Unit, 1992, Survey of Current Economic Condition in Ethiopia, Volume 1, Number 2.

2. See PAU, 1992.

3. Report on Recent Economic Development, 1974, Ministry of Planning.

4. Time Service Data on Basic socio Economic Indicators.

5. World Bank, Annual Report, Various Issues.

6. According to B. Herrick and C. P. Kindelberger, 1983, the investment effective index is defined as the ratio between the rate of growth of total product and the preparation of total product invested, time 100.

7. See S. Gebreselasi, 1992.

8. Hortreger's method states that by postulating a constant capital coefficient during a certain period, which signifies that the capital growth rate is the same as that of the GDP, a relationship between initial capital stock and investment of the period following is obtained from the equation of accumulation.

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Chapter III: Determinantes of Growth:Analytical Frame work and Emphirical Findinges

3.1 The Traditional Neocassical Growth Model

3.1.1 The Theoretical Foundation

The neo-classical growth model was built up on the findings of their predecessors most importantly from Harrod - Domar. The key features of their model include, price oriented adjustment mechanisms, diminishing marginal return to any given factor of production, and the exogenous nature of productivity improvement through technological change. Robert Solow, as are of the Pioneres of this school of thought showed by combing variable proportions of the factors and flexible factor prices, growth path of output was not inherently unstable (see Solow, 1956).

The mathematical formulation of the neoclassical growth model use the Cobb - Daglas production function. If we assume Y, K and L are, respectively the total value of output, the size of the national capital stock, and the number of workers in the labor force then, the production function describing the functional relationship between the output and the inputs can be expressed as:[1]

$$Y = AK^{\alpha} L^{\beta} \quad \ldots\ldots\ldots\ldots\ldots\ldots \quad 3.1$$

Where A is a constant term explaining the initial condition, and α and β represent output elasticities of capital and labor respectively. One of the special feature of the function is the constant returns to scale with the restriction of $\alpha + \beta = 1$. This feature imply that the income attributable to the respective factors of production are exactly equal to the marginal physical productivity of the factors times their respective increase.

A more generalized model was subsequently developed by the economists James Meade (see J. Meade, 1962). The Meade's model feature a single aggregate output which can be used either for consumption or capital formation. In addition, Meades included land and time as explanatory variable with time representing a constant trend of technological change.[2]

$$Y = f(K, L, R, t) \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad 3.2$$

The main concern here is measuring change in output. Thus, the above model could be express as changes in output in terms of change in the inputs to the production process:

$$\Delta Y = V \cdot \Delta K + W \cdot \Delta L + \Delta Y^{1} \quad \ldots\ldots\ldots\ldots\ldots\ldots \quad 3.3$$

V: Marginal Productivity of Capital

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W: Marginal Productivity of Labor
ΔY^1: Change in Output Owing to Technological Progress

Thus, for undifferentiated homogenous output, the above model can be expressed in terms of the growth rate of the various inputs:

$$\frac{\Delta Y}{Y} = \frac{VK}{Y} \bullet \frac{\Delta K}{K} + \frac{WL}{Y} \bullet \frac{\Delta L}{L} + \frac{\Delta Y^1}{Y} \quad \ldots\ldots\ldots\ldots \quad 3.4$$

Where:

VK/Y: Elasticity of output with respect to capital
WL/Y: Elasticity of output with respect to labor

In most cases the rate of growth of labor is considered to be content determined exogenously being insensitive to economic forces. Thus, the growth of capital stock is determined by the amount of saving less depreciation. In the neoclassical framework the decision to save is automatically taken as a decision to invest.

The fundamental assumption in these models lies on the presence of perfect substitution and competitive environment. In other words, forces of competition within the economy are sufficiently strong and well articulated so that change in relative scarcity are reflected in relative prices changes and employers are sufficiently sensitive in relative price changes and thus changing their production.

One of the advantages of the neo-classical growth models is their analytical simplicity. A number of economists criticize these models for reasons including: absence of the type of economy assumed by neo-classical framework, particularly the perfect competition and high elasticity assumption. The major challenge came from structurelist disequilibrium theory in which pattern of growth and its determents are explaind by structural factors.

The empirical research on growth using neo-classical model can be classified in to two groups. The first group attempts to describe growth based on the "old growth theory".[3] These models are the type developed by neo-classical economists like Solow (1956). Specifically, these models describe that the rate of economic growth is determined by the rate of accumulation of capital and labor and exogenous technical progress. The other group of researchers use a "new" growth theories. the "new" theories are infact a modified version of the traditional neo-classical theory by endogenizing technological change in the process of determining output.

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In the traditional framework, the steady state of per capita growth rate is only a function of exogenous technical change, unrelated with policies. In contrast, endognizing technical change allow researchers to examine whether long-term economic growth can be influenced by policies through their effect on technical change. The latter approach recently has become the most widely used version of growth model.

The models used in the endagenized vision of growth analyses basically seeks to explain growth in terms of various policies. Although there are many variants of these models, one can distinguish common feature. This common feature, which is also considered central has been explained by (Solow, 1991) as that all models suspended the operation of diminishing return's on at least one factor of production that can be accumulated.

Among the pioneers of this modification are Romer (1986) and Lucas (1988). Their modification basically rest on the implication externalities on growth. Specifically, their model allows to examine the influence of externalities on accumulation of physical and human capital and hence long-term growth.

In analyzing the determinist of growth in Sri-Lanka, Ahmed and Ranjan (1995) used an aggregative time series growth model as well as a more disaggregated and somewhat heuristic approach. In the model, the detriment of growth in Sri-Lanka was premised on the hypothesis that per capita growth rate depend on the level and efficacy of investment. The investment rate and its efficiency in turn depends upon a number of policy variables including fiscal, monetary, financial and trade policies.

3.1.2 Measuring Total Factor Productivity(TFP)

In the standard growth model, long - term trend in the potential output are explained by (i) growth in inputs used in production, (ii) efficiency improvements with which these inputs are used which is known as Total Factor Product (TFP). As described by Nohru and Dhareshwar (1994), TFP can be defined as:

$$A = \frac{Q}{aL + bK} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 3.5$$

Where:

A: TFP
Q: Output
L: Labor
K: Capital

and a and b are appropriate weights.[4]

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In this study, attempt to estimate TFP was made using the approach developed by Harrod (1939). This approach was also used by Azam and Daubree (1997) in analyzing economic growth in Kenya. The Method defines TFP as:

$$gH = gY - gL - \left(\beta/1-\beta\right) gk - gy \quad \ldots\ldots\ldots\ldots\ldots\ldots 3.6$$

Thus, the growth rate of the productivity factor (rate of technical progress) gH measures the part of the increase in labor productivity gY - gL that is not due to substitution of labor by capital, measured here by the increase in the capital coefficient gK - gY (Azam and Daubree, 1997). The result measure the contribution growth of TFP, net of the effect of independent capital accumulate (Azam, et al).

Econometrics techniques can also used to measure TFP. Among the researches done in the past, the following two variants of the traditional neo-classical model was used by Nehru and Dhareswar (1974) to analysis TFP growth for developing and industrial countries.

$$Y = A(o)\, e^{rt}\, K^{\alpha}\, L^{\beta} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots 3.7$$

and

$$Y = A(o)\, e^{rt}\, K^{\alpha}\, L^{\beta}\, H^{\delta} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots 3.8$$

Where:

Y:	Value added
K and L:	Capital and Labor Stock
H:	Human Capital
α, β, δ:	Output Elasticites
A(o):	Initial Condition
t:	time
r:	the Rate of Technological Progress

These equations where estimated using Ordinoing List Square (OLS) techniques and Error Correction model.

