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EXPLAINING AFRICAN ECONOMIC GROWTH PERFORMANCE: THE CASE OF ETHIOPIA[1]

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Explaining African Growth Performance: The Case of Ethiopia

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(with Befekadu Degfe)

Abstract

This paper attempts to unravel the factors behind the growth performance in Ethiopia. This is done first by attempting to place growth in Ethiopia in its political economy and historical context. This historical review helped to categorize the growth experience of the last four decade into three regimes. This is followed by an attempt to characterize the growth record in the past four decades, outlining the most important episodes of growth in each sub-period. We dealt with issues of growth accounting and structural change and discussed their implications. An attempt to understand the source of growth using information from cross-country growth regression is also made. The Growth performance in the three periods is then examined by analyzing the role of institutions, microeconomic level agents behavior as well as the nature of product and factor markets. The main conclusions that emerged from this analysis are: Growth performance in Ethiopia is largely determined by political economy factors, vagaries of nature; strength and efficiency of institution, efficacy of public policies, and risk related to war and property ownership. Product and input markets are found to be not only thin but also inflexible. This combined with unstable political environment has greatly limited the potential growth in general and its sustainability in particular.. Had it not been for continuity and steadfastness of some of the institutions that resulted from the long and unique history of the country, the growth record would have been much more saddening than the current one.

Key words: Growth, Development, political economic history, Africa, and Ethiopia.

I. Introduction

With a population of over 70 million (in 2005), Ethiopia is the second populace country in Africa. It is also one of the poorest country (with 44.2% of the population being below the poverty line in the year 2000). It has never been colonized, and has unique and long history that stretches back to antiquity. The Ethiopian economy is a subsistent one that is highly dependent on agriculture, which in turn depends on vagaries of nature. Over 85 percent of the population depends on this sector for its survival. Agriculture accounts for half of the GDP and more than 90 percent of the export earning. The industrial sector accounts for only about 12 percent of GDP. The balance is accounted for in the service sector.

The high dependency of economic growth on timely and adequate rainfall and the country's vulnerability to terms of trade and similar external shocks are structural constraints facing the economy. The poor growth performance in 1984/85 with the decline of real value-added in the agricultural sector by more than 20 percent and real GDP by more than 9 percent (the highest during the last four decades) is explained by the worst drought in that year. On the other hand, the high growth rates in 1986/87, 1997/98 as well as 2000/2001 are owing to bumper harvest, which in turn are results of good and timely rainfall and recovery from a very small base. Thus, in explaining growth in Ethiopia it will be imperative to examine the agricultural sector (see Alemayehu 2001), its linkage with the other sectors and household behavior in rural Ethiopia.

The second factor of critical importance in explaining the performance of the Ethiopian economy is the external environment, which has an important bearing on the functioning of the economy. The economy is dependent on imported inputs such as fertilizers, chemicals, raw materials that are buoyant or fall victim to availability of foreign exchange. The fact that the country is dependent on coffee export for not less than 65 per cent of its annual foreign exchange earnings has implications not only to the coffee sector, but also to the rest of the economy. Thus, the terms of trade shocks in an economy that is totally devoid of instruments for their neutralization has critical bearing on its performances.

The influences of these exogenous determinants of growth on economic performance have in recent years been accentuated by poor policy, which on the whole have been pro- rather than counter-cyclical. When there is drought, government revenue declines, the exchange rate depreciates (reflecting shortage of foreign exchange) and recession deepens, reducing growth. Implementing the right policy is crucial in such set up. Moreover, understanding policy formulation and implementation requires not only understanding the institutional context but also the political economy of policy formulation. Thus, the paper will examine these issues in detail.

The rest of the paper is organized as follows. Section II attempts to characterize the growth performance in the last four decades in the historical and political context of the country. Section III will deal with growth accounting and structural change issues. An attempt to understand the source of growth will also be made. The Growth performance in the three periods will also be examined by analyzing the role of markets (Section IV) and constraints to economic agents at microeconomic level (section V). Section VI will form the conclusion.

II. The Political Economy of Growth in Ethiopia

The history of Ethiopia has predominantly been a history of wars/conflict under the ideology of religion, region, nationality or a combination of these but basically aimed at power and resource control. This had many consequences. First, it has created a serious crisis in the agricultural sector (See Gebre-Hiwot, 1924). Second, two clearly distinct antagonistic interest groups have characterized Ethiopia's history before the 1974 revolution: the landed aristocracy (including the church) and the peasantry, with corresponding state structures (see Gebru, 1995, Addis 1975). The main preoccupation of the landed aristocracy and the church has been to maintain their power and privileges which are intimately linked with land ownership. Thus, land was (and still is) a very contestable and important resource. Thirdly, to some degree colonialism in the rest of Africa had made Ethiopian independence basically a besieged one, because hostile and powerful colonial forces encircled it. As a result Ethiopia developed as a militaristic state, with a dependent economy based on the export of commodities and import of manufactures (in particular fire arms) (Alemayehu 2002a).

Observing the effect of conflict in historic Ethiopia, Gebre-Hiwot (1924) noted that the major internal constraint to Ethiopia's development is *war/conflict*[2]. He also made an explicit link between this fundamental constraint and inter and intra ethno-linguistic group (what he calls *Neged*[3]) conflict. For Gebre-Hiwot conflict occurs in each ethno-linguistic/ regional group (*Neged).* Peasants in each of such groups are squeezed through tax levy and surplus extraction by their own elite ruling group. This process pushes peasants away from their earlier settlement (supposedly fertile land) into marginal land - leading them to confront other peasant groups of another ethno-linguistic group (*Neged*). This will culminate in conflict, which perpetuates the internal constraint (see Alemayehu, 2000a).

Gebre-Hiwot's observation is substantiated by European travelers and historians in 19th century. Pankhrust (1963a) for instance, citing a British consul named Walter Plowden, noted that by 1853 the regular armies of men assembled under chiefs reach about 200, 000 with a system that renders a large following, estimated to be about half a million. This observer noted that there existed a constant enmity between the military and the population since the wage being irregular, the solders indemnified themselves often by indiscriminate plunder. As noted by Pankhrust, a constant and continuous fighting not only made the virtual emergence of permanent army but also inflated the size of these armed forces. In early 19th century, and in conformity with Gebre-Hiwot's observation, A. B Wylde wrote that the soldiery which had originally been called in existence because the country has been 'surrounded by Mohamedian enemies' had 'little by little' increased and multiplied till they had become 'out of proportion to the wants of a peaceful country' [4](Pankhrust, 1963a: 119). By late 19th and early 20th century each emperor is estimated to

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[2] He, in fact, ranks conflict over and above natural or environmental constraints. The external constraint for development for Gebre-Hiwot is deterioration of the terms of trade with Europe (see Alemayehu 2002a).

[3] For Gebre-Hiwot '*Neged*' is a very rich concept. It is not necessarily 'ethno-linguistic' and could well be regional identity such as being a *Gondre*, *Gojame*, *Welloye* (all Amharic speakers) or *Shewa* which is a mix of many but predominantly Amharic speakers or purely ethno-linguistic such as *Tigre*, *Oromo* etc. Such identity is strong in Ethiopia and cuts across-ethnic and religious identities. This can partly be explained by the specific history of each of these regions which used to have their own hereditary rulers (kings) and fought others to be the 'King of Kings'.

[4] Emperor Theodros (1855-1868), however, attempted to reorganize the military by paying them regular salaries and prohibiting the plunder of the peasants. Almost continuous war prevented Theodros

have 100 to 225,000 solders (eg. Emperor Yohannes (1872-89) about 196,000 and Emperor Menilek II (1889-1913) 100 to 120,000)[5].

In another excellent study Pankhrust (1963b) noted that the history of Ethiopia needs to account for the economic and social consequence of war, which was not rare at all. These effects include: the bloodshed of combatants and depopulation, the ravage of fertile land, the butchering of flocks of cattle, the destruction of towns and villages, and the interruption of internal and external trade. Such destruction led not only to famine but also to general insecurity (with its adverse impact on agriculture and accumulation) that deterred division of labour and productive economic activity (Pankhrust, 1963b: 143).

As noted by Plowden (cited in Pankhrust, 1963b), the peasant has to bear directly or indirectly the whole burden of taxation and the large standing armies. Parkyns, a British traveler, summarized it best a century and half a go saying that civil war was 'the perpetual scourge of Abyssinia [Ethiopia] and the principal cause of its poverty and backwardness' (cited in Pankhrust, 1963b). This internal conflict is aggravated by foreign aggressions which were not rare either (three times with the Egyptians, four times with Dervishes, five times with Italians and once with British over the period 1868 to 1896) (see Pankhrust, 1963b, Bahru 2002). These external conflicts are equally responsible for the backwardness of the country. Most importantly these conflicts have created a militaristic state with accompanying institutional set-up that is detrimental for development and might perhaps inform the current socio-political set-up of the country.

Thus, economic performance in Ethiopia is highly correlated with conflict and the political process that accompanies it[6]. Ethiopia's history is full of conflicts, drastic policy changes and reversals. Such political processes do also influence economic agents' behavior[7]. As a continuation of this historic legacy, the last four decades witnessed three distinct regimes described below. Such cyclical political process and regime shifts are not only unpredictable but also violent. Economic insecurity pervades the system as rule of law, enforcement of contracts and property right security are configured on shaky political base. The detrimental impact of such political process on macro performance has to be obvious[8]. It is within this broader framework the three regimes outlined below need to be understood.

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from creating disciplined and modern army. Emperor Yohannes (1872-1889) was fully aware of this but couldn't do any better than Theodros. Emperor Yohnnes, just before his coronation noted, by maintaining a large army 'we destroy the country instead of occupying ourselves with progress, and so to speak we feast on human flesh'. Emperors Menelike (1889-1913) latter regulated the grain demanded from the peasants that was needed for maintaining his solders by introducing the tithe (taxing one tenth of the produce) and grain hoarding system. This was not easy to implement either (Pankhrust, 1963).

5 The population at the beginning of the 20th century is estimated not to exceed 9 million (Pankhrst 1968). If one assumes the average size of an army under one regional king to be 200, 000, the entourage (including the solder's family) needed per solder would be five, and about five regional kings (say Gojam, Shewa, Tigre, Wello and Gonder) at one time, the army, which is dependent on the peasants output, constitutes about 50% of the total population and about two- third of the economically active population.

6 This has been noted, and analytically described at the turn of the last century, by the famous` Ethiopian development economist Gebre-Hiwot Baykedgne (See Alemayehu 2002b).

7 An interesting example is that the private sector has been virtually excluded from participation in economic activity for about two decades (1974-1991)

8 A preliminary assessment can be made using the quantifiable dimension of the impact of political process. For instance defence budget was nearly half of the total recurrent expenditure during the *Derg* regime. This had dramatically dropped in the post-*Derg* period, only to pick up during the recent Ethio-Eritrea war. Haile (1997) used a model-based simulation to quantify the impact of military expenditure. He found, for instance, manufacturing, agricultural and total output would have increased, over the sample period, by about 0.3, 0.1 and 0.75 per cent per annum, respectively, if the size of the armed forces and the

The Imperial Regime (1930-1974)

The period referred here as the 'Imperial Regime' refers to regin of the last emperor, emperor Hayla-Sellase I, (1930-1974). Although this period is a continuation of the historic process described above, it has also its peculiarities. It is during this period that an attempt to modernize the country was made (an expansion of modern schools and health facilities, the first constitution, infrastructural development, the beginning of medium term planning etc are cases in point).

Like that of historic Ethiopia, the contestable resource during the Imperial regime had been land and the military power to control land and other resources. The labour relations were very much determined by the structure of the land market (see below). Land was the economic basis of the ruling aristocracy at the apex of which was the emperor. The majority of rural households were fundamentally tenants living under abysmal condition. Notwithstanding such structure which reduced the majority of peasants to poverty, the Imperial regime had also the positive record of modernizing the economy by developing infrastructure, establishing and encouraging the establishment of imports substituting industries, modern political system and in particular expansion of education. Slowly the land aristocracy was also in the process of changing itself into productive landlord group by expanding commercial farms.

In terms of policy the Imperial regime pursued a market based economic policy and growth performance during the last two decades of that period, for which we have data, (1960-1974) was an average of 4 percent per annum (the percapita growth being 1.5 percent).

The activities of the landed aristocracy as well as modern entrepreneurs to engage in the modernization of the economy accentuated the conflict between the peasant and the new operators. By late 1960s a new educated elite started to challenge the political system by articulating the misery under which the majority of the rural population live. This has been encapsulated by the slogan: 'land for the tiller'. As noted by Clapham (1988) the root cause of the downfall of the Imperial regime (and his last emperor, Hayla-Sellase I), and hence the birth of the 1974 revolution are structural than personal. These structural factors include the misery the system caused on the majority of the rural population, who were basically in the state of serfdom; and the government's alienation from all social strata such as the intelligentsia, the military, the bureaucracy, and urban dwellers (see Clapham, 1988: 19-40). Although this are the fundamental factors, the immediate causes for the revolution can be linked to: (a) the famine in Northern Ethiopia (*Wello*), which the government attempted to hide, (b) the strike by taxi drivers following the 1974 OPEC-induced oil crisis and (c) a revised curriculum of education which was strongly opposed by the intelligentsia (the educated elite). Perhaps, awakened by an early unsuccessful coup in 1960, the military toppled the emperor in 1974 and declared 'socialism' subsequently. This political change and upheaval had its detrimental effect on growth. Growth started to decelerate below 2% in 1966-74 – the eve of the 1974 revolution.

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ratio of military expenditures to total output had been maintained at their 1973 levels. In terms of its social impact his simulation shows that expenditures on education and on health would have increased, on average, by about 94.1 per cent and 86.5 per cent, respectively, over the simulation period (See Haile, 1997 for other simulation results).

The Second Period (1974-1991): The Socialist (*Derg*) Regime

The ascent to power of the military regime (the *Derg*) and its political survival was largely hanging on the position that it would take on the land question. Thus, the most important policy of the *Derg* came to be the nationalization of land and other private property (land, extra houses, and manufacturing & financial firms). The *Derg* also adopted the socialist ideology, which basically was the ideology of the Ethiopian educated elite of the period. The cold war (where US's ally has been neighboring Somalia) had also its share of influence in the choice of this ideology which was supported by the USSR. The *Derg* started to emerge as an interest group and started to consolidate its grip on power through setting up institutions (peasant association and cooperatives, marketing boards, huge military, nation wide worker's party and the like) aimed at building a socialist state (control regime) with strong military.

On the other hand there were growing number of opposition groups among the intelligentsia that had the objective of overthrowing the *Derg* (namely, *Meison*, EPRP, TPLF, EPLF[9]). These groups differ in their origins; leadership, ethnic balance, goals and tactics, and attitude to the *Derg* (see Clapham, 1988). For instance, the EPLF and TPLF were active in their home region in the North. They pursued a strategy of rural insurgency with declared intent of cessions, using regional/ethnic ideology as their instrument. On the other hand, *Meison* and EPRP were multi-ethnic organizations. They based their operation across the country, but were active in the capital. *Meison* differs from others in its strategy of 'working with the *Derg'* with the incipient plan of eventually taking power from the *Derg*. Almost all of these protagonists draw their members from the youth, especially of university students both at home and abroad, as well as from trade unions. The *Derg* managed to wipe out most of these organizations, except the TPLF and EPLF, who eventually toppled it in 1991. Ideology as a source of conflicts seems less appealing to explain the conflict (and hence the protracted civil war during 1974-1991) among these groups. This is because all were Marxists organizations. Although grievances over the cultural /linguistic domination by Amharic speakers over the others have some explanatory power for those from the periphery of the country, the fundamental conflict is conflict over power and resource control among the educated elite[10]. In the case of ethno-linguistic groups, Ethnicism is used as a convenient ideology in this struggle (see Alemayehu 2004).

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9 *Meison* refers to Amharic abbreviation for 'All Ethiopia Socialist Movement', EPRP refers to 'Ethiopian People Revolutionary Party'. Both were multi-ethnic parties. The EPLF (Eritrean People Liberation Front –a nationalist group dominated by Tigregna speaker Christian highlanders of Eritrea) is a secessionist organization established following the abolition of a UN sponsored federation of the Italian colony of Eritrea with Ethiopia by emperor Hayla-Selasse I in 1961. After a protracted guerrilla war with the *Derg,* and with the help of TPLF (Tigray People Liberation Front – an ethno-linguistic front), it de facto managed to secede Eritrea by 1991. The TPLF was a Marxist guerilla opposition established with the help of the EPLF to fight the *Derg*. The TPLF initially flirted with the idea of secession but latter in the 1980s changed its objective to creating a democratic Ethiopia. It began to organize other ethno-linguistic based organization (including the Amhara Nation Democratic Movement, the Oromo People Democratic Organization and the South Nations, Nationalists and People Organization) to form what is called the Ethiopian People Revolutionary Democratic Front, EPRDF, which is the current government. It also initially accommodated the other important ethno-linguistic organization, the Oromo Liberation Front (OLF). The EPRDF reorganized the country as a federal state structured along ethno-linguistic lines (see Alemayehu & Befekadu 2003).

10 There were also some followers who are convinced of the ideology and committed for the betterment of the majority. This is in particular true among the rank and file of the insurgent movement.

The growth implications of the regime change and its subsequent political turmoil were devastating. The abrupt political change, the nationalization of the productive assets and the inability of the new owners to run them, the disruption in both industrial and agricultural activity following the revolution, the 1984/85 drought, have all shown themselves through the deceleration of growth. Between 1974/75 –1989/90 growth decelerated to 2.3 percent (the percapita growth being -0.4 percent). Growth episodes were also extremely irregular for they depend on agricultural growth, which in turn is vulnerable to the vagaries of nature (see Alemayehu 2003a). The conflict during the period was not only detrimental to long term growth but also costly. For instance defense budget alone was above 40 percent of the total recurrent spending or 26.1 percent of GDP in the late 80s (rising from its level of 15 percent of GDP in mid 70s).

Moreover, the *Derg* was basically a controlled regime (as are 'socialist' economies). It designed discriminatory polices (both monetary and fiscal) aimed at benefiting the socialized and penalizing the private sector. Thus, apart from the deceleration of growth throughout the period, the period witnessed deteriorating economic structure, discontent of people towards the regime, strong resistance from rebel forces across the country (increasingly taking ethnic form) and external economic strangulation. This is compounded by military failure in various pockets, especially in the North, of the country. As a result the regime was finally toppled by the coalition of rebel forces organized along ethno-linguistic lines (the Ethiopian People Revolutionary Democratic Front or the EPRDF) in 1991.

The EPRDF – the Lose Control Regime (1991- to date)

This period starts in 1991 following the ascent to power of the EPRDF, whose core power structure is held by the Tigray People Liberation Front (TPLF). The new regime adopted typical structural adjustment policies (liberalization) with the support of the Bretton Wood institutions. In line with the discussion so far, the reform and the subsequent evolution of macroeconomic outcomes cannot be understood in a political vacuum. Like that of the previous regimes, interest groups, through policy and using institutions, do influence macroeconomic outcome so that it accords to their interest. This seems to be the case in the post-*Derg* Ethiopia too. Much of the liberalization policies adopted by the EPRDF in 1991/92 had been initiated by the *Derg* virtually at the end of its reign but has not been implemented. The interesting political question is what are the political economy preconditions for the implementation of the reform initiated in the *Derg* period? There are at least three fundamental political trajectories that informed the political basis of the 1991/92 reform (see Alemayehu 2005).

First, there was a challenge to 'socialism' both in domestic and international context. Although the ideology of EPRDF before the 1991/92 reform was informed by 'socialism', it has to confront the domestic dissent towards 'socialism' and the failure of that system in the international context following the collapse of the USSR. Such political landscape leaves the power to be with no choice than to accept the reform that basically is the anti thesis of socialism[11].

[11] The only issue at which EPRDF seems to win the bargain (in the light of its ideology) is the question of land.

The second political factor relates to the deep-rooted dichotomy in Ethiopian elites' politics about the nature of the country's unity[12]. The ruling EPRDF takes the position of 'self determination including cessation' for regions organized along ethno-linguistic lines[13] while many political groups, including the majority of the inherited bureaucracy, opposed to this framework. In such political landscape it was 'rational' for EPRDF to accept the reform not only to get external endorsement (in the face of domestic opposition) but also to use the macro policy instruments (such as expenditure reduction) to fight the 'hostile' bureaucracy (witness the implementation of the retrenchment program).

Finally, a related issue to the second point above is the policy of decentralization. Decentralization is one of the elements in packages of the reform. The decentralization policy did give EPRDF the opportunity to realize its ideologically informed decentralization (ie establishing ethno-linguistic federal states). It is noted here that although decentralization as such is in the Bretton Woods institutions' package, the particular form that it took in Ethiopia is EPRDF's preference. The ramification of the ethnicization of the political process, including the constitutional affirmation of the rights of any ethno-linguistic group to secede, on private economic agents has also to be taken in stride, since this may increase investors' insecurity in a region which they may not consider as their 'home' region. Thus, we argue, unlike Collier (1998:5), that ethnicization in Ethiopia is dangerously worrisome, first, because it is (contrary to expectations) undemocratic at local level (the role of the center is as strong as used to be). Moreover, the ethnic politics is being pursed rather vigorously at federal level (still real power is held by TPLF). The latter could result in state where the ethnic interest may expound at the expense of the national one both at regional and national level.

Apart from these political factors, the government has inherited a shattered 'socialist' economy with no foreign exchange reserve to speak of. This must have been another reason for the reform. The reform does directly address the latter (foreign exchange problem), for such reform is accompanied by aid, and promises to address the former through revitalizing the economy. Thus, the government has implemented the typical IMF/World Bank (albeit with minor bargaining power in the land issue) policy package. Ideologically, however, the government seems to favour engineering the liberalization in the Ethiopian context, which includes emphasizing the role of state, in particular in redressing the distributional (class) implications of economic policies (see EPRDF 2001)[14].

Economic growth during this period (1990/91-1999/00) is quite impressive where real total and percapita GDP on average grew at 3.7 percent and 0.7 percent per annum, respectively. This figure would have risen to 5.6 percent (and to 2.6% in per capita terms) if one excludes the abnormal years 1990-92. This is the combined result of the reform and good weather outturn. The performance has been fragile and growth uneven, however. Taken on a-year-to year basis growth was rhythmical and rather precarious for

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12 This political factor implicitly addresses the so called 'the Eritrean question'. Where EPRDF opted for its independence while many other political groups opposed to that.

13 In Ethiopian politics (especially of the ruling party) these groups are referred as 'nations, nationalities and people' without any conceptual basis for distinction. Gebre-Hiwot's references to these groups with the term 'Neged' and its use would have been broad and more relevant (see Alemayehu 2002b).

14 The distributional dimension of this policy stance is empirically substantiated in Alemayehu *et al* (2002a).

it is heavily dependent both on vagaries of nature and external shocks, including the war with Eritrea (see Alemayehu 2003a, 2005). Thus, the question of explaining growth and, in particular, its variability remains an important area for further study (see Alemayehu and Weeks 2005).

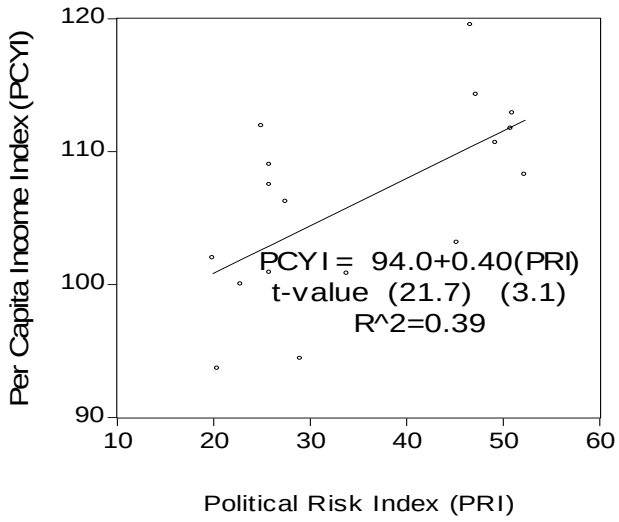
In sum, in identifying the political process and various interest groups in Ethiopia's long history, it is worth emphasizing the cycles of revolt and conflict and their implication for growth. These conflicts though apparently look ethnic, as expounded in a recent political discourse, were essentially regional and class (or interest group) based. The evidence being: (a) the 'king of kings' system where the strongest regional-based king[15] became the king of all regional kings and occupy central power in historic Ethiopia. The king of kings normally comes from one region and maintain its power by drawing its officials from different regions (usually tying regional lords through marriage to his off-springs), and (b) the subjugation of *all* peasants from all ethnic groups by the ruling elite during the Imperial and *Derg* period[16], (c) the protracted civil war waged among the intelligentsia of different political groups, specially of the multi-ethnic ones including the *Derg*, who however subscribed to the same leftist ideology during 1974-1991. Thus, the conflict among the educated elite for power and resource control made the country conflict-prone. This is compounded by the dependence of growth on external shocks and detrimental effect of inappropriate policies. This has resulted in poor growth performance. In sum, by any measure all the regimes so far were undemocratic and hence good governance was (and still is) a major constraint to growth. An empirical aspect of this could be seen in Diagram 1, where we plot the index of per capita income against an indictor of political risk[17]. Clearly the premiums on improving the political risk (which can also be taken as indicator of quality of governance and institutions) is huge – an improvement in this index by one unit brinings about 0.4 point increment in the index of the percapita income (see Diagram 1).