3.2 Summary of Sellected Emphirical Findings

The study by Nehru, Swanson and Duby (1994) present a new estimates of long-term TFP growth for 83 countries. Based on "old" growth theory, they have found that the error correction model is more appropriate technique than the usual first difference model for capturing cross country variation in TFP. In addition, the equation which includes

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human capital stock explains growth than the standard model which considers raw labor and stock of capital as explanatory variable.[5]

The conclusions reached at using the above model includes: (i) cross-country difference in TFP growth are largely due to differences in the level of political stability and initial conditions, (ii) once corrected for initial condition and political stability, difference in TFP growth cannot be explained by structural and policy differences (iii) TFP growth rate of Sub-Share countries tend to be below what would otherwise be predicted on the basis of initial conditions and political stability alone. (iv) TFP growth in high income and fast growing low and middle income countries in found comparable. Further more, growth in the latter group of countries is based more on the pace at which they have accumulated factor inputs than the pace of TFP growth.

A study of Azam and Daubree (1997) about economic growth in Kenya, analyzed the structural break and policy endued growth pattern. The first finding of the study identifies two quite district periods, from independence to late 70's (until the boom in tropical beverage) and after the late 70's to 1990. In the first period growth was driven by accumulation of human capital, where as physical capital lagged behind. In those years, financial repression resulted in slow down private capital causing excessive competition from public investment. After the coffee boom is over, physical capital grow at about the same rate as output, while TFP diminished. Human - capital accumulation slowed and the Kenyan economy turned inward.

In 1996, Berth Eleny, Seck and Vouech have investigated why Senegal fell to develop inspite of favorable initial advantage in capital endowment with infrastructure and productive base, a relatively democratic society, a favorable disposition from aid agencies and a stable monetary framework. The findings of this research include, the adoption of inward strategy, the subsequent political paralysis facilitated by foreign aid which inturn enable the country to function without a real budget constraint, the overvaluation of the country's currency, the lack of comprehensives of the reform program latter introduced account for the slack of growth.

Using a "new" growth theory, where technological progress has been endogenious, a number of studies where made (see for example Barro 1991), World Bank (1993), Rebelo (1993), Shah (1993), Honrylyshyn (1985), Edwards (1989), Dollar (1990 and 1992), Goldsmith (1969), Rodrick (1991), Clark (1992) and Ahmed and Ranjan (1995). the following is highlight of the conclusions of the various studies.

Initial conditions are important in influencing a country's growth. According to Barro (1991), initial level of human capital measured by enrollment ratio was positively related to growth in per capita income. In the same study, Barro found a negative relation between government consumption (excl. defense and education) as a share of GDP and per capita GDP. On other studies, public expenditure on infrastructure is found positively related to growth (see Easterly and Rebelo (1990) and Baffes and Shars (1993). Study by

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Dollar (1992) on the other hand found a positive relationship between growth and liberal trade and appropriate exchange rate regimes. On the other hand, studies to analyze the relationship between growth and monetary and financial policies by the help of inflation models was found inconclusive with respect to the direction of casualty between economic growth and growth of financial market, and inflation and growth in a specific country. On the other hand, focused at examining the relationship between income studies on inequality and growth is found to be negative.[6]

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Note and References

1. For further discussion of the specification of the model see B. Herrick and C. P. Kindelberger, 1983.

2. Herrick and Kindelberger, et al.

3. For further discussion on classification of growth theories, see Nehru and Dharesh war, 1994.

4. Other approaches of measuring TFP include, Kendrick's arithmetic measure and Solow's geometric index.

5. For human capital stock, see Nehru, Swanson and Dubly (1993).

6. Ahmed and Ramjan, 1995.

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Chapter IV: Growth Accounting in Ethiopia: Traditional Approach

The quantitative analysis of Ethiopia's economic growth since 1960 was performed in two steps. First, an analysis of national accounts in order to measure the contribution of Total Factor Productivity (TFP) to GDP growth was made. As explained by Azam (1980), TFP is understood in the traditional sense as that part of GDP growth note directly attributable to increase in production factors. Secondly, attempt will be made to examine the determinants of growth in the traditional sense using econometric techniques.

In the first section, the contribution of TFP to growth of per capita output is estimated in Harrodean and Slovian sense in which the later is also known as Hicksian measure. For the theoretical foundation and formulas refer to the previous section.

In the latter case, the approach adopted basically is neoclassical the "old" version growth model. The methodologies used to generate data of capital stock was based on the perpetual inventory method discussed in the previous section. For human capital stock, we used total enrollment as proxy.[1]

In the econometric approach the analysis is done in two steps. In the first instance., a cobb-souglas production function with constant returns will be estimated, including primary factor of labor, L (measured by the labor force) and physical capital stock K as explanatory variables. In the second case, the "old" growth model will be extended by incorporating total enrollment as explanatory variable representing human capital. To improve the efficiency of the model, alternative specifications will be used and both OLSQ and Error Correction Model (ECM) will employed.

4.1 Quantitative Analysis of Total Factor Productivity

In order to understand the evolution of growth and its determents in Ethiopia, the study period is divided in to two, the imperial era (1960-1973) and the derg era (1974-1991). Although much can not be said in such short time, the post derg era (1991-1997) was also included for comparison. Thus, the following table presents the results of the calculations.

The first two rows give the growth rates of GDP (gY) and the labor force (gL). According to the result, growth in real GDP fell by almost half during the derg regime averaging 1.73 per cent per annum than the rate recorded prior to 1973/74. Though it is preliminary, the period from 1991/92 to 1996/97 registered probably the highest economic growth per annum averaging 7.9 per cent. This trend seems different from the growth rate of population which kept on increasing at an accelerating pace, from 2.3 to 2.94 to 3.22 per cent pre annum on the average in the three consecutive periods. In terms of population growth, though Ethiopia was among the countries whose growth where below average of the SSA countries in the 60s, now it is one of the fastest growing population. Thus dispite

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accelerating population, the lower rate in the growth of the labor force could partly be explained by the gradual shift in the structure of the population, which becomes more and more younger.

Line (3) gives the growth rate of per capita output, the difference between the two previous lines. Dispite a slow down in the growth of the labor force between 1974 - 1991 over the preceding period, a fall in per capita income in absolute terms signifying a sharp decline in labor productivity. The growth in per capita income before 1974 and 1974 - 1991 was 1.52 and -0.25 per cent respectively.

The rate at which capital stock (gk) had been growing between the periods 1960 - 1973 and 1974 - 1991 reflect the effort made to modernize the economy through import substitution. The relatively higher growth 2.3 per cent in the first period depict the favorable enviroment created to attract private investment and the relatively better domestic capacity to finance capital formation in the modern sector.

The most important result on the table, is the contribution of TFP, measured in both Harrodian and Slovian approach, to growth of per capita output (gH and gS). Thus, the contribution TFP to growth was positive between 1960 - 1973 with 2.21 and 1.47 per cent using the two approaches respectively. In fact, the result of gH and gK imply an almost equal contribute of increase in physical capital stock and total factor productivity to growth in per capita GDP prior to 1974. In contrast, between 1974 - 1991, dispite an increase in physical capital stock, the decline in TFP resulted in the fall in per capita income.

Line (7) further conferm that the contribution of total factor productivity is greater than growth of per capita output. Though capital intensity increased at a higher rate than per capita GDP between 1974 - 1991, the increase in substitution of labor to capital led to a sharp fall in TFP. In other words, in those years, the fall in TFP was faster than the fall in GDP per capita. This result entail a deteriorate in technical efficiency and reflect irrational production management.

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Table 4.1: Mean Annual Growth Rate (Annual Percentage Rate)

Period	1960-73	1974-91	1992-96	1960-96
Growth of GDP	3.69	1.73	7.93	3.22
Growth of Labor Force (gL)	2.17	1.98	2.21	2.08
gY - gL	1.52	-0.25	5.73	1.14
Growth of Capital Stock (gk)	2.30	2.14	3.92	2.41
Growth of TFP, Harodian (gH)*	2.21	-0.46	7.73	1.55
Growth of TFP, Slovian (gS)	1.47	-0.3	5.16	1.03
Growth in Factor Substitute of Labor by Capital (gFs)**	139.4	142.8	176.05	145.3

Source: Authors calculation.