15 An important evidence here being the fierce regional competition and war between the Shewan and Gojam Kings who ethnically speaking belong to Amhara.

16 This argument in no way denies the historic domination of the highlander's, in particular Amharic speakers, language and culture over the others but takes it, compared to the power-grapping motive, as secondary.

17 The political risk rating is based on 'International Country Risk Guide' which uses 12 political risk indicators (ie., government stability, socio-economic condition, investment profile, internal conflict, external conflict, corruption, military in politics, religion in politics, law & order, ethnic tensions, democratic accountability, and bureaucratic quality). Points given for each items ranges from 0 to 12. The first five indicators have a maximum score of 12 each; the next 6 items have a maximum score of 6 each; the last having a maximum score of 4. The higher the number, the better the performance is (ie., the less the political risk).

Diagram 3: Political Risk and Percapita Income Growth (1984-2000)



Each regime has also heavily invested in the military and created institutions that help sustain the grip on power. This has helped each government (interest group) to protect its interest group. This took the form of church and the military in the Imperial period; the mass organizations such as peasant associations, marketing boards and the military in the *Derg* period; ethno-linguistic parties, party-affiliated companies and the military in the EPRDF period. If one gauges the priority to hold on political power by defense expenditure, the *Derg* regime scores high. During the Imperial period, expenditure on defense was very low, averaging 13 percent of total government expenditure. During the *Derg* (1974-91) defense expenditure more than doubled to 33 percent of government expenditure. The average for 1992-2000 was 18 percent. Finally, one also notes the existence of institutions whose continuous existence and viability is desired across regimes and hence maintained[18]. These type of institutions, however inefficient they might appear, have contributed to the continuity of the Ethiopian polity as functional state.

III. The Growth Record: The Macro-Growth Performance

Having described the political economy context for Growth, it is worth examining the quantifiable dimension of the growth process in the last four decades. This is done in this section.

[18] This list may include: The Ethiopian Air Line, the National Bank and the Ministry of Finance (which maintained prudential macro policy stance across regime), the Air force, the Civil Service, the Church, and other social indigenous institutions and norms, customs, culture (eg., self-help associations – called *Idir & Iguib*). What happened to the Ethiopian Air Line in the last two regimes is quite informative. In both regimes, following regime shift the incumbents fired professional staff and installed 'their men'. This has resulted in an immediate decline in profits of the Airline that prompted both regimes (the *Derg* and EPRDF) to take back the professionals and reverse the collapse of the Airline. The reason for this may relate to (a) foreign exchange generating capacity of the Airline, (b) its symbolic nature and the political cost associated with the collapse of such institutions which has a long history, and (b) the personal interest of leaders to use the Airline with full authority.

3.1 Growth Accounting

Table 1: The Collins and Bosworth Growth Accounting Based Decomposition of Source of Growth for Ethiopia

Period	*Growth in Real GDP per worker*	*Contribution of*		
		Physical capital per worker	*Education per worker*	*Residual*
1960-64	2.36	2.63	0.01	-0.28
1965-69	1.71	2.16	0.02	-0.47
1970-74	1.94	0.86	0.04	1.04
1975-79	0.13	-0.04	0.07	0.09
1980-84	0.00	1.81	0.12	-1.93
1985-89	0.47	1.69	0.14	-1.35
1990-97	1.81	0.81	0.08	0.69
Total: 1960-97	1.20	1.42	0.07	-0.29

Note: the GDP growth for 1990-97 (and hence the total) is update for 1995-97 using MEDaC data.

In Table 1 we have employed the Collins and Bosworth (1996) benchmark estimation to generate the estimated contribution of physical capital, education, and the residuals to growth[19]. The Collins and Boswoth benchmark regression, which is used to generate the decomposition in Table 1 is given by (see O'Connell and Ndulu 2000):

$$y = Ak^{0.35}h^{0.65}$$

where y=Y/L and k=K/L , A an index of total productivity, and effective labour is given by h*L

In log-difference form this is given by:

$$\Delta \ln(y) = 0.35 * \Delta \ln(k) + 0.65 * \Delta \ln(h) + \Delta \ln(A)$$

From Table 1 it can be read that capital explains a good part of the growth record. Table 1 substantiates our argument for having three distinctive periods for analysis. Although the average share of investment in total GDP is fairly stagnant in the first two regimes, being 12.6 (1962/63-1973/74) and 12% (1974/75-1989/90) respectively, the early 1960's has shown a high level of investment – 13.2 % of GDP (between 1962/63-1965/66). The contribution of physical capital is also in line with our periodization of the growth process. The 1960's witnessed its highest contribution. This is the Imperial period where huge investment in infrastructure using the three development plans was carried. It was also a period where the age-old feudal aristocrat group was in the process of changing to a nascent entrepreneur class mainly by investing on capital-intensive commercial farms. Moreover, the urban areas witnessed the flourishing of food-processing industries. This process however was interrupted by the 1974 revolution. Thus, as can be read from Table 1 the contribution of physical capital decelerated in the *Derg* period in general and

[19] In the Collins and Bosworth (1996) analysis the stock of physical capital was derived by applying the perpetual inventory method using initial (1950) capital stock form Nehru and Dhareshwar (1993). Similarly, the labour quality index imputed a rate of return of 7% to an addition year of average schooling attainment in the adult population.

its first decade in particular. This slow down in the first period can be explained by the instability and disruption that is caused by the revolution. This is compounded by the radical institutional change (such as the land tenure system, the role of public institutions, the formation of new peasant organization and policy of repressing the private sector etc) that disrupts normal productive activity. The year 1990 also witnessed another policy swing (this time fairly to the right of the political spectrum). This again brought back the instability witnessed at the beginning of the 1970s and hence the lower contribution of physical capital to growth in the first half-decade of the Post-*Derg* period. However, investment share in GDP rose to 15.5 percent between 1990/91 and 1999/2000, explaining the revival of the contribution of physical capital in the second half of the 1980s (Table 1).

In the whole period the contribution of education per worker was very weak. The condition of education in the Imperials regime was extremely disappointing. This is a period where nearly 90 percent of the population was illiterate. On the other hand, the *Derg* had invested heavily on education, in particular through expansion of schools in rural areas and by launching adult education program – called the 'Literacy Campaigns.' This effort has resulted in reducing the illiteracy rate to 38 percent by 1990 (see Getahun 1992). Although the drive for expanding primary continued in the post-*Derg* period and resulted in an excellent outcome, the 'Literacy Campaign' is completely stopped. This may partly explain the recent rise in the level of illiteracy. Given this trend it seems logical to see the positive contribution of education per worker to be concentrated in the period 1990-1989 of Table 1.

Another important dimension of the growth accounting exercise for Ethiopia is that total factor productivity growth is virtually negative through out the period under analysis, except in early 1970s. Notwithstanding the low weight associated with total factor productivity growth in the Asian growth literature (see Jansen (2001) for a critique, however), improving factor productivity growth is very important in Ethiopia where the age-old Ox-plough culture is a major impediment to agriculture productivity. Another interesting implication of the residual in Table 1 is that, may be, factor productivity growth in Africa is closely related to weather outturn. For instance 1984 was the drought year in Ethiopia. Table 1 shows that 1984 was also the period where we had the lowest total factor productivity growth. This, combined with wrong polices of the *Derg*, explains the negative factor productivity growth in the 1980s.

In sum, the growth accounting exercise carried shows that the growth experience of Ethiopia can be categorized in to three periods, the 1980s being an important sub-period in the *Derg* regime. It also points to the detrimental effect of systemic instability as well as shocks such as weather outturn. Lack of structural change and bad polices might have a lot to do with this performance as well. We will be examining the latter issue in detail in the subsequent sections.

3.2 Structural Changes and the Growth Process

The variability of growth to various shocks is partly explained by lack of structural change in the economy. To understand structural change in each period we have used the cross-country regression approach of Chenery-Syrquin below (Chenery and Syrquin 1975, Syrquin and Chenery 1989, O'Connel and Ndulu 2000). This regression model takes the form of

$$X_{it} = \beta_1 \ln(Y_{it-1}) + \beta_2 \ln(Y_{it-1})^2 + \beta_3 \ln(Pop_{it-1}) + \beta_4 \ln(Pop_{it-1})^2 + t_t + \mu_i + \varepsilon_{it}$$

Where: X stands for a sector's share in GDP, Y and Pop refer to initial real GDP percapita and population, respectively; t time trend; and μ unobserved country effect.

The fitted results reported in Table 2 are based on coefficients derived from such regression equation which is estimated using cross-country data by O'Connel and Ndulu (2000). This can give us an idea of what the level of sectoral shares should be, given Ethiopia's initial income and population in each half decade.

The same equation, with the 'share of labour force in agriculture' and 'the ratio of average productivity in non-agriculture to agricultural sectors', respectively, as dependent variables is used to explore the sectoral pattern of growth in great detail. Taking labour productivity as crude proxy for marginal productivity helps to examine sectoral marginal product differences. The latter is hypothesized to be a salient feature of countries during the process of development (Lewis 1954). This has implication for resource allocation (see O'Connel and Ndulu 2000). Table 3 shows the use of coefficient from such cross-country regressions on Ethiopian data.

Table 2: Actual and Predicted Sectoral Share: Chenery/Syrquin Based Value-added Analysis

Period	Agriculture's share in GDP			Industry's share in GDP			Services' share in GDP		
	Actual	Fitted	Residual	Actual	Fitted	Residual	Actual	Fitted	Residual
1960-64	66.41	56.56	9.84	11.57	7.41	4.16	22.02	36.02	-14.00
1965-69	59.35	52.70	6.65	14.29	9.69	4.60	26.36	37.61	-11.25
1970-74	54.59	51.28	3.31	15.19	9.98	5.22	30.34	38.74	-8.40
1975-79	52.01	49.57	2.44	14.42	10.53	3.89	33.57	39.90	-6.33
1980-84	54.86	47.45	7.41	12.55	11.42	1.13	33.12	41.12	-8.01
1985-89	49.85	48.27	1.58	12.8	9.85	2.95	37.24	41.88	-4.64
1990-97	52.92	45.45	7.47	10.53	11.47	-0.94	37.27	43.09	-5.81
Total	55.71	50.18	5.53	13.17	10.05	3.12	31.42	39.77	-8.35

Table 3 Actual and Predicted Sectoral Share: Chenery/Syrquin Labour share and Productivity Analysis

Period	**Agriculture's share of the labour force**			**Ratio of ALP in non-agriculture to ALP in agriculture**		
	Actual	**Fitted**	**Residual**	**Actual**	**Fitted**	**Residual**
1960-64	92.75	43.32	49.43	6.47	-1.44	7.92
1965-69	91.81	40.83	50.99	7.68	-1.40	9.09
1970-74	90.85	38.35	52.50	8.26	-1.92	10.18
1975-79	89.91	35.79	54.12	8.22	-2.40	10.62
1980-84	88.73	33.17	55.57	6.48	-2.80	9.28
1985-89	87.19	30.82	56.37	6.85	-3.82	10.67
1990-97	89.30	27.72	61.58	7.43	-4.19	11.61
Total	90.08	35.71	54.36	7.34	-2.57	9.91

During the Imperial period the share of agriculture in GDP has steadily declined from nearly 70 percent in 1960/61 to nearly 50 percent in 1973/74 – this was a good

development. This declining trend halted at around 50 percent of the GDP during the second (*Derg*) regime. The share of services during the *Derg* period, however, showed an upward trend while the change in industrial value-added is not significant. In general, except for the service sector, it is reasonable to conclude that there was no noticeable structural change during the *Derg*-period. Specifically, in 1973/74 the share of agriculture in GDP was 52.5 percent and remained at 50.9% by the end of the *Derg* period (1989/90). This figure has declined to 43.2% at the end of the third period (1999/2000) mainly owing to the rising share of services. The share of industry during the whole period seems to be stagnated at about 13 %. Thus, although the share of each sector fluctuates in a very narrow band, it is fundamentally unchanged in the last four decades. Growth performance still hinges on fragile agricultural sector with no structural change in the overall economy (see Alemayehu 2003b).