* Assuming constant returns with b=0.5
** Row 7 over row 3.

Note: For the method see equation 3.6.

4.2 Econometric Analysis of the Determents of Growth

The first phase of econometric analysis attempts to test the traditional growth theory using a Cobb-Douglas production function with constant returns, including the production factors of labor L, and physical capital stock, K, of the form:

$$Y_y = AK^{\alpha} L^{1-\alpha} TFP \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad 4.1$$

Where Y_t is the GDP of period t, and TFP_t, Hicks neutral technical progress. Several estimates based on different hypothesis are presented in table 4.2.

After leniarization of the original specification, the model was tested for stationary using Dicky - Fuller test (1981).[2] The result was all the series where found non-stationary of order one (1) for GDP and order two (2) for labor and capital at 1% level of significance. The finding was basically consistent with the one found in recent studies (for example see Nehru and Dhareshwar, 1994). Thus, in the regression analysis described in production function expressed in terms of growth rates and using OLSQ technique has one short comining: it measure only the short-run response of output to changes in inputs. In this regard, Yule(1926), Granger and Newbold (1974), argues that a production function which is an expression of the model a long-term relationship between level of output and level of inputs, may not be explained because of the danger of spurious regression results between non-stationary variables.

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Subsequently, a Dicky - Fuller cointegration test was conducted on the residual and is found to be I(0) implying cointegration. In such cases, the Granger - Engle Representation theorem (1987) states that if two series are cointegrated then they will be most efficiently represented by the Error Correction specification. Thus, in addition to the first difference (growth rate) specification, an Error Correction Model (ECM) was was applied to determine the relationship between the rate of growth of output and the growth of factor inputs.

Table 4.2: **Estimate of the Production Function**

	EQ1			EQ2		
Dependent Var.	**Y***			**Y****		
	Coef.	**S.E**	**P.R^2**	**Coef.**	**S.E**	**P.R^2**
Labor (L)	1.0304	0.892	0.0389	-0.2615	0.7056	0.0043
Capital (K)	0.448	0.697	0.0124	1.482	0.5531	0.1832
Ecm (-1)	-	-	-	-0.883	0.167	0.4659
	R^2 = 0.32			R^2 = 0.64		
	DW = 1.96			DW = 1.72		

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	EQ3			EQ4		
Dependent Var.	Y*			Y**		
	Coef.	S.E	P.R^2	Coef.	S.E	P.R^2
Constant	-0.81	0.925	0.107	-0.064	0.076	0.023
Labor (L)*	9.591	4.469	0.126	2.858	3.749	0.018
Capital (K)*	0.596	0.6732	0.024	1.477	0.556	0.19
Ecm (-1)	-	-	-	-0.834	0.178	0.42
	R^2 = 0.15 F (2,32)=2.8305 DW = 2.07			R^2 = 0.50 F (3,31)=10.475 DW = 1.76		

* First difference (growth rate).
** Error Correction Model result.

Note:

1) In equation (1) non of the coefficients are significant.

2) In equation (2) capital (K) and ecm (-1) are significant at 5 per cent and 1 per cent level of significance.

3) In equation (3) only labor (L) is significant at 5 per cent level of significance.

4) In equation (4) capital (K) and ecm (-1) are significant at 5 per cent and 1 per cent level of significance.

5) Test for constant returns based on equation (1), that is, test for the unity of the sum of the coefficient of Labor and Capital have been is conducted. Thus, the student "t" test does not reject the hypothesis of constant returns at 5 per cent. The same test applied on the results of equation (2) and the result remains the same.

The above equations where estimated for the time series data which runs from 1960 to 1996 and a number of conclusions emerge from the results. First, the F-statistics for the first and third equations indicate that the postulated null hypothesis that there is no relationship between the growth rate of output and the growth rate of inputes can not be rejected. Consistently, the value of R^2 for the first difference equation confirm that only 32 per cent and 15 per cent of the variation in output growth is explained by the variation in inpute and TFP growth. But the low R^2 values are not surprising given the noisy nature

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of annual data expressed in percentage changes. The alternative approach, the ECM seems to perform better with a significantly higher value of R^2 (0.64 and 0.5 for equation 2 and 4 respectively). The relatively larger value of F in equation (4) depict that the ECM seems a more representative specification.

The other important derivative of the above regressions was the test performed for constant returns assumption. Based on equation (1) and (2) parameters, the hypothesis of constant returns [test for the sum of the coefficients of (L) and (K)] conform the possible validity of the neoclassical assumptions.

Based on the equations estimated using ECM, only the coefficient of capital is found significant. This in turn may imply that the contribution of growing raw labor to economic growth in Ethiopia was marginal. This result again is found consisted with previous studies (see Nehru, 1994). Although not significant, the negative value of TFP in equation 3 and 4 again is consistent with our finding in the previous section.

Probably the most interesting result of the econometric tests was noted from the model specified with enrollment (as proxy for human capital) as an additional explanatory variable (see table 2.3). As in the previous case, both OLSQ on first difference and ECM technique have been applied. The result indicates that ECM was more appropriate than the first difference specification. The exception in this models is that in the first difference specification, the inclusion of enrollment variable was enable us to reject the null hypothesis of no relationship between output growth and growth in factor inputs and growth in TFP as in the pervious test.

The significance of both capital and enrollment in this model at 1 per cent level of significance and the inability to reject the null hypothesis of the raw labor coefficient was consistent with previous studies in the area. The coefficient of TFP though insignificant remained negative in sign as in the precceding section.

The partial correlation coefficient is one of the most important indicators of the relative importance of the variables in influencing output growth. For an equation of the type Y=F(Xi),the partial correlation coefficient between Y and one of the explanatory variable say X_2 is defined in such a way that it measures the effect of X_2 on Y which is not accounted for by the other variables in the model (Pindyck and Rubin felled, 1981).

Accordingly, the result of the best alternative model, the ECM, confirm that 49 per cent of the variability in the growth of output in Ethiopian was explaind by the growth of enrollment. The second highest impact on growth comes from growth of capital stock accounting for 34 per cent of the variation. The third highest contribution to growth is found to be growth in TFP with net contribution of 5.2 per cent. In this respect, the list contributer to growth in Ethiopia found to be raw labor accounting for only 2 per cent of the variation in the growth of output. Except in magnitude, the relative contribution to growth remains consistent with the previous analysis.

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Table 4.3: **Estimate of the Production Function (with enrollment as proxy for human capital stock)**

Dependent Var.	Y*			Y**		
	Coef.	S.E	P.R^2	Coef.	S.E	P.R^2
Constant	-0.144	6.083	0.0898	-0.075	0.058	0.052
Labor (L)*	7.38	3.996	0.0991	2.286	2.895	0.0204
Kapital (K)*	0.519	0.594	0.240	1.856	0.045	0.3425
Enrollment (E)	0.207	0.651	0.246	0.2444	0.469	0.491
ECM (-1)	-	-	-	-1.0513	0.178	0.537
	R^2 = 0.36 F (3,31)=5.7954 DW = 2.19			R^2 = 0.70 F (4,30)=17.79 DW = 1.88		

* First difference.
** Error Correction Model.

Note:

1) In equation (1) non of the coefficients are significant.

2) In equation (2) the coefficient of Capital (K), Enrollment (E) and ECM are significant at 1 per cent level of significance.

3) In both cases the relatively high value of "F" statistic enables us to reject the null hypothesis of no relationship between the growth of output and the growth of the inputes and the growth of TFP.

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Note and References

1. Using total enrollment rather than average numbers of schooling of the labour forece has a number of short camings in measuring human capital stock. Among its limitations includes failure to test diminishing returns on this factor of poroduction. In out case, data on enrollment was taken from W. B. African Development Indicators, 1997.

2. For further discussion on ECM and Co-integration models,see _Adam S,1993

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Chapter V: The Endogenous Approach to the Determinants of Growth in Ethiopia

Most of the recent studies in the area of growth depart from the traditional neo-classical approach by endogenizing technical progress in determining long term growth. This approach assumes technical change can be influenced by policies through their effect on accumulation of physical and human capital . Accordingly, this section will focus at issues of growth from the endogenous perspective. Specifically, this section attempts to see the relationship between growth and the variables including initial condition, macroeconomic stability, fiscal policy, outward orientation, and financial policies.

5.1 Initial Condition

The research conducted by Barro and Wha Lee (1993) was one of the few studies that reached at a clear-cut conclusion about the contribution of initial condition to growth. On their cross country analysis, Barro and Wha Lee isolated five influences that describe reasonably well between slow and fast growing economies. Among these influences was a conditional convergence effect, where by a country grows faster if it begins with lower real GDP per capita in relation to its initial level of human capital in the forms of education attained and health.

Turning to the Ethiopian situation, the following table gives a glimpse picture of the initial situation and income for Ethiopian and selected developing economies.

Table 5.1: **Selected Initial Condition Indicators for Ethiopia and Selected Developing Economies**

	Enrollment[1]		Infant Mortality[2]		Life Expectancy[3]		GDP Per Capita	
	1965	1991	1967	1992	1967	1992	1965	1992
Ethiopia	11	25	162	122	493	49	50	110
Kenya	54	29	108	66	469	59	100	310
Ghana	69	77	116	81	48	56	230	450
Coted'ivoire	60	69	113	91	43	56	210	670
Indonesian	72	116	124	66	45	60	70	670
Korea	101	107	57	13	58	71	130	6790
Malaysia	90	93	50	14	59	71	320	2790

[1] Enrollment refers to Gross enrollment ratio, primary, total (per cent school age population). The 1991 figure of Indonesia refers to 1989 data and for Ghana refers to 1990 data.

[2] Infant mortality rate per thousand live births.

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[3] Life expectancy at birth, total (years). All figures are rounded to the nearest.
[4] GNP per capita in USD. The 1965 figure for Indonesia refers to 1969 data.

The initial level of human capital stock expressed by enrollment ratio for Ethiopia in 1965 was the lowest of the seven countries included in the table. The 1965 enrollment ratio for Ethiopia (11 percent) was just one fifth of Kenya, less than one sixth of Ghana and almost one tenth of Korea. In terms of per capita GDP, the gap between Ethiopia and the rest of the countries was much lower in 1965 than in 1992. For example, Kenya's GDP that was only twice the level of Ethiopia in 1965, had become almost three times higher in 1992. The Korean economy representing fast growing Asian economy seems to out-perform consequently leaving an extremely wide income gap. Using other indicators, infant mortality and life expectancy Ethiopia ranked list in 1965 and maintained this relative position after thirty years.

Thus, from the above cross country analysis, one major conclusion emerges, that is, initial condition affects growth in which Ethiopian was not on a favorable position. In fact after four decades, Ethiopia fell to reach at the level of income and stock of human capital recorded for the other countries in 1965.

5.2 Macroeconomic Stability

Broadly speaking economic stability referees to the state of the balance of payments and domestic inflation. The linkage between growth and productivity on one hand and macroeconomic stability on the other, is largely came through aggregate demand polices.

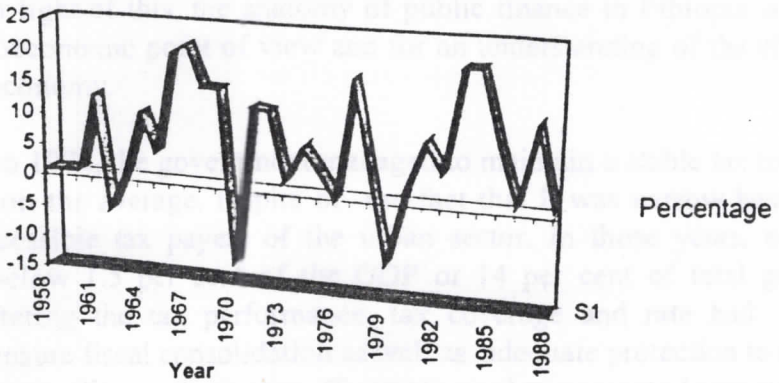
The theoretical augment to the cause of economic instability emanating from domestic economy is far complex. In a country domestic real factor costs may move out of line with the level prevailing in international markets as a result of domestic inflationary development. More often,these inflationary pressure, is accompanied by rapid monetary expansion and a rise in aggregate nominal domestic demand. In the failure to depreciate the domestic currency at a rate that keep pace with domestic inflation, these developments tend to place an upward pressure on the relative price of non-traded goods and the general price level. The result is a rise in the real exchange rate, a loose of international competitiveness and, a deterioration in the current account. This in turn not only worsen the enabling environment for investment, but also cause investment inefficiency and hence retarded growth.

If we exclude the 1973 oil shock, the 1984 drought and the 1991 to 1992 transitory periods, Ethiopia could be leveled as a low inflation country with an average rate of about 5 to 7 per cent per annum. Such inflation trend occurred inspite of the difference in the path of development experienced before and after 1974. Apart from other factors, pre - 1974 inflationary financing of the deficit was kept low, fiscal policy instruments where effectively used to regulate the expansion of aggregate demand. In the latter period (1974

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to 1992), restrictive financial policies, a deliberate suppression of private expenditure along with wage freeze allowed the government to finance the persistently growing deficit.[1]

Figure 5.1
Inflation(Based on Addis Ababa CPI, 1954=100)



Thus one important conclusion emerging from above could be, in Ethiopia domestic economic instability has never been a serious treat causing poor economic performance directly. Instead, the excess intervention in factor of production market exercised after 1974 to influence the flow of resource in favor of the socialized sector resulted in declining productivity forcing the economy to remain at low equilibrium level. Such distortion in factor markets, particularly during the post 1974 period cost the economy in declining capacity of the economy to accumulate of physical and human capital stock and in failing total factor productivity.

The implication of macroeconomic management on the balance of payments can be traced primarily from the gradual appreciation of the currency. This in turn affected investment response implied by distorted foreign exchange market. Under such policy environment, the impact on export is profound because it is private dominated at the same time face dual market systems. As a result, investment in export discouraged for absence of adequate incentive. This in turn caused serious treate on the sustainability of the external imbalance.[2] Moreover, the re-course to finance this deficit in turn caused stock of debt to increase and debt servicing to sour to unsustainable level. The growing dependence of public investment expenditure on external source of finance showed earlier was one of the reflection's of declining domestic capacity to finance capital formulation.

As well noted by the World Bank (1990) regarding the country's economic development during the 1980's, Ethiopia's ability to afford imports depend largely on external financing allowing the resource gap to wider. Though external assistance to meet

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emergency need has been on grant terms, the gradual decline in highly concessional development assistance started to cause debt problem.

5.3 Fiscal Policy

As the Ethiopian government is at the heart of the country's economy, fiscal policy probably is one of the most effectively used macroeconomic policies to cause the desired changes. In light of this, the anatomy of public finance in Ethiopia is some interest, both from macroeconomic point of view and for an understanding of the efficiency of resource use in the economy.