Given this general feature the next question is can this evolution be explained given the country's initial conditions? Tables 2 and 3 are meant to address this issue. Table 2 shows that the share of agriculture in GDP is above what should be expected given the country's initial conditions, compared to other developing countries, throughout the three different periods. This deviation, being 5.5 percentage points on average, is not very high, however. The service sector also performed below expectation by an average of about 8.3 percentage points. On the other hand, the performance of the industrial sector is above expectation in all the periods, except in the 1990s. The structural change or lack thereof is basically similar in all periods and there is no noticeable episode of structural change worth discussing.

Table 3 contains information on the share of agriculture in the labour force that corroborates the conclusion that the economy is structurally unchanged, in a rather dramatic way. The implication of the residual in column 3 of this table is that the country is performing nearly half below expectation given its initial condition and a typical developing country's performance. This seems to be confirmed by second column of the table where the ratio of productivity between the non-agriculture and agriculture sectors is very high. This is consistent with disequilibrium view of an economy with surplus labour (and hence lower labour productivity) in the agricultural sector. It is interesting to note again that the pattern is similar across the whole period and we couldn't see a major episode in any one half-decade. This points to the failure of successive regimes to bring about structural change in the economy.

3.4 Sources of Growth: The Augmented Solow and The Conditional Growth Models

In this section we will further pursue the issue of exploring the sources of growth using two regression-based approaches. First, we used Hoeffer's (1999) augmented Solow model. We used the coefficients derived from her cross-country regression, as updated and reported in O'Connel and Ndulu's (2000), to arrive at estimated outcomes using Ethiopia's data. Similarly, O'Connel and Ndulu's (2000) conditional growth model is used in the second step. Both models follow the lose tradition of Barro (1991) which relaxes the assumption of imposing a particular form of production function to analyze growth (Jansen 2001). These typical cross-country regressions are given by equations such as,

$$\ln Y_{it} - \ln Y_{it-1} = -\alpha \ln Y_{it-1} + X_{it}^{'}\beta + Z_{i}^{'}\gamma + \varepsilon$$

Where: X' is a vector of time-varying growth determinants, Z' a vector of time-invariant determinants. The lagged income variable allows for the assumed conditional (neoclassical) convergence condition.

Given such regression and an assumption of orthognality (or using the System-GMM approach which imposes sufficient orthognality assumption), it is possible to carry out a growth decomposition analysis. In both regressions-based approaches we attempted to locate Ethiopia's position in the context of cross-county result (a sample of 85 developing countries). Thus, we have used the mean growth performance of the 85 developing countries as a benchmark to compute how much Ethiopia's growth deviates from the mean growth of this group of countries. Given the (cross-country based) estimated parameters in each model, β, the contribution of the k^{th} explanatory variable is computed by multiplying the estimated coefficient on variable *k* by the deviation of the observed explanatory variable for Ethiopia from the overall regression mean for the 85 developing countries in the sample (see Ndulu and O'Connel 2000). Let the growth regression be given by,

$$g_{it} = \beta_1 X_{1it} + ... + \beta_k X_{kit} + \varepsilon_{it}$$

Then, the contribution of each explanatory variable can be given by

$$C_{kit} = \beta_k \left[X_{kit} - \overline{X}_k \right] \text{ or } \equiv \beta_k \left[X^{k}_{ETH} - X^{k}_{MeanAll} \right]$$

In this set-up, the C_{kit} gives the contribution of variable *k* to the predicted growth deviation. Such results for Ethiopia are given in Tables 4 and 5 below.

Table 4 Hoffler's Augmented Solow Model (SYS-GMM Estimates) Decomposition for Ethiopia

					Estimated contribution of:				
Period	Actual growth (percapita)*	Predicted growth	Residual	Actual deviation of growth from sample mean	Initial income	Investment rate	Initial education attainment	Replacement investment term	Residual
1960-64	1.13	2.49	-1.36	0.03	0.34	-0.01	-0.01	-0.01	-1.33
1965-69	1.02	2.36	-1.34	-0.08	0.32	-0.03	-0.01	-0.04	-1.36
1970-74	1.03	2.22	-1.18	-0.07	0.32	-0.09	0.00	-0.03	-1.27
1975-79	1.05	2.27	-1.21	-0.05	0.31	-0.07	0.00	-0.04	-1.28
1980-84	0.93	2.38	-1.45	-0.17	0.31	-0.01	0.00	-0.05	-1.47
1985-89	1.08	2.29	-1.21	-0.02	0.32	-0.03	0.00	-0.07	-1.27
1990-97	1.10	2.60	-1.50	0.00	0.30	0.06	0.00	-0.01	-1.42
Total	1.05	2.37	-1.32	-0.05	0.32	-0.03	0.00	-0.04	-1.34

* At 1985 international price. Note the variation from Table 5 which is consistent with MEDaC data. This is attributed to variation in method of growth computation, coverage of years and use of different prices in the two models.

The comparison of actual and predicted growth in Table 4 shows that growth in Ethiopia had been below prediction in all periods and in a fairly similar pattern across the periods. In the Imperial period this deviation from the mean growth for all developing countries is to a large extent explained by initial level of income while the other variables in the table have contributed equally. This period is characterized by the largest estimated contribution of the residual. This may well be explained by the height of the crisis in the

agricultural sector (see Eshetu and Mekonnen 1992) and hence negative productivity during this period.

The *Derg* period seems to differ from the preceding one in that both investment rate and replacement investment relatively important in explaining Ethiopia's growth deviation from the mean growth of developing countries. The high residual observed in the previous period still persisted in this period and reached its historic maximum (-1.47) in 1980-84. The latter sub-period witnessed one of worst drought in the history of the country. An important episode in the second half of the *Derg* period is the significant negative value of the time dummy. This may also reflect the sever drought that occurred at the end of this period. The post-*Derg* period is characterized by some degree of improvement in all variables. The positive value of the time dummy may reflect the positive effect of the reform initiated in 1992 and the relative good weather outturn observed during this period. Similarly, investment which was largely financed by reform-induced aid and education has started to recover during this period and this is reflected in their positive contribution. In general Table 4 shows high value of negative residual. This might be associated with instability that comes with regime shift and the vulnerability of the economy to weather shock. We will shed light on some of these and related issues using the information in Table 5.

Table 5 Ndulu and O'Connell Pooled Conditional Model based Results for Ethiopia

	Fits and Residuals			Actual and predicted growth deviations				Breakdown of policy contribution by variable		
					Contribution to predicted growth deviation					
Period	Actual growth (percapita)	Fitted growth	Residual	Actual growth deviation from sample mean	Base Variables	Political Instability	Policy	Inflation (>500 percent)	Parallel Market Premium (>500 percent)	B/L gov't spending/ GDP
1960-64	2.80	5.08	-2.28	0.60	2.42	0.13	-0.19	0.04	0.05	-0.28
1965-69	1.23	4.42	-2.37	-0.97	2.18	0.20	-0.19	0.05	0.02	-0.26
1970-74	0.50	3.60	-1.45	-1.70	1.42	-0.32	-0.30	0.05	0.03	-0.38
1975-79	-0.14	1.95	-1.33	-2.34	1.55	-1.04	-0.98	0.00	-0.43	-0.55
1980-84	1.59	1.19	0.15	-0.61	0.55	-0.13	-0.73	0.04	-0.36	-0.41
1985-89	-0.28	1.44	-1.54	-2.48	1.59	-0.19	-1.70	0.05	-1.02	-0.73
1990-97	1.86	1.26	-0.45	-0.34	0.44	0.03	-1.17	0.03	-0.92	-0.29
Total	0.79	2.31	-1.16	-1.40	1.29	-0.24	-0.85	0.04	-0.45	-0.44

The application of the Ndulu and O'Connel (2000) conditional model to the Ethiopian data shows, rather dramatically, how far below the average developing countries' record is Ethiopia's growth performance. This deviation was the highest in the Imperial regime and dropped nearly by half in the subsequent periods. An important pattern emerges when we examine the contribution of base, political and policy variables to the predicted deviation across the periods under analysis.

The base variables (demographic, trade shocks and initial endowments) had the highest contribution to the predicted growth deviation in the Imperial period. This had declined nearly by half in the *Derg* period, declining further during the 1984 drought. This has dropped significantly in the post-*Derg* period. Thus, the base variables contribution to the predicted growth deviations have declined steadily since the 1960s.

The Imperial period was characterized by relative stability and this is reflected in the contribution of the political stability indicator during this period. This variable shows negative contribution for the subsequent two periods. It had its highest negative contribution in 1975-79. This is a period characterized by very high political instability following the 1974 revolution, the killing of political opponents termed 'red-terror' unleashed by the *Derg (*since *1976)*, the war with Somalia (1977) as well as the civil war that engulfed the whole country in general and its Northern part in particular that heightened since 1977 (see section II).

The contribution of policies to growth deviation is negative throughout the three periods. Relatively, however, the Imperial regime stands better. The *Derg* period on the other hand was the worst. As can be read from the breakdown of the policy contributions overvaluation of the exchange rate and 'public spending' were the culprits in the *Derg* period, while 'public spending' is the sole problem in the other two periods. Moreover, unproductive public spending, where defense spending constitute more than half the budget, was a major problem. In addition, other policy failures such as running inefficient public enterprises, bias against the private sector, low diffusion of farm technology, the closed nature of the economy as well as low capacity utilization in industries (below 50% in most cases) owing to the (structural) import compression problem had their share in explaining the negative contribution of policy during the *Derg* period.

Much of these policy problems have been addressed following the 1992 reform, yet the negative effect of policies doesn't seem to ease very much when judged by average developing countries' standard. Although the breakdown of the contribution of policies in the post-*Derg* period still points to public spending as a major problem, its detrimental impact relative to the previous periods has declined. This is explained by a large decline in the share of defense expenditure during this period (notwithstanding the recent rise following the Ethio-Eritrea war). On the other hand the negative deviation of the parallel market premium observed in Table 5 is a bit exaggerated because the data includes the early days of the 1990s where the exchange rate policy was still problematic. Recent data shows that parallel market premium rate has decline from its highest level of 358 percent in 1992 to just 15.5 percent in 1997 (see Alemayehu *et al* 2003). In sum, although growth and policy performance seems to be improved in the 1990s, their sustainability is highly questionable. This is because structural problems such as the dependence on rain-fed agriculture, vulnerability to external shock and political instability are not addressed squarely.

IV. Institutions, Markets and the Growth Process

4.1 History, Institutions and Policy in the Growth Process

Perhaps one of the positive outcomes of the long history of Ethiopia is the creation and retention of institutions.[20] This has resulted in a fairly professional, but largely inefficient, civil servant that managed to prevail across different regimes. This may perhaps explains

[20] The list of institutions includes: the military and the church, the National Bank and the Ministry of Finance & Planning, the Ethiopian Air Line, indigenous self-help association such as '*Iquib'(a sort rotating club)* and '*Idir*' (a sort of insurance scheme) as well as associated customs, traditions and norms.

why the country survived as a nation and able to have prudent macro policy despite pervasive poverty, internal conflict, and external aggression. In this section we will examine the role of these institutions in maintaining prudent macro (both monetary and fiscal) policy which is essential for growth.

The Imperial regime was characterized by an attempt to build the institutions required to run a functioning financial and product market. This includes the establishment of the central, commercial and development banks, capital market as well as encouraging and licensing various private banks. The general policy stance was to pursue market-oriented policies. This effort, by easing the financing of the capital formation as noted in section II, might have contributed to the positive growth performance observed during this period. This nascent development is interrupted by the 1974 revolution that witnessed the coming of the *Derg*-regime.

The *Derg* period was characterized by nationalization of all financial and other productive institutions, discriminatory interest rate, and foreign exchange as well as credit allocation policies. The interest rate was deliberately set at a very low level (repressed). Moreover, depending on the degree of socialization, different sectors did face different interest rates. During this period, all foreign exchange earnings were surrendered to the National Bank. The latter used to ration this limited supply of foreign exchange to sectors that were accorded priority in the national plan. These invariably were the socialized sectors. This was also a regime of fixed exchange rate (see Alemayehu 1999 for more detail).

The EPRDF regime devalued the currency to 5 Birr/US$ (from 2 Birr per US$ in early 1990s) and subsequently introduced an auction-based exchange rate system. Similarly, the interest rate is fairly liberalized and the National (Central) Bank has begun to set only a floor rate for deposit rate, leaving all other rates to be determined by market forces. It has also introduced an inter-bank foreign exchange and money markets. Thus, clearly the third period is characterized by reconstruction of the financial market and relevant institutions that are compatible with a liberalized economy.

In sum, it is interesting to note that the last four decades witnessed cycles of policy regimes: form a fairly market-oriented environment (in the first period) to a controlled one (in the second period) and back to a liberalized one in the third period. This cyclical policy stance coincides with a growth cycle which was good, poor and good, in the first, second and third regimes, respectively.

The modern institutions such as commercial and central banks cater to the needs of the modern sector. For instance, not more than 5 per cent of the credit extended by the formal financial institutions target the rural sector. These are often channeled through public enterprises that supply small farmers with inputs such as fertilizers and improved seeds on credit basis. The majority of the private sector, and more so the rural farming community and the informal urban sectors as well as micro-enterprises are serviced mainly by the informal (traditional) money markets called "*Iqub*", which operate on the principles of rotating savings and credit associations (see Dejene 1995, Mengestu 1998), and micro finance institutions. The latter is growing rapidly since the early 1990s.

The establishment of such institutions and the professionalism that was installed in the civil servant, which partly is the result of the long history of the country, has brought about macro economic stability across the three regimes. This can be illustrated by the pattern of inflation shown in Diagram 2 that epitomizes the prudential macro policy

stance pursued across regimes. The pattern of inflation is not only a closely related issue to the product and money market but also reflects whether a country's macro policy is prudential or not. While stable prices were the common objective of all the three regimes, each had followed different approaches. The Imperial and EPRDF regimes are the nearest to a free market regime, where prices were largely determined by supply and demand. The Military regime opted for central planning and administratively set market prices.

The overall assessment of the development of prices during the last four decades is one of general stability, occasioned by an outburst of high increases. The consumer price index averaged a rate of increase of 3.5, 8.8 and 5.3 per cent per annum during the Imperial era, the military regime, and the first decade of the post-Derg era. Despite these low averages, there have been episodes of high price increases. This usually happens during periods of drought, when agriculture, and more so food production, declines. The rate of price increase is highly correlated with the price of food. As shown in Table 6 the share of food in the consumer goods basket is 58 percent at the national level. Expenditure on food by the residents of Addis Ababa, the most cosmopolitan city in the country, being 53%.

Table 6: Components and Weight in Consumer Basket in Ethiopia

Components	Location (percent share)			
	Rural	Urban	Addis Ababa	National
Food	60.6	55.3	53.0	57.8
Rent, energy, power	17.3	17.1	18.6	17.2
Clothing	10.5	10.8	10.7	10.5
Household Items	5.1	5.4	5.3	5.1
Transport	1.2	3.8	4.7	1.3
Others	5.3	7.6	7.7	8.1
Total	100.0	100.0	100.0	100.0

Source: National Bank of Ethiopia, 1999/00

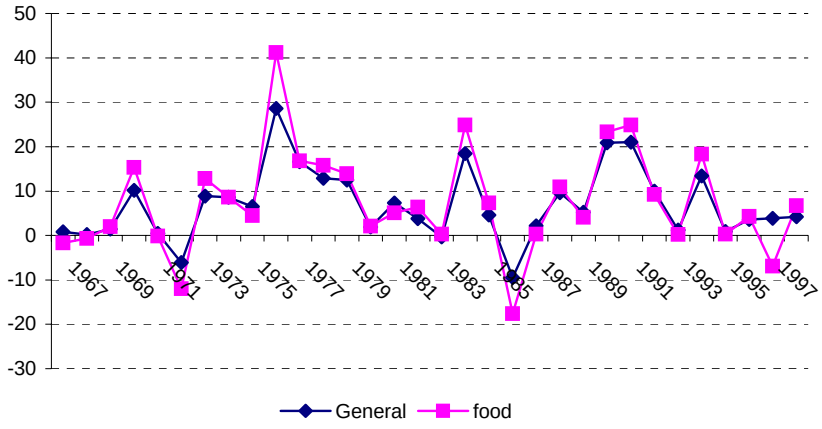
Furthermore with 85 percent of the population being rural residents and deriving their livelihood from agriculture, the overwhelming source of food is domestic production. Imported food is insignificant, amounting to less than 5 percent of total imports and 1.3 percent of private consumption expenditure during the last decade (National Bank of Ethiopia 1999/00).

It is interesting and ironic to note (see Diagram 2) that the highest average rate of inflation was recorded during the Military regime, an era that witnessed concerted price control and an unrelenting effort at curtailing market forces and eliminating the private sector. This was the period of high market concentration and public ownership and monopoly, following the nationalization of production, distribution and trading enterprises. The lesson from the different ownership and policy regimes is that the more stable price is obtained under a competitive market structure.

The pattern of stable prices has been assisted by prudent fiscal and monetary policies. Successive governments behaved in a very responsible fashion with respect to their fiscal and monetary policies. Borrowings from the central bank were strictly adhered to the stringent legal limits. This was true even under the Military regime when defense expenditure claimed nearly half of the current expenditure and a third of total government expenditure. This has crowded out other programs of the government such

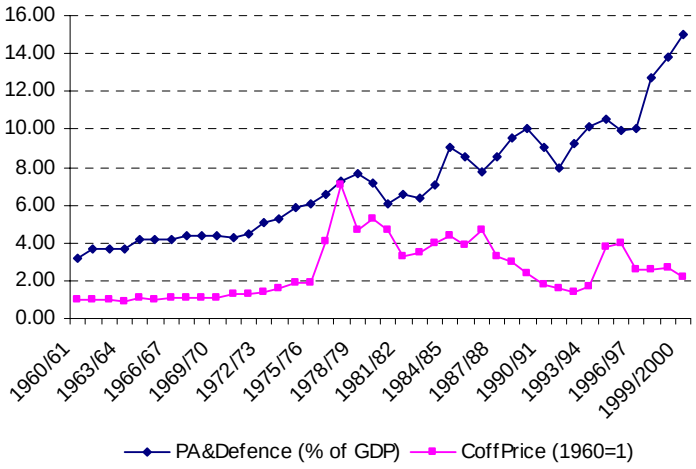
as health and education. Further more, the wage freeze for the last four decade has also contributed to price stability.

Diagram 2: Infaltion in Ethiopia 1967-99.
(Percenstage change over previous year)



Source: Based on data obtained from Central Statistical Office.

Diagram 3: Defense Expenditure and External Shock



Source: MOFED for Public administration and Defense data and IFS for Coffee Price

As can be summarized from Diagram 2 and 3, the trend of inflation (Diagram 2), defense expenditure, and price of coffee (Diagram 3) shows how macroeconomic outcomes are governed by the nature of institutions (as shown by the trend of inflation and the role of the central bank and ministry of finance that followed prudent macro policies), the political economy of public spending (as shown by defense expenditure) and external shocks such as terms of trade and weather outturn (as shown by the coffee price). This in turn affects the growth process. Diagram 2 shows that inflation hits the mark of over 20 percent when there was regime shift. However, the persistent and continues functioning of institutions, as described in the previous section, ensured the stability of prices (see Diagram 2). Diagram 3 shows that political episodes such as the war with Somalia (1977/78), and the war with Eritrea (1998-2000) were associated with a sharp rise in defense spending. On the other hand, the relative political stability of the Imperial regime

is associated with stabilized level of publics spending as can be seen from the trend between 1960/61 to 1972/73.

4.2 Markets and the Growth Process

Given the dismal growth record noted, it is worth examining the role of markets in this process. The periods under investigation are conspicuous for the underdevelopment nature of market as well as market institutions. The Imperial regime functioned under socio-economic arrangement centered on the landed gentry. The *Derg* that replaced the Imperial regime was no better qualified to contribute to the development of markets. Driven by socialist ideology, it was bent on the complete destruction of the private sector and markets. Although the current (EPRDF) government has officially reinstated the market and relocated the private sector to the center stage of economic activity, examination of the reality on the ground clearly shows that the departure from the socialist regime has not been as comprehensive as it is made out it to be.

The Product and the Land Markets

In section one we have examined the evolution of domestic output, in particular agricultural output, and concluded that the level and growth of domestic output is highly correlated with the weather outturn. The three periods also witnessed a liberalized, controlled and again liberalized product (in particular agricultural/grain) market in the first, second and third period respectively. In the Imperial period land was privately owned. The product market was also a liberalized one. The controlled product market regime (the *Derg*), through its forced procurement of agricultural marketed surplus using marketing board (called the Agricultural Marketing Corporation, AMC), was also partly responsible for a decline in marketed surplus throughout that period (see Alemayehu 1987, 1992). The post-*Derg* regime liberalized most of the product markets, but maintained the control on land. The three regimes have managed to extract surplus from and exercise political control over the peasantry owing to the control that they have on land and the land policy that they have adopted.

The land issue in Ethiopia is as much political as it is economic. Major regime shifts in the country can be strictly linked to the question of how to handle the land market. The Imperial regime was characterized by private (and church) ownership of land. Political power is largely linked to the size and quality of land owned. Reward to political alliance was also used to be linked to handing of land by the emperor to the local and regional authorities. This was in particular true in the Southern part of the country where the *gabar* system, which basically was serfdom, was instituted. The Northern part of the country was characterized by a communal (the *rist* system) ownership, yet the peasants were the subjects of the regional lords to whom they have to provide nearly all their produce. The end of the Imperial regime has witnessed an active land market both in rural (usually for emerging commercial farms) and urban areas.

As we noted in section two, one of the major factor for the 1974 revolution and hence regime shift is the land question. Accordingly, one of the radical policies of the *Derg* regime was the nationalization of both urban and rural lands. This is followed by distribution of the land to the peasants and free distribution of urban land for those able to build their own house. This policy effectively put to an end to the emerging land market. This policy of public ownership of the land has also been pursued in the third (Post-*Derg*) period. In the post-*Derg* period it has become so much political (bordering

ethnic) than economic issue. Thus, prohibitions of a land market as well as state ownership of the land are explicitly incorporated in the EPRDF's constitution. Notwithstanding such official stand however, the last two regimes witnessed an emergence of a shadow (parallel) market for land. This largely took a form of share-cropping and informal land market (see Alemayehu *et al* 2003, Abebe 2000, Bereket and Croppenstedt 1995). Berket and Croppenstedt (1995) for instance found that in areas where land is acquired following the land nationalization proclamation of 1975, the incidence of share cropping has increased and in most cases land sharecropped is an average or better quality. Berket and Croppenstedt (1995) inferred that the former might show that this shadow market is correcting for problems of continual allocation of land and the latter may indicate improvement in efficiency. Abebe (2000) however argued that the efficiency enhancing function is not observed in his study. We also found very small, statistically significant, negative coefficient for frequent distribution of land (see section V). Abebe (2000) also noted that this informal land market is operated by differentiated (as opposed to impersonal) agents with different bargaining power. Moreover, its operation is closely linked to other input markets.

In agrarian society such as ours the operation of the land market has a serious bearing on the growth performance of the country. The existing land market has certainly constrained growth mainly through risk of insecurity (see section V). This should not be attributed solely to the nature of ownership as such but rather to the accompanied policies. Haile (2000) using a macro model has run a simulation of what the level of output would be with and without the 1974 land reform. He found that the land reform is accompanied by a rise in output in the first 7 years and output declined thereafter. He rightly attributed the former to possible positive incentive to farmers that followed the land distribution and the latter to the forced co-operativization and regulated price policies of the government[21]. Thus, whether privatization of land is a solution to Ethiopia's growth problem in the current political context is a contestable issue. In the short run there seem to be a need for experimenting on a range of tenure systems that depend on local institutional set-up and political feasibility[22]. In the long run, however, an active land market is needed if a meaningful and dynamic social and economic transformation is to be attained.