Prior to 1974, the government managed to maintain a stable tax to GDP ratio of about 8 per cent on the average, inspite of the fact that it was narrow based concentrating on directly accessible tax payers of the urban sector. In those years, non-tax revenue had remained below 1.5 per cent of the GDP or 14 per cent of total government revenue. Without altering the tax performance, tax coverage and rate had progressively been revised to ensure fiscal consolidation as well as adequate protection to domestic industries. Moreover, tax policies where also effectively used to promote large scale investment both from domestic and foreign sources. With a relatively stable proportion of public expenditure to GDP (range between 10.2 - 11.9) total budget deficit averaged about 3.7 per cent of the GDP.

The pre-1974 policy to maintain stable government value added was turned to one of the fastest growing component of aggregate demand shaping the pattern of growth in favor of the services sector. In the 17 years of the Derg period, the revenue effort was exceptionally high for a low income African countries.

The demand driven revenue mobilization achieved through brooding the tax coverage and progressively increased tax rates. As noted on the World Bank report (1989), the tax structure was highly progressive, even peasants and wage earners on low income where caught in the tax net, and revenue collection was prosecuted with vigor. At the same time, excise tax has been frequently adjusted up ward, and emergency Levies where raised twowise, the first after the 1984 drought and the second during the security emergency of 1988. The latter emerge Levy, produced revenue again amount to about 10 per cent of total receipt in 1988/89.

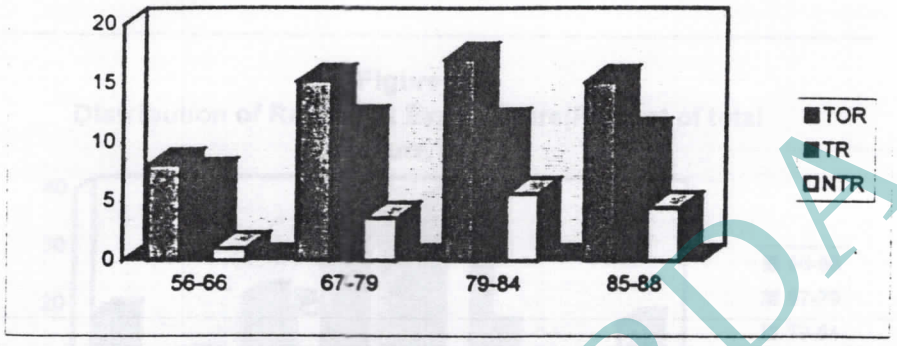
In those years, the relatively higher growth of tax revenue over the GDP depict the determination of the government in expanding its role as an economic agent. Specifically until 1991, tax to GDP ratio fluctuated between 10 and 22 per cent, averaging about 17 per cent. Since 1990 however, for three consecutive years, tax performance once again fell to its lowest level (about 6 per cent in 1989/90) reflecting the government's failure to mobilize resource as the economic, social and political environment deteriorates

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reaching its turning point. After 1992/93, government revenue showed recovery averaging about 15 per cent of the GDP .

In the earlier period of the derg era, one of the major sources for increased government revenue was the flow of surplus from public enterprises. Thus, between 1974 and 1992, non-tax revenue as a ratio to GDP rose from 1.4 per cent to 9.1 per cent. In terms of importance as revenue source, at the same time its share has gone up from 18 to 40 percent. Consistently, the fall in total revenue during the last three years of the regime was caused largely the decline in the flow of income from these enterprises .

Figure 5.2
Government Revenue as Percentage of GDP(Period average)



In contrast, recurrent expenditure increased drastically from 10 percent of the GDP in 1974 to 22.4 percent of the GDP in 1990. The main expenditure component that shows accelerated growth was military spending . Thus, at the pick of the war, the proportion of defense spending took about 48 per cent of the recurrent budget. Though moderate as compared to the growth of recurrent expenditure, post 1974 public capital expenditure increased substantially averaging about 7 per cent of the GDP. As compared to pre 1974, capital expenditure increased by two folds. Thus, between 1974 and 1991, total government expenditure as a share of GDP increased two and half fold, from about 14 per cent to about 34 per cent.

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Figure 5.2
Government Expenditure as Percentage of GDP(period average)

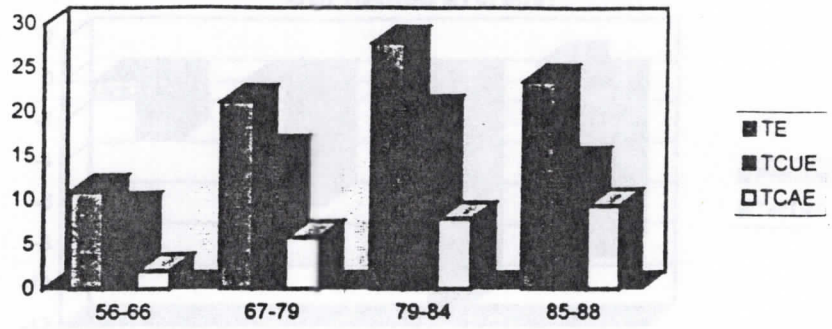
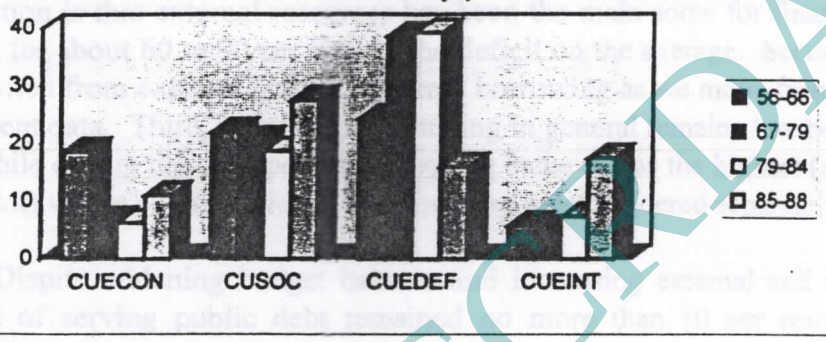


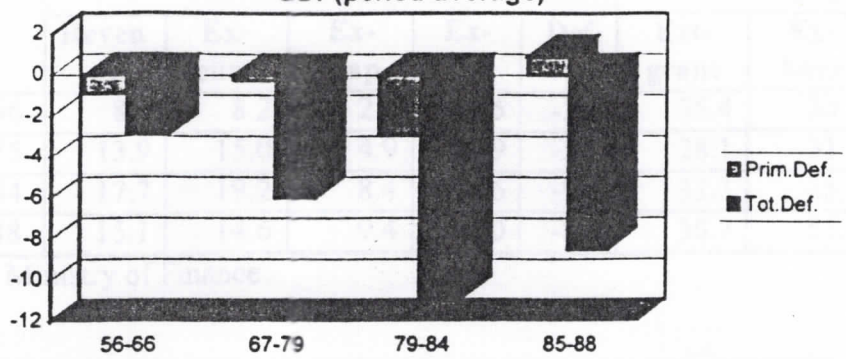
Figure 5.3
Distribution of Recurrent Expenditure(Percent of total Recurr. Exp.)



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Though, the government managed high fiscal receipt, the high and rising levels of public expenditure gradually triton fiscal stability. As a result, the proportion of total budget deficit that had never exceeded 4 per cent before 1974, significantly rose to about 11 per cent on the average in the early 90s. The overall deficit trend depicts continuos increase from an average of 3.6 per cent of the GDP between 1964-1974 to a pick of about 11.3 per cent of the GDP on the average between 1987-1991. As the government primary balance turned positive in recent years, the overall budget deficit shrunk to about 7.3 per cent of the GDP.

Figure 5.3
Primary and Total Budget Balance as Percentage of GDP(period average)



The following table summarize key budget aggregates. Particularly with respect to the pattern of deficit financing, three important observation can be made. The first observation is that external resources has been the main some for financing budget deficit account for about 60 to 90 per cent of the deficit on the average. Second, there has been a clear switch from external grant to external borrowing as we move from the imperial era to the present data. Third, inflationary financing in general remains low before 1974 and after 1992 while during the derg period this source came out as the highest (about 40 per cent of the deficit) where external grant and borrowing are considered separately.