A related product market is that of the external sector. An examination of the external trade policy of the three successive regimes reveals that the country's external trade policy has moved from a 'free trade policy' to 'a controlled trade policy regime' and back to 'a free trade policy' one. Before 1974, various measures aimed at improving the quality and quantity of imports and exports as well as facilitating trade both by the public and private sector were made. Imports of capital goods and raw materials were free of duty. The period 1974 -1991 was on the other hand noted for its centralized economic management system, where the state is dominant in the external sector. This period was characterized by: (a) an attempt to limit the role of private capital in trade, (b) an attempt to closely monitor the price, quantity and distribution of goods, (c) giving special emphasis to trade in medical equipment and goods that ensure the health and security of the population as well as those believe to be critical for growth, and (d) an attempt to

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21 As noted before good weather out turn is also crucial. Since Haile's regressions do not control for this it is difficult to attribute the negative dummy he used to the land reform alone.

22 Desalegne Rahmato, one of the best rural development researcher in the country and worked on the rural issues for the last three decades, has suggested what he called 'associated ownership' where community ownership could skilfully be configured with a market for land. It is an ingenious idea in the current political context of Ethiopia (see www.FSSEthiopia.com).

diversify the type and destination of goods externally traded (especially from developed capitalist countries towards socialist countries) (see Alemayehu 2003c).

The post-*Derg* government's foreign trade policy has radically changed this. It was rather aimed to: (a) ensure private sector participation; (b) mange the sector indirectly by issuing foreign exchange and import-export regulation; (c) design and provide adequate incentive to the export sector; (d) replace quantitative restriction with tariffs; (e) encourage diversification of exports and minimize illicit trade and; (f) carry-out restructuring of the state owned trading enterprises. To realize these objectives the government has designed and implemented various policies and institutional measures. The most prominent ones are: (a) liberalization of the exchange rate market; (b) licensing procedure is enormously simplified; (c) supportive services to private exporters is designed in areas of transport, package training, overseas market research etc. (d) In addition, a simplified tariff structure and foreign exchange retention scheme is also designed. The response of exports and imports to this reform is generally positive and this has a positive repercussion on growth, although the balance of payment deteriorated owing to the disproportionate rise in imports (see Alemayehu 2003c).

The Labour Market

Information on labour market issues in Ethiopia is very limited (see Taye 2001, Krishnan *et al 1998,* however). This is partly attributed to lack of consistent and complete information in the area. Although unemployment is a serious problem in the country, it is hard to read that from existing data because in most government documents the rural area is implicitly assumed to be at full or near-full employment level.

The Central Statistical Authority (CSA) data shows that the unemployment rate in rural areas has increased from 0.4 to 0.7 percent between 1984 and 1994 (the two periods of census). The comparable figures for urban areas were 8 and 22 percent, respectively (MEDaC, 1999). Using household survey data (of about 1500 households) Krishna *et al* (1998) estimated the urban unemployment rate in 1997 to be about 29.9 percent. The recent national labour force survey (1999) puts the total unemployment rate at 8 percent, with the urban and rural unemployment rate being 26.4 and 5.14 percent, respectively. Thus, open unemployment is largely an urban phenomenon. Since the rural labour market is also very thin, people in rural areas use alternative institutional arrangements that function as a substitute to missing labour markets. This takes the form of traditional labour sharing arrangements and limited use of migrant labour, which are very important during peak agricultural seasons. These are normally complemented by non-farm activities that do complement peasant income. Thus, the operation of the labor market is limited; it functions largely in non-market fashion, and is highly seasonal (see Alemayehu *et al* 2003, Alemayehu and Alem 2005).

Return to labour in the public sector, the largest employer, does not appear to have changed following the liberalization in the 1990s. Private sector returns have shown small improvement, however (Krishnan *et al* 1998). In fact, Taye (2001) has found a relatively higher value of mobility gains to skill formation (ie., if skilled workers leave their job for another one, they will secure higher earnings). This has prompted him to suggest that labour market information may have a much higher scarcity value for workers in Ethiopia. This may explain the Krishnan *et al* (1998) finding that labour market in Ethiopia is rigid and unresponsive to either the pressure from the reform or the growing

queue of educated unemployment. In general, the issue of employment is one of the areas where the EPRDF period registered no success. This was not any better in the preceding two regimes either. In fact, since success in the formal labour market proved illusive, perhaps it is wise and timely to design appropriate labour market related policies that will focus on the informal sector that employs about 51 percent[23] of the economically active population in urban areas (see MEDaC 1999). The explosion of the informal sector and the growing informalization of the economy are likely to impact negatively on the growth of the formal and the more dynamic sectors. This is partly because the informal sector is not amenable to changes through policy inducement, is staffed by unskilled labour, is very small, segmented and fragile, and hardly linked to the external sector which is usually believed to dynamize the economy. In general, this structure of the urban labour market points to the important result that growth in Ethiopia may not necessarily be employment enhancing since it basically came from the agricultural sector that is weakly linked to the urban areas. This in turn has a negative impact on growth – creating a vicious cycle of low growth and high unemployment.

Moreover, employment is constrained by importation of labor saving technologies. This is further accentuated by the absence of strong labor unions which would have fought labour saving technologies that limit employment opportunities through their advocacy of the interest of their members. While their role of protecting and advancing the interest of their constituencies has been very strong during the Imperial regime, they have been systematically weakened by the later two governments. In particular the labor union has been unable to respond to the needs of its members in the EPRDF regime who were retrenched through the reform and privatization of public enterprises.

Given the limited capacity of the formal sector to create employment opportunities to accommodate the growing labor force, it is the informal sector that absorbs the surplus labor. It is not uncommon to see people engaged in all types of work, legal and illegal, productive and unproductive. The explosion of the informal sector and the growing informalization of the economy is likely to impact negatively on the growth of the formal and the more dynamic sectors. This is partly because the informal sector is not amenable to changes through policy inducement, is staffed by unskilled labour, is small and fragile, and hardly linked to the external sector which is usually believed to dynamize the economy.

V. Microeconomic Aspect of the Growth Process: Agents and Risk

A regime characterized by frequent wars, drastic policy change, and which has an economy vulnerable to shocks could have a detrimental effect on the behavior or economic agents. The imperial regime was characterized by relative political and economic stability. Economic agents had relatively less risk both in terms of policy shock and natural shock such as drought. This has resulted in a fairly buoyant economy with respectable growth.

In contrast, the *Derg* regime was actively engaged in eliminating private economic activity. Private ownership is legally prohibited, and entrepreneurship is openly discouraged. This was a huge policy shock, which reduced the private sector to obscurity. This was

[23] This figure shows an interesting sectoral variation. The informal sector's share is the highest for agriculture and related activities 70.1 percent, followed by community and perusal services 68.3 percent, and Manufacturing 62.9 percent.

compounded by natural shock (the 1974 and 1984 droughts) that devastated the peasant economy. All efforts and policies were geared to strengthen the public sector. That was not successful, however. Notwithstanding such policy, the private small holder agriculturalists were producing more than 95 percent of the agriculture produce. These peasants were, however, forced to supply their produce at fixed, below market, price to the government marketing board (AMC). Agent's response to the policies of this hard control regime has been a drastic decline in private investment, no entrepreneurship development to speak of, and a decline in output, especially in agriculture, to the level just sufficient to feed themselves and satisfy the compulsory grain delivery imposed on them.

While the EPRDF regime has reintroduced the market paradigm and reduced political risk, it has nevertheless created its own risk factors. The most important of these are the remapping of the administrative framework on ethno-linguistic basis and the affording of these ethno-linguistic entities constitutional guarantee for secession any time the majority feels like doing so. In addition to creating political instability and heighten ethnic tension, such reconfiguration is likely to limit labor and capital mobility across the ethnic enclaves, and ensue investor's insecurity when an entrepreneur invests away from his/her 'ethnic home region'. Moreover, land is still in the hand of the government which may need it to ensure its political control over the rural areas of the country (Alemayehu 2004).

In general, the activity of economic agents is constrained by economic, political and environmental factors. The effects of such constraints have different repercussion depending on the structure of the economy and how agents respond to such constraints. Relative to other agents, the rural economic agents are more exposed to economic, political and environmental constraints. The economic factors such as factor input and credit availability accompanied by environmental factors like distribution and availability of rainfall, prevalence of frost and flood, soil degradation, do affect the operation of agents. The political economy factors such as periodic land redistribution are also a risk factor.

Such constraints do have a bearing on rural agents' productivity and growth in their output. We have explored this issue by estimating a model that empirically captures these issues using a household level rural survey data of 1999 (see Appendix I for the model and the data). Since the rural households represent more than 90 percent of the population, the result can fairly be generalized not only for the country as a whole, but also for the *Derg* period that shares the same land policy with EPRDF. The model is for cereal production that accounts for more than 80 percent of the total agricultural production (CSA, 1999). A Cobb-Douglas production function is specified and estimated to capture the effects of risk-related variables, and the basic physical inputs (labour and capital) on output.

The result of the model, see Table 7, shows that capital (proxied by land and oxen used, column 1) is a significant input in the agricultural sector while labour is not very crucial if it is not accompanied by better credit access and fertilizer use (see column 2) in addition to a threshold level of land quality. The result also implies that risks and uncertainty affect rural economic agents greatly. The uncertainties about the weather condition may hinder the use of improved agricultural technologies because of the associated risk (i.e. financial loss) in using such technologies especially when the rainfall is bad and irrigation facilities are unavailable. Moreover, the finding that oxen to be important and the fact

that bad weather such as drought may result in the loss of such oxen or reduce their productivity shows that environmental related risk may show itself through rural capital (oxen) input.

Table 7: Tobit Estimates: Dependent Variable: Output

	Column 1			***Column 2***			**Column 3**		
	Coefficients	t-value	Slope*	Coefficients	t-values	Slope*	Coefficient	t-values	Slope*
Constant	4.29	49.5		4.19	50.3		4.05	44.6	
ln (labour)	0.21	9.0	0.21	0.15	6.54	0.15	0.15	6.61	0.15
ln (Land)	1.51	17.0	1.49	1.38	16.16	1.37	1.11	11.54	1.10
ln (Oxen)	0.36	5.44	0.35	0.33	5.25	0.33	0.28	4.52	0.28
Credit				0.14	2.0	0.14	0.11	1.5^	0.11
Fertilizer use				0.63	10.9	0.63	0.58	10.1	0.57
Land quality				0.04	50	0.04	0.014	0.70^	0.01
Redistribution							-0.08	1.65	-0.08
Climate							0.01	5.8	0.01
	LR $\chi^2(3)$ = 770.54 Prob > χ^2 = 0.0000 Log likelihood = -1757.29 Pseudo R^2 = 0.1798			LR chi2(6) = 917.39 Prob > χ^2 = 0.000 Log likelihood = -1683.86 Pseido R^2 = 0.2141			LR χ^2 (8) = 928.27 Prob > χ^2 = 0.0000 Log likelihood = -1678.43 Pseudo R^2 = 0.2166 ^ Not significant		

Number of obs = 1291 , 11 left-censored observations at ln(output) ≤ 0 1280 uncensored observation.
* Marginal coefficients

In column 3, the risk variables are introduced. Once the effects of the risk variables are controlled for, the importance of the land coefficient has diminished. The result also suggests that the positive climatic condition has a positive and significant effect on output. This is not a surprising result since the Ethiopian agricultural sector is basically rain-fed and only 0.6 percent of the total area is used for irrigated cereal production (see CSA, 1999, Alemayehu 2003a). In addition, the expectation about future land redistribution has a negative impact on production though the size of the coefficient is not large. The model also shows that farmers who associate future risk premium tend to be reluctant on conserving and upgrading their land. Cross tabulation of soil conservation practices with expectation about size of land holding shows that about 60 percent of those who associate future risk do not practice soil conservation. This may indicate that those who attach risk premium on their future land holding tend to be reluctant to invest on their land which in turn leads to lower level of output. Using a willingness model and based on data from five peasant associations of about 500 rural households Tekie (2000) has also shown that the majority of farmers in his study are uncomfortable with the prevailing land tenure system, which is pervaded by insecurity, and are willing (even without credit) to pay for changing it. This in turn has implication on productivity and growth. These factors may explain the poor performance of agriculture, after controlling for weather conditions, both in the *Derg* and post-*Derg* regimes.

Urban based firms (micro agents) throughout the three periods were characterized by small and medium scale firms that are largely engaged on food processing activities. In terms of the contribution to GDP such firms are insignificant (manufacturing contributing less than 5 percent to GDP). This nascent sector, which started to grow during the Imperial regime is nationalized and became public property in the second period (1974-1991). The performance of these firms in the *Derg* period was

disappointing. The post-*Derg* period witnessed the revival of this sector following liberalization (including privatization and management autonomy) and the emphasis on the role of the private sector in the development process. Various incentive packages aimed at motivating the private sector were also designed and implemented.

Using a similar Cobb-Douglas production function to that used in agricultural sector's discussion above we have examined the growth performance of the manufacturing sector. The model incorporated, in addition to the two basic inputs –i.e. labour and capital, real exchange rate (RER) and tariff rate specific to each manufacturing sector as macroeconomic (competitiveness) and trade policy indicators. (see Alemayheu *et al* 2004)

The data which is compiled from the Central Statistics Authority manufacturing sector survey is used. It reports data on the following major sectors- food products and beverages, tobacco products, textile, leather, wood, paper and paper products, chemical products, non-metallic products and metal products for the period 1980/81 to 1998/99 (G.C). The corresponding tariff rates for each sector are calculated using the customs authority data. The real exchange rate is calculated as $RER = NER * \frac{P^f}{P^d}$; where NER is the nominal exchange rate, P^f and P^d are foreign and domestic prices respectively. National Bank of Ethiopia is the source of data for foreign prices, domestic prices and nominal exchange rate. All nominal variables are deflated by the price level to have them in real terms. Using this data, we have estimated the pooled time series data for the nine sectors and 19 years with 171 balanced observations. In estimating the above model (equation 4), a dummy variable taking a value of 0 before 1991 and 1 otherwise is included to capture a regime change that took place in 1991. The estimation result is reported below.

Table 7 (i): Results the General Model of the Manufacturing Sector

Variables	**Column 1**		**Column 2**		**Column 3**	
	Coefficients	probability	Coefficients	probability	Coefficients	probability
Constant	7.014341	0.0000	6.224008	0.0000	5.531277	0.0000
Labour	0.284343	0.0005	0.197014	0.0277	0.238453	0.0072
Capital	0.303248	0.0000	0.359461	0.0000	0.315886	0.0000
Dummy/ Regime change	-0.217327	0.0454	-0.241697	0.0254	-0.461365	0.0004
Tariff			0.267489	0.0287	0.231010	0.0537
RER					0.719319	0.0025
Diagnostic Tests	Adjusted R^2		Adjusted R^2 0.502845		Adjusted R^2 0.526845	
	DW		DW 0.181558		Log likelihood 11.27364	
	Log likelihood		Log likelihood 2.890779		DW 0.174805	
	Prob. (F-stat)		Prob. (F-stat)		Prob. (F-stat)	0.0000

As the first column of Table 7 (i) shows, both labour and capital significantly explain the dynamics of the manufacturing sector. The dummy variable shows that the regime shift negatively affects the manufacturing sector's performance. However, the impact of the regime shift is not the same across the different sectors. Taking the dummy variable as a specific variable to the cross section units (not reported), the negative effect of the regime shift is not observed on the food, leather and tobacco industries. On the other hand, textile, wood, paper and non-metal producing industries are among the worst

affected sectors due to the liberalization. This result is not surprising as most of the producers in these sectors were/are going out of the market because of the stiff foreign competition following liberalization which came with the regime shift in1991. The second column of table 7 (i) shows that tariff rate is positively related with the manufacturing output. This result is particularly strong for the metal, chemical and tobacco industries while being insignificant for the food, paper, leather and non-metallic producing industries. Similarly, real exchange rate has a strong and significant positive impact on the output, and hence the importance of the macroeconomic environment for industrial development.

The model above is then estimated taking only labour and capital as regressors to explore the source of growth. The result is used to arrive at the growth accounting exercise reported on Table 8. The source of growth analysis reveals that the contribution of labour is found to be the least important followed by capital. TFP on the other hand accounted for more than 56 percent of the growth during the period 1990-1998. For comparison, the source of growth during the period 1980/81 -90 is also reported.[24] The latter has resulted in negative TFP. This indicates the notoriously distorted policy of the hard control regime of the Derg. However, this trend is reversed during 1990/91 – 98/99. In this period, with change in ownership and the resultant improvement in efficiency of the privatized large and medium scale industries, the management autonomy accorded to the publicly owned ones, coupled with access to imported inputs and the need for being competitive in the liberalized environment, the contribution of TFP has remarkably increased.

Table 8: Growth Accounting in the Manufacturing Sector

Period	Growth rates			Contribution to growth (in %)		
	Output	Capital	Labour	Capital	Labour	TFP
1980/81-89/90	-6.18	2.93	1.30	0.98 (15.85%)	0.87 (14.07%)	-8.03 (-129.93%)
1990/91 - 98/99	9.67	12.63	1.36	3.16 (32.7%)	1.02 (10.6%)	5.49(56.7%)

Notwithstanding the positive effect of the reform in the post-Derg regime, the policy doesn't seem to excite very many, either domestic or foreign entrepreneurs. With respect to the latter, the FDI flows to Ethiopia are negligible and dominated by one firm (MIDROC Ethiopia). MIDROC is owned by a Saudi-Arabian tycoon who is born in Ethiopia and from an Ethiopian mother. The company has invested in a range of industries, services and agro-processing etc. Although existence of FDI flows may indicate that the business environment facing urban-based firms may not be as risky as used to be in the *Derg* period, the current flow as well as the level of domestic investment is too little compared to what is needed in a poor and structurally weak country such as Ethiopia. This is partly explained by lack of infrastructure, bureaucratic red tape as well as perceived bad political and economic image of the country.

VI. Conclusion

[24] The average α value during this period is estimated to be 0.33; and capital was not found to be statistically significant in two of the nine manufacturing sectors. Moreover, capital also bears a negative sign in the other two sectors.

This chapter has shown that growth performance in Ethiopia is generally disappointing, especially when it is placed in the context of other developing countries. This growth, however, varied across the three regimes, the Derg regime's performance being the worst. Growth performance under the three regimes that ruled the country in the last four decades shows that GDP growth was the highest during the imperial era (averaging 4 per cent and 1.5 per cent per capita), declined during the Military regime of 1974-91 (2.3 per cent and -0.4 per cent per capita) and revived during the post-*Derg* period 1992-1999 (3.7 per cent and 0.7 percent per capita). Total factor productivity growth was negative under all the three regimes, with the Military era scoring the lowest and the post-*Derg* era the highest.

There is a marked absence of structural transformation during the past four decades owing to structural problems and initial condition, especially in the last two regimes. Applying the Augmented Solow Model and its 'conditional' variant to the Ethiopian data shows that the sources of GDP growth were intensive use of resources, especially that of labour. Productivity of resources use is found to be relatively less important. In fact the contribution of factor productivity growth has been generally negative. This finding should not come as a surprise given an economy that is operating with extreme backward technology, largely pursued bad policies, and vulnerable to external shocks (terms of trade and weather outturn).

Analysis of determinants of growth performance shows that the major factors behind the poor growth performance were vagaries of nature (in the form of rain or drought), international commodity prices, bad policies and risk related to war and insecurity. Most of there factors are in turn mediated and transmitted through institutions, which are used to effect policies that, by and large, reflect the interest of the ruling group in each regime. Competition for power and resources among such interest groups has led to conflict, which is invariably resolved in a violent way. In this score, the EPRDF regime is found to be characterized with policies aimed at regional-cum-ethnic distribution of income. This had a negative bearing on growth performances. This is in turn aggravated by lack of development in product and factor (including money, land and labor) markets, as well as the response of economic agents to such complex factors as policy-induced risk.

The lessons from the last four decades are that the market-oriented policies provide the bests opportunity for growth. The more the market is tuned to local conditions and capacities, the better the outcome is as shown by the experiences of the post-*Derg* and the imperial periods. Markets are, however, not only institutions by themselves but require the smooth operation of other institutions so as to contribute positively to growth. The long history of Ethiopia seems to render such institutions (such as the state, the military, the church, Ministry of Finance and the Central Bank, as well as indigenous self-help associations) which were fundamental for the macroeconomic stability and the continuous existence of Ethiopia as a nation state. This institutions are however archaic and besieged by lack of the right incentive for their work force. Moreover, the quest to control them so as to advance the interest of one group or the other made the country conflict prone. The latter has stifled growth. Although the total collapse of the Ethiopian economy (and hence the country) is probably averted owing to the fairly smooth and continuous function of some of these institutions across regimes, their inefficiency and abuse by those in power has certainly limited the potential growth of the country. This detrimental effect is accentuated by lack of political stability and a functioning democratic system across the three regimes. Such institutions were, and still are, being used to

empower the ruling elite's grip on power (and resource) across regimes. This abuse of institutions by using them to serve the interest of the ruling elite dashed the hope of instituting a peaceful power sharing mechanism for power protagonists in the country. This in turn has led to cycles of violence and risk which thwarted the potential growth of the economy. Much should not be expected in realizing the potential growth of the country if the political economy problems noted above and the structural constraints discussed at length in this chapter are not addressed properly.

Reference:

Abebe Haile-Gabriel (2000) 'Thriving Informal Land Markets and Patterns of Entitlement Redistribution among Peasants Households: The Case of Cereal Producing Central Ethiopian Highlands' in Alemu Mekonnen and Dejene Aredo (eds.) *Institutions, Resources and Development in Ethiopia* (EEA & Department of Economics of AAU).

Addis Hiwot (1975). *Ethiopia: Form Autocracy to Revolution*. London: Review of African Political Economy.

Alemayehu Geda (1999) 'The Structure and Performance of Ethiopia's Financial Sector in The Pre And Post Reform Period: With Special Focus On Banking' in Alemayehu Geda and Berhanu Nega (eds.) (1999). *The Ethiopian Economy: Performance and Evolution* (EEA & Department of Economics, AAU).

Alemayehu Geda (2002a). *Finance and Trade in Africa: Macroeconomic Response in the World Economy Context*. London: Macmillan-Pallgrave.

Alemayehu Geda (2002b) 'The Geber-Hiwot Model: A Pioneer African (Ethiopian) Development Economist' *Ethiopian Journal of Development Research*, 24(1):1-28.

Alemayehu Geda (2003a) 'The Macroeconomic Environment and Ethiopian Agriculture' (Department of Economic, AAU, Unprocessed).

Alemayehu Geda (2003c) 'Trade Liberalization and the Coffee Sub-Sector in Ethiopia', *Ethiopian Journal of Economics*, 8(2): 46-64.

Alemayehu Geda (2004) 'Does Conflict Explain Ethiopia's Backwardness? Yes and Significantly (Paper Presented at WIDER Conference on Making Peace Work, June 2004).

Alemayehu Geda (2005) 'Macroeconomic Performance in Post-Reform Ethiopia' *Journal of Northeast African Studies, 8(1): 159-185*.

Alemayehu Geda and Alem Abreha (2005) 'Macro Policy, Labour Market and Poverty in Ethiopia: A Microsimulation Approach' (Processed, Department of Economics, Addis Ababa University).

Alemayehu Geda and Befekadu (2003) 'Explaining African Economic Growth: The Case of Ethiopia' (Forthcoming, AERC Working Paper)

Alemayehu Geda and John Weeks (2005) 'Growth Instability and Development Assistance among African Countries', (forthcoming, Review of Applied Economics).

Alemayehu Geda, Abebe Shimeles and John Weeks (2002) 'The Pattern of Growth, Poverty and Inequality in Ethiopia', Department of Economics, SOAS, University of London (Unprocessed).

Alemayehu Geda, Berket Kebede and Abebe Shimeles (2003) 'Rural Poverty in Ethiopia: The Role of Institutions in a Globalized Economy' (*Foundation for Advanced Studies on International Development*, Tokyo, Japan).

Alemayehu Geda, John Weeks, Daniel Zerfu and Dawit Weldeyesus (2004) 'Source of Growth in Ethiopia' A Policy Research for Ministry of Finance and Economic Development, Addis Ababa.

Alemayehu Lirenso (1987) 'Grain Marketing and Pricing in Ethiopia: A Study of the Impact of Grain Quota and Fixed Grain Prices on Grain Producers' *IDR Research Report No. 28*, Addis Ababa University.

Alemayehu Lirenso (1992) 'Economic Reform and Agricultural Deco-operativisation in Ethiopia: Implication for Agricultural Production in the 1990s' in Mekonen Taddesse (ed.). *The Ethiopian Economy: Structure, Problems and Policy Issues* (Proceedings of the First Annual Conference on the Ethiopian Economy, EEA and Department of Economics, Addis Ababa University, Addis Ababa).