Dispite widening budget balance and increasing external and internal borrowing, the cost of serving public debt remained no more than 10 per cent of total recurrent expenditure. Two factors account for such low and stable debt servicing. First, though external borrowing which has gradually becomes important than external granted, the terms of external borrowing remaining highly concessional. Thus, accordingly to World Bank reports of various issues, average interest rate on external public borrowing remain less than 5 per cent with an average grace period of about 6 years and maturity of at least 20 year's. Second, the low cost of domestic debt basically reflect the effective use of financial restrictive policies during the derg era . Following a relatively liberalized financial sector, debt servicing increase to a record level of amount 16 per cent of recurrent expenditure.

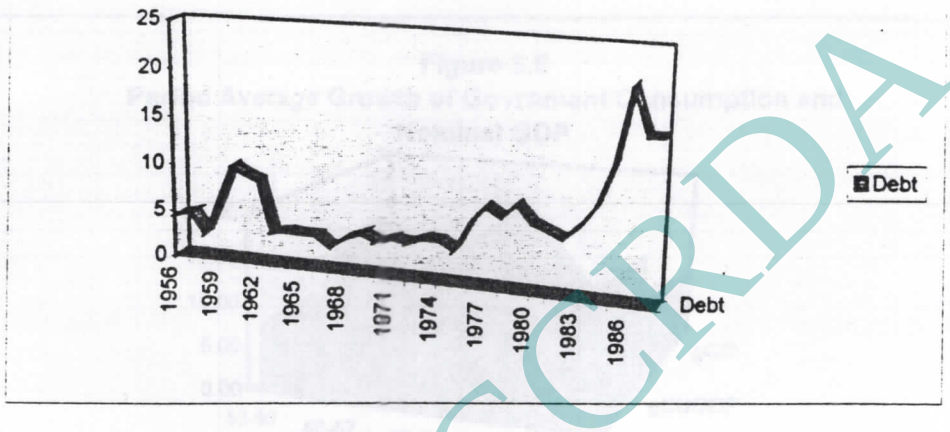
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Table 5.2: Summary Selected Fiscal Aggregates

Period	Percentage of GDP					Deficit Finaning as % of Deficit		
	Revenue	Ex-curr	Ex-Cap	Ex-tot	Def	Ext-grant	Ex-borr	Dom-banking
1956 - 66	8.1	8.2	2.0	10.5	-2.4	75.4	34.3	7.5
1967 - 75	13.9	15.0	4.9	19.9	-5.9	28.1	31.4	39.8
1976 - 84	17.7	19.2	8.4	27.6	-9.9	31.3	25.8	39.0
1985 - 88	15.1	14.6	9.4	24.0	-8.9	36.7	53.1	11.8

Source: Ministry of Finance.

Figure 5.4
Share of Debt Service from Recurrent Expenditure(in percent)



One of the areas deserving attention in analyzing fiscal policy and growth is the relationship between government consumption, capital formation and growth. The following two graphs relate government consumption expenditure to gross domestic saving and nominal GDP. A close examination of the two graphs depicts a negative relationship between government consumption and GDS as well as with GDP. This result seems consistent with previous studies by Borro (1991) and Ahmed and Ranjan (1995). Thus public consumption in Ethiopia has been going up; with a large part being divested to non-productive sectors while much of the revenue to finance it has relied on instruments with relatively high efficiency costs.

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Figure 5.5
Gross Domestic Saving and Government Consumption as percentage of GDP(curr. prc.)

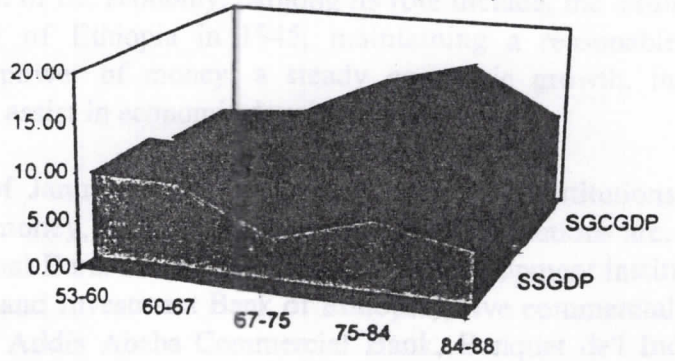
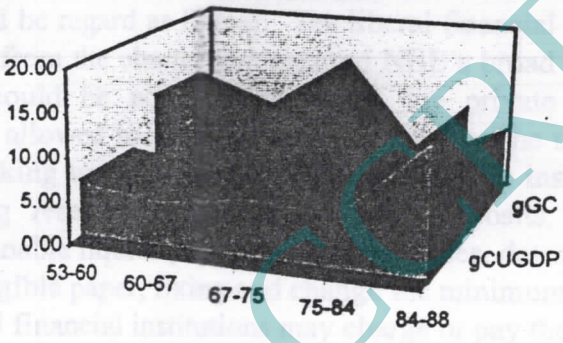


Figure 5.6
Period Average Growth of Govrnment Consumption and Nominal GDP



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5.4 Financial Sector Development and Policies

Historically, banking in Ethiopia was introduced in 1942 with the establishment of the State Bank with a capital of one million Maria Theresa Dollars, fully subscribed by the Ministry of Finance. The bank which was originally created as a commercial bank, subsequently was entrusted with additional three basic duties of a central bank: controlling the issue of currency, holding the foreign reserves of the country and acting as the fiscal agent of the government. Until the promulgation of the 1963 proclamation that transformed the banking service from a multi-purpose State Bank to a modern bank of the

present date, the State Bank showed a remarkable growth in expanding banking service in the country.

In it's two decades of operation, the State Bank had contributed for the monetization of the economy. Among its role include, the issuing of the first currency and legal tender of Ethiopia in 1945, maintaining a reasonable stability of the internal purchasing power of money; a steady economic growth, improvement is balance of payments to assist in economic development.

As of January 1964, the present monetary institutions were set to a clear task concerning money, credit and investment. The institutions are, one Central Bank (known as the National Bank of Ethiopia, NBE), two development institutions (Development Bank of Ethiopia, and Investment Bank of Ethiopia), five commercial banks (Commercial Bank of Ethiopia, Addis Ababa Commercial Bank, Banquet de'l Indochina, Banco Di Roma, Banco Di Napal, two non-banking institutions (imperial regime ownership and Savings Ass'n and Imperial Insurance Co. of Ethiopia Ltd.). The CBE took over the Commercial Banking services of the State Bank. The other commercial banks came in to the picture as Eritriea joins the Impair.

The financial sector policies of Ethiopia particularly since the promulgation of the 1963 charter that granted the NBE the powers to serve as an effective guardian of monetary discipline, could be regard as liberal. The liberal financial environment created until 1974 could be traced from the charter that ensured NBE a broad autonomy in handling financial matters. As could be noted from above, the private investment including foreign investment was allowed to participate in the sector. The task of regulating all aspects of commercial banking was that of the NBE. Among the instruments reserved for the NBE include, varying reserve requirements against deposits, to ensure commercial banks maintain a reasonable liquidity ratio to their liabilities, determining standard rate of interest to rediscount eligible paper, fixing and change the minimum and maximum rates of interest which banks and financial institutions may charge or pay their customers.

The pre - 1974 banking service was further extended to include promoting of private investment through the introduction of share exchange market. In this regard the Share Exchange Department (SED) opened in the State Bank in 1961 start by holding a port folio comprising four types of shares. The share market that survived until the end of the 60s grew in number to a group of about 20. Among the most notable share titles include HVA Metehara/ Ethiopia, Indo Ethiopia Textile S.C. and Sabean utility corporation S.C. The main subscribes in general. where foreign investors, accounting for about two third of the share value issued in the earlier period.