Bahru Zewde (2002). *A History of Modern Ethiopia: 1855-1991, 2nd edition*. Oxford: James Currey.

Barro, R. (1991) 'Economic Growth in Cross-Section Countries', *Quarterly Journal of Economics*, 106(2):407-443.

Berhanu Nega and Seid Nuru (1999) 'Performance of the Ethiopian Economy: 1991-1998' in Alemayehu Geda and Berhanu Nega (eds.) (1999). *The Ethiopian Economy: Performance and Evaluation*. Addis Ababa: EEA and Deportment of Economics, Addis Ababa University

Berket Kebede and A. Croppenstedt (1995) 'The Nature of Share of Cropping in Ethiopia: Some Preliminary Observation' in Dejene Aredo and Mulat Demeke (1995) *Ethiopian Agriculture: Problems of Transformation*, EEA & Department of Economics of AAU).

Central Statistics Authority, CSA, (1999) *Agricultural Sample Survey*, Addis Ababa, Ethiopia.

Chenery, H. and M. Syrquin (1975). *Patterns of Development 1950-70*. New York: Oxford University Press.

Collier, Paul (1998) 'The Political Economy of Ethnicity' WPS/98-8, Center for the Study of African Economies, University of Oxford.

Collins, S. and B. Bosworth (1996) 'Economic Growth in East Asia: Accumulation versus Assimilation', *Brookings Papers on Economic Activity*, 2:135-203.

Croppenstedt, A. and Mulat Demeke. (1997) 'An Empirical Study of Cereal Crop Production and Efficiency of Private Farmers in Ethiopia: A mixed fixed-random approach', *Applied Economics, 29, 1217-1226*

Dejene Aredo (1995) 'The Informal and Semi-formal Sectors in Ethiopia: A Study of Iqub, Ider and Savings and Credit Cooperatives', AERC *Research Paper No.21*. AERC, Nairobi, Kenya.

EEA, Ethiopian Economic Association (2000). *Annual Report on Ethiopian Economy, Vol. I*. Addis Ababa: Ethiopian Economic Association.

EEA, Ethiopian Economic Association (2002). *Annual Report on the Ethiopian Economy, Volume II 1999/2000*. Addis Ababa: Ethiopian Economic Association.

EPRDF (2001) '*Revolutionary Democracy: A Draft Report for Discussion'* , Addis Ababa (in Amharic).

Eshetu Chole and Mekonnen Manyazewal (1992) 'The Macroeconomic Performance of the Ethiopian Economy' in Mekonen Taddesse (ed.). The *Ethiopian Economy: Structure, Problems and Policy Issues* (EEA & Department of Economics of AAU).

Getahun Gebru (1992) 'Issues of Human Resource Development in Ethiopia: With Particular Reference to Education' in Mekonen Taddesse (ed.). *The Ethiopian Economy: Structure, Problems and Policy Issues* (EEA & Department of Economics of AAU).

Haile Kebret (1997) 'Military Expenditures And Economic Performance: Lessons From The Ethiopian Economy', *Ethiopian Journal of Economic*, 6(1).

Haile Kibret (2000) 'Land Reform: Revisiting the Public versus Private Ownership Controversy' in Alemu Mekonnen and Dejene Aredo (ed.) *Institutions, Resources and Development in Ethiopia* (Proceedings of the Ninth Annual Conference on the Ethiopian Economy, EEA & Department of Economics of AAU).

Hoffer, A. (1999) 'The Augmented Solow Model and the African Growth Debate' CSAE, University of Oxford (Revised 2000).

Jansen, Karel (2001) 'Thailand: The Making of a Miracle', *Development and Change*, 32(2): 343-370.

Krishnan, Pramikla, Tesfay Gebre and Stefan Drcon 'The Urban Labour Market during Structural Adjustment: Ethiopia 1990-1997' CSAE Working Paper Series No WPS/98-9, University of Oxford.

Levine, R and Renelet (1992) 'A Sensitivity Analysis of Cross-Country Growth Regressions', *American Economic Review*, 82(4): 942-963.

Maddala, G.S (1983) *Limited-Dependent and Qualitative Variables in Econometrics*. Cambridge: Cambridge University Press.

Mankiw, N.G. D. Romere and D.Weil (1996) 'A Contribution to the Empirics of Economic Growth', *Quarterly Journal of Economics*, 107(2): 407-437.

MEDaC (1999). *Survey of Ethiopian Economy: Review of Post-Reform Development*. Addis Ababa: MEDaC.

Mengestu Bediye. (1998) 'Overview of the Ethiopian Financial Sector: Review of and comments on Informal Finance, Semi-Formal Finance and Formal finance' (Background Paper for the First Annual Report on the Ethiopian Economy).

Ministry of Economic Development and Cooperation, MEDaC (1999). *Survey of the Ethiopian Economy: Review of Post Reform Development, 1992/93-1997/98*. Addis Ababa: MEDaC.

Mukherjee, C. White, H. and Wuyts, M. (1998) *Econometrics and Data Analysis for Developing Countries*,. London and New York: Rutledge.

National Bank of Ethiopia, (1999/00). *Annual Report*. NBE, Addis Ababa.

Ndulu, Benno J and S.A. O'Connell (2000) 'Background Information on Economic Growth (AERC Explaining African Economic Growth Project).

Negus, N. (2001) 'The Role of Education in Enhancing Agricultural Productivity: The Case of Teff Production in Selected Villages of Ethiopian' (Unpublished MSc thesis, Department of Economics, Addis Ababa University).

Netsanet Walelign (1997) 'Human Resource Development and Economic Growth in Ethiopia' (Unpublished MSc Thesis, Department of Economics, Addis Ababa University).

O'Connell, S.A. and Benno J Ndulu, (2000) 'Africa's Growth Experience: A Focus on Source of Growth' (AERC Explaining African Economic Growth Project).

Pankhurst, Richard (1963a) 'The Ethiopian Army of Former Times', *Ethiopian Observer*, 2(2): 118-142.

Pankhurst, Richard (1963b) 'The Effect of War in Ethiopian History', *Ethiopian Observer*, 2(2): 142-162.

Pankhurst, Richard (1968). *Economic History of Ethiopia, Volume II*. Addis Ababa: Hayla-Selassie University Press.

Perkins, D. and M. Roemer (1994) 'Differing Endowments and Historical Legacies', in D. L. Lindauer and M. Romere (eds.). *African and Asia: Legacies and Opportunities in Development*. San Francisco: ICS Press.

Pritchett, L (1998) 'Patterns of Economic Growth: Hills, Plateaus Mountains and Plains', World Bank Policy Research Working Papers 1947, July.

Sala-i-Martin, X (1997) 'I just ran two million regressions', *American Economic Review*, 87(May): 178-183.

Seid Nuru. (2000) 'Determinants of Economic Growth in Ethiopia' (Unpublished Msc. Thesis, Department of Economics, Addis Ababa University).

Seyoum Chane (1997) 'Economic Performance of Ethiopia (1972-1995): Growth Determinants and Implications' (Unpublished MSc Thesis, Department of Economics, Addis Ababa University).

Syrquin, M. and H. Chenery (1989) 'Three Decades of Industrialization', *World Bank Economic Review.*

Taye Mengistae (2001) 'Skill formation and Job Matching Effects in Wage Growth in Ethiopia' *Journal of African Economies*, 10(1): 1-36.

Tekie Alemu (2000) 'Farmers Willingness to Pay for Tenure Security' in Alemu Mekonnen and Dejene Aredo (eds.). *Institutions, Resourced and Development in Ethiopia* (Proceedings of the Ninth Annual Conference on the Ethiopian Economy, EEA & Department of Economics, AAU).

Young, A (1994) 'Lessons for the East Asian NICs: A Contrarian View', *European Economic Review*, 38(3): 964-73.

Young, A (1995) 'The Tyranny of Numbers: Confronting the Statistical Realities of the East Asian Growth Experience', *Quarterly Journal of Economics*, 110(3): 641-80.

Appendix I: A Model of Constraints to Rural Microeconomic Agents

In order to investigate factors that constraint the productivity of the rural households, a simple Cobb-Douglas (CD) production function is specified. The micro-based Cobb-Douglas production function is based on:

$$Y_i = \prod(\mathbf{X}_{\mathbf{ij}}^{\beta_j}) \prod(\mathbf{Z}_{\mathbf{ij}}^{\alpha_i}) e^{\gamma+\mu_i} \quad [1]$$

Where: Y_i is the output of the i^{th} household, $\mathbf{X_{ij}}$ is the i^{th} household use of the j^{th} input, $\mathbf{Z_{ij}}$ is the effect of other variables j on the i^{th} household, β_j and α_j are elasticities of Y with respect to $\mathbf{X_j}$ and $\mathbf{Z_j}$, and γ and μ_i are the constant term and the stochastic disturbance term, respectively.

For estimation purpose equation [2] can be linearized as

$$LnY_i = \Sigma\beta_j \ln \mathbf{X_{ij}} + \Sigma\alpha_j \ln \mathbf{Z_{ij}} + \gamma + \mu_i \quad [2]$$

Equation [2] can, thus, be augmented, in a semi-log form, to capture the effects of other variables apart from the physical inputs.

$$\ln Y_i = \gamma + \beta_1 \ln(labour)_i + \beta_2 \ln(Land)_i + \beta_3 \ln(OX)_i + \beta_4 (fert)_i + \beta_5 (land\ quality) \\ \beta_6 (climate)_i + \beta_7 (redistribution) + \beta_8 (credit)_i + \mu_i \quad [4]$$

Where:

Output	measured as total cereal production by household i.
Land	area of land used for cereal production by household i
Labour	Total adult equivalent man-days including family and non-family members labour
OX	Number of animals used in cereal production by household i.
Fertilizer	Chemical fertilizers used. For the purpose of estimation this variable is used as a dummy variable in which those households who used chemical fertilizer are assigned 1 and 0 otherwise.
Land quality	three types of land quality are identified in the questionnaire. These are fertile, infertile and intermediate. Based on this information, the land quality is indexed from 1 to 3 in which 3 indicates the fertile land, 2 intermediate land, and 1 indicates the infertile or least fertile land.
Credit	loan acquired by household i for agricultural activities.
Redistribution	In the questionnaire the households are asked about their future expectation about their land holding size. The response is categorized into four groups- i.e. 'increase', 'decrease', 'no change' and 'do not know'. Those households with the response of 'decrease' and 'do not know' are considered to be uncertain about the future and hence categorized as one group and considered to associate some risk premium about their land holding while the rest – i.e. with the response of 'increase' and 'no change' do not expect future risk in relation to their land size and hence classified as one group. Thus, this variable is treated as dummy variable in which 1 indicates negative expectation and 0 otherwise.
Climate	this variable is a combination of environmental variables including total rainfall, distribution of rainfall, availability of rain near harvest season, prevalence of storm, hail, frost and flood. To get a reasonable measure of the impact of such natural factors, the above indicators are index in the following way.

Total Rainfall		Distribution of Rainfall		Rainfall near harvest		Natural Calamities				
					Response	Storm	Hail	Frost	Flood	Total
Good	3	Excellent	3	Yes 2	No	2	2	2	2	16
Shortage	2	Good	2	No 1	Yes	1	1	1	1	9
Excess	1	Poor	1							2
Can't recall	0	Can't recall	0							0

Data and Estimation

The relevant variables are extracted from the 5th round (1999) Ethiopian Rural Household Survey conducted by the Department of Economics of the Addis Ababa University. The survey covered 1681 household in 18 villages spanning 15 districts. The sample is selected using systematic sampling method in which the households in the villages were selected randomly after the villages were identified so as to capture the major farming regions (See Negus, 2001 and Croppenstedt and Mulat, 1997 for a good summary of the survey structure).

Using the initial sample size of 1681 households, 1291 major cereal-producing households are selected for the estimation purpose. Hence, the sample is truncated using *apriori* criterion. In addition, the outliers in the data set are filtered following Mukherjee *et al* (1998) in which an observation Y_0 is an outlier if $Y_0 < Q_L - 1.5*IQR$ or $Y_0 > Q_U + 1.5*IQR$ where IQR is inter quartile range and Q_L and Q_U are lower and upper quartiles, respectively. This process entails censoring the sample. Thus, the data that is used for estimation can be considered as truncated-censored data. In such a case, the OLS estimates give biased and inconsistent estimates of parameters β (Maddala, 1983). To take care of this, a Tobit regression method is used.