The 1974 revolution and the subsequently adopted socialist system of development, brought to an end the liberal financial environment of the Imperial era. The 1976 monetary and banking proclamation set out the regulation of the newly nationalized banking system.

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The proclamation centralized the financial system by severally curtailing both NBEs authority from the government and the other bank's authority from NBE. One of the consequences was the explicit responsibility of NBE for funding the government, either by development advances or requiring the banks to buy Government securities. The limit on direct advance was raised from the 1963 level of 15 per cent to 70 by the end of the regime and the minimum 3 per cent interest rate on such advances became the maximum permissible rate. Making of NBE as an effective arm of the state was further consolidated by the 1987 proclamation issued to define the duties and powers of the Government of the Peoples Democratic Republic of Ethiopia.

With the down fall of the derg regime the "Back to the future" approach in promoting development was also made effective in the financial sector. Among the notable measures include, the re-granting of autonomy to the NBE in managing financial matter, the allowing of the private domestic sector to engage in financial business, the determination of minim deposit and maximum lending rate while maintaining positive real interest rate and the elimination of preferential rate on deposit and Lending.

Table 5.3 summarizes the effect of change in financial policies during the three regimes. The first row represent the liberal financial system that existed between 1964 and 1974. The second and the third row summarizes the development during the derg era (1974 to 1984 and 1991 to 1984) and the last row represent the present situation covering the period from 1992 to 1996.

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Table 5.3: **Sellected Financial and Economic Indicators**

Period	Inflation	Real Interest Rate	M1/Y	M2/Y	Inflation Tax	GDS	GDPS	GDPVS (Gross)	GDPVS (Net)	RG	Fiscal Deficit	GDCF (Total)	OCOR	Real Growth GDP	GDCF (public)	GDCF (Pvt.)
1964-73	5.2	0.77	.0.82	0.12	0.44	9.3	0.14	9.20	8.8	-0.81	-2.4	10.2	3.1	3.6	2.2	8.0
1974-84	8.8	-1.78	0.14	0.20	1.17	4.9	-1.08	6.00	4.8	-4.50	-6.0	8.5	-4.3	2.7	4.9	3.6
1985-92	8.0	-1.03	0.25	0.34	2.25	7.8	-1.51	9.30	7.0	-7.10	-9.9	12.9	-26.3	0.6	8.4	4.5
1993-96	6.4	3.94	0.28	0.40	1.83	6.3	0.50	5.80	4.0	-9.90	-8.9	16.1	3.6	7.9	9.4	6.7

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The first observation from the table depicts that financial restrictive policies adapted between 1974 and 1991 was clearly reflected on real return on financial assets in which real interest rate on the average was negative. In contrast in pre 1974 Imperial era as well as in the recent four years, real interest rate on deposit on the average remained positive. The policy to maintain low and fixed interest rate on deposits between 1974 and 1991 was meant to ensure low cost credit to finance the growing fiscal deficit and assist the expansion of the socialized sector.

Financial deepening (increased financial intermediate) illustrated by an increase in savings and time deposits (the difference between M2/Y and M1/Y) has occurred in all the periods, with a relatively profound change in recent years explained mainly by the relatively higher real interest rate. In terms of financial deepening, the increased monitorization during the restrictive regime of the Derg era reflect partly the expansion of commercial bank branches and party by the continued rise of the propensity of individuals and businesses to hold cash balances, reflecting mainly the lack of alternative investment or expenditure opportunities. Thus, the restriction on private expenditure in those years where effective in mobilizing deposit, dispite the negative rate of return on financial assets.

The correlation between financial policy and investment behavior (in nominal terms) is rather ambiguous. Thus, dispite the restrictive environment during the Derg era, the share investment from GDP (1974 - 1991) remained at about the Imperial era. However, the structure of capital formation as approximated by the ratio of GDCF to GDP for the total, Government Capital Expenditure to GDP for the government and the residual being the private sector, there has been a strong shift from the private to the public sector. Thus between the first and the third era, the proportion public domestic capital formation increased from 2.2 per cent to 8.4 Per cent. In contrast, the share of private domestic fixed capital formation fell from about 8 per cent between (1964 - 74) to 4.5 per cent in 1974 - 94. As the role of the government expands, the corresponding Incremental - Capital - Output - Ratio (ICOR) fell drastically. The fall in the efficiency of capital was partly explained by the credit policy of the restrictive regime by encouraging low cost (subsided) credit to the socialized sector. This in turn resulted in growing non-performing loan to public enterprises (notably the State Farms) and dis-incentive for financial intermediation.

The implication of such financial practice helped to keep private domestic saving (measured as a difference of GDS and primary budget balance to ratio to GDP) to remain at a reasonable level. Dispite the sharp fall from 9.2 per cent in 1964 - 74 to about 4.9 per cent in 1974 - 84, mainly due to the fall in income following the 1984 drought and temporary shift in the re-distribution income in favor of the rural population following the nationalization land, private saving re-covered to the pre 1973 period the average. In contrast, the government which tends to be a dis-savor during the Derg regime contributed for the relatively lower gross domestic saving ratio as compared to the previous period. In the recent four years, public financial balance turned positive; however, both GDS and

private GDS remain low. Though, it is to early to judge the implication of recent final reform on private saving, the liquidity constrained consumption argument in less developed countries like Ethiopia is believed to hold true. Most importantly, the relatively lower per capita income level to day as compared to 20 years ago, the liberalization of liquidity constraint in the presence of pent-up private demand for credit at the eve of the reform could be the causes for lagging in response of private saving.

The other important observation since the 1991 reform is that private financial balance fell below zero for the first time mainly as a result of increased private capital formation. The accumulated over-liquidity of the banking system helped to finance the accelerating private credit demand. Consequently, as the share of private capital formation increased in the total GDCF, the ICOR turned positive.

Thus, from the above analysis of the Ethiopia experience, liberalized financial system, help financial deepening. However, if one account that interest elasticity of saving is low as observed in most developing countries, the effect of liberalization on financial intimidation are a consequences of portfolio reshuffling from other assets to deposits and not a result of a voluntary postponing consumption. This preliminary conclusion does not, however, preclude increases in the value and quality of investment, because if more funds are intimidated with the banking system with prudent management, the restriction on domestic credit is reduced and loan will be granted on a competitive basis with its positive implication on efficiency of Investment.

5.5 Trade Policy and Industrialization

For 40 years, the trade and industrialization strategy in Ethiopia could be classified in to two: a relatively inward oriented, public investment and DFI centered phase of pre-1974, and, the post 1974 in-word phase with public investment at the heart of development. Under both systems, trade policies bias against export and non-manufacturing sectors. In the first phase, the trade and industrialization policy regime where, investment policy favoring large scale industrials persistently increased tariff to protect domestic industries. Moreover, public support was extended to include building the necessary infrastructure to promote DFI particularly in agro-mechanization .

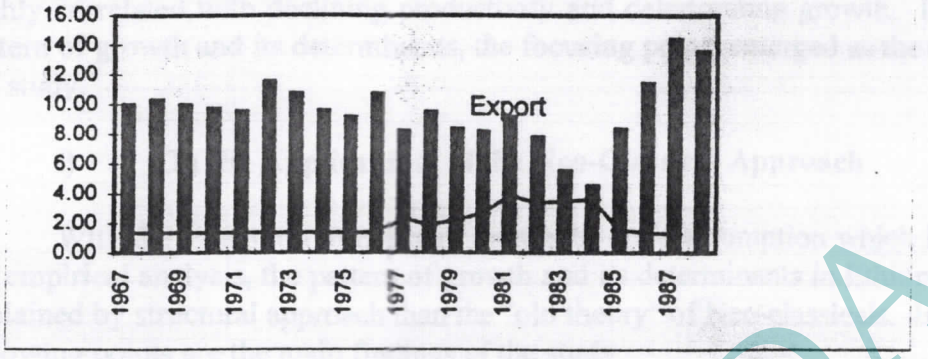
After 1974, the attempt to promote the socialized sector particularly in the non traditional sectors end up by replacing the private sector by public monopoly.. The trade and industrial policy regime of the time can be characterized by, wide intervention in factor markets, nationalization of private enterprises, setting up of public manufacturing enterprises, exchange control and regulation, trade control contrast in both exports and imports, domestic prices controls.

Particularly, the anti-export bias in the latter period was profound by an overvalued real exchange rate. Moreover, import protection - quantitative restrictions as well as tariff

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barriers where progressively revised to compensate for declining inefficiency in domesic industries. The effect of such trade practice along with the f fixed exchange rate regime had disincentive on export. The emergence of parallel market and the persistently growing discounting of the Birr in this market reflect the excess demand for foreign exchange particularly of private demand.

Figure 5.8
Export of Goods and Non Factor Services as Percentage of GDP and Parallel Market Premium for Foreign Exchange



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Chapter VI: Conclusion and Lesson For the Future

The analysis of previous sections is quite revealing. Despite some progress recorded in the fifteen years of pre-1974 Imperial era covered by the study, the Ethiopian economy depict deterioration in almost all aspects of development. As the rate at which population has been going accelerates over and above income, saving declines,and accumulation of physical capital.became more and more difficult. The resulting decline in physical capital per work along with the slugush progress made in the accumulation of human capital further worsen the prospect for growth. In this regard, the pattern of investment which favors import substation industrialization has been one source for the unsustainability of the moderate growth achieved in the earlier period. Added to this, the gradual crowding out of private capital formulation by the public sector was found to be highly correlated with declining productivity and deteriorating growth. In explaining the pattern of growth and its determinants, the focusing points emerged as the main findings of the study.

i) On the Applicability of the Neo-Classical Approach

With the exception of constant returns to scale assumption which holds true as per the empirical analysis, the pattern of growth and its determinants in Ethiopia can better bee explained by structural approach than the "old theory" of Neo-classicals. In this regard, the following points are the main findings of the study.

a) Using the traditional neo-classical growth model, the Ethiopia economy was less responsive to change in physical capital and raw labor. With the inclusion of human capital, however, the explanatory power of the model increasede substantially. In terms of influencing the pattern of growth in Ethiopia, human capital emerged as the factor followed by, accumulate of physical capital and TFP. The contribution of raw labor to growth was found statistically insignificant.

b) With respect to the choice of a model,, as the findings of most previous studies suggest, ECM was much better than the usual first difference equation when evaluated statistically by the coefficient of determination (R^2), the sign of the coefficients as well as the significance of the parameters estimated.

c) Although limited aspect of the neo-classical approach was attempted to be evaluated empirically, the economic reality and the pattern of growth seems to be better explained by the structuralist disequilibrium theories of economic development. In fact, the Ethiopian economic reality represent an ideal structural disequlibrum with, district sectors of economic activity

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facing diffierent size in demand and responding differently to the stimuli to which the development process subject them. the following are some of the evedences in favor of the argument.

- Precencee of economic dualism with a traditional sector as the main stay of the economy characterized by wide spread under-employment, back ward technology and substantially lowerr productivity than the modern sector;

- As models centering an unlimited supply of labor explains, the performance of the Ethiopian economy particularly at the hight of import substitution industrialization was not trigged by an increase in demand for industrial output generatedl in domestic market,

- The structural of consumption in Ethiopia more or less resemble the type explained by Engles low for an economy with low per capita income and wide spread poverty.. When one compare the result of household income and consumption expenditure surveys (HICES) conducted in 1963 and 1995 for Addis Ababa, the structure of expenditure shifted towards basic consumption goods such as food and clothes. This intern imply that the decline in real income was matched by shift in expenditure towards basic goods. This again was reflected in declining proportion of saving and hence domestic capacity to finance capital formulation which is said to be one of the conditions for sustainable development.

- The pre-1974 period of economic growth was not accompanied with declining labor productivity gap towards equalization, as postulated in the neo-classical framework. Rather, the structuralist explanation to deteriorating inter sectoral labor productivity gap in a subsistence economy resemble the Ethiopia reality. Thus, as long as subsistence agriculture dominates the national average income, its performance will not far from the national average. But, as income grow and agriculture role lessens, its relative productivity decreases as we saw in pre-1974 performance. This in turn depict growth alone can not ensure progress towards equalization in sectoral productivity.

- The pattern of growth in Ethiopia could be best explained by the balanced/unbalanced development structuralist framework derived from Engels low. Specifically, the persistent decline in agricultural per capita output in the face of increasing demand for food, foreign exchange and industrial input reveal un-balanced development. As

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previous studies suggest (see pan Yotopoulos and J. Nugent, 1976) countries whose sectoral growth rates followed the path explained by income elasticity of demand seen to grow more rapidly than those which do not so.

d) Among the barriers to structural change and hence sustainable growth in Ethiopia, the following are believed to be the major ones.

- Inertia of and administrative state based on the vested interest authority, such as large landowner in pre-1974 era and the post 1974 dictatorship,
- Lack of enterprinership,
- Labor in-mobility.
- Rigid and inappropriate institutes.

ii) Policy Issues

Though the study has not treated the role of policies in the process of growth and development in great detail supported by empirical analysis, the unique experience of Ethiopia in passing through two districtly different policy regimes and the resulting resource mobilization, allocation and utilization, and the associated level and efficiency of investment and growth help to reach at some preliminary conclusion.

a) Growing public sector and wide spread government intervention was highly correlated with declining productivity and growth.

b) Despite system difference and instruments used to maintain macroeconomic stability, economic stability has never been a serios treat. However, such stability in post 1974 years was ensured with restrictive financial sector policies, wage freeze, restriction on private expenditure while the country's economy remained at poverty equilibrium.

c) The central role of the state in the economy was well refected in the fiscal policy. In this regard, fiscal policy of in past was not only an instrument to mobilize budgetary revenue and expenditure but also an effective instrument in influencing the rate and pattern of growth. Among the notable aspects of these policies include, the use of tariff and taxes for the promotion and protection of investment most importantly in the modern

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sector, the strong and invese relationship between growth of public consumption with aggregate saving and growth.

d) Though it was slow, financial deepening occurred in Ethiopia. The gradual monetizationg of the economy however was less effective in promoting growth rather was effective in maintaining economic stability. The relatively liberal financil enviroment of pre 1974 and post 1991 was associated with positive real return on financial assets, higher growth in deposits, market based allocation of credit and higher ICOR. However, there is no strong evidence supporting liberalization may help increase aggregate savings.

e) As experienced in most Asian countries, Ethiopia's attempt to promote import substitute industrialization was backed by policies, most importantly, trade and fiscal incentives. But what makes the Ethiopian experience unique contributing for the failor of indusrialization was the failur to ensure profitability and international competitions in most of the protectd sectors. As a result there has not been an element of dynamisum in the structure and growth of export nor any notable link of export to the pattern of development.

iii) Lesson for the Future

The path of development and growth in the past forty years in Ethiopia was poor with detonation not only in performance but also a gradual exposition to externalities making economic management more complex and difficult. This in turn require a further comprehensive and in-depth analysis of the determents of growth both internal and external factors in a dynamic perspective.Thus, the following points are just some of the nessesary conditions to achive the objective of development.

a) Eliminate structural constraints hindering the movement of factor of production,

b) Take steps to maintain economic stability,

c) Ensure inter sectoral linkages,

d) Gradually movee towards domestic resource based capital formation,

e) Promote profitability and international comitaivity of domestic industries,

f) Work towards the improvement the quality and quantity of human capital stock,

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g) Work towards promoting private investment.

